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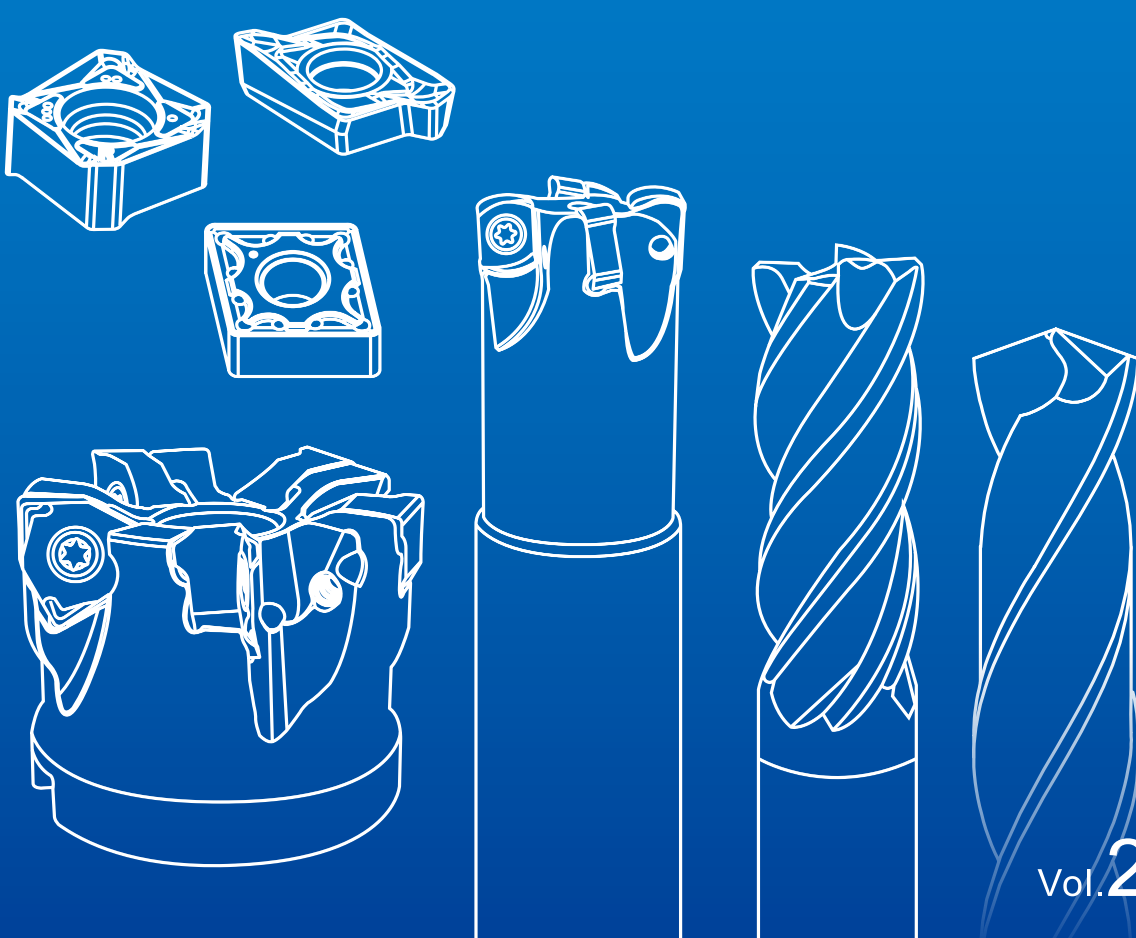
ISO 9001 5965
90Q17995

WINSTAR

Winstar Cutting Tools

萬事達切削刀具

2023



Vol.23

About WINSTAR 關於萬事達

Winstar Cutting Technologies Corp. is an integrated manufacturer of indexable inserts and solid carbide tools in Taiwan.

We have developed the innovative technologies such as pressing, sintering, grinding and coating. Tool category covers milling, turning and drilling.

The excellent quality tools are created for the industries of aircraft, medical, energy, die & mold, automotive and machinery...etc.

Our brand WINSTAR have been distributed in the markets of Europe, America, Oceania and Asia all around the world.

We believe in providing the exceptional products and building long terms relationship with our valuable customers are the keys to success. Hand in hand we will be growing together in this family.

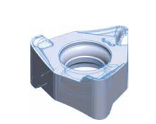
萬事達切削科技建立了兩條一體化生產線，包含捨棄式刀片及全鎢鋼刀具，從設計至生產均在台灣工廠完成。採用歐美日先進設備及重要先端技術，包括沖壓、燒結、研磨和塗層等。

優良刀具的類別涵蓋銑、車及鑽三大領域。可用於航太、醫療、能源、模具、汽車及機械等行業。

萬事達的品牌 WINSTAR 已銷往歐洲、美洲、大洋洲和亞洲等世界各地 32 個國家。

我們相信，提供卓越的產品並與珍貴的客戶建立長期合作關係是成功的關鍵。我們期待與您攜手並進，共同成長。

Inserts Manufacturing Line 捨棄式刀片生產線

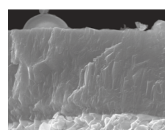

3D design
刀片 3D 設計

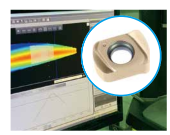

Powder
粉末選用


Pressing
自動化沖壓

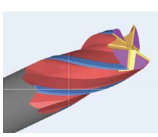

H.I.P Sintering
加壓燒結


Grinding
自動化研磨


Coating
多層膜結構


Inspection
光學檢驗

Solid Carbide Tools Manufacturing Line 全鎢鋼刀具生產線


Endmill 3D design
銑刀 3D 設計


Drill 3D design
鑽頭 3D 設計


Wheel Setting
砂輪設定


5-axis Grinding
5 軸研磨


Coating
真空鍍膜


Inspection
光學檢驗


Testing
測試

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Contents 內容

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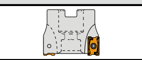
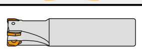
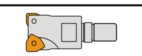
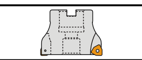
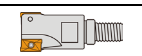
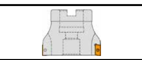
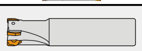
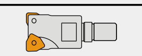
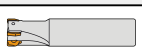
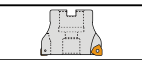
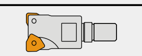
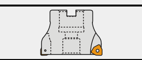
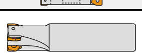
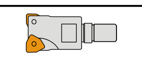
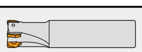
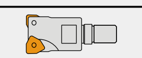
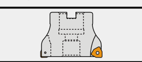
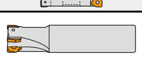
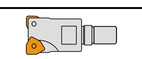
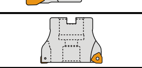
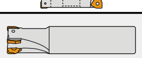
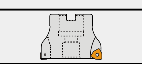
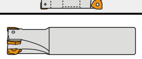
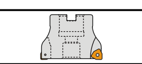
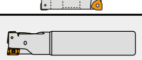
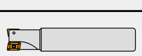
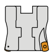
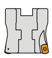
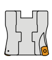
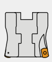
	**CXANF**	Ø40 ~ Ø100	ANMX15T6	A029
	**CXSNE**	Ø50 ~ Ø80	SNMX1205	A093
	**CXXNE**	Ø20 ~ Ø32	XNMX0403	A031
	**CXXNM**	Ø17 ~ Ø32	XNMX0403	
	**CXXNF**	Ø50 ~ Ø125	XNMX0403 / XNMX0806	
	**CAPKE**	Ø16 ~ Ø32	APKT1003 / APKT1604 / APET1604	A034
	**CAPKM**	Ø16 ~ Ø32		
	**CAPKF**	Ø50 ~ Ø125		
	**CARTE**	Ø10 ~ Ø26	WRT0702 / WRT1003	A037
	**CARTM**	Ø10 ~ Ø21		
	**CASPE**	Ø12 ~ Ø32	SPMG..	A039
	**CASPF**	Ø50 ~ Ø80		
	**CATPE**	Ø20 ~ Ø40	TPMX1004 / TPMX1505	A042
	**CATPM**	Ø20 ~ Ø33	TPMX1004	
	**CATPF**	Ø50 ~ Ø80		
	**CAXOE**	Ø6 ~ Ø32	XOMT0602 / XOMT10T3	A045
	**CAXOM**	Ø10 ~ Ø20	XOMT0602	
	**CBAPE**	Ø16 ~ Ø32	APMT1135 / APMT1604 / APGT1604	A048
	**CBAPM**	Ø16 ~ Ø33		
	**CBAPF**	Ø50 ~ Ø80		
	**CR39E**	Ø16 ~ Ø32	W39011T3	A052
	**CR39M**	Ø16 ~ Ø32		
	**CR39F**	Ø50 ~ Ø100		
	**CR49E**	Ø20 ~ Ø25	W49008T3	A055
	**CR49F**	Ø40 ~ Ø80	W49008T3 / W4901404	
	**CWEXE**	Ø16 ~ Ø32	AXMT1235 / AXMT1705	A057
	**CWEXF**	Ø50 ~ Ø100		
	**CWMMD**	Ø20 ~ Ø40	APMT1035 / APMT1605	A059
	**CWMME**	Ø10 ~ Ø50	APMT1035 / APMT1605	

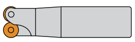
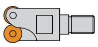
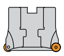
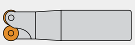
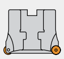
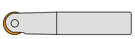
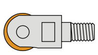
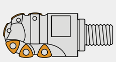
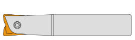
Milling Cutter Index - High Feed Milling 高進給銑刀桿索引

Cutter Series		Cutter Range	Inserts	Page
	CXBNE	Ø15 ~ Ø32	BNMX0603 / BNMX0904	A066
	CXBNM	Ø16 ~ Ø42		
	CXBNF	Ø40 ~ Ø100		
	CXLNE	Ø16 ~ Ø32	LNMX0303	A070
	CXLNM	Ø17 ~ Ø32		
	CXLNF	Ø50		
	CXLOE	Ø16 ~ Ø35	LOGX0303	A073
	CXLOM	Ø17 ~ Ø35		
	CXLOF	Ø50		
	CXWNE	Ø25 ~ Ø32	WNMX09T3	A076
	CXWNF	Ø50 ~ Ø80	WNMX09T3 / WNMX1305	
	CALPE	Ø8 ~ Ø16	LPGX0102	A079
	CAJXE	Ø32	JDMW1204	A082
	CAJXF	Ø50 ~ Ø100	JDMW1204 / JDMW1405	
	CASRF	Ø50 ~ Ø80	SDNW1205 / SDMT1205	A084
	CF23E	Ø32 ~ Ø50	WP26339 / WP26379	A086
	CF23F	Ø50 ~ Ø160	WP26379	

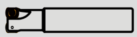
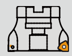
Milling Cutter Index - Face Milling 面銑刀桿索引

Cutter Series		Cutter Range	Inserts	Page
	***CXHNF***	Ø50 ~ Ø100	HNMX0704	A090
	***CXSNF***	Ø50 ~ Ø202.9	SNMX1205 / ONMX0505	A092
	***CAOFF***	Ø50 ~ Ø100	OFMT05T3	A095
	***CASEF***	Ø50 ~ Ø100	SEKT1204 / SEKW1204	A097
	***CASXF***	Ø50 ~ Ø315	SEET13T3 / SEMT13T3	A099
	***CR24F***	Ø50 ~ Ø315	W245-12T3	A101

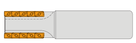
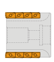
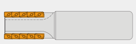
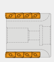
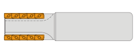
Milling Cutter Index - Copy Milling 仿形銑刀桿索引

Cutter Series		Cutter Range	Inserts	Page
	***CARDE***	Ø10 ~ Ø35	RDKW0501 / RDKW0702 RDMT1003 / RDMX1003 RDMT10T3 / RDMW10T3 RDMT1204 / RDMW1204	A104
	***CARDM***	Ø12 ~ Ø35	RDKW0501 / RDKW0702 RDMT1003 / RDMX1003 RDMT10T3 / RDMW10T3	
	***CARDF***	Ø50 ~ Ø100	RDMT1003 / RDMX1003 RDMT10T3 / RDMW10T3 RDMT1204 / RDMW1204 RDMT1604 / RDMW1604	
	***CARPE***	Ø16 ~ Ø35	RPMT08T2 RPMW1003 RPMT10T3 RPMT1204 / RPMW1204	A110
	***CARPF***	Ø50 ~ Ø80	RPMT10T3 RPMT1204 / RPMW1204	
	***CF21E***	Ø10 ~ Ø32	WP32..	A114
	***CF21M***	Ø10 ~ Ø32		
	***CF22M***	Ø25 ~ Ø50	WP26339 / WP26379	A117
	***CGWV***	Ø16	WPBC16..	A119

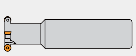
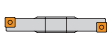
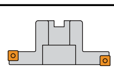
Engraving / Chamfering 雕刻倒角銑刀

Cutter Series	Cutter Range			Inserts	Page
					
DTS60	Ø0.2 ~ Ø3	-	-	DCEX11T3	A122
DTS90	Ø0.8 ~ Ø20	-	Ø0.8 ~ Ø11	SCGX / SCMX09T3 TCGX / TCMX16T3	A124
CSPC	Ø11 ~ Ø50	-	-	SPMG...	A128

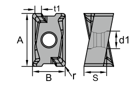
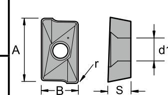
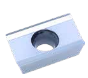
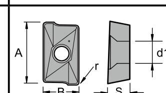
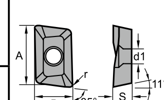
Helical Milling 玉米粗銑刀

Cutter Series		Cutter Range	Inserts	Page
	***CAPHE***	Ø20 ~ Ø32	APKT1003	A131
	***CAPHM***	Ø50 ~ Ø63	APKT1604 / APET1604	
	***CBAHE***	Ø20 ~ Ø50	APMT1135 / APMT1604 / APGT1604	A133
	***CBAHM***	Ø50 ~ Ø63	APMT1604 / APGT1604	
	***C39HE***	Ø25 ~ Ø32	W39011T3	A136

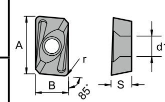
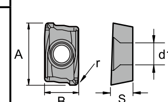
Disc Milling 三面刃銑刀

Cutter Series		Cutter Range	Inserts	Page
	***CSPTE***	Ø19 ~ Ø40	SPMG...	A139
	***CRDTE***	Ø26 ~ Ø50	RDKW0501 / RDKW0620 / RDKW0702 / RPMT10T3	A141
	***CSPDE***	Ø80 ~ Ø200	SPMG...	A143
	***CSPDF***	Ø80 ~ Ø125		

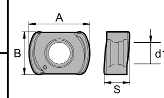
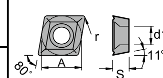
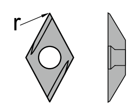
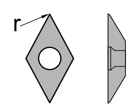
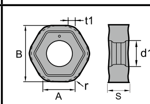
Milling Insert Index - A Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No. PVD CX23AX	CX32HS	CX33TX	CX43TX	CVD CX37TA	CX47TA	– CX10		Dimensions (mm) A	B	S	r	d1	t1	Drawing	Cutter Page
	ANMX15T608-MG	●		✓	✓	✓	✓	✓			16.1	10	6.88	0.8	4.65	1.9		A029
	APKT100304PDER-SG		✓								10.5	6.7	3.5	0.4	2.8	-		A034
	APKT100304PDER-MG		✓	✓	✓	✓					10.5	6.7	3.5	0.4	2.8	-		
	APKT100308PDER-MG		✓	✓	✓	✓					10.5	6.7	3.5	0.8	2.8	-		
	APKT100304PDER-RG			✓	✓						10.5	6.7	3.5	0.4	2.8	-		
	APET160402PDFR-AL								✓		16.3	9.525	4.76	0.2	4.5	-		
	APET160404PDFR-AL								✓		16.3	9.525	4.76	0.4	4.5	-		
	APET160402PDFR-FG		✓								16.3	9.525	4.76	0.2	4.5	-		
	APET160404PDFR-FG		✓								16.3	9.525	4.76	0.4	4.5	-		
	APKT160408PDER-MG		✓	✓	✓	✓					16.3	9.525	5.25	0.8	4.5	-		
	APKT160408PDER-RG		✓	✓	✓	✓					16.3	9.525	5.25	0.8	4.5	-		
	APKT170516PEER-RG		✓	✓	✓	✓					18.5	10.7	5.56	1.6	4.5	-		–
	APMT103508PDER-RG		✓	✓	✓	✓					10	6.6	3.5	0.8	3	-		A059
	APMT160508PDER-RG			✓	✓						16	9.525	5.56	0.8	4.4	-		

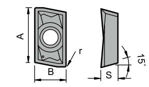
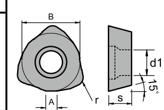
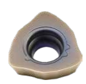
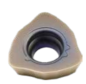
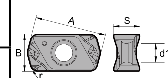
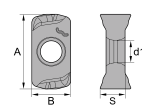
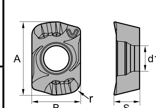
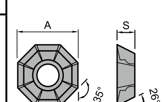
Milling Insert Index - A Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No.								Dimensions (mm)						Drawing	Cutter Page
			PVD				CVD		–									
			CX23AX	CX32HS	CX33TX	CX43TX	CX37TA	CX47TA	CX10		A	B	S	r	d1	t1		
	APMT113508PDER-MG		✓	✓	✓	✓					11.0	6.35	3.5	0.8	2.8	-		
	APMT113516PDER-MG		✓	✓	✓	✓					11.0	6.35	3.5	1.6	2.8	-		
	APMT113508PDER-RG		✓	✓	✓	✓					11.0	6.35	3.5	0.8	2.8	-		
	APMT113508PDER-HG			✓	✓	✓					11.0	6.35	3.5	0.8	2.8	-		
	APGT160408PDER-AL								✓		16.5	9.525	4.76	0.8	4.4	-		A048
	APGT160408PDER-FG		✓								16.5	9.525	4.76	0.8	4.4	-		
	APMT160408PDER-MG		✓	✓	✓	✓		✓			16.5	9.525	4.76	0.8	4.4	-		
	APMT160416PDER-MG			✓	✓	✓					16.5	9.525	4.76	1.6	4.4	-		
	APMT160408PDER-RG		✓	✓	✓	✓					16.5	9.525	4.76	0.8	4.4	-		
	APMT160408PDER-HG		✓	✓	✓	✓					16.5	9.525	4.76	0.8	4.4	-		
	AXMT123508PEER-RG		✓	✓	✓	✓	✓				12.18	6.93	3.58	0.8	3.4	-		
	AXMT170508PEER-RG		✓	✓	✓	✓	✓				17.50	10.2	5.56	0.8	4.6	-		A057
	AXMT170516PEER-RG			✓	✓	✓	✓				17.50	10.2	5.56	1.6	4.6	-		

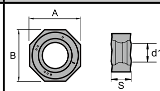
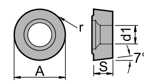
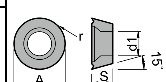
Milling Insert Index - B ~ H Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No.								Dimensions (mm)						Drawing	Cutter Page
			PVD				CVD		–									
			CX23AX	CX32HS	CX33TX	CX43TX	CX37TA	CX47TA	CX10		A	B	S	r	d1	t1		
	BNMX0603-SG	●	✓	✓	✓	✓					9.0	6.38	3.75	-	3.2	-		A066
	BNMX0603-MG	●	✓	✓	✓	✓	✓	✓			9.0	6.38	3.75	-	3.2	-		
	BNMX0603-RG	●	✓	✓	✓	✓	✓	✓			9.0	6.38	3.75	-	3.2	-		
	BNMX0904-MG	●	✓	✓	✓	✓	✓	✓			11.9	9.18	4.8	-	4.2	-		
	CPMT090308-MG			✓							9.525	-	3.18	0.8	4.4	-		–
	CPMT120408-MG			✓							12.7	-	4.76	0.8	5.5	-		
	DCEX11T301-SG			✓							-	-	-	0.1	-	-		A122
	DCEX11T302-SG			✓							-	-	-	0.2	-	-		
	DCEX11T304-SG			✓							-	-	-	0.4	-	-		
	DCEX11T301			✓							-	-	-	0.1	-	-		
	DCEX11T302			✓							-	-	-	0.2	-	-		
	DCEX11T304			✓							-	-	-	0.4	-	-		
	DCEX11T308			✓							-	-	-	0.8	-	-		
	HNMX0704-SG	●		✓	✓	✓		✓			6.8	12.7	4.45	1.2	4.9	1.4		A090

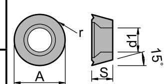
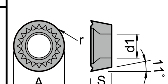
Milling Insert Index - I ~ O Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No. PVD CX23AX	PVD CX32HS	PVD CX33TX	PVD CX43TX	CVD CX37TA	CVD CX47TA	– CX10	–	A	B	S	r	d1	t1	Drawing	Cutter Page
	**JDMT150508R-MG**			✓	✓	✓					15.1	9.12	5.0	0.8	4.5	-		–
	**JDMW120420ZDSR-MG**		✓	✓	✓	✓					2.5	12.0	4.76	2.0	4.75	-		A082
	**JDMW120420ZDSR-RG**		✓	✓	✓	✓	✓				2.5	12.0	4.76	2.0	4.75	-		
	**JDMW140520ZDSR-MG**			✓	✓						2.8	14.0	5.56	2.0	5.75	-		
	**JDMW140520ZDSR-RG**			✓	✓		✓				2.8	14.0	5.56	2.0	5.75	-		
	**JDMT140520ZDSR-MG**			✓	✓	✓					2.8	14.0	5.56	2.0	5.75	-		
	**LNMX0303-SG**	●	✓	✓	✓	✓					11.59	6.0	4.29	-	2.85	-		A070
	**LNMX0303-MG**	●	✓	✓	✓	✓					11.59	6.0	4.29	-	2.85	-		
	**LOGX030310-SG**	●		✓	✓	✓					11.9	6.2	3.96	-	3.45	-		A073
	**LOGX030310-MG**	●		✓	✓	✓					11.9	6.2	3.96	-	3.45	-		
	**LPGX0102-SG**				✓	✓					6.26	4.19	2.19	1.0	2.2	-		A079
	**LPGX0102-MG**				✓	✓					6.26	4.19	2.19	1.0	2.2	-		
	**OFMT05T3TN-SG**			✓	✓						12.7	-	3.8	0.6	4.6	-		A095
	**OFMT05T3TN-MG**			✓	✓						12.7	-	3.8	0.6	4.6	-		
	**OFMT05T3TN-RG**			✓	✓	✓					12.7	-	3.8	0.6	4.6	-		

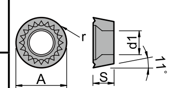
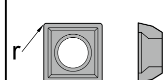
Milling Insert Index - O ~ R Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No.								Dimensions (mm)						Drawing	Cutter Page
			PVD				CVD		–									
			CX23AX	CX32HS	CX33TX	CX43TX	CX37TA	CX47TA	CX10		A	B	S	r	d1	t1		
	**ONMX0505-RG**	●	✓	✓	✓	✓	✓				12.7	12.7	6.4	-	6	-		A092
	**RCMT1204MOE-FG**		✓	✓							12	-	4.76	6	4.2	-		–
	RCMT1204MOT-FG		✓	✓							12	-	4.76	6	4.2	-		
	**RDKW0501MOE**		✓	✓	✓						5	-	1.59	2.5	2.2	-		A104
	**RDKW0620MOE**			✓	✓						6	-	1.99	3	2.6	-		
	**RDKW0702MOE**		✓	✓	✓	✓					7	-	2.38	3.5	2.8	-		
	**RDMT1003MOE**		✓	✓	✓	✓					10	-	3.18	5	3.9	-		
	**RDMT1003MOT**		✓	✓	✓	✓					10	-	3.18	5	3.9	-		
	**RDMX1003MOE**		✓	✓	✓	✓					10	-	3.18	5	4.15	-		
	**RDMX1003MOT**		✓	✓	✓	✓					10	-	3.18	5	4.15	-		
	**RDMT10T3MOE**		✓	✓	✓	✓					10	-	3.97	5	4.5	-		
	**RDMT10T3MOT**		✓	✓	✓	✓					10	-	3.97	5	4.5	-		
	**RDMW10T3MOE**			✓	✓						10	-	3.97	5	4.5	-		
	**RDMW10T3MOT**			✓	✓						10	-	3.97	5	4.5	-		
	**RDMT12T3MOE**		✓	✓	✓		✓				12	-	3.97	6	4.1	-		
	**RDMT12T3MOT**		✓	✓	✓						12	-	3.97	6	4.1	-		

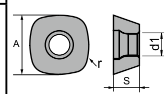
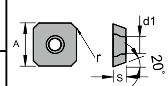
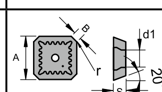
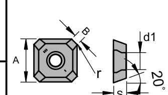
Milling Insert Index - R Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No. PVD				CVD		–		Dimensions (mm)						Drawing	Cutter Page
			CX23AX	CX32HS	CX33TX	CX43TX	CX37TA	CX47TA	CX10		A	B	S	r	d1	t1		
	**RDMX12T3MOE**		✓	✓	✓	✓					12	-	3.97	6	4.1	-		
	**RDMX12T3MOT**		✓	✓	✓	✓					12	-	3.97	6	4.1	-		
	**RDHT1204MOE**			✓	✓						12	-	4.76	6	4.4	-		
	**RDHT1204MOT**			✓	✓						12	-	4.76	6	4.4	-		
	**RDMT1204MOE**		✓	✓	✓	✓					12	-	4.76	6	4.4	-		A104
	**RDMT1204MOT**		✓	✓	✓	✓					12	-	4.76	6	4.4	-		
	**RDMW1204MOE**			✓	✓	✓					12	-	4.76	6	4.4	-		
	**RDMW1204MOT**		✓	✓	✓	✓	✓				12	-	4.76	6	4.4	-		
	**RDMT1604MOT**		✓	✓	✓	✓					16	-	4.76	8	5.5	-		
	**RDMW1604MOT**		✓	✓	✓	✓	✓				16	-	4.76	8	5.5	-		
	**RPMT08T2MOE**			✓	✓	✓					8	-	2.78	4	3.2	-		
	**RPMT08T2MOT**			✓	✓	✓					8	-	2.78	4	3.2	-		
	**RPMW1003MOE**			✓	✓	✓					10	-	3.18	5	4.6	-		A110
	**RPMW1003MOT**		✓	✓	✓	✓					10	-	3.18	5	4.6	-		
	**RPHT10T3MOE**					✓					10	-	3.97	5	4.5	-		

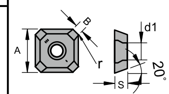
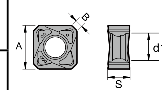
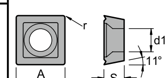
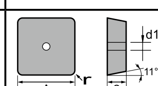
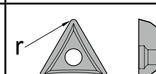
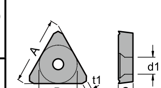
Milling Insert Index - R ~ S Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No. PVD CX13TX	PVD CX23AX	PVD CX32HS	PVD CX33TX	PVD CX43TX	CVD CX37TA	CVD CX47TA	– CX10	Dimensions (mm) A	B	S	r	d1	t1	Drawing	Cutter Page
	RPMT10T3MOE				✓	✓	✓				10	-	3.97	5	4.5	-		A110
	RPMT10T3MOT				✓	✓	✓				10	-	3.97	5	4.5	-		
	RPHT1204MOE				✓	✓					12	-	4.76	6	4.3	-		
	RPHT1204MOT				✓	✓					12	-	4.76	6	4.3	-		
	RPMT1204MOE			✓	✓	✓	✓				12	-	4.76	6	4.3	-		
	RPMT1204MOT			✓	✓	✓	✓				12	-	4.76	6	4.3	-		
	RPMW1204MOE				✓	✓	✓				12	-	4.76	6	4.3	-		
	RPMW1204MOT				✓	✓	✓				12	-	4.76	6	4.3	-		
	SCGX09T304-AG									✓	-	-	-	0.4	-	-		A124
	SCGX09T304-FG		✓								-	-	-	0.4	-	-		
	SCMX09T304-SM				✓						-	-	-	0.4	-	-		
	SDMX05T104-FG		✓			✓					-	-	-	0.4	-	-		
	SDMX11T308-SG					✓					-	-	-	0.8	-	-		

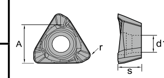
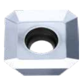
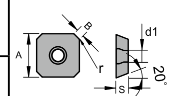
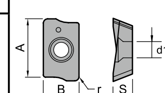
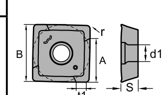
Milling Insert Index - S Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No.								Dimensions (mm)						Drawing	Cutter Page
			PVD				CVD		–									
			CX23AX	CX32HS	CX33TX	CX43TX	CX37TA	CX47TA	CX10		A	B	S	r	d1	t1		
	**SDMT1205ZDSN-MG**		✓	✓	✓	✓					12.7	-	5.56	15	4.6	-		
	**SDMT1205ZDTN-MG**		✓	✓	✓	✓					12.7	-	5.56	15	4.6	-		
	**SDMT1205ZDTN-RG**		✓	✓	✓	✓					12.7	-	5.56	15	4.6	-		A084
	**SDNW1205ZDSN-MG**			✓	✓						12.7	-	5.56	15	4.6	-		
	**SDNW1205ZDTN-RG**		✓	✓	✓	✓	✓				12.7	-	5.56	15	4.6	-		
	**SEET1204AFFN-AL**								✓		12.7	-	4.76	0.8	5.5	-		
	**SEET1204AFFN-FG**		✓								12.7	-	4.76	0.8	5.5	-		
	**SEKT1204AFEN-MG**			✓	✓						12.7	-	4.76	0.8	5.5	-		A097
	**SEKT1204AFTN-RG**			✓	✓	✓					12.7	-	4.76	0.8	5.5	-		
	**SEKW1204AFEN**			✓	✓	✓					12.7	-	4.76	0.8	5.5	-		
	**SEKW1204AFTN**			✓	✓		✓				12.7	-	4.76	0.8	5.5	-		
	**SEMR1203AFSN-RG**			✓	✓						12.7	1.6	3.18	1	2	-		–
	**SEET13T3AGFN-AL**								✓		13.4	1.9	3.97	1.5	4.2	-		A099
	**SEET13T3AGFN-FG**		✓								13.4	1.9	3.97	1.5	4.2	-		

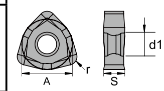
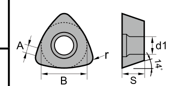
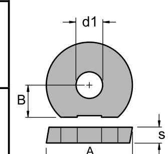
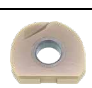
Milling Insert Index - S ~ T Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No. PVD CX23AX	PVD CX32HS	PVD CX33TX	PVD CX43TX	CVD CX37TA	CVD CX47TA	– CX10	–	Dimensions (mm) A	B	S	r	d1	t1	Drawing	Cutter Page
	SEMT13T3AGEN-MG		✓	✓	✓	✓					13.4	1.9	3.97	1.5	4.2	-		
	SEMT13T3AGTN-MG		✓	✓	✓	✓					13.4	1.9	3.97	1.5	4.2	-		A099
	SEMT13T3AGTN-RG			✓	✓	✓					13.4	1.9	3.97	1.5	4.2	-		
	SNMX1205-MG	●	✓	✓	✓	✓	✓	✓			12.7	1.5	6.4	-	6	-		A092
	SNMX1205-RG	●	✓	✓	✓	✓	✓				12.7	1.5	6.4	-	6	-		
	SPMG050204-MG			✓	✓	✓					5.00	-	2.38	0.4	2.30	-		A039 A128 A139 A143
	SPMG060204-MG			✓	✓	✓					6.00	-	2.38	0.4	2.65	-		
	SPMG07T308-MG			✓	✓	✓					7.94	-	3.97	0.8	2.85	-		
	SPMG090408-MG			✓	✓	✓					9.80	-	4.3	0.8	4.05	-		
	SPMG090408-RG			✓	✓	✓					9.80	-	4.3	0.8	4.05	-		
	SPMG110408-MG			✓	✓	✓					11.50	-	4.8	0.8	4.45	-		
	SPMG110408-RG			✓	✓	✓					11.50	-	4.8	0.8	4.45	-		
	SPMN120308			✓							12.7	-	3.18	0.8	2	-		–
	TCMX16T308-SM			✓							-	-	-	0.8	-	-		A125
	TPKR1603PPR-MG			✓	✓						16.5	9.525	3.1	-	2.2	1.423		–
	TPKR1603PPR-RG			✓	✓	✓					16.5	9.525	3.1	-	2.2	1.423		

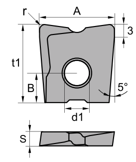
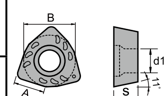
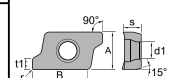
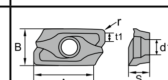
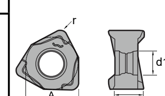
Milling Insert Index - T ~ W Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No. PVD CX23AX	Grade No. PVD CX32HS	Grade No. PVD CX33TX	Grade No. PVD CX43TX	Grade No. CVD CX37TA	Grade No. CVD CX47TA	Grade No. – CX10	Grade No. –	Dimensions (mm) A	Dimensions (mm) B	Dimensions (mm) S	Dimensions (mm) r	Dimensions (mm) d1	Dimensions (mm) t1	Drawing	Cutter Page
	**TPMX100404-SG**			✓	✓						6.9	-	4	0.4	3	-		A042
	**TPMX100408-SG**			✓	✓						6.9	-	4	0.8	3	-		
	**TPMX100408-MG**		✓	✓	✓	✓					6.9	-	4	0.8	3	-		
	**TPMX150508-MG**		✓	✓	✓	✓					10.7	-	5	0.8	4.85	-		
	**W245-12T3-AL**								✓		13.4	1.9	3.97	1.5	4.2	-		A101
	**W245-12T3-FG**		✓								13.4	1.9	3.97	1.5	4.2	-		
	**W245-12T3-MG**		✓	✓	✓	✓	✓	✓			13.4	1.9	3.97	1.5	4.2	-		
	**W245-12T3-HG**			✓	✓	✓	✓	✓			13.4	1.9	3.97	1.5	4.2	-		
	**W39011T308-SG**		✓	✓	✓	✓					11	6.9	3.59	0.8	2.8	-		A052
	**W39011T308-MG**		✓	✓	✓	✓	✓	✓			11	6.9	3.59	0.8	2.8	-		
	**W39011T320-MG**		✓	✓	✓	✓	✓	✓			11	6.9	3.59	2.0	2.8	-		
	**W390170408-MG**			✓	✓	✓	✓	✓			15.7	9.6	4.76	0.8	4.1	-		
	**W390180612-SG**			✓	✓	✓	✓	✓			15.4	11	6.33	1.2	4.2	-		
	**W49008T308-SG**			✓	✓	✓	✓				5.6	8.5	3.3	0.8	2.8	1.2		A055
	**W490140408-SG**				✓	✓	✓				10.3	13.8	3.9	0.8	4.1	2.0		
	**W490140408-MG**			✓	✓	✓	✓	✓	✓		10.3	13.8	3.9	0.8	4.1	2.0		

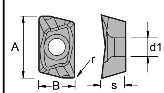
Milling Insert Index - W Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No. PVD						CVD	–	Dimensions (mm)						Drawing	Cutter Page
			CX13TX	CX23AX	CX32HS	CX33TX	CX43TX	CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
	WNMX09T316-MG	●		✓	✓	✓	✓	✓			9.525	-	3.97	1.6	3.6	-		A076
	WNMX09T316-RG	●		✓	✓	✓	✓	✓			9.525	-	3.97	1.6	3.6	-		
	WNMX130516-MG	●		✓	✓	✓	✓	✓	✓		12.7	-	6.02	1.6	4.7	-		
	WP26339R14-RG			✓	✓	✓	✓				-	9.52	3.97	1.2	4.4	-		A086 A117
	WP26379R25-RG			✓	✓	✓	✓				1.1	13	5.56	2.0	5.5	-		
	WP3210-SM		✓	✓							10	5	2.5	-	4	-		A114
	WP3212-SM		✓	✓							12	6	2.5	-	5	-		
	WP3216-SM		✓	✓							16	6	3	-	5	-		
	WP3220-SM		✓	✓							20	6	3	-	5	-		
	WP3225-SM		✓	✓							25	9	4	-	6	-		
	WP3232-SM		✓	✓							32	10	5	-	8	-		
	WP3210-MM		✓	✓							10	5	2.5	-	4	-		
	WP3212-MM		✓	✓							12	6	2.5	-	5	-		
	WP3216-MM		✓	✓							16	6	3	-	5	-		
	WP3220-MM		✓	✓							20	6	3	-	5	-		
	WP3225-MM		✓	✓							25	9	4	-	6	-		
	WP3232-MM		✓	✓							32	10	5	-	8	-		

Milling Insert Index - W ~ X Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No. PVD CX23AX	PVD CX32HS	PVD CX33TX	PVD CX43TX	CVD CX37TA	CVD CX47TA	– CX10	–	Dimensions (mm) A	B	S	r	d1	t1	Drawing	Cutter Page
	**WPBC1605-MM**				✓	✓					16	6	3	0.5	5	16		A119
	WPBC1610-MM				✓	✓					16	6	3	1.0	5	16		
	WPBC1613-MM				✓						16	6	3	1.3	5	16		
	WPBC1620-MM				✓						16	6	3	2.0	5	16		
	WPBC1630-MM				✓						16	6	3	3.0	5	16		
	**WPMW080615ZPSR-MG**			✓	✓						8	12.87	6.35	1.5	5.5	-		–
	**WPMW080615ZPSR-RG**			✓	✓		✓				8	12.87	6.35	1.5	5.5	-		
	**WRT070204-RG**		✓	✓	✓	✓					4.30	6.4	2.38	0.4	2.2	1.3		A037
	**WRT100308-MG**		✓	✓	✓	✓					6.35	9.3	3.4	0.8	2.9	1.8		
	**WRT100308-RG**		✓	✓	✓	✓					6.35	9.3	3.4	0.8	2.9	1.8		
	**XDMT11T308-MG**				✓	✓					10.6	6.8	3.8	0.8	2.8	1.4		–
	**XNMX040304-SG**	●	✓	✓	✓						6.7	-	3.285	0.4	3.15	-		A031
	**XNMX040304-MG**	●	✓	✓	✓						6.7	-	3.285	0.4	3.15	-		
	**XNMX040308-MG**	●	✓	✓	✓	✓					6.7	-	3.285	0.8	3.15	-		
	**XNMX080608-MG**	●	✓	✓	✓	✓	✓	✓			12.53	-	6.5	0.8	4.5	-		
	**XNMX080608-RG**	●		✓	✓	✓	✓	✓			12.53	-	6.5	0.8	4.5	-		

Milling Insert Index - X Style 銑刀片索引

Inserts	Designation	Double Sided	Grade No.								Dimensions (mm)						Drawing	Cutter Page
			PVD				CVD		–									
			CX23AX	CX32HS	CX33TX	CX43TX	CX37TA	CX47TA	CX10		A	B	S	r	d1	t1		
	**XOMT060208-SG**			✓	✓						7	4.09	2.45	0.8	2	-		
	**XOMT060204-MG**		✓	✓	✓						7	4.09	2.45	0.4	2	-		
	**XOMT060208-MG**		✓	✓	✓	✓					7	4.09	2.45	0.8	2	-		
	**XOMT060216-MG**		✓	✓	✓	✓					7	4.09	2.45	1.6	2	-		A045
	**XOMT10T308-SG**			✓	✓	✓					11.08	6.86	3.8	0.8	3	-		
	**XOMT10T308-MG**			✓	✓	✓	✓	✓			11.08	6.86	3.8	0.8	3	-		
	**XOMT120408-MG**			✓	✓	✓	✓	✓			11.6	8.2	5.07	0.8	3.9	-		

Designations for Milling Insert 銑刀片型號編碼

A	P	M	T	16	04	08	PD	ER	-	MG
①	②	③	④	⑤	⑥	⑦	⑧	⑨		⑩

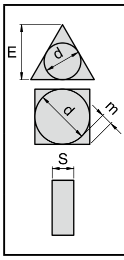
① Insert Shape

A 85°	B 82°	C 80°	D 55°	E 75°	H	K 55°	L
M 86°	O	R	S	T	V 35°	W	

② Relief Angle

A 3°	B 5°	C 7°	D 15°	E 20°
F 25°	G 30°	N 0°	P 11°	

③ Tolerance Class



	Tolerance	A	C	E	F	G	H	J	K	L	M	N	U
Range of tolerance	d±	0.025	0.025	0.025	0.013	0.025	0.013	0.05~0.15	0.05~0.15	0.05~0.15	0.05~0.15	0.05~0.15	0.08~0.25
	m±	0.005	0.013	0.025	0.005	0.025	0.013	0.005	0.013	0.025	0.08~0.2	0.08~0.2	0.13~0.38
	s±	0.025	0.025	0.025	0.025	0.05~0.13	0.025	0.025	0.025	0.025	0.05~0.13	0.025	0.13

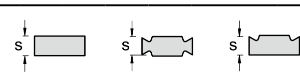
④ Insert Features

A	C	F	G	H	J	M	N	Q	R	T	U	W	X
													Special shape

⑤ Edge Length

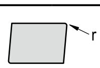
A	B	C	D	E	H
K	L	M	O	R	S
T	V	W			

⑥ Thickness



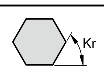
Index	01	T1	02	03	T3	04	05	06	07	09
S(mm)	1.59	1.98	2.38	3.18	3.97	4.76	5.56	6.35	7.94	9.52

⑦ Corner Radius

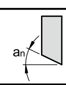


02	04	08	16	20	…
0.2R	0.4R	0.8R	1.6R	2.0R	…

⑧ Edge Clearance



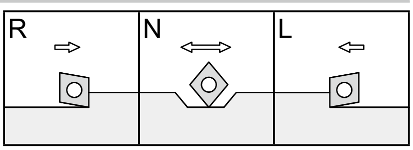
A	D	E	F	P	Z
45°	60°	75°	85°	90°	other



A	B	C	D	E	F	G	N	P	Z
3°	5°	7°	15°	20°	25°	30°	0°	11°	other

⑨ Cutting Edge & Direction

E	F	T	S
Rounded	Sharp	Chamferd	Chamferd and rounded



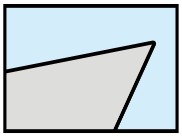
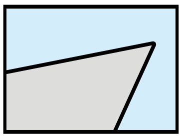
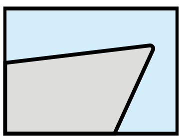
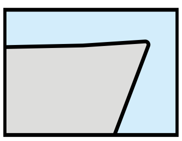
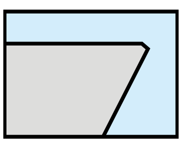
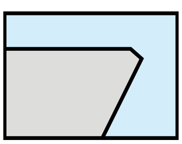
⑩ Chip Breaker Geometry

AL, FG, SG, MF, MG, RG, HG

Milling Insert Grades 銑刀片材質介紹

Grade Type 刀片材質	Properties 屬性	Application 加工特性	Working Material 加工材質 P	M	K	N	S	H	Industry Area 產業應用範圍	Previous Grade 以前的材質
CX13TX (PVD)	• High wear resistance • 高耐磨性	• Fine finishing machining • 適用於超精加工	○	○	○		○	●	• Hardened parts • 硬質零件	*CX12HX*
CX23AX (PVD)	• Wear resistance • 耐磨性	• Continuous finishing machining • For hardened steel is 1st recommended • 適用於連續穩定精加工 • 加工高硬度鋼為第一建議	○	○	○		○	●	• Mold & Die • Hardened parts • 模具產業 • 硬質零件	*CX22HX*
CX33TX (PVD)	• Wear resistance • Anti-corrosion • 耐磨性 • 抗腐蝕	• Medium to roughing • General machining • For carbon steel & alloy steel is 1st recommended • 適合中至粗加工 • 適合泛用加工 • 加工碳鋼 & 合金鋼為第一建議	●	●	●		●	●	• Mold & Die • Automotive • Machinery • Aerospace • 模具產業 • 汽車零件 • 機械零件 • 航太零件	*CX32HS*
CX37TA (CVD)	• Wear resistance • Impact resistance • 耐磨性 • 抗衝擊性	• Medium to roughing • For cast iron is 1st recommended • 適合中至粗加工 • 加工鑄鐵為第一建議	○	○	●		○	○	• Automotive • Machinery • 汽車零件 • 機械零件	–
CX43TX (PVD)	• Tough substrate • Anti-corrosion • 韌性基材 • 抗腐蝕	• Medium to roughing • Interrupted machining • For stainless steel is 1st recommended • 適合中至粗加工 • 適合斷續加工 • 加工不鏽鋼為第一建議	●	●	●		●		• Electronics • Medical • Aerospace • 電子零件 • 醫療產業 • 航太零件	–
CX47TA (CVD)	• High impact resistance • High toughness • 高抗衝擊性 • 高韌性	• Roughing • Interrupted machining • For alloy steel & exotic materials are recommended • 適合粗加工 • 適合斷續加工 • 加工合金鋼 & 高溫合金均可建議	●	●	○		●	○	• Machinery • Aerospace • Energy • 機械零件 • 航太零件 • 能源產業	–
CX10 (Uncoated)	• Wear resistance • 耐磨性	• Finishing and medium cutting • For aluminum alloy is 1st recommended • 適合精加工和中加工 • 加工鋁合金為第一建議				●			• Bike parts • Automotive • Electronics • 自行車零件 • 汽車零件 • 電子零件	–

Milling Insert Chip Breakers 銑刀片斷屑槽介紹

Chip Breaker 斷屑槽		Application 應　用
 for Aluminum 適用於鋁	**AL**	Large positive rake angle with sharp cutting edge for Non-ferrous materials. 鋒利的大正前角刀口設計，適用於非鐵金屬加工應用
 Finishing 精加工	**FG**	Large positive rake angle with sharp cutting edge for finishing cutting in steel. 鋒利的大正前角刀口設計，適用於一般鋼料精加工
 Semi-Finishing 半精加工	**SG (SM)**	Sharp geometry design for Semi-finishing cutting in steel, stainless steel and difficult-to-cut material. 鋒利的刀口設計，適用於鋼件、不鏽鋼，及難切削材的半精加工應用
 Medium 中加工	**MG (MM)**	Low cutting force for medium cutting in steel, stainless steel and cast iron. 低切削阻力的刀口設計，適用於鋼件、不鏽鋼和鑄鐵的中加工應用
 Roughing 粗加工	**RG**	Strong geometry design for rough cutting in steel, alloy steel and hardened steel. 強壯的刀口設計，適用於鋼件、合金鋼、預硬鋼的粗加工應用
 Heavy-Roughing 重粗加工	**HG**	Strong, negative and big chamfering cutting edge for roughing, forging and cast skin. 粗加工的強力刀口設計，適用於鑄件及鍛件

P Steel 鋼

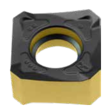
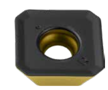
Application 應用	1st Recommendation 第一推薦 (Series・Insert・Grade)		2nd Recommendation 第二推薦 (Series・Insert・Grade)	
Shoulder Milling 方肩銑削	CAPK・APKT-MG・CX33TX		CXXN・XNMX-MG・CX33TX	
High Feed Milling 高進給銑削	CXBN・BNMX-MG・CX33TX		CXWN・WNMX-MG・CX33TX	
Face Milling 面銑削	CXSN・SNMX-MG・CX33TX		CASX・SEMT-MG・CX33TX	
Copy Milling 仿形銑削	CF21・WP32-MM・CX23AX		CF21・WP32-MM・CX22HX	

M Stainless Steel 不鏽鋼

Application 應用	1st Recommendation 第一推薦 (Series・Insert・Grade)		2nd Recommendation 第二推薦 (Series・Insert・Grade)	
Shoulder Milling 方肩銑削	CR49・W490-SG・CX43TX		CAPK・APKT-SG・CX43TX	
High Feed Milling 高進給銑削	CXBN・BNMX-SG・CX43TX		CXLO・LOGX-SG・CX43TX	
Face Milling 面銑削	CXHN・HNMX-SG・CX43TX		CASX・SEMT-MG・CX43TX	
Copy Milling 仿形銑削	CF21・WP32-SM・CX23AX		CF21・WP32-MM・CX22HX	

Selection Guide 選擇指南

K *Cast Iron* 鑄鐵

Application 應用	1st Recommendation 第一推薦 (Series・Insert・Grade)	2nd Recommendation 第二推薦 (Series・Insert・Grade)
Shoulder Milling 方肩銑削	CAPK・APKT-RG・CX37TA 	CXXN・XNMX-RG・CX37TA 
High Feed Milling 高進給銑削	CXBN・BNMX-RG・CX37TA 	CXWN・WNMX-RG・CX37TA 
Face Milling 面銑削	CXSN・SNMX-RG・CX37TA 	CASX・SEMT-RG・CX37TA 
Copy Milling 仿形銑削	CF21・WP32-MM・CX23AX 	CF21・WP32-MM・CX22HX 

N *Aluminum alloy & Brass* 鋁合金與銅

Application 應用	1st Recommendation 第一推薦 (Series・Insert・Grade)	2nd Recommendation 第二推薦 (Series・Insert・Grade)
Shoulder Milling 方肩銑削	CBAP・APGT-AL・CX10 	–
High Feed Milling 高進給銑削	–	–
Face Milling 面銑削	CASX・SEET-AL・CX10 	CASE・SEET-AL・CX10 
Copy Milling 仿形銑削	–	–

S *High Temperature Alloy* 高溫合金

Application 應用	**1st Recommendation** 第一推薦 (Series・Insert・Grade)		**2nd Recommendation** 第二推薦 (Series・Insert・Grade)	
Shoulder Milling 方肩銑削	CAXO・XOMT-SG・CX43TX		CR39・W390-SG・CX47TA	
High Feed Milling 高進給銑削	CXBN・BNMX-SG・CX43TX		CXLO・LOGX-SG・CX43TX	
Face Milling 面銑削	CXHN・HNMX-SG・CX43TX		CAOF・OFMT-SG・CX43TX	
Copy Milling 仿形銑削	CF21・WP32-SM・CX23AX		CF21・WP32-MM・CX23AX	

H *Hardened Steel* 高硬度鋼

Application 應用	**1st Recommendation** 第一推薦 (Series・Insert・Grade)		**2nd Recommendation** 第二推薦 (Series・Insert・Grade)	
Shoulder Milling 方肩銑削	CAPK・APKT-RG・CX33TX		CART・WRT-RG・CX33TX	
High Feed Milling 高進給銑削	CXBN・BNMX-RG・CX33TX		CASR・SDNW-RG・CX33TX	
Face Milling 面銑削	CASE・SEKW・CX33TX		CXSN・SNMX-RG・CX33TX	
Copy Milling 仿形銑削	CF21・WP32-MM・CX23AX		CF21・WP32-SM・CX23AX	

Shoulder Milling Series Introduction 方肩銑刀系列介紹

CXAN Series

- Use ANMX double-sided inserts with 4 cutting edges.
- Positive rake angle design for lower side cutting forces.
- Max. 15mm depth of cut, cutter diameter 40~100mm.

- 使用 AXMX 雙面銑刀片，4 個可用切削角
- 正前角設計可降低切削力
- 每次最大切深可達 15mm, 刀盤直徑 40~100mm

→ Page A029

CXXN Series

- Use XNMX double-sided inserts with 6 cutting edges.
- Economic and high performance shoulder milling application.
- 17~125mm cutter diameter, max. 7mm depth of cut.

- 使用 XNMX 雙面銑刀片，6 個可用切削角
- 經濟與高性能方肩銑應用的最佳解決方案
- 17~125mm 刀桿直徑，最大切削深度可達 7mm

→ Page A031

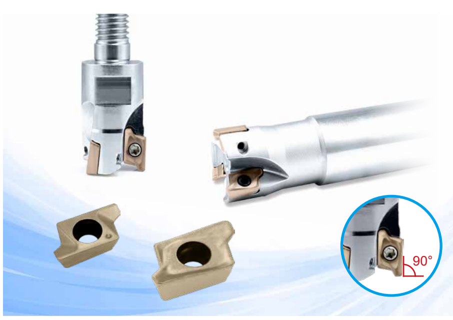
CAPK Series

- Use APKT inserts with 2 cutting edges.
- Optimized chip breaker for various applications and materials.
- 16~125mm cutter diameter, max. 11mm depth of cut.

- 使用 APKT 銑刀片，2 個可用切削角
- 優化的刀口設計適用於各種加工應用和材料
- 16~125mm 刀桿直徑，最大切削深度可達 11mm

→ Page A034

CART Series



- Use WRT inserts with 2 cutting edges.
- Strong chip breaker provides well ramping and slotting capabilities.
- 10~26mm cutter diameter, max. 7mm depth of cut.

- 使用 WRT 銑刀片，2 個可用切削角
- 強化的刀口設計提供了極佳的斜坡銑削及開槽能力
- 10~26mm 刀桿直徑，最大切削深度可達 7mm

→ Page A037

Shoulder Milling Series Introduction 方肩銑刀系列介紹

CASP Series

- Use SPMG inserts with 4 cutting edges.
- Cost effective shoulder milling tools.
- 12~80mm cutter diameter, max. 6mm depth of cut.

- 使用 SPMG 單面銑刀片，4 個可用切削角
- 經濟實惠的方肩銑刀
- 12~80mm 刀桿直徑，最大切削深度可達 6mm

→ Page A039

CATP Series

- Use TPMX inserts with 3 cutting edges.
- Sharp cutting edges for various low milling force applications.
- 20~80mm cutter diameter, max. 11mm depth of cut.

- 使用 TPMX 銑刀片，3 個可用切削角
- 出色的銳利刀口設計適用於各種低銑削阻力的應用
- 20~80mm 刀桿直徑，最大切削深度可達 11mm

→ Page A042

CAXO Series

- Use XOMT inserts with 2 cutting edges.
- Optimized chip breaker reduces heat generation and cutting forces.
- 6~32mm cutter diameter, max. 7mm depth of cut.

- 使用 XOMT 銑刀片，2 個可用切削角
- 泛優化的刀口設計降低熱能產生及切削力，能維持長時間高效率加工
- 6~32mm 刀桿直徑，最大切削深度可達 7mm

→ Page A045

CBAP Series

- Use APMT inserts with 2 cutting edges.
- Low cost and various geometric designs for versatile applications.
- 16~80mm cutter diameter, max. 11mm depth of cut.

- 使用 APMT 銑刀片，2 個可用切削角
- 低成本和多樣化的幾何設計適用於多種加工應用
- 16~80mm 刀桿直徑，最大切削深度可達 11mm

→ Page A048

Shoulder Milling Series Introduction 方肩銑刀系列介紹

CR39 Series

- Use W390 inserts with 2 cutting edges.
- Optimized chip breaker for high efficient shoulder and side milling.
- 16~100mm cutter diameter, max. 11mm depth of cut.

- 使用 W390 銑刀片，2 個可用切削角
- 優化的刀口設計適用於各種加工材料的高移除率的方肩銑和側銑
- 16~100mm 刀桿直徑，最大切削深度可達 11mm

→ Page A052

CR49 Series

- Use W490 inserts with 4 cutting edges.
- Great repeat side milling capability to reduce burs and get good surface finishing.
- 20~80mm cutter diameter, max. 9mm depth of cut.

- 使用 W490 單面銑刀片，4 個可用切削角
- 出色的重複側銑能力可減少毛刺產生並獲得良好的表面光潔度
- 20~80mm 刀盤直徑，最大切削深度可達 9mm

→ Page A055

CWEX Series

- Use AXMT inserts with 2 cutting edges.
- Strong cutting edges for high removal rate shoulder milling.
- 16~100mm cutter diameter, max. 11mm depth of cut.

- 使用 AXMT 銑刀片，2 個可用切削角
- 堅固的切削刃提供高移除率的方肩銑刀
- 16~100mm 刀桿直徑，最大切削深度可達 11mm

→ Page A057

CWMM Series

- Use APMT inserts with 2 cutting edges.
- Cutter with over-center design for drilling and milling.
- 10~50mm cutter diameter, max. 11mm depth of cut.

- 使用 APMT 銑刀片，2 個可用切削角
- 刀桿過中心設計，適用於鑽孔、方肩、開槽、斜坡、挖槽、及螺旋銑削
- 10~50mm 刀桿直徑，最大端銑切削深度可達 11mm

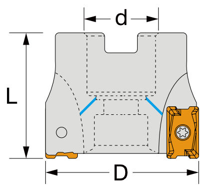
→ Page A059

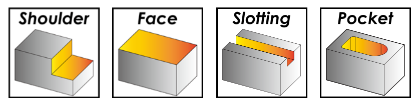
CXAN Series

- Use ANMX double-sided inserts with 4 cutting edges.
- Positive rake angle design for lower side cutting forces.
- Max. 15mm depth of cut, cutter diameter 40~100mm.

- 使用 AXMX 雙面銑刀片，4 個可用切削角
- 正前角設計可降低切削力
- 每次最大切深可達 15mm, 刀盤直徑 40~100mm

CXANF - Milling Tools 方肩銑刀





Insert Brand 建議刀片 : Winstar, Widia, ...

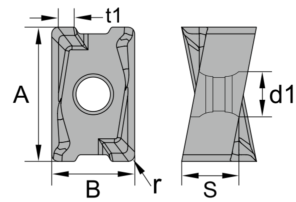
Order No. 訂購編碼	D	L	d	T	Coolant	Inserts	Screw	Wrench	Stock
ICXANF504040161	40	40	16	4	✓	ANMX15T6	ITS4006	ITK15	●
ICXANF505050221	50	40	22	5	✓				●
ICXANF506063221	63	40	22	6	✓				●
ICXANF507080271	80	50	27	7	✓				●
ICXANF508100321	100	50	32	8	✓				●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	110 ~ 260	0.09 ~ 0.27	0.3 ~ 15
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 15
Cast Iron	110 ~ 260	0.09 ~ 0.27	0.3 ~ 15
High Temperature Alloy	40 ~ 70	0.07 ~ 0.14	0.3 ~ 15

Insert Specifications 刀片規格

Insert	Dimensions (mm)						
	A	B	S	r	d1	t1	
ANMX15T608	16.1	10	6.88	0.8	4.65	1.9	

Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IANMX15T608MG32HS	ANMX15T608-MG-CX32HS	●	●	●		○	
	IANMX15T608MG33TX	ANMX15T608-MG-CX33TX	●	●	●		●	●
	IANMX15T608MG43TX	ANMX15T608-MG-CX43TX	●	●	●		●	
	IANMX15T608MG37TA	ANMX15T608-MG-CX37TA	○	○	●		○	○
	IANMX15T608MG47TA	ANMX15T608-MG-CX47TA	●	●	○		●	○

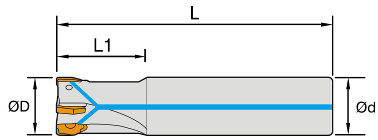
Shoulder Milling - CXXN 方肩銑刀

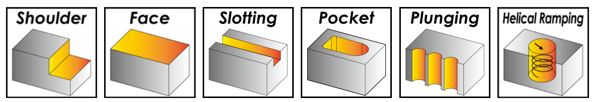
CXXN Series

- Use XNMX double-sided inserts with 6 cutting edges.
- Economic and high performance shoulder milling application.
- 17~125mm cutter diameter, max. 7mm depth of cut.

- 使用 XNMX 雙面銑刀片，6 個可用切削角
- 經濟與高性能方肩銑應用的最佳解決方案
- 17~125mm 刀桿直徑，最大切削深度可達 7mm

CXXNE - Milling Tools 方肩銑刀



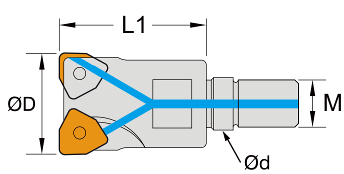


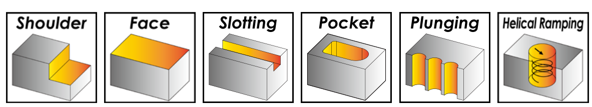
Insert Brand 建議刀片：Winstar, Seco, ...

Order No. 訂購編碼	D	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXXNE403020111	20	28	110	20	3	✓	XNMX0403	ITS2512	ITK08	●
ICXXNE403020150	20	40	150	20	3					●
ICXXNE403020200	20	100	200	20	3					●
ICXXNE404025121	25	28	120	25	4	✓				●
ICXXNE404025150	25	40	150	25	4					●
ICXXNE405032131	32	30	130	32	5	✓				●
ICXXNE405032200	32	45	200	32	5					●

● stock ○ by inquiry *Customize available.*

CXXNM - Modular Milling Heads 方肩銑刀頭





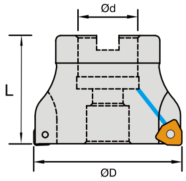
Insert Brand 建議刀片：Winstar, Seco, ...

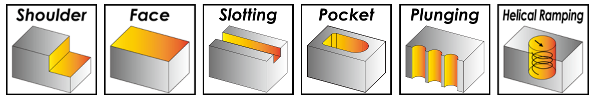
Order No. 訂購編碼	D	L1	d	M	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXXNM402017081	17	26	8.5	M08	2	✓	XNMX0403	ITS2512	ITK08	●
ICXXNM403021101	21	32	10.5	M10	3	✓				●
ICXXNM404026121	26	38	12.5	M12	4	✓				●
ICXXNM405032161	32	41	17	M16	5	✓				○

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

CXXNF - Milling Tools 方肩銑刀





Insert Brand 建議刀片 : Winstar, Seco, ...

Order No. 訂購編碼	D	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXXNF406050220	50	50	22	6					●
ICXXNF407063220	63	50	22	7					●
ICXXNF407063250	63	50	25.4	7		XNMX0403	ITS2512	ITK08	●
ICXXNF407040161	40	40	16	7	✓				●
ICXXNF409050221	50	40	22	9	✓				●
ICXXNF805050221	50	40	22	5	✓				●
ICXXNF806063221	63	40	22	6	✓				●
ICXXNF807080271	80	50	27	7	✓	XNMX0806	ITS4006	ITK15	●
ICXXNF811100321	100	50	32	11	✓				○
ICXXNF811125401	125	63	40	11	✓				○

● stock ○ by inquiry

Customize available.

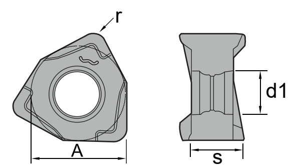
Recommended Cutting Conditions 建議切削數據

Working Material	XNMX0403			XNMX0806		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.16	0.3 ~ 3.0	120 ~ 250	0.1 ~ 0.3	0.3 ~ 7.0
Stainless Steel	100 ~ 180	0.08 ~ 0.12	0.3 ~ 1.6	100 ~ 180	0.08 ~ 0.25	0.3 ~ 4.5
Cast Iron	120 ~ 250	0.10 ~ 0.16	0.3 ~ 3.0	120 ~ 250	0.1 ~ 0.3	0.3 ~ 7.0
High Temperature Alloy	40 ~ 100	0.08 ~ 0.12	0.3 ~ 1.5	40 ~ 100	0.08 ~ 0.18	0.3 ~ 4.0
Hardened Steel	50 ~ 100	0.09 ~ 0.13	0.3 ~ 1.5	50 ~ 100	0.09 ~ 0.19	0.3 ~ 4.0

Shoulder Milling - CXXN 方肩銑刀

Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	S	r	d1
XNMX040304	6.7	3.285	0.4	3.15
XNMX040308	6.7	3.285	0.8	3.15
XNMX080608	12.53	6.5	0.8	4.5



Insert Designation 刀片型號

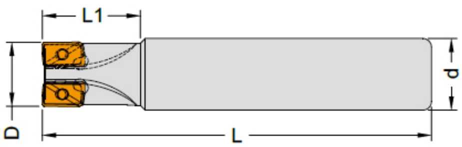
Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IXNMX040304SG23AX	XNMX040304-SG-CX23AX	○	○	○		○	●
	IXNMX040304SG32HS	XNMX040304-SG-CX32HS	●	●	●		○	
	IXNMX040304SG33TX	XNMX040304-SG-CX33TX	●	●	●		●	●
	IXNMX040304MG23AX	XNMX040304-MG-CX23AX	○	○	○		○	●
	IXNMX040304MG32HS	XNMX040304-MG-CX32HS	●	●	●		○	
	IXNMX040304MG33TX	XNMX040304-MG-CX33TX	●	●	●		●	●
	IXNMX040308MG23AX	XNMX040308-MG-CX23AX	○	○	○		○	●
	IXNMX040308MG32HS	XNMX040308-MG-CX32HS	●	●	●		○	
	IXNMX040308MG33TX	XNMX040308-MG-CX33TX	●	●	●		●	●
	IXNMX040308MG43TX	XNMX040308-MG-CX43TX	●	●	●		●	
	IXNMX080608MG23AX	XNMX080608-MG-CX23AX	○	○	○		○	●
	IXNMX080608MG32HS	XNMX080608-MG-CX32HS	●	●	●		○	
	IXNMX080608MG33TX	XNMX080608-MG-CX33TX	●	●	●		●	●
	IXNMX080608MG43TX	XNMX080608-MG-CX43TX	●	●	●		●	
	IXNMX080608MG37TA	XNMX080608-MG-CX37TA	○	○	●		○	○
	IXNMX080608MG47TA	XNMX080608-MG-CX47TA	●	●	○		●	○
	IXNMX080608RG32HS	XNMX080608-RG-CX32HS	●	●	●		○	
	IXNMX080608RG33TX	XNMX080608-RG-CX33TX	●	●	●		●	●
	IXNMX080608RG43TX	XNMX080608-RG-CX43TX	●	●	●		●	
	IXNMX080608RG37TA	XNMX080608-RG-CX37TA	○	○	●		○	○
	IXNMX080608RG47TA	XNMX080608-RG-CX47TA	●	●	○		●	○

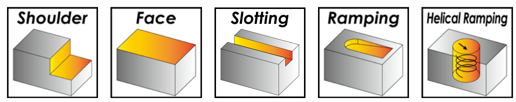
CAPK Series

- Use APKT inserts with 2 cutting edges.
- Optimized chip breaker for various applications and materials.
- 16~125mm cutter diameter, max. 11mm depth of cut.

- 使用 APKT 銑刀片，2 個可用切削角
- 優化的刀口設計適用於各種加工應用和材料
- 16~125mm 刀桿直徑，最大切削深度可達 11mm

CAPKE - Milling Tools 方肩銑刀





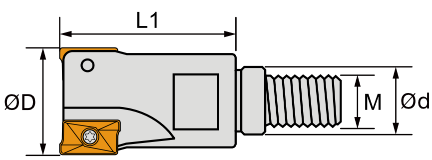
Insert Brand 建議刀片 : Winstar, Iscar, Ceratizit, ...

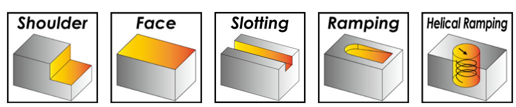
Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICAPKE302016120	16	25	120	16	2	APKT1003	ITS2515	ITK08	●
ICAPKE302020120	20	30	120	20	2				●
ICAPKE304025150	25	35	150	25	4				●
ICAPKE305032150	32	35	150	32	5				○
ICAPKE402025150	25	40	150	25	2	APKT1604 APET1604	ITS4004	ITK15	●
ICAPKE402032150	32	45	150	32	2				○

● stock ○ by inquiry

Customize available.

CAPKM - Modular Milling Heads 方肩銑刀頭





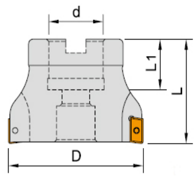
Insert Brand 建議刀片 : Winstar, Iscar, Ceratizit, ...

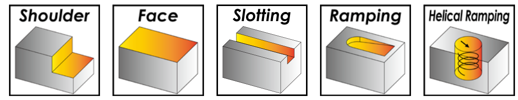
Order No. 訂購編碼	D	L1	d	M	T	Inserts	Screw	Wrench	Stock
ICAPKM302016080	16	26	8.5	M8	2	APKT1003	ITS2515	ITK08	●
ICAPKM303020100	20	32	10.5	M10	3				○
ICAPKM304025120	25	38	12.5	M12	4				●
ICAPKM305032160	32	41	17	M16	5				○
ICAPKM402025120	25	38	12.5	M12	2	APKT1604 APET1604	ITS4004	ITK15	○
ICAPKM403032160	32	41	17	M16	3				○

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

CAPKF - Milling Tools 方肩銑刀





Insert Brand 建議刀片 : Winstar, Iscar, Ceratizit, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICAPKF306050220	50	20	40	22	6	APKT1003	ITS2515	ITK08	●
ICAPKF306063220	63	21	45	22	6				●
ICAPKF307080270	80	23	50	27	7				●
ICAPKF404050220	50	23	50	22	4	APKT1604 APET1604	ITS4004	ITK15	●
ICAPKF405063220	63	23	50	22	5				●
ICAPKF405063250	63	23	50	25.4	5				●
ICAPKF406080250	80	32	55	25.4	6				●
ICAPKF406080270	80	32	55	27	6				●
ICAPKF408100310	100	32	55	31.75	8				●
ICAPKF408100320	100	32	55	32	8				●
ICAPKF408125380	125	38	63	38.1	8				●

● stock ○ by inquiry

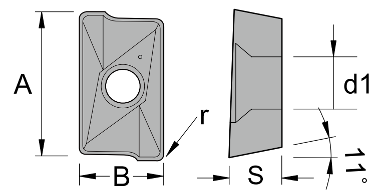
Customize available.

Recommended Cutting Conditions 建議切削數據

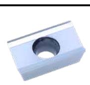
Working Material	APKT1003			APKT1604 / APET1604		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 11.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 4.0	100 ~ 180	0.10 ~ 0.22	0.5 ~ 7.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.3 ~ 6.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 10.0
Aluminum Alloy	-	-	-	300 ~ 1000	0.18 ~ 0.40	0.3 ~ 11.0
High Temperature Alloy	40 ~ 100	0.07 ~ 0.14	0.3 ~ 4.0	40 ~ 100	0.10 ~ 0.18	0.5 ~ 7.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.3 ~ 4.0	50 ~ 100	0.10 ~ 0.20	0.5 ~ 7.0

Insert Specifications 刀片規格

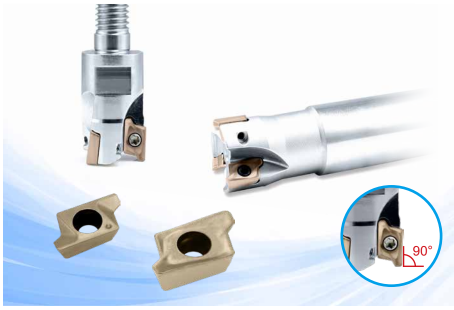
Insert	Dimensions (mm)				
	A	B	S	r	d1
APKT100304	10.5	6.7	3.5	0.4	2.8
APKT100308	10.5	6.7	3.5	0.8	2.8
APET160402	16.3	9.525	4.76	0.2	4.5
APET160404	16.3	9.525	4.76	0.4	4.5
APKT160408	16.3	9.525	5.25	0.8	4.5



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IAPKT100304ESG23AX	APKT100304PDER-SG-CX23AX	○	○	○		○	●
	IAPKT100304EMG23AX	APKT100304PDER-MG-CX23AX	○	○	○		○	●
	IAPKT100304EMG32HS	APKT100304PDER-MG-CX32HS	●	●	●		○	
	IAPKT100304EMG33TX	APKT100304PDER-MG-CX33TX	●	●	●		●	●
	IAPKT100304EMG43TX	APKT100304PDER-MG-CX43TX	●	●	●		●	
	IAPKT100308EMG23AX	APKT100308PDER-MG-CX23AX	○	○	○		○	●
	IAPKT100308EMG32HS	APKT100308PDER-MG-CX32HS	●	●	●		○	
	IAPKT100308EMG33TX	APKT100308PDER-MG-CX33TX	●	●	●		●	●
	IAPKT100308EMG43TX	APKT100308PDER-MG-CX43TX	●	●	●		●	
	IAPKT100304ERG32HS	APKT100304PDER-RG-CX32HS	●	●	●		○	
	IAPKT100304ERG33TX	APKT100304PDER-RG-CX33TX	●	●	●		●	●
	IAPET160402FAL10	APET160402PDFR-AL-CX10				●		
	IAPET160404FAL10	APET160404PDFR-AL-CX10				●		
	IAPET160402FFG23AX	APET160402PDFR-FG-CX23AX	○	○	○		○	●
	IAPET160404FFG23AX	APET160404PDFR-FG-CX23AX	○	○	○		○	●
	IAPKT160408EMG23AX	APKT160408PDER-MG-CX23AX	○	○	○		○	●
	IAPKT160408EMG32HS	APKT160408PDER-MG-CX32HS	●	●	●		○	
	IAPKT160408EMG33TX	APKT160408PDER-MG-CX33TX	●	●	●		●	●
	IAPKT160408EMG43TX	APKT160408PDER-MG-CX43TX	●	●	●		●	
	IAPKT160408ERG23AX	APKT160408PDER-RG-CX23AX	○	○	○		○	●
	IAPKT160408ERG32HS	APKT160408PDER-RG-CX32HS	●	●	●		○	
	IAPKT160408ERG33TX	APKT160408PDER-RG-CX33TX	●	●	●		●	●
	IAPKT160408ERG43TX	APKT160408PDER-RG-CX43TX	●	●	●		●	

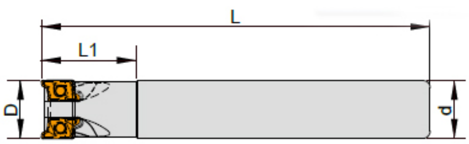
CART Series

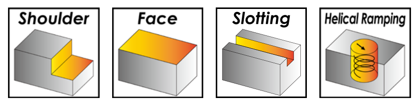


- Use WRT inserts with 2 cutting edges.
- Strong chip breaker provides well ramping and slotting capabilities.
- 10~26mm cutter diameter, max. 7mm depth of cut.

- 使用 WRT 銑刀片 , 2 個可用切削角
- 強化的刀口設計提供了極佳的斜坡銑削及開槽能力
- 10~26mm 刀桿直徑 , 最大切削深度可達 7mm

CARTE - Milling Tools 方肩銑刀





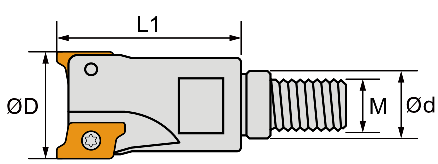
Insert Brand 建議刀片 : Winstar, Safety, ...

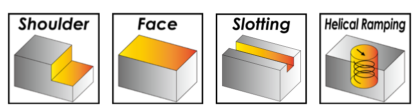
Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICARTE702010100	10	18	100	10	2	WRT0702	ITS2003	ITK06	○
ICARTE702011100	11	18	100	10	2				●
ICARTE702013100	13	20	100	12	2				●
ICARTE703016150	16	30	150	16	3				○
ICARTE102017150	17	30	150	16	2	WRT1003	ITS2515	ITK08	●
ICARTE103021150	21	30	150	20	3				●
ICARTE104026150	26	40	150	25	4				●

● stock ○ by inquiry

Customize available.

CARTM - Modular Milling Heads 方肩銑刀頭





Insert Brand 建議刀片 : Winstar, Safety, ...

Order No. 訂購編碼	D	L1	M	d	T	Inserts	Screw	Wrench	Stock
ICARTM702010050	10	18	M5	5.5	2	WRT0702	ITS2003	ITK06	●
ICARTM702011050	11	18	M5	5.5	2				●
ICARTM702012060	12	20	M6	6.5	2				●
ICARTM702013060	13	20	M6	6.5	2				●
ICARTM103017080	17	30	M8	8.5	3	WRT1003	ITS2515	ITK08	●
ICARTM103021100	21	32	M10	10.5	3				●

● stock ○ by inquiry

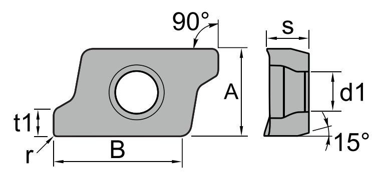
※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

Recommended Cutting Conditions 建議切削數據

Working Material	WRT0702			WRT1003		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.08 ~ 0.20	0.3 ~ 5.0	120 ~ 250	0.10 ~ 0.22	0.5 ~ 7.0
Stainless Steel	100 ~ 180	0.05 ~ 0.15	0.3 ~ 3.0	100 ~ 180	0.08 ~ 0.18	0.5 ~ 4.0
Cast Iron	120 ~ 250	0.08 ~ 0.20	0.3 ~ 4.0	120 ~ 250	0.10 ~ 0.22	0.5 ~ 6.0
High Temperature Alloy	40 ~ 100	0.05 ~ 0.12	0.3 ~ 3.0	40 ~ 100	0.07 ~ 0.14	0.5 ~ 4.0
Hardened Steel	50 ~ 100	0.05 ~ 0.13	0.3 ~ 3.0	50 ~ 100	0.07 ~ 0.15	0.5 ~ 4.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
WRT070204	4.30	6.4	2.38	0.4	2.2
WRT100308	6.35	9.3	3.4	0.8	2.9



Insert Designation 刀片型號

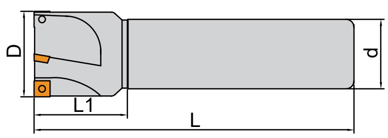
Insert	Order No. 訂購編碼	Designation	Working Material P	M	K	N	S	H
	IWRT070204RG23AX	WRT070204-RG-CX23AX	○	○	○		○	●
	IWRT070204RG32HS	WRT070204-RG-CX32HS	●	●	●		○	
	IWRT070204RG33TX	WRT070204-RG-CX33TX	●	●	●		●	●
	IWRT070204RG43TX	WRT070204-RG-CX43TX	●	●	●		●	
	IWRT100308MG23AX	WRT100308-MG-CX23AX	○	○	○		○	●
	IWRT100308MG32HS	WRT100308-MG-CX32HS	●	●	●		○	
	IWRT100308MG33TX	WRT100308-MG-CX33TX	●	●	●		●	●
	IWRT100308MG43TX	WRT100308-MG-CX43TX	●	●	●		●	
	IWRT100308RG23AX	WRT100308-RG-CX23AX	○	○	○		○	●
	IWRT100308RG32HS	WRT100308-RG-CX32HS	●	●	●		○	
	IWRT100308RG33TX	WRT100308-RG-CX33TX	●	●	●		●	●
	IWRT100308RG43TX	WRT100308-RG-CX43TX	●	●	●		●	

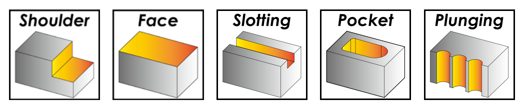
CASP Series

- Use SPMG inserts with 4 cutting edges.
- Cost effective shoulder milling tools.
- 12~80mm cutter diameter, max. 6mm depth of cut.

- 使用 SPMG 單面銑刀片，4 個可用切削角
- 經濟實惠的方肩銑刀
- 12~80mm 刀桿直徑，最大切削深度可達 6mm

CASPE - Milling Tools 方肩銑刀





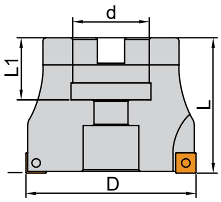
Insert Brand 建議刀片 : Winstar, Taegutec, ...

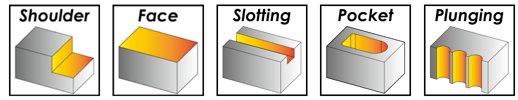
Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICASPE502012100	12	20	100	12	2				●
ICASPE502013100	13	20	100	12	2	SPMG0502	ITS2003	ITK06	●
ICASPE502014100	14	20	100	12	2				●
ICASPE602016120	16	25	120	16	2				●
ICASPE603020120	20	30	120	20	3				●
ICASPE604025120	25	30	120	25	4	SPMG0602	ITS2205	ITK06	●
ICASPE604030120	30	30	120	25	4				●
ICASPE605032120	32	30	120	25	5				●
ICASPE904032150	32	40	150	32	4	SPMG0904	ITS3504	ITK15	●
ICASPE904040150	40	40	150	32	4				●

● stock ○ by inquiry

Customize available.

CASPF - Milling Tools 方肩銑刀





Insert Brand 建議刀片 : Winstar, Taegutec, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICASPF607050220	50	20	45	22	7	SPMG0602	ITS2205	ITK06	●
ICASPF607050250	50	20	45	25.4	7				○
ICASPF609063220	63	20	45	22	9				●
ICASPF609063250	63	20	45	25.4	9				●
ICASPF611080270	80	23	50	27	11				○
ICASPF611080250	80	23	50	25.4	11				●
ICASPF905050220	50	20	45	22	5	SPMG0904	ITS3504	ITK15	●
ICASPF905050250	50	20	45	25.4	5				○
ICASPF906063220	63	20	45	22	6				●
ICASPF906063250	63	20	45	25.4	6				○
ICASPF907080270	80	23	50	27	7				●
ICASPF907080250	80	23	50	25.4	7				○

● stock ○ by inquiry

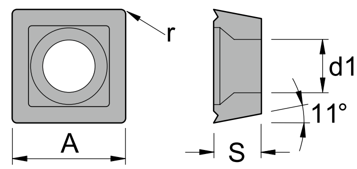
Customize available.

Recommended Cutting Conditions 建議切削數據

Working Material	SPMG050204 & SPMG060204			SPMT07T308 & SPMG090408		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.3 ~ 3.0	120 ~ 250	0.10 ~ 0.22	0.5 ~ 6.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 2.0	100 ~ 180	0.08 ~ 0.18	0.5 ~ 4.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.3 ~ 3.0	120 ~ 250	0.10 ~ 0.22	0.5 ~ 6.0
High Temperature Alloy	40 ~ 100	0.07 ~ 0.14	0.3 ~ 2.0	40 ~ 100	0.07 ~ 0.14	0.5 ~ 4.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.3 ~ 2.0	50 ~ 100	0.07 ~ 0.15	0.5 ~ 4.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	S	r	d1
SPMG050204	5.00	2.38	0.4	2.30
SPMG060204	6.00	2.38	0.4	2.65
SPMG07T308	7.94	3.97	0.8	2.85
SPMG090408	9.80	4.3	0.8	4.05
SPMG110408	11.50	4.8	0.8	4.45



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	ISPMG050204MG32HS	SPMG050204-MG-CX32HS	●	●	●		○	
	ISPMG050204MG33TX	SPMG050204-MG-CX33TX	●	●	●		●	●
	ISPMG050204MG43TX	SPMG050204-MG-CX43TX	●	●	●		●	
	ISPMG060204MG32HS	SPMG060204-MG-CX32HS	●	●	●		○	
	ISPMG060204MG33TX	SPMG060204-MG-CX33TX	●	●	●		●	●
	ISPMG060204MG43TX	SPMG060204-MG-CX43TX	●	●	●		●	
	ISPMG07T308MG32HS	SPMG07T308-MG-CX32HS	●	●	●		○	
	ISPMG07T308MG33TX	SPMG07T308-MG-CX33TX	●	●	●		●	●
	ISPMG07T308MG43TX	SPMG07T308-MG-CX43TX	●	●	●		●	
	ISPMG090408MG32HS	SPMG090408-MG-CX32HS	●	●	●		○	
	ISPMG090408MG33TX	SPMG090408-MG-CX33TX	●	●	●		●	●
	ISPMG090408MG43TX	SPMG090408-MG-CX43TX	●	●	●		●	
	ISPMG090408RG32HS	SPMG090408-RG-CX32HS	●	●	●		○	
	ISPMG090408RG33TX	SPMG090408-RG-CX33TX	●	●	●		●	●
	ISPMG090408RG43TX	SPMG090408-RG-CX43TX	●	●	●		●	
	ISPMG110408MG32HS	SPMG110408-MG-CX32HS	●	●	●		○	
	ISPMG110408MG33TX	SPMG110408-MG-CX33TX	●	●	●		●	●
	ISPMG110408MG43TX	SPMG110408-MG-CX43TX	●	●	●		●	
	ISPMG110408RG32HS	SPMG110408-RG-CX32HS	●	●	●		○	
	ISPMG110408RG33TX	SPMG110408-RG-CX33TX	●	●	●		●	●
	ISPMG110408RG43TX	SPMG110408-RG-CX43TX	●	●	●		●	

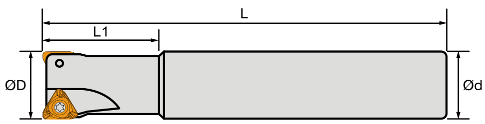
Shoulder Milling - CATP 方肩銑刀

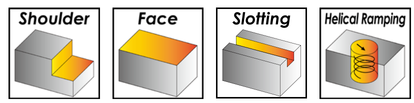
CATP Series

- Use TPMX inserts with 3 cutting edges.
- Sharp cutting edges for various low milling force applications.
- 20~80mm cutter diameter, max. 11mm depth of cut.

- 使用 TPMX 銑刀片，3 個可用切削角
- 出色的銳利刀口設計適用於各種低銑削阻力的應用
- 20~80mm 刀桿直徑，最大切削深度可達 11mm

CATPE - Milling Tools 方肩銑刀



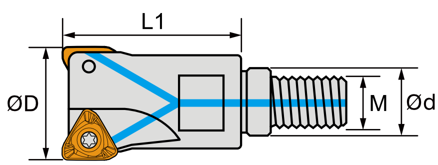


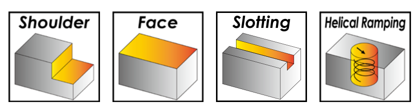
Insert Brand 建議刀片：Winstar, Taegutec, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICATPE102020130	20	50	130	20	2	TPMX1004	ITS2517	ITK08	●
ICATPE103025150	25	55	150	25	3				●
ICATPE503033200	33	45	200	32	3	TPMX1505	ITS4014	ITK15	●
ICATPE504040200	40	45	200	32	4				○

● stock ○ by inquiry *Customize available.*

CATPM - Modular Milling Heads 方肩銑刀頭



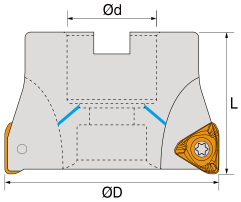


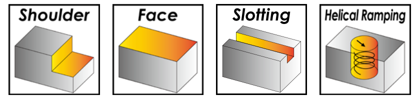
Insert Brand 建議刀片：Winstar, Taegutec, ...

Order No. 訂購編碼	D	L1	d	M	T	Coolant	Inserts	Screw	Wrench	Stock
ICATPM102020100	20	35	10.5	M10	2		TPMX1004	ITS2517	ITK08	○
ICATPM102020101	20	35	18	M10	2	✓				●
ICATPM102021100	21	35	10.5	M10	2					●
ICATPM103025120	25	35	12.5	M12	3					○
ICATPM103025121	25	35	21	M12	3	✓				●
ICATPM103026120	26	35	12.5	M12	3					●
ICATPM105032160	32	43	29	M16	5					●
ICATPM105032161	32	43	17	M16	5	✓				●
ICATPM105033160	33	43	17	M16	5					●
ICATPM105033161	33	43	17	M16	5	✓				●

● stock ○ by inquiry ※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

CATPF - Milling Tools 方肩銑刀





Insert Brand 建議刀片 : Winstar, Taegutec, ...

Order No. 訂購編碼	D	L	d	T	Coolant	Inserts	Screw	Wrench	Stock
ICATPF106050221	50	50	22	6	✓	TPMX1004	ITS2517	ITK08	●
ICATPF107050220	50	50	22	7					●
ICATPF107063221	63	50	22	7	✓				●
ICATPF109063220	63	50	22	9					●
ICATPF504040161	40	40	16	4	✓	TPMX1505	ITS4004	ITK15	●
ICATPF505050221	50	40	22	5	✓				●
ICATPF506063221	63	40	22	6	✓				●
ICATPF508080271	80	50	27	8	✓				●

● stock ○ by inquiry

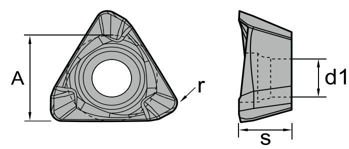
Customize available.

Recommended Cutting Conditions 建議切削數據

Working Material	TPMX1004			TPMX1505		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.08 ~ 0.20	0.3 ~ 7.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 11.0
Stainless Steel	100 ~ 180	0.05 ~ 0.15	0.3 ~ 4.0	100 ~ 180	0.10 ~ 0.22	0.5 ~ 7.0
Cast Iron	120 ~ 250	0.08 ~ 0.20	0.3 ~ 6.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 10.0
High Temperature Alloy	40 ~ 100	0.05 ~ 0.12	0.3 ~ 4.0	40 ~ 100	0.10 ~ 0.18	0.5 ~ 7.0
Hardened Steel	50 ~ 100	0.05 ~ 0.13	0.3 ~ 4.0	50 ~ 100	0.10 ~ 0.20	0.5 ~ 7.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	S	r	d1
TPMX100404	6.9	4	0.4	3
TPMX100408	6.9	4	0.8	3
TPMX150508	10.7	5	0.8	4.85

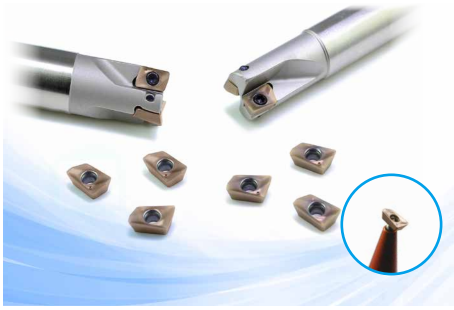


Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	ITPMX100404SG32HS	TPMX100404-SG-CX32HS	●	●	●		○	
	ITPMX100404SG33TX	TPMX100404-SG-CX33TX	●	●	●		●	●
	ITPMX100408SG32HS	TPMX100408-SG-CX32HS	●	●	●		○	
	ITPMX100408SG33TX	TPMX100408-SG-CX33TX	●	●	●		●	●
	ITPMX100408MG23AX	TPMX100408-MG-CX23AX	○	○	○		○	●
	ITPMX100408MG32HS	TPMX100408-MG-CX32HS	●	●	●		○	
	ITPMX100408MG33TX	TPMX100408-MG-CX33TX	●	●	●		●	●
	ITPMX100408MG43TX	TPMX100408-MG-CX43TX	●	●	●		●	
	ITPMX150508MG23AX	TPMX150508-MG-CX23AX	○	○	○		○	●
	ITPMX150508MG32HS	TPMX150508-MG-CX32HS	●	●	●		○	
	ITPMX150508MG33TX	TPMX150508-MG-CX33TX	●	●	●		●	●
	ITPMX150508MG43TX	TPMX150508-MG-CX43TX	●	●	●		●	

Shoulder Milling - CAXO 方肩銑刀

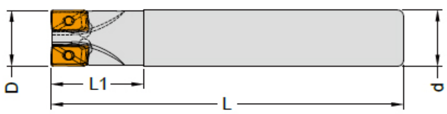
CAXO Series

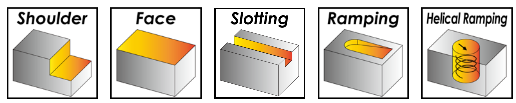


- Use XOMT inserts with 2 cutting edges.
- Optimized chip breaker reduces heat generation and cutting forces.
- 6~32mm cutter diameter, max. 7mm depth of cut.

- 使用 XOMT 銑刀片，2 個可用切削角
- 泛優化的刀口設計降低熱能產生及切削力，能維持長時間高效率加工
- 6~32mm 刀桿直徑，最大切削深度可達 7mm

CAXOE - Milling Tools 方肩銑刀





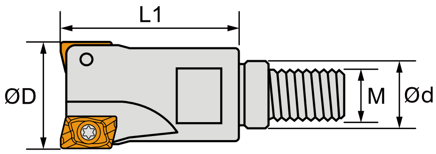
Insert Brand 建議刀片 : Winstar, Seco, ...

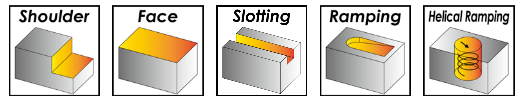
Order No. 訂購編碼	D	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICAXOE601006080	6	10	80	6	1		XOMT0602	ITS1610	ITK05	●
ICAXOE601008090	8	10	90	8	1					●
ICAXOE602010100	10	20	100	10	2			ITS1801	ITK06	●
ICAXOE602012100	12	20	100	12	2					●
ICAXOE603012100	12	20	100	12	3					●
ICAXOE602013100	13	20	100	12	2					●
ICAXOE603013100	13	20	100	12	3					●
ICAXOE604016100	16	30	100	16	4					●
ICAXOE605020120	20	30	120	20	5					●
ICAXOE102016150	16	22	150	16	2		XOMT10T3	ITS2515	ITK08	○
ICAXOE102020150	20	28	150	20	2					○
ICAXOE104025150	25	35	150	25	4					○
ICAXOE105032150	32	40	150	32	5					○
ICAXOE203025151	25	36	150	25	3	✓	XOMT1204	ITS3501	ITK15	●
ICAXOE204032150	32	40	150	32	4					●

● stock ○ by inquiry

Customize available.

CAXOM - Modular Milling Heads 方肩銑刀頭





Insert Brand 建議刀片 : Winstar, Seco, ...

Order No. 訂購編碼	D	L1	d	M	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICAXOM602010050	10	16	5.5	M5	2		XOMT0602	ITS1801	ITK06	○
ICAXOM603012060	12	18	6.5	M6	3					●
ICAXOM604016080	16	20	8.5	M8	4					●
ICAXOM605020100	20	30	10.5	M10	5					●
ICAXOM102016080	16	26	8.5	M8	2		XOMT10T3	TS2515	ITK08	●
ICAXOM102016081	16	26	8.5	M8	2	✓				●
ICAXOM103020100	20	30	10.5	M10	3					●
ICAXOM103020101	20	30	10.5	M10	3	✓				●

● stock ○ by inquiry

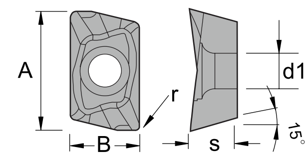
※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

Recommended Cutting Conditions 建議切削數據

Working Material	XOMT0602			XOMT10T3		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.08 ~ 0.20	0.3 ~ 3.0	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0
Stainless Steel	100 ~ 180	0.05 ~ 0.15	0.3 ~ 2.5	100 ~ 180	0.08 ~ 0.18	0.3 ~ 4.0
Cast Iron	120 ~ 250	0.08 ~ 0.13	0.3 ~ 3.0	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0
High Temperature Alloy	40 ~ 100	0.05 ~ 0.12	0.3 ~ 2.5	40 ~ 100	0.07 ~ 0.14	0.3 ~ 5.0
Hardened Steel	50 ~ 100	0.05 ~ 0.13	0.3 ~ 2.5	50 ~ 100	0.07 ~ 0.15	0.3 ~ 5.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
XOMT060204	7	4.09	2.45	0.4	2
XOMT060208	7	4.09	2.45	0.8	2
XOMT060216	7	4.09	2.45	1.6	2
XOMT10T308	11.08	6.86	3.8	0.8	3
XOMT120408	11.6	8.2	5.07	0.8	3.9



Insert Designation 刀片型號

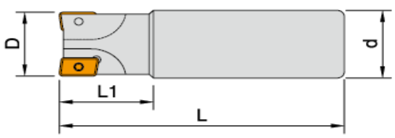
Insert	Order No. 訂購編碼	Designation	Working Material P	M	K	N	S	H
	IXOMT060208SG32HS	XOMT060208-SG-CX32HS	●	●	●		○	
	IXOMT060208SG33TX	XOMT060208-SG-CX33TX	●	●	●		●	●
	IXOMT060204MG23AX	XOMT060204-MG-CX23AX	○	○	○		○	●
	IXOMT060204MG32HS	XOMT060204-MG-CX32HS	●	●	●		○	
	IXOMT060204MG33TX	XOMT060204-MG-CX33TX	●	●	●		●	●
	IXOMT060208MG23AX	XOMT060208-MG-CX23AX	○	○	○		○	●
	IXOMT060208MG32HS	XOMT060208-MG-CX32HS	●	●	●		○	
	IXOMT060208MG33TX	XOMT060208-MG-CX33TX	●	●	●		●	●
	IXOMT060208MG43TX	XOMT060208-MG-CX43TX	●	●	●		●	
	IXOMT060216MG23AX	XOMT060216-MG-CX23AX	○	○	○		○	●
	IXOMT060216MG32HS	XOMT060216-MG-CX32HS	●	●	●		○	
	IXOMT060216MG33TX	XOMT060216-MG-CX33TX	●	●	●		●	●
	IXOMT060216MG43TX	XOMT060216-MG-CX43TX	●	●	●		●	
	IXOMT10T308SG32HS	XOMT10T308-SG-CX32HS	●	●	●		○	
	IXOMT10T308SG33TX	XOMT10T308-SG-CX33TX	●	●	●		●	●
	IXOMT10T308SG43TX	XOMT10T308-SG-CX43TX	●	●	●		●	
	IXOMT10T308MG32HS	XOMT10T308-MG-CX32HS	●	●	●		○	
	IXOMT10T308MG33TX	XOMT10T308-MG-CX33TX	●	●	●		●	●
	IXOMT10T308MG43TX	XOMT10T308-MG-CX43TX	●	●	●		●	
	IXOMT10T308MG37TA	XOMT10T308-MG-CX37TA	○	○	●		○	○
	IXOMT10T308MG47TA	XOMT10T308-MG-CX47TA	●	●	○		●	○
	IXOMT120408MG32HS	XOMT120408-MG-CX32HS	●	●	●		○	
	IXOMT120408MG33TX	XOMT120408-MG-CX33TX	●	●	●		●	●
	IXOMT120408MG43TX	XOMT120408-MG-CX43TX	●	●	●		●	
	IXOMT120408MG37TA	XOMT120408-MG-CX37TA	○	○	●		○	○
	IXOMT120408MG47TA	XOMT120408-MG-CX47TA	●	●	○		●	○

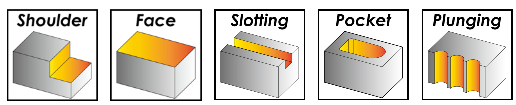
CBAP Series

- Use APMT inserts with 2 cutting edges.
- Low cost and various geometric designs for versatile applications.
- 16~80mm cutter diameter, max. 11mm depth of cut.

- 使用 APMT 銑刀片，2 個可用切削角
- 低成本和多樣化的幾何設計適用於多種加工應用
- 16~80mm 刀桿直徑，最大切削深度可達 11mm

CBAPE - Milling Tools 方肩銑刀





Insert Brand 建議刀片：Winstar, Mitsubishi, ...

<table>
<tr><th>Order No.
訂購編碼</th><th>D</th><th>L1</th><th>L</th><th>d</th><th>T</th><th>Inserts</th><th>Screw</th><th>Wrench</th><th>Stock</th></tr>
<tr><td>ICBAPE302016100</td><td>16</td><td>25</td><td>100</td><td>16</td><td>2</td><td rowspan="8">APMT1135</td><td rowspan="8">ITS2515</td><td rowspan="8">ITK08</td><td>●</td></tr>
<tr><td>ICBAPE302016160</td><td>16</td><td>35</td><td>160</td><td>16</td><td>2</td><td>●</td></tr>
<tr><td>ICBAPE302020150</td><td>20</td><td>35</td><td>150</td><td>20</td><td>2</td><td>●</td></tr>
<tr><td>ICBAPE303020100</td><td>20</td><td>30</td><td>100</td><td>20</td><td>3</td><td>●</td></tr>
<tr><td>ICBAPE303020150</td><td>20</td><td>35</td><td>150</td><td>20</td><td>3</td><td>●</td></tr>
<tr><td>ICBAPE304025100</td><td>25</td><td>35</td><td>100</td><td>25</td><td>4</td><td>○</td></tr>
<tr><td>ICBAPE304030120</td><td>30</td><td>40</td><td>120</td><td>25</td><td>4</td><td>○</td></tr>
<tr><td>ICBAPE305032120</td><td>32</td><td>40</td><td>120</td><td>32</td><td>5</td><td>○</td></tr>
<tr><td>ICBAPE402025150</td><td>25</td><td>40</td><td>150</td><td>25</td><td>2</td><td rowspan="4">APMT1604
APGT1604</td><td rowspan="4">ITS4023</td><td rowspan="4">ITK15</td><td>●</td></tr>
<tr><td>ICBAPE402025200</td><td>25</td><td>70</td><td>200</td><td>25</td><td>2</td><td>○</td></tr>
<tr><td>ICBAPE403032150</td><td>32</td><td>45</td><td>150</td><td>32</td><td>3</td><td>●</td></tr>
<tr><td>ICBAPE403032200</td><td>32</td><td>80</td><td>200</td><td>32</td><td>3</td><td>●</td></tr>
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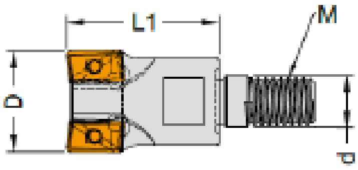
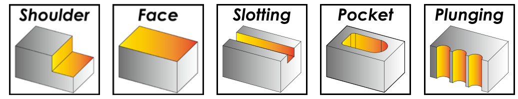
● stock ○ by inquiry

Customize available.

CBAPM - Modular Milling Heads 方肩銑刀頭





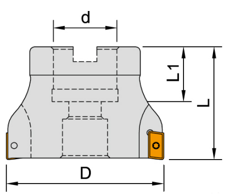
Insert Brand 建議刀片 : Winstar, Mitsubishi, ...

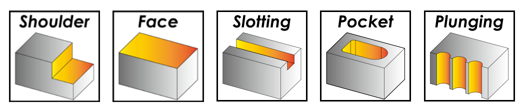
Order No. 訂購編碼	D	L1	d	M	T	Inserts	Screw	Wrench	Stock
ICBAPM302016080	16	26	8.5	M8	2	APMT1135	ITS2515	ITK08	●
ICBAPM302020100	20	30	10.5	M10	2				●
ICBAPM303020100	20	30	10.5	M10	3				○
ICBAPM304025120	25	35	12.5	M12	4				●
ICBAPM305032160	32	40	17	M16	5				●
ICBAPM305033160	33	40	17	M16	5				○
ICBAPM402025120	25	35	12.5	M12	2	APMT1604 APGT1604	ITS4023	ITK15	●
ICBAPM403032160	32	40	17	M16	3				●

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

CBAPF - Milling Tools 方肩銑刀





Insert Brand 建議刀片 : Winstar, Mitsubishi, ...

Order No. 訂購編碼	D	L	L1	d	T	Inserts	Screw	Wrench	Stock
ICBAPF306050250	50	18	45	25.4	6	APMT1135	ITS2515	ITK08	●
ICBAPF307063220	63	22	45	22	7				●
ICBAPF307063254	63	22	45	25.4	7				●
ICBAPF308080250	80	26	50	25.4	8				●
ICBAPF308080270	80	26	50	27	8				●
ICBAPF405050220	50	22	45	22	5	APMT1604 APGT1604	ITS4023	ITK15	●
ICBAPF405050250	50	18	45	25.4	5				●
ICBAPF406063220	63	22	45	22	6				●
ICBAPF406063250	63	22	45	25.4	6				●
ICBAPF407080250	80	26	26	25.4	7				●
ICBAPF407080270	80	26	26	27	7				●

● stock ○ by inquiry

Customize available.

Recommended Cutting Conditions 建議切削數據

· For Shoulder Milling

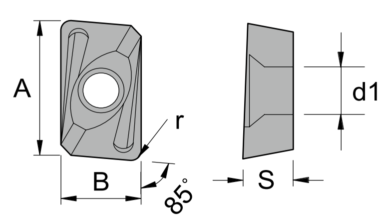
Working Material	APMT1135			APMT1604		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.5 ~ 7.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 11.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.5 ~ 4.0	100 ~ 180	0.10 ~ 0.22	0.5 ~ 7.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.5 ~ 6.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 11.0
Aluminum Alloy	-	-	-	300 ~ 1000	0.10 ~ 0.40	0.5 ~ 11.0
High Temperature Alloy	40 ~ 100	0.07 ~ 0.14	0.5 ~ 4.0	40 ~ 100	0.10 ~ 0.22	0.5 ~ 7.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.5 ~ 4.0	50 ~ 100	0.10 ~ 0.22	0.5 ~ 7.0

· For High Feed Face Milling (use APMT113516 or APMT160416 insert)

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.25 ~ 0.55	0.2 ~ 0.5
Stainless Steel	100 ~ 180	0.2 ~ 0.45	0.2 ~ 0.5
Cast Iron	120 ~ 250	0.25 ~ 0.55	0.2 ~ 0.5
High Temperature Alloy	40 ~ 100	0.175 ~ 0.35	0.2 ~ 0.5
Hardened Steel	50 ~ 100	0.175 ~ 0.375	0.2 ~ 0.5

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
APMT113508	11.0	6.35	3.5	0.8	2.8
APMT113516	11.0	6.35	3.5	1.6	2.8
APMT160408	16.5	9.525	4.76	0.8	4.4
APMT160416	16.5	9.525	4.76	1.6	4.4
APGT160408	16.5	9.525	4.76	0.8	4.4



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	P	M	K	N	S	H
	IAPMT113508EMG23AX	APMT113508PDER-MG-CX23AX	○	○	○		○	●
	IAPMT113508EMG32HS	APMT113508PDER-MG-CX32HS	●	●	●		○	
	IAPMT113508EMG33TX	APMT113508PDER-MG-CX33TX	●	●	●		●	●
	IAPMT113508EMG43TX	APMT113508PDER-MG-CX43TX	●	●	●		●	
	IAPMT113516EMG23AX	APMT113516PDER-MG-CX23AX	○	○	○		○	●
	IAPMT113516EMG32HS	APMT113516PDER-MG-CX32HS	●	●	●		○	
	IAPMT113516EMG33TX	APMT113516PDER-MG-CX33TX	●	●	●		●	●
	IAPMT113516EMG43TX	APMT113516PDER-MG-CX43TX	●	●	●		●	

Insert Designation 刀片型號

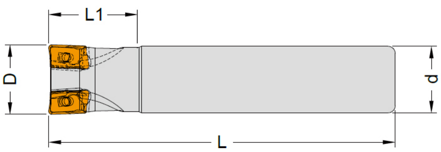
Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IAPMT113508ERG23AX	APMT113508PDER-RG-CX23AX	○	○	○		○	●
	IAPMT113508ERG32HS	APMT113508PDER-RG-CX32HS	●	●	●		○	
	IAPMT113508ERG33TX	APMT113508PDER-RG-CX33TX	●	●	●		●	●
	IAPMT113508ERG43TX	APMT113508PDER-RG-CX43TX	●	●	●		●	
	IAPMT113508EHG32HS	APMT113508PDER-HG-CX32HS	●	●	●		○	
	IAPMT113508EHG33TX	APMT113508PDER-HG-CX33TX	●	●	●		●	●
	IAPMT113508EHG43TX	APMT113508PDER-HG-CX43TX	●	●	●		●	
	IAPGT160408EAL10	APGT160408PDER-AL-CX10				●		
	IAPGT160408EFG23AX	APGT160408PDER-FG-CX23AX	○	○	○		○	●
	IAPMT160408EMG23AX	APMT160408PDER-MG-CX23AX	○	○	○		○	●
	IAPMT160408EMG32HS	APMT160408PDER-MG-CX32HS	●	●	●		○	
	IAPMT160408EMG33TX	APMT160408PDER-MG-CX33TX	●	●	●		●	●
	IAPMT160408EMG43TX	APMT160408PDER-MG-CX43TX	●	●	●		●	
	IAPMT160408EMG47TA	APMT160408PDER-MG-CX47TA	●	●	○		●	○
	IAPMT160416EMG32HS	APMT160416PDER-MG-CX32HS	●	●	●		○	
	IAPMT160416EMG33TX	APMT160416PDER-MG-CX33TX	●	●	●		●	●
	IAPMT160416EMG43TX	APMT160416PDER-MG-CX43TX	●	●	●		●	
	IAPMT160408ERG23AX	APMT160408PDER-RG-CX23AX	○	○	○		○	●
	IAPMT160408ERG32HS	APMT160408PDER-RG-CX32HS	●	●	●		○	
	IAPMT160408ERG33TX	APMT160408PDER-RG-CX33TX	●	●	●		●	●
	IAPMT160408ERG43TX	APMT160408PDER-RG-CX43TX	●	●	●		●	
	IAPMT160408EHG23AX	APMT160408PDER-HG-CX23AX	○	○	○		○	●
	IAPMT160408EHG32HS	APMT160408PDER-HG-CX32HS	●	●	●		○	
	IAPMT160408EHG33TX	APMT160408PDER-HG-CX33TX	●	●	●		●	●
	IAPMT160408EHG43TX	APMT160408PDER-HG-CX43TX	●	●	●		●	

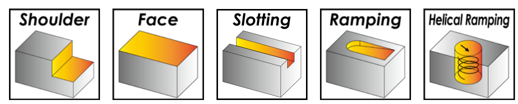
CR39 Series

- Use W390 inserts with 2 cutting edges.
- Optimized chip breaker for high efficient shoulder and side milling.
- 16~100mm cutter diameter, max. 11mm depth of cut.

- 使用 W390 銑刀片，2 個可用切削角
- 優化的刀口設計適用於各種加工材料的高移除率的方肩銑和側銑
- 16~100mm 刀桿直徑，最大切削深度可達 11mm

CR39E - Milling Tools 方肩銑刀



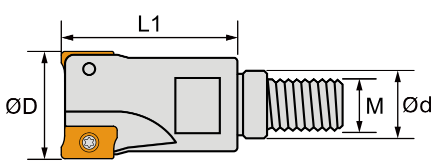


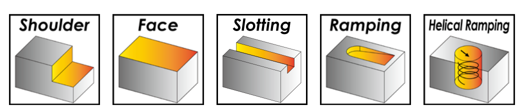
Insert Brand 建議刀片：Winstar, Sandvik, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICR39E302016150	16	30	150	16	2	W39011T3	ITS2509	ITK08	●
ICR39E303020150	20	30	150	20	3				○
ICR39E303025150	25	30	150	25	3				●
ICR39E303032150	32	35	150	32	3				○
ICR39E802025150	25	35	150	25	2	W3901806	ITS4005	ITK15	○
ICR39E803032150	32	40	150	32	3				○

● stock ○ by inquiry *Customize available.*

CR39M - Modular Milling Heads 方肩銑刀頭





Insert Brand 建議刀片：Winstar, Sandvik, ...

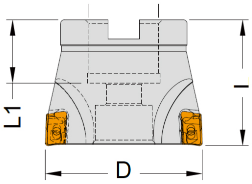
Order No. 訂購編碼	D	L1	d	M	T	Inserts	Screw	Wrench	Stock
ICR39M302016080	16	26	8.5	M8	2	W39011T3	ITS2509	ITK08	○
ICR39M303020100	20	32	10.5	M10	3				○
ICR39M303025120	25	38	12.5	M12	3				○
ICR39M303032160	32	41	17	M16	3				○

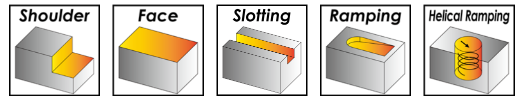
● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

Shoulder Milling - CR39 方肩銑刀

CR39F - Milling Tools 方肩銑刀





Insert Brand 建議刀片 : Winstar, Sandvik, ...

Order No. 訂購編碼	D	L	d	T	Coolant	Inserts	Screw	Wrench	Stock
ICR39F305040161	40	40	16	5	✓	W39011T3	ITS2509	ITK08	●
ICR39F304050220	50	40	22	4					○
ICR39F306050221	50	40	22	6	✓				●
ICR39F305063220	63	40	22	5					○
ICR39F307063221	63	50	22	7	✓				●
ICR39F308080270	80	50	27	8					○
ICR39F805050221	50	40	22	5	✓	W3901806	ITS4005	ITK15	●
ICR39F806063221	63	40	22	6	✓				●
ICR39F807080271	80	50	27	7	✓				●
ICR39F808100321	100	50	32	8	✓				●

● stock ○ by inquiry

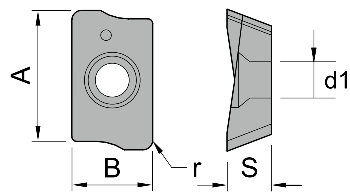
Customize available.

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	W39011T3		W3901806	
		fz	ap	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0	0.12 ~ 0.28	0.5 ~ 11.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 4.0	0.10 ~ 0.22	0.5 ~ 7.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.3 ~ 6.0	0.12 ~ 0.28	0.5 ~ 10.0
High Temperature Alloy	40 ~ 100	0.07 ~ 0.14	0.3 ~ 4.0	0.10 ~ 0.18	0.5 ~ 7.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.3 ~ 4.0	0.10 ~ 0.20	0.5 ~ 7.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
W39011T308	11	6.9	3.59	0.8	2.8
W39011T320	11	6.9	3.59	2.0	2.8
W390180612	15.4	11	6.33	1.2	4.2



Insert Designation 刀片型號

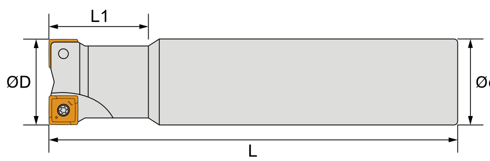
Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IW39011T308SG23AX	W39011T308-SG-CX23AX	○	○	○		○	●
	IW39011T308SG32HS	W39011T308-SG-CX32HS	●	●	●		○	
	IW39011T308SG33TX	W39011T308-SG-CX33TX	●	●	●		●	●
	IW39011T308SG43TX	W39011T308-SG-CX43TX	●	●	●		●	
	IW39011T308MG23AX	W39011T308-MG-CX23AX	○	○	○		○	●
	IW39011T308MG32HS	W39011T308-MG-CX32HS	●	●	●		○	
	IW39011T308MG33TX	W39011T308-MG-CX33TX	●	●	●		●	●
	IW39011T308MG43TX	W39011T308-MG-CX43TX	●	●	●		●	
	IW39011T308MG37TA	W39011T308-MG-CX37TA	○	○	●		○	○
	IW39011T308MG47TA	W39011T308-MG-CX47TA	●	●	○		●	○
	IW39011T320MG23AX	W39011T320-MG-CX23AX	○	○	○		○	●
	IW39011T320MG32HS	W39011T320-MG-CX32HS	●	●	●		○	
	IW39011T320MG33TX	W39011T320-MG-CX33TX	●	●	●		●	●
	IW39011T320MG43TX	W39011T320-MG-CX43TX	●	●	●		●	
	IW39011T320MG37TA	W39011T320-MG-CX37TA	○	○	●		○	○
	IW39011T320MG47TA	W39011T320-MG-CX47TA	●	●	○		●	○
	IW390180612SG32HS	W390180612-SG-CX32HS	●	●	●		○	
	IW390180612SG33TX	W390180612-SG-CX33TX	●	●	●		●	●
	IW390180612SG43TX	W390180612-SG-CX43TX	●	●	●		●	
	IW390180612SG37TA	W390180612-SG-CX37TA	○	○	●		○	○
	IW390180612SG47TA	W390180612-SG-CX47TA	●	●	○		●	○

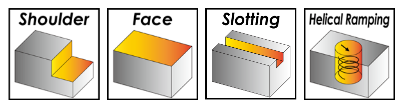
CR49 Series

- Use W490 inserts with 4 cutting edges.
- Great repeat side milling capability to reduce burs and get good surface finishing.
- 20~80mm cutter diameter, max. 9mm depth of cut.

- 使用 W390 單面銑刀片，2 個可用切削角
- 出色的重複側銑能力可減少毛刺產生並獲得良好的表面光潔度
- 20~80mm 刀盤直徑，最大切削深度可達 9mm

CR49E - Milling Tools 方肩銑刀



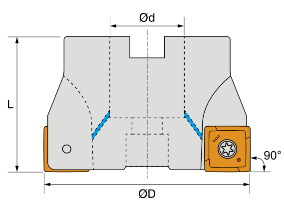


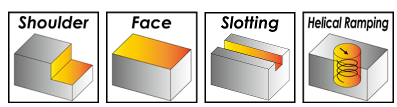
Insert Brand 建議刀片：Winstar, Sandvik, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICR49E802020100	20	25	100	20	2	W49008T3	ITS2507	ITK08	●
ICR49E802020150	20	25	150	20	2				●
ICR49E803025100	25	32	100	20	3				●
ICR49E803025150	25	32	150	20	3				●

● stock ○ by inquiry

CR49F - Milling Tools 方肩銑刀





Insert Brand 建議刀片：Winstar, Sandvik, ...

Order No. 訂購編碼	D	L	d	T	Coolant	Inserts	Screw	Wrench	Stock
ICR49F804040161	40	40	16	4	✓	W49008T3	ITS2507	ITK08	●
ICR49F805050221	50	40	22	5	✓				●
ICR49F806063221	63	40	22	6	✓				●
ICR49F404050221	50	40	22	4	✓	W4901404	ITS3505	ITK15	●
ICR49F405063221	63	40	22	5	✓				●
ICR49F407080271	80	50	27	7	✓				●

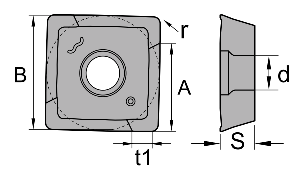
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	W49008T3		W4901404	
		fz	ap	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.05 ~ 0.12	0.3 ~ 5.5	0.06 ~ 0.15	0.3 ~ 9
Stainless Steel	100 ~ 180	0.04 ~ 0.10	0.3 ~ 4.5	0.05 ~ 0.12	0.3 ~ 8
Cast Iron	120 ~ 250	0.05 ~ 0.12	0.3 ~ 5.5	0.06 ~ 0.15	0.3 ~ 9
Aluminum Alloy	300 ~ 1000	-	-	0.05 ~ 0.15	0.3 ~ 9
High Temperature Alloy	40 ~ 100	0.03 ~ 0.09	0.3 ~ 4.5	0.04 ~ 0.11	0.3 ~ 8
Hardened Steel	50 ~ 100	0.03 ~ 0.09	0.3 ~ 4.5	0.04 ~ 0.11	0.3 ~ 8

Insert Specifications 刀片規格

Insert	Dimensions (mm)					
	A	B	S	r	d1	t1
W49008T308	5.6	8.5	3.3	0.8	2.8	1.2
W490140408	10.3	13.8	3.9	0.8	4.1	2.0



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IW49008T308SG23AX	W49008T308-SG-CX23AX	○	○	○		○	●
	IW49008T308SG32HS	W49008T308-SG-CX32HS	●	●	●		○	
	IW49008T308SG33TX	W49008T308-SG-CX33TX	●	●	●		●	●
	IW49008T308SG43TX	W49008T308-SG-CX43TX	●	●	●		●	
	IW490140408SG32HS	W490140408-SG-CX32HS	●	●	●		○	
	IW490140408SG33TX	W490140408-SG-CX33TX	●	●	●		●	●
	IW490140408SG43TX	W490140408-SG-CX43TX	●	●	●		●	
	IW490140408MG23AX	W490140408-MG-CX23AX	○	○	○		○	●
	IW490140408MG32HS	W490140408-MG-CX32HS	●	●	●		○	
	IW490140408MG33TX	W490140408-MG-CX33TX	●	●	●		●	●
	IW490140408MG43TX	W490140408-MG-CX43TX	●	●	●		●	
	IW490140408MG37TA	W490140408-MG-CX37TA	○	○	●		○	○
	IW490140408MG47TA	W490140408-MG-CX47TA	●	●	○		●	○

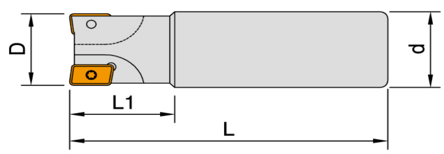
Indexable Milling

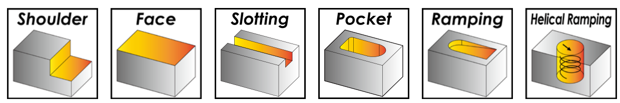
CWEX Series

- Use AXMT inserts with 2 cutting edges.
- Strong cutting edges for high removal rate shoulder milling.
- 16~100mm cutter diameter, max. 11mm depth of cut.

- 使用 AXMT 銑刀片，2 個可用切削角
- 堅固的切削刃提供高移除率的方肩銑刀
- 16~100mm 刀桿直徑，最大切削深度可達 11mm

CWEXE - Milling Tools 方肩銑刀

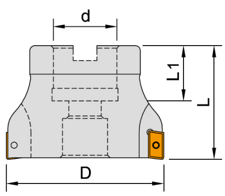


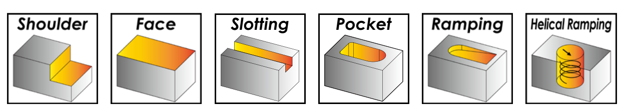


Insert Brand 建議刀片：Winstar, Sumitomo, Nachi, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICWEXE202016120	16	35	120	16	2	AXMT1235	ITS3002	ITK09	●
ICWEXE203020120	20	40	120	20	3				●
ICWEXE204025150	25	45	150	25	4				●
ICWEXE205032150	32	45	150	32	5				●
ICWEXE702025150	25	40	150	25	2	AXMT1705	ITS4004	ITK15	●
ICWEXE703032150	32	45	150	32	3				●

CWEXF - Milling Tools 方肩銑刀





Insert Brand 建議刀片：Winstar, Sumitomo, Nachi, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICWEXF206050220	50	20	45	22	6	AXMT1235	ITS3002	ITK09	●
ICWEXF207063220	63	20	45	22	7				●
ICWEXF208080270	80	26	50	27	8				●
ICWEXF704050220	50	20	45	22	4	AXMT1705	ITS4004	ITK15	●
ICWEXF705063220	63	20	45	22	5				●
ICWEXF707080270	80	26	50	27	7				●
ICWEXF707100320	100	26	50	32	7				○

● stock ○ by inquiry

Customize available.

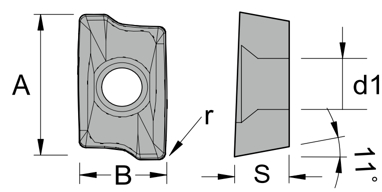
Shoulder Milling - CWEX 方肩銑刀

Recommended Cutting Conditions 建議切削數據

Working Material	AXMT1235			AXMT1705		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 11.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 4.0	100 ~ 180	0.10 ~ 0.22	0.5 ~ 7.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.3 ~ 6.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 10.0
High Temperature Alloy	40 ~ 100	0.07 ~ 0.14	0.3 ~ 4.0	40 ~ 100	0.10 ~ 0.18	0.5 ~ 7.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.3 ~ 4.0	50 ~ 100	0.10 ~ 0.20	0.5 ~ 7.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
AXMT123508	12.18	6.93	3.58	0.8	3.4
AXMT170508	17.50	10.2	5.56	0.8	4.6
AXMT170516	17.50	10.2	5.56	1.6	4.6



Insert Designation 刀片型號

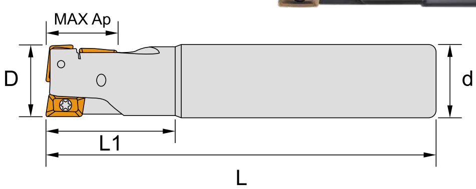
Insert	Order No. 訂購編碼	Designation	P	M	K	N	S	H
	IAXMT123508ERG23AX	AXMT123508PEER-RG-CX23AX	○	○	○		○	●
	IAXMT123508ERG32HS	AXMT123508PEER-RG-CX32HS	●	●	●		○	
	IAXMT123508ERG33TX	AXMT123508PEER-RG-CX33TX	●	●	●		●	●
	IAXMT123508ERG43TX	AXMT123508PEER-RG-CX43TX	●	●	●		●	
	IAXMT123508ERG37TA	AXMT123508PEER-RG-CX37TA	○	○	●		○	○
	IAXMT170508ERG23AX	AXMT170508PEER-RG-CX23AX	○	○	○		○	●
	IAXMT170508ERG32HS	AXMT170508PEER-RG-CX32HS	●	●	●		○	
	IAXMT170508ERG33TX	AXMT170508PEER-RG-CX33TX	●	●	●		●	●
	IAXMT170508ERG43TX	AXMT170508PEER-RG-CX43TX	●	●	●		●	
	IAXMT170508ERG37TA	AXMT170508PEER-RG-CX37TA	○	○	●		○	○
	IAXMT170516ERG32HS	AXMT170516PEER-RG-CX32HS	●	●	●		○	○
	IAXMT170516ERG33TX	AXMT170516PEER-RG-CX33TX	●	●	●		●	●
	IAXMT170516ERG43TX	AXMT170516PEER-RG-CX43TX	●	●	●		●	
	IAXMT170516ERG37TA	AXMT170516PEER-RG-CX37TA	○	○	●		○	○
	IAXMT170516ERG47TA	AXMT170516PEER-RG-CX47TA	●	●	○		●	○

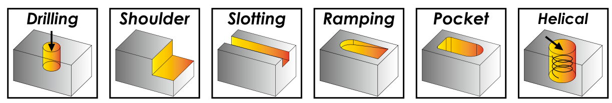
CWMM Series

- Use APMT inserts with 2 cutting edges.
- Cutter with over-center design for drilling and milling.
- 10~50mm cutter diameter, max. 11mm depth of cut.

- 使用 AXMT 銑刀片 , 2 個可用切削角
- 刀桿過中心設計 , 適用於鑽孔、方肩、開槽、斜坡、挖槽、及螺旋銑削
- 10~50mm 刀桿直徑 , 最大端銑切削深度可達 11mm

CWMMD - Drilling & Milling Tools 鑽銑刀



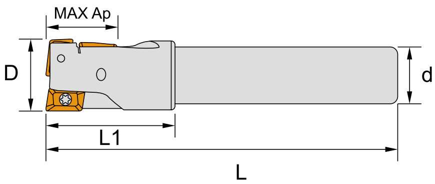


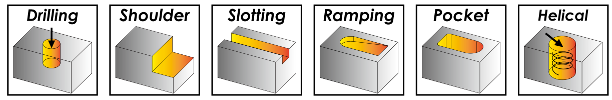
Insert Brand 建議刀片 : Winstar, Sumitomo, Nachi, ...

Order No. 訂購編碼	D	L1	L	d	Insert Number	Max Ap	Inserts	Screw	Wrench	Stock
ICWMMD303020120	20	35	125	20	3	16	APMT1035	ITS2515	ITK08	●
ICWMMD303020180	20	35	185	20	3	16				●
ICWMMD304025140	25	35	140	25	4	24				●
ICWMMD304025220	25	35	220	25	4	24				●
ICWMMD604032150	32	50	150	32	4	40	APMT1605	ITS4004	ITK15	●
ICWMMD604032230	32	60	230	32	4	40				●

● stock ○ by inquiry

CWMMD - Drilling & Milling Tools 鑽銑刀





Insert Brand 建議刀片 : Winstar, Sumitomo, Nachi, ...

Order No. 訂購編碼	D	L1	L	d	Insert Number	Max Ap	Inserts	Screw	Wrench	Stock
ICWMMD303021120	21	35	125	20	3	16	APMT1035	ITS2515	ITK08	●
ICWMMD304026140	26	35	140	25	4	24				●
ICWMMD305030150	30	50	150	25	5	32				●
ICWMMD604033150	33	50	150	32	4	40	APMT1605	ITS4004	ITK15	●
ICWMMD604040160	40	60	160	32	4	40				●
ICWMMD604040240	40	60	240	32	4	40				●

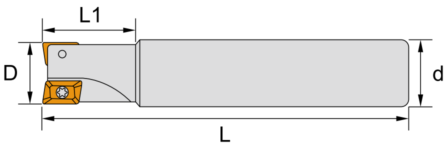
● stock ○ by inquiry

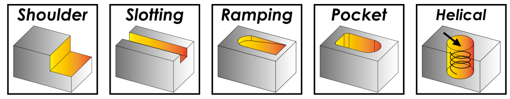
Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz					
		APMT1035			APMT1605		
		Shoulder	Slotting	Drilling	Shoulder	Slotting	Drilling
Carbon Steel / Alloy Steel	100 ~ 160	0.06 ~ 0.20	0.06 ~ 0.12	0.06 ~ 0.18	0.06 ~ 0.25	0.06 ~ 0.15	0.06 ~ 0.20
Stainless Steel	80 ~ 120	0.05 ~ 0.15	0.05 ~ 0.10	0.05 ~ 0.12	0.05 ~ 0.20	0.05 ~ 0.12	0.05 ~ 0.18
Cast Iron	90 ~ 180	0.06 ~ 0.20	0.06 ~ 0.12	0.06 ~ 0.18	0.06 ~ 0.25	0.06 ~ 0.15	0.06 ~ 0.20
High Temperature Alloy	60 ~ 100	0.05 ~ 0.12	0.05 ~ 0.08	0.05 ~ 0.10	0.05 ~ 0.17	0.05 ~ 0.10	0.05 ~ 0.15
Hardened Steel	60 ~ 100	0.05 ~ 0.12	0.05 ~ 0.08	0.05 ~ 0.10	0.05 ~ 0.17	0.05 ~ 0.10	0.05 ~ 0.15

※ Use step feed in drilling, per step Ap 0.5 ~ 1.0mm. 鑽孔加工時，需分次加工 (每段 Ap 0.5 ~ 1.0mm)

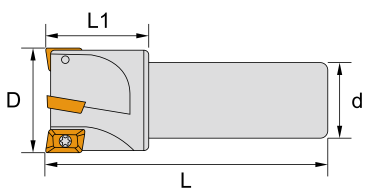
CWMME - Milling Tools 方肩銑刀





Insert Brand 建議刀片：Winstar, Sumitomo, Nachi, ...

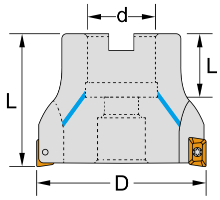
Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICWMME301010100	10	20	100	12	1	APMT1035	ITS2515	ITK08	●
ICWMME301012100	12	25	100	12	1				●
ICWMME302016120	16	25	120	16	2				●
ICWMME303020120	20	30	120	20	3				●
ICWMME304025150	25	35	150	25	4				●
ICWMME305032150	32	45	150	32	5				●
ICWMME602025150	25	40	150	25	2	APMT1605	ITS4004	ITK15	●
ICWMME602025220	25	40	220	25	2				●
ICWMME602032150	32	45	150	32	2				●
ICWMME602032250	32	45	250	32	2				●
ICWMME603032150	32	45	150	32	3				●

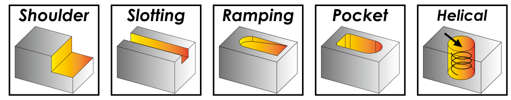


Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICWMME306040130	40	45	135	32	6	APMT1035	ITS2515	ITK08	○
ICWMME306050130	50	45	135	32	6				○
ICWMME306063130	63	45	135	32	6				○
ICWMME603035150	35	45	150	32	3	APMT1605	ITS4004	ITK15	○
ICWMME603035250	35	45	250	32	3				○
ICWMME603040130	40	45	135	32	3				○
ICWMME604050130	50	45	135	32	4				○

● stock ○ by inquiry

CWMMF - Milling Tools 方肩銑刀





Insert Brand 建議刀片 : Winstar, Sumitomo, Nachi, ...

Order No. 訂購編碼	D	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICWMMF306050221	50	20	45	22	6	✓	APMT1035	ITS2515	ITK08	●
ICWMMF306050250	50	20	45	25.4	6					●
ICWMMF306063220	63	20	45	22	6					●
ICWMMF306063250	63	20	45	25.4	6					●
ICWMMF604050221	50	20	45	22	4	✓	APMT1605	ITS4004	ITK15	●
ICWMMF604050251	50	20	45	25.4	4	✓				●
ICWMMF605063220	63	20	45	22	5					○
ICWMMF605063251	63	20	45	25.4	5	✓				●
ICWMMF606080250	80	26	50	25.4	6					●
ICWMMF606080270	80	26	50	27	6					○

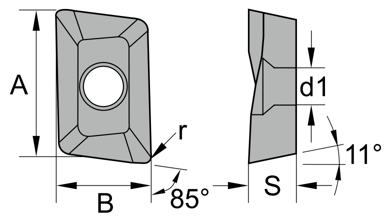
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	APMT1035			APMT1605		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 11.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 4.0	100 ~ 180	0.10 ~ 0.22	0.5 ~ 7.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.3 ~ 6.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 10.0
High Temperature Alloy	40 ~ 100	0.07 ~ 0.14	0.3 ~ 4.0	40 ~ 100	0.10 ~ 0.18	0.5 ~ 7.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.3 ~ 4.0	50 ~ 100	0.10 ~ 0.20	0.5 ~ 7.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
APMT103508	10	6.6	3.5	0.8	3
APMT160508	16	9.525	5.56	0.8	4.4



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation 型號	Working Material					
			P	M	K	N	S	H
	IAPMT103508ERG23AX	APMT103508PDER-RG-CX23AX	○	○	○		○	●
	IAPMT103508ERG32HS	APMT103508PDER-RG-CX32HS	●	●	●		○	
	IAPMT103508ERG33TX	APMT103508PDER-RG-CX33TX	●	●	●		●	●
	IAPMT103508ERG43TX	APMT103508PDER-RG-CX43TX	●	●	●		●	
	IAPMT160508ERG32HS	APMT160508PDER-RG-CX32HS	●	●	●		○	
	IAPMT160508ERG33TX	APMT160508PDER-RG-CX33TX	●	●	●		●	●

High Feed Milling Series Introduction 高進給銑刀系列介紹

CXBN Series

- Use BNMX double-sided inserts with 4 cutting edges.
- High feed and low cutting force offers better productivity.
- 15~100mm cutter diameter, max. 1.4mm depth of cut.

- 使用 BNMX 雙面銑刀片 , 4 個可用切削角
- 高進給及低切削阻力設計確保較大的生產率 , 適用於各種應用及材料
- 15~100mm 刀桿直徑 , 最大切削深度可達 1.4mm

→ Page A066

CXLN Series

- Use LNMX double-sided inserts with 4 cutting edges.
- High feed and sharp cutting edges for low cutting force applications.
- 16~50mm cutter diameter, max. 0.9mm depth of cut.

- 使用 BNMX 雙面銑刀片 , 4 個可用切削角
- 高進給及大前角設計的切削刃可實現極低切削阻力 , 並達成高金屬移除率
- 16~50mm 刀桿直徑 , 最大切削深度可達 0.9mm

→ Page A070

CXLO Series

- Use LOGX double-sided inserts with 4 cutting edges.
- High feed and high precision cutting edges for good surface finishing.
- 16~50mm cutter diameter, max. 0.9mm depth of cut.

- 使用 LOGX 雙面銑刀片 , 4 個可用切削角
- 高進給及高精度切削刃適用於高溫合金加工 , 並可達到優良的表面光潔度
- 16~50mm 刀桿直徑 , 最大切削深度可達 1.4mm

→ Page A073

CXWN Series

- Use WNMX double-sided inserts with 6 cutting edges.
- High feed and low cost for multi-functional applications.
- 25~63mm cutter diameter, max. 1.35mm depth of cut.

- 使用 WNMX 雙面銑刀片 , 6 個可用切削角
- 高進給及低成本適用於面銑、斜坡銑和插銑等多功能加工
- 25~63mm 刀桿直徑 , 最大切削深度可達 1.35mm

→ Page A076

CALP Series

- Use LPGX inserts with 2 cutting edges.
- High feed and small size cutter for replacing solid carbide tools.
- 8~16mm cutter diameter, max. 0.5mm depth of cut.

- 使用 LPGX 銑刀片，2 個可用切削角
- 高進給及小尺寸刀具可取代全鎢鋼刀具，適用於廣泛的加工及材質應用
- 8~16mm 刀桿直徑，最大切削深度可達 0.5mm

→ Page A079

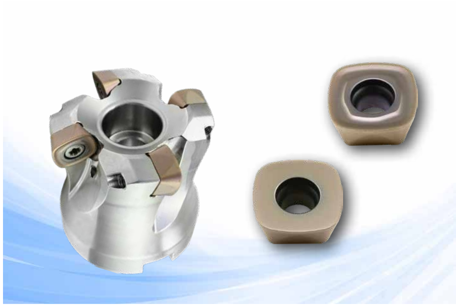
CAJX Series

- Use JDMT or JDMW inserts with 3 cutting edges.
- High feed and high rigidity cutting edge for wide range applications.
- 32~100mm cutter diameter, max. 2mm depth of cut.

- 使用 JDMT 或 JDMW 銑刀片，3 個可用切削角
- 高進給及高剛性切削刀口適用於各種材料和應用
- 32~100mm 刀桿直徑，最大切削深度可達 2mm

→ Page A082

CASR Series



- Use SDMT or SDNW inserts with 4 cutting edges.
- High feed and more economical for wide range applications.
- 50~80mm cutter diameter, max. 1.5mm depth of cut.

- 使用 SDMT 或 SDNW 銑刀片，4 個可用切削角
- 高進給、高經濟及高剛性切削刀口適用於各種材料和應用
- 50~80mm 刀盤直徑，最大切削深度可達 1.5mm

→ Page A084

CF23 Series

- Use WP26 inserts with 3 cutting edges.
- High feed and high rigidity negative designed for hardened steel.
- 50~160mm cutter diameter, max. 2mm depth of cut.

- 使用 WP26 銑刀片，3 個可用切削角
- 高進給及高剛性負角設計，適用於較硬材料加工
- 50~160mm 刀桿直徑，最大切削深度可達 1.5mm

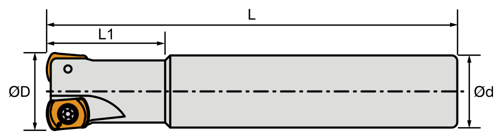
→ Page A086

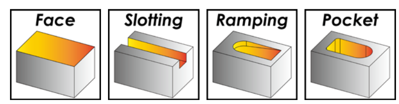
CXBN Series

- Use BNMX double-sided inserts with 4 cutting edges.
- High feed and low cutting force offers better productivity.
- 15~100mm cutter diameter, max. 1.4mm depth of cut.

- 使用 BNMX 雙面銑刀片，4 個可用切削角
- 高進給及低切削阻力設計確保較大的生產率，適用於各種應用及材料
- 15~100mm 刀桿直徑，最大切削深度可達 1.4mm

CXBNE - Milling Tools 高進給銑刀





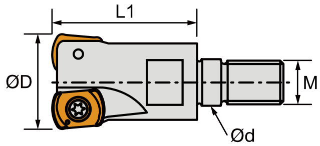
Insert Brand 建議刀片：Winstar, Taegutec, ...

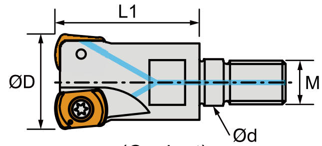
Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICXBNE602015130	15	26	130	16	2	BNMX0603	ITS3004	ITK08	●
ICXBNE602016130	16	26	130	16	2				●
ICXBNE602017130	17	26	130	16	2				●
ICXBNE602018130	18	25	130	20	2				●
ICXBNE603020150	20	40	150	20	3				●
ICXBNE603021150	21	40	150	20	3				●
ICXBNE604025150	25	40	150	25	4				●
ICXBNE604026150	26	30	150	25	4				●
ICXBNE604032200	32	45	200	32	4				●
ICXBNE903025150	25	40	150	25	3	BNMX0904	ITS4009	ITK15	●
ICXBNE903032150	32	40	150	32	3				●

● stock ○ by inquiry

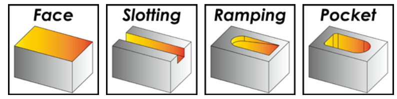
Customize available.

CXBNM - Modular Milling Heads 高進給銑刀頭





(Coolant)



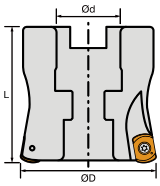
Insert Brand 建議刀片 : Winstar, Taegutec, ...

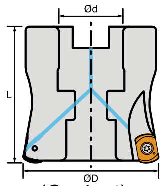
Order No. 訂購編碼	D	L1	d	M	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXBNM602016080	16	26	8.5	M8	2		BNMX0603	ITS3004	ITK08	●
ICXBNM602016081	16	26	8.5	M8	2	✓				●
ICXBNM603020100	20	30	10.5	M10	3					●
ICXBNM603020101	20	30	10.5	M10	3	✓				●
ICXBNM603021100	21	30	10.5	M10	3					●
ICXBNM603025120	25	35	12.5	M12	3					●
ICXBNM604025120	25	35	12.5	M12	4					●
ICXBNM604025121	25	35	12.5	M12	4	✓				●
ICXBNM603026120	26	35	12.5	M12	3					●
ICXBNM604032161	32	40	17.0	M16	4	✓				●
ICXBNM605032160	32	40	17.0	M16	5					●
ICXBNM605032161	32	40	17.0	M16	5	✓				
ICXBNM606040161	40	43	17.0	M16	6	✓				●
ICXBNM903025121	25	35	12.5	M12	3	✓	BNMX0904	ITS4009	ITK15	●
ICXBNM904032161	32	40	17.0	M16	4	✓				●
ICXBNM904035161	35	43	17.0	M16	4	✓				○
ICXBNM905042161	42	43	17.0	M16	5	✓				●

● stock ○ by inquiry

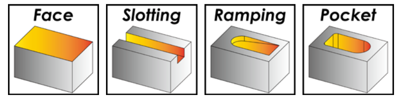
※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

CXBNF - Milling Tools 高進給銑刀





(Coolant)



Insert Brand 建議刀片 : Winstar, Taegutec, ...

Order No. 訂購編碼	D	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXBNF606040220	40	50	22	6		BNMX0603	ITS3004	ITK08	●
ICXBNF606040221	40	50	22	6	✓				●
ICXBNF607050220	50	50	22	7					●
ICXBNF607050221	50	50	22	7	✓				●
ICXBNF607052221	52	50	22	7	✓				○
ICXBNF607063220	63	50	22	7					●
ICXBNF906050221	50	50	22	6	✓	BNMX0904	ITS3504	ITK15	●
ICXBNF906052221	52	50	22	6	✓				●
ICXBNF907063220	63	50	22	7			ITS4009		●
ICXBNF907063271	63	50	27	7	✓		ITS3504		●
ICXBNF907066271	66	50	27	7	✓				○
ICXBNF908080271	80	50	27	8	✓				●
ICXBNF910100321	100	50	32	10	✓				●

● stock ○ by inquiry

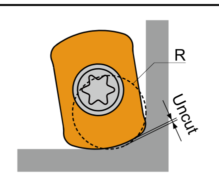
Customize available.

Recommended Cutting Conditions 建議切削數據

Working Material	BNMX0603			BNMX0904		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.4 ~ 1.6	0.3 ~ 0.9	120 ~ 250	0.4 ~ 2.0	0.3 ~ 1.4
Stainless Steel	100 ~ 180	0.3 ~ 1.2	0.3 ~ 0.7	100 ~ 180	0.3 ~ 1.6	0.3 ~ 1.2
Cast Iron	120 ~ 250	0.4 ~ 1.6	0.3 ~ 0.9	120 ~ 250	0.4 ~ 2.0	0.3 ~ 1.4
High Temperature Alloy	40 ~ 100	0.3 ~ 0.8	0.3 ~ 0.6	40 ~ 100	0.3 ~ 1.2	0.3 ~ 1.2
Hardened Steel	50 ~ 100	0.3 ~ 1.0	0.3 ~ 0.6	50 ~ 100	0.3 ~ 1.4	0.3 ~ 1.2

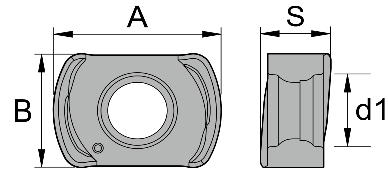
Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)	
	Input. R	Uncut
BNMX0603	2.0	0.42
BNMX0904	2.5	0.61



Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	B	S	d1
BNMX0603	9.0	6.38	3.75	3.2
BNMX0904	11.9	9.18	4.8	4.2



Insert Designation 刀片型號

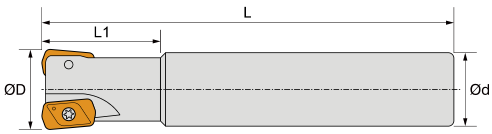
Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IBNMX0603SG23AX	BNMX0603-SG-CX23AX	○	○	○		○	●
	IBNMX0603SG32HS	BNMX0603-SG-CX32HS	●	●	●		○	
	IBNMX0603SG33TX	BNMX0603-SG-CX33TX	●	●	●		●	●
	IBNMX0603SG43TX	BNMX0603-SG-CX43TX	●	●	●		●	
	IBNMX0603MG23AX	BNMX0603-MG-CX23AX	○	○	○		○	●
	IBNMX0603MG32HS	BNMX0603-MG-CX32HS	●	●	●		○	
	IBNMX0603MG33TX	BNMX0603-MG-CX33TX	●	●	●		●	●
	IBNMX0603MG43TX	BNMX0603-MG-CX43TX	●	●	●		●	
	IBNMX0603MG37TA	BNMX0603-MG-CX37TA	○	○	●		○	○
	IBNMX0603MG47TA	BNMX0603-MG-CX47TA	●	●	○		●	○
	IBNMX0603RG23AX	BNMX0603-RG-CX23AX	○	○	○		○	●
	IBNMX0603RG32HS	BNMX0603-RG-CX32HS	●	●	●		○	
	IBNMX0603RG33TX	BNMX0603-RG-CX33TX	●	●	●		●	●
	IBNMX0603RG43TX	BNMX0603-RG-CX43TX	●	●	●		●	
	IBNMX0603RG37TA	BNMX0603-RG-CX37TA	○	○	●		○	○
	IBNMX0603RG47TA	BNMX0603-RG-CX47TA	●	●	○		●	○
	IBNMX0904MG23AX	BNMX0904-MG-CX23AX	○	○	○		○	●
	IBNMX0904MG32HS	BNMX0904-MG-CX32HS	●	●	●		○	
	IBNMX0904MG33TX	BNMX0904-MG-CX33TX	●	●	●		●	●
	IBNMX0904MG43TX	BNMX0904-MG-CX43TX	●	●	●		●	
	IBNMX0904MG37TA	BNMX0904-MG-CX37TA	○	○	●		○	○
	IBNMX0904MG47TA	BNMX0904-MG-CX47TA	●	●	○		●	○

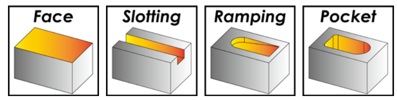
CXLN Series

- Use LNMX double-sided inserts with 4 cutting edges.
- High feed and sharp cutting edges for low cutting force applications.
- 16~50mm cutter diameter, max. 0.9mm depth of cut.

- 使用 BNMX 雙面銑刀片，4 個可用切削角
- 高進給及大前角設計的切削刃可實現極低切削阻力，並達成高金屬移除率
- 16~50mm 刀桿直徑，最大切削深度可達 0.9mm

CXLNE - Milling Tools 高進給銑刀



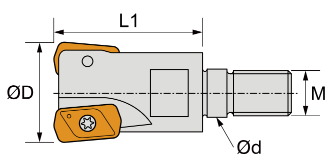


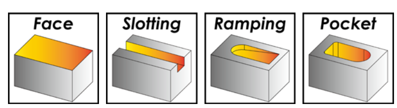
Insert Brand 建議刀片：Winstar, Tungaloy, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICXLNE302016100	16	30	100	16	2				●
ICXLNE302016150	16	30	150	16	2				●
ICXLNE303020150	20	50	150	20	3				●
ICXLNE304020130	20	50	130	20	4	LNMX0303	ITS2535	ITK07	○
ICXLNE304025150	25	60	150	25	4				●
ICXLNE305025140	25	60	140	25	5				○
ICXLNE306032150	32	70	150	32	6				●

● stock ○ by inquiry *Customize available.*

CXLNM - Modular Milling Heads 高進給銑刀頭





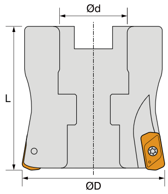
Insert Brand 建議刀片：Winstar, Tungaloy, ...

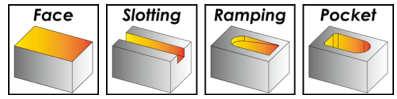
Order No. 訂購編碼	D	L1	d	M	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXLNM302017080	17	26	8.5	M8	2					●
ICXLNM303021100	21	32	10.5	M10	3					●
ICXLNM303021101	21	32	10.5	M10	3	✓	LNMX0303	ITS2535	ITK07	●
ICXLNM304026120	26	38	12.5	M12	4					●
ICXLNM304032160	32	41	17	M16	4					●

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

CXLNF - Milling Tools 高進給銑刀





Insert Brand 建議刀片 : Winstar, Tungaloy, ...

Order No. 訂購編碼	D	L	d	T	Inserts	Screw	Wrench	Stock
ICXLNF308050220	50	50	22	8	LNMX0303	ITS2535	ITK07	○

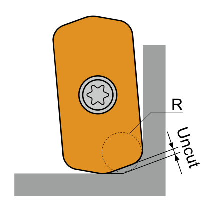
● stock ○ by inquiry *Customize available.*

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.4 ~ 1.6	0.3 ~ 0.9
Stainless Steel	100 ~ 180	0.3 ~ 1.2	0.3 ~ 0.7
Cast Iron	120 ~ 250	0.4 ~ 1.6	0.3 ~ 0.9
High Temperature Alloy	40 ~ 100	0.3 ~ 0.8	0.3 ~ 0.6
Hardened Steel	50 ~ 100	0.3 ~ 1.0	0.3 ~ 0.6

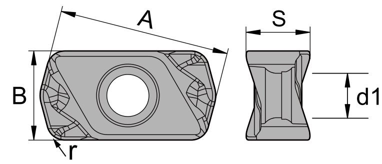
Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)	
	Input. R	Uncut
LNMX0303	1.5	0.5



Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	B	S	d1
LNMX0303	11.59	6.0	4.29	2.85



Insert Designation 刀片型號

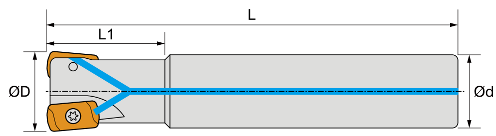
Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	ILNMX0303SG23AX	LNMX0303-SG-CX23AX	○	○	○		○	●
	ILNMX0303SG32HS	LNMX0303-SG-CX32HS	●	●	●		○	
	ILNMX0303SG33TX	LNMX0303-SG-CX33TX	●	●	●		●	●
	ILNMX0303SG43TX	LNMX0303-SG-CX43TX	●	●	●		●	
	ILNMX0303MG23AX	LNMX0303-MG-CX23AX	○	○	○		○	●
	ILNMX0303MG32HS	LNMX0303-MG-CX32HS	●	●	●		○	
	ILNMX0303MG33TX	LNMX0303-MG-CX33TX	●	●	●		●	●
	ILNMX0303MG43TX	LNMX0303-MG-CX43TX	●	●	●		●	

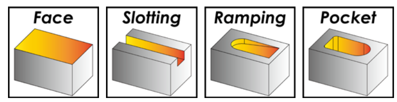
CXLO Series

- Use LOGX double-sided inserts with 4 cutting edges.
- High feed and high precision cutting edges for good surface finishing.
- 16~50mm cutter diameter, max. 0.9mm depth of cut.

- 使用 LOGX 雙面銑刀片，4 個可用切削角
- 高進給及高精度切削刃適用於高溫合金加工，並可達到優良的表面光潔度
- 16~50mm 刀桿直徑，最大切削深度可達 1.4mm

CXLOE - Milling Tools 高進給銑刀





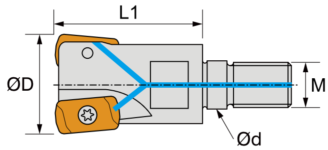
Insert Brand 建議刀片：Winstar, Kyocera, ...

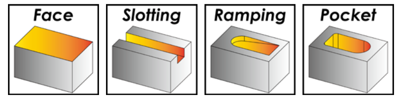
Order No. 訂購編碼	D	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXLOE302016150	16	30	150	16	2		LOGX0303	ITS3004	ITK08	●
ICXLOE302016151	16	30	150	16	2	✓				●
ICXLOE302017150	17	20	150	16	2					●
ICXLOE302018150	18	20	150	16	2					●
ICXLOE303020150	20	50	150	20	3					●
ICXLOE303020151	20	50	150	20	3	✓				●
ICXLOE303021150	21	30	150	20	3					●
ICXLOE303022150	22	20	150	20	3					●
ICXLOE304025150	25	60	150	25	4					●
ICXLOE304025151	25	50	150	25	4	✓				●
ICXLOE304026150	26	35	150	25	4					●
ICXLOE304026151	26	35	150	25	4	✓				●
ICXLOE304026200	26	45	200	25	4					●
ICXLOE304028150	28	20	150	25	4					●
ICXLOE305028150	28	20	150	25	5					●
ICXLOE304030150	30	46	150	32	4					●
ICXLOE305032150	32	70	150	32	5					●
ICXLOE305033151	33	20	150	32	5	✓				●
ICXLOE305033200	33	20	200	32	5					●
ICXLOE305035200	35	20	200	32	5					●

● stock ○ by inquiry

Customize available.

CXLOM - Modular Milling Heads 高進給銑刀頭





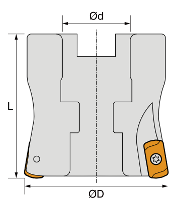
Insert Brand 建議刀片：Winstar, Kyocera, ...

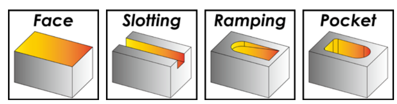
Order No. 訂購編碼	D	L1	d	M	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXLOM302017081	17	25	8.5	M8	2	✓				●
ICXLOM303021101	21	30	10.5	M10	3	✓				●
ICXLOM304026121	26	35	12.5	M12	4	✓	LOGX0303	ITS3004	ITK08	●
ICXLOM304035161	35	40	17	M16	4	✓				●
ICXLOM305035161	35	40	17	M16	5	✓				●

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

CXLOF - Milling Tools 高進給銑刀





Insert Brand 建議刀片：Winstar, Kyocera, ...

Order No. 訂購編碼	D	L	d	T	Inserts	Screw	Wrench	Stock
ICXLOF307050220	50	50	22	7	LOGX0303	ITS3004	ITK08	●

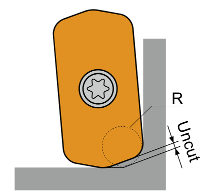
● stock ○ by inquiry

Customize available.

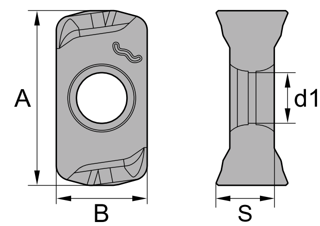
Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.4 ~ 1.6	0.3 ~ 0.9
Stainless Steel	100 ~ 180	0.3 ~ 1.2	0.3 ~ 0.7
Cast Iron	120 ~ 250	0.4 ~ 1.6	0.3 ~ 0.9
High Temperature Alloy	40 ~ 100	0.3 ~ 0.8	0.3 ~ 0.6
Hardened Steel	50 ~ 100	0.3 ~ 1.0	0.3 ~ 0.6

Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)		
	Input. R	Uncut	
LOGX030310	1.6	0.39	

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	d1	
LOGX030310	11.9	6.2	3.96	3.45	

Insert Designation 刀片型號

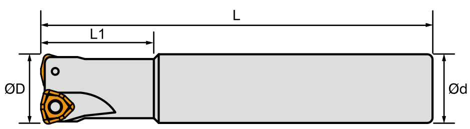
Insert	Order No. 訂購編碼	Designation	Working Material P	M	K	N	S	H
	ILOGX030310SG32HS	LOGX030310-SG-CX32HS	●	●	●		○	
	ILOGX030310SG33TX	LOGX030310-SG-CX33TX	●	●	●		●	●
	ILOGX030310SG43TX	LOGX030310-SG-CX43TX	●	●	●		●	
	ILOGX030310MG32HS	LOGX030310-MG-CX32HS	●	●	●		○	
	ILOGX030310MG33TX	LOGX030310-MG-CX33TX	●	●	●		●	●
	ILOGX030310MG43TX	LOGX030310-MG-CX43TX	●	●	●		●	

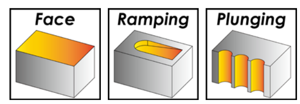
CXWN Series

- Use WNMX double-sided inserts with 6 cutting edges.
- High feed and low cost for multi-functional applications.
- 25~63mm cutter diameter, max. 1.35mm depth of cut.

- 使用 WNMX 雙面銑刀片，6 個可用切削角
- 高進給及低成本適用於面銑、斜坡銑和插銑等多功能加工
- 25~63mm 刀桿直徑，最大切削深度可達 1.35mm

CXWNE - Milling Tools 高進給銑刀



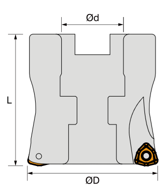


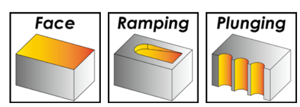
Insert Brand 建議刀片：Winstar, Korloy, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICXWNE902025150	25	40	150	25	2	WNMX09T3	ITS3006	ITK10	●
ICXWNE903032150	32	40	150	32	3				●

● stock ○ by inquiry *Customize available.*

CXWNF - Milling Tools 高進給銑刀





Insert Brand 建議刀片：Winstar, Korloy, ...

Order No. 訂購編碼	D	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXWNF905050220	50	50	22	5		WNMX09T3	ITS3006	ITK10	●
ICXWNF905050221	50	50	22	5	✓				●
ICXWNF905063220	63	50	22	5					●
ICXWNF905063221	63	50	22	5	✓				●
ICXWNF305063220	63	50	22	5		WNMX1305	ITS4006	ITK15	●
ICXWNF307080270	80	50	27	7					●
ICXWNF310160400	160	63	40	10					●

● stock ○ by inquiry *Customize available.*

Recommended Cutting Conditions 建議切削數據

WNMX09T3

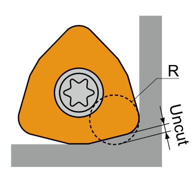
Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.4 ~ 1.5	0.4 ~ 1.35
Stainless Steel	100 ~ 180	0.4 ~ 1.2	0.4 ~ 1.0
Cast Iron	120 ~ 250	0.4 ~ 1.5	0.4 ~ 1.35
High Temperature Alloy	40 ~ 100	0.4 ~ 1.0	0.4 ~ 1.0
Hardened Steel	50 ~ 100	0.4 ~ 1.1	0.4 ~ 1.0

WNMX1305

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.4 ~ 3.0	0.4 ~ 1.7
Stainless Steel	100 ~ 180	0.3 ~ 2.0	0.4 ~ 1.4
Cast Iron	120 ~ 250	0.4 ~ 3.0	0.4 ~ 1.7
High Temperature Alloy	40 ~ 100	0.3 ~ 1.6	0.4 ~ 1.3
Hardened Steel	50 ~ 100	0.3 ~ 2.0	0.4 ~ 1.3

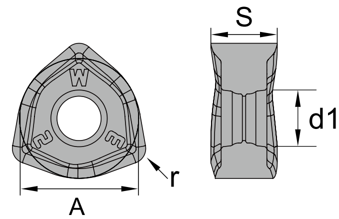
Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)	
	Input. R	Uncut
WNMX09T3	2.5	0.6
WNMX1305	3.0	1.0



Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	S	r	d1
WNMX09T3	9.525	3.97	1.6	3.6
WNMX1305	12.7	6.0	1.6	4.7



Insert Designation 刀片型號

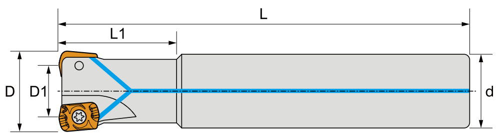
Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IWNMX09T316MG23AX	WNMX09T316-MG-CX23AX	○	○	○		○	●
	IWNMX09T316MG32HS	WNMX09T316-MG-CX32HS	●	●	●		○	
	IWNMX09T316MG33TX	WNMX09T316-MG-CX33TX	●	●	●		●	●
	IWNMX09T316MG43TX	WNMX09T316-MG-CX43TX	●	●	●		●	
	IWNMX09T316MG37TA	WNMX09T316-MG-CX37TA	○	○	●		○	○
	IWNMX09T316RG23AX	WNMX09T316-RG-CX23AX	○	○	○		○	●
	IWNMX09T316RG32HS	WNMX09T316-RG-CX32HS	●	●	●		○	
	IWNMX09T316RG33TX	WNMX09T316-RG-CX33TX	●	●	●		●	●
	IWNMX09T316RG43TX	WNMX09T316-RG-CX43TX	●	●	●		●	
	IWNMX09T316RG37TA	WNMX09T316-RG-CX37TA	○	○	●		○	○
	IWNMX130516MG23AX	WNMX130516-MG-CX23AX	○	○	○		○	●
	IWNMX130516MG32HS	WNMX130516-MG-CX32HS	●	●	●		○	
	IWNMX130516MG33TX	WNMX130516-MG-CX33TX	●	●	●		●	●
	IWNMX130516MG43TX	WNMX130516-MG-CX43TX	●	●	●		●	
	IWNMX130516MG37TA	WNMX130516-MG-CX37TA	○	○	●		○	○
	IWNMX130516MG47TA	WNMX130516-MG-CX47TA	●	●	○		●	○

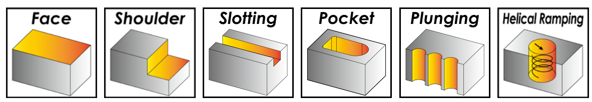
CALP Series

- Use LPGX inserts with 2 cutting edges.
- High feed and small size cutter for replacing solid carbide tools.
- 8~16mm cutter diameter, max. 0.5mm depth of cut.

- 使用 LPGX 銑刀片，2 個可用切削角
- 高進給及小尺寸刀具可取代全鎢鋼刀具，適用於廣泛的加工及材質應用
- 8~16mm 刀桿直徑，最大切削深度可達 0.5mm

CALPE - Milling Tools 高進給銑刀





Insert Brand 建議刀片：Winstar, Kyocera, ...

Order No. 訂購編碼	D	D1	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICALPE101008080	8	4.2	16	80	10	1		LPGX0102	IMS1804A	ITK06	●
ICALPE101008081	8	4.2	16	80	10	1	✓				●
ICALPE102010080	10	6.2	20	80	10	2					●
ICALPE102010081	10	6.2	20	80	10	2	✓				●
ICALPE103012080	12	8.2	20	80	12	3					●
ICALPE103012081	12	8.2	20	80	12	3	✓				●
ICALPE104016090	16	12.2	20	90	16	4					●
ICALPE104016091	16	12.2	20	90	16	4	✓				●

● stock ○ by inquiry

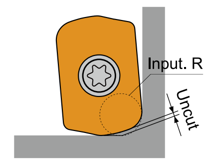
Customize available.

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.2 ~ 0.8	0.2 ~ 0.5
Stainless Steel	100 ~ 180	0.2 ~ 0.6	0.2 ~ 0.4
Cast Iron	120 ~ 250	0.2 ~ 0.8	0.2 ~ 0.5
High Temperature Alloy	40 ~ 100	0.2 ~ 0.4	0.2 ~ 0.3
Hardened Steel	50 ~ 100	0.2 ~ 0.5	0.2 ~ 0.3

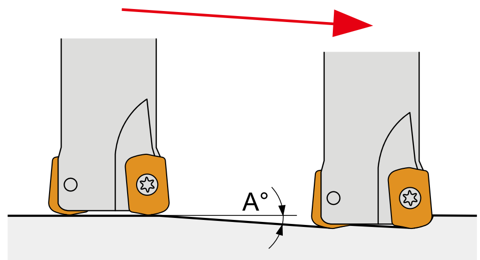
Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)	
	Input. R	Uncut
LPGX0102	1.2	0.17



For Ramping 斜坡加工

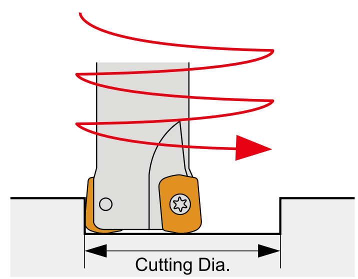
Cutter Dia. (mm)	Max. ramping angle (A°)	tan (A°)
10	3.0°	0.052
11	2.5°	0.044
12	2.0°	0.035
16	1.2°	0.021
17	1.0°	0.017



For Helical Milling 螺旋加工

Mini Cutting Dia.	Max Cutting Dia.
2 × Cutter Dia. - 3.5	2 × Cutter Dia. - 2

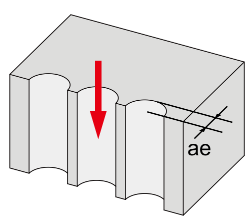
※Do not exceed the Max Cutting Dia and lower than the Mini Cutting Dia.



For Plunging 垂直加工

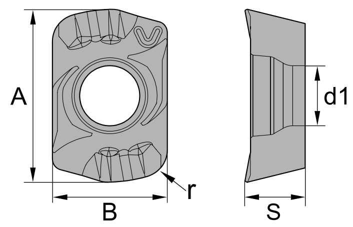
Max. ae
1.7mm

※Reduce feed rate to fz=0.2mm/t or less.



Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	**B**	**S**	**r**	**d1**
LPGX0102	6.26	4.19	2.19	1.0	2.2



※Suitable for M2.0 or M1.8 screw.

Insert Designation 刀片型號

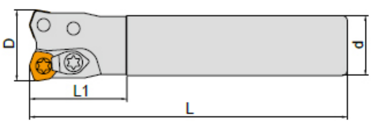
Insert	Order No. 訂購編碼	Designation	Working Material					
			P	**M**	**K**	**N**	**S**	**H**
	ILPGX0102SG33TX	LPGX0102-SG-CX33TX	●	●	●		●	●
	ILPGX0102SG43TX	LPGX0102-SG-CX43TX	●	●	●		●	
	ILPGX0102MG33TX	LPGX0102-MG-CX33TX	●	●	●		●	●
	ILPGX0102MG43TX	LPGX0102-MG-CX43TX	●	●	●		●	

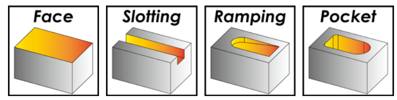
CAJX Series

- Use JDMT or JDMW inserts with 3 cutting edges.
- High feed and high rigidity cutting edge for wide range applications.
- 32~100mm cutter diameter, max. 2mm depth of cut.

- 使用 JDMT 或 JDMW 銑刀片，3 個可用切削角
- 高進給及高剛性切削刀口適用於各種材料和應用
- 32~100mm 刀桿直徑，最大切削深度可達 2mm

CAJXE - Milling Tools 高進給銑刀

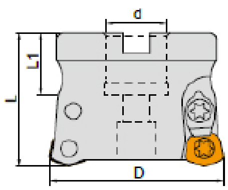


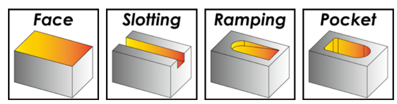


Insert Brand 建議刀片：Winstar, Mitsubishi, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Clamp	Clamp Screw	Stock
ICAJXE202032150	32	35	150	32	2	JDMW1204	ITS4008	ITK15	IAS04	IAJ4012	●

CAJXF - Milling Tools 高進給銑刀





Insert Brand 建議刀片：Winstar, Mitsubishi, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Clamp	Clamp Screw	Stock
ICAJXF204050220	50	23	45	22	4	JDMW1204	ITS4008	ITK15	IAS04	IAJ4012	●
ICAJXF205063220	63	23	50	22	5						●
ICAJXF206080270	80	26	55	27	6						●
ICAJXF404063220	63	23	50	22	4	JDMW1405 JDMT1405	ITS5001	ITK20	IAS05	IAJ5014	●
ICAJXF405080270	80	26	55	27	5						●
ICAJXF406100320	100	32	55	32	6						●

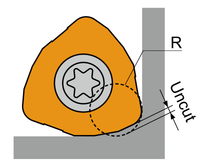
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	JDMW1204			JDMW1405		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.8 ~ 1.3	0.3 ~ 1.5	120 ~ 250	0.8 ~ 1.8	0.5 ~ 2.0
Stainless Steel	100 ~ 180	0.6 ~ 1.0	0.3 ~ 1.0	100 ~ 180	0.6 ~ 1.2	0.5 ~ 1.5
Cast Iron	120 ~ 250	0.8 ~ 1.3	0.3 ~ 1.5	120 ~ 250	0.8 ~ 1.8	0.5 ~ 2.0
High Temperature Alloy	40 ~ 100	0.5 ~ 1.0	0.3 ~ 1.0	40 ~ 100	0.5 ~ 1.2	0.5 ~ 1.5
Hardened Steel	50 ~ 100	0.5 ~ 1.0	0.3 ~ 1.0	50 ~ 100	0.5 ~ 1.2	0.5 ~ 1.5

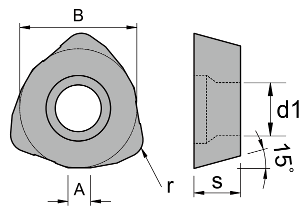
Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)	
	Input. R	Uncut
JDMW1204	3.0	0.63
JDMW / JDMT1405	3.0	0.64

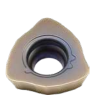


Insert Specifications 刀片規格

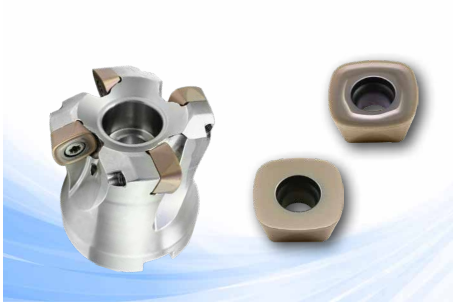
Insert	Dimensions (mm)				
	A	B	S	r	d1
JDMW1204	2.5	12.0	4.76	2.0	4.75
JDMW1405	2.8	1.4	5.56	2.0	5.75
JDMT1405	2.8	1.4	5.56	2.0	5.75



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IJDMW120420SMG23AX	JDMW120420ZDSR-MG-CX23AX	○	○	○		○	●
	IJDMW120420SMG32HS	JDMW120420ZDSR-MG-CX32HS	●	●	●		○	
	IJDMW120420SMG33TX	JDMW120420ZDSR-MG-CX33TX	●	●	●		●	●
	IJDMW120420SMG43TX	JDMW120420ZDSR-MG-CX43TX	●	●	●		●	
	IJDMW120420SRG23AX	JDMW120420ZDSR-RG-CX23AX	○	○	○		○	●
	IJDMW120420SRG32HS	JDMW120420ZDSR-RG-CX32HS	●	●	●		○	
	IJDMW120420SRG33TX	JDMW120420ZDSR-RG-CX33TX	●	●	●		●	●
	IJDMW120420SRG43TX	JDMW120420ZDSR-RG-CX43TX	●	●	●		●	
	IJDMW120420SRG37TA	JDMW120420ZDSR-RG-CX37TA	○	○	●		○	○
	IJDMW140520SMG32HS	JDMW140520ZDSR-MG-CX32HS	●	●	●		○	
	IJDMW140520SMG33TX	JDMW140520ZDSR-MG-CX33TX	●	●	●		●	●
	IJDMW140520SRG32HS	JDMW140520ZDSR-RG-CX32HS	●	●	●		○	
	IJDMW140520SRG33TX	JDMW140520ZDSR-RG-CX33TX	●	●	●		●	●
	IJDMW140520SRG37TA	JDMW140520ZDSR-RG-CX37TA	○	○	●		○	○
	IJDMT140520SMG32HS	JDMT140520ZDSR-MG-CX32HS	●	●	●		○	
	IJDMT140520SMG33TX	JDMT140520ZDSR-MG-CX33TX	●	●	●		●	●
	IJDMT140520SMG43TX	JDMT140520ZDSR-MG-CX43TX	●	●	●		●	

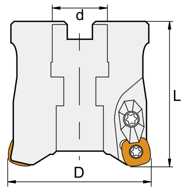
CASR Series

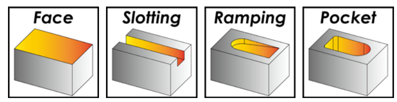


- Use SDMT or SDNW inserts with 4 cutting edges.
- High feed and more economical for wide range applications.
- 50~80mm cutter diameter, max. 1.5mm depth of cut.

- 使用 SDMT 或 SDNW 銑刀片，4 個可用切削角
- 高進給、高經濟及高剛性切削刀口適用於各種材料和應用
- 50~80mm 刀盤直徑，最大切削深度可達 1.5mm

CASRF - Milling Tools 高進給銑刀





Insert Brand 建議刀片 : Winstar, Hitachi, ...

Order No. 訂購編碼	D	L	d	T	Inserts	Screw	Wrench	Clamp	Clamp Screw	Stock
ICASRF203050220	50	22	50	3	SDMT1205 SDNW1205	IMS4011A	ITF15	IYR-06	IMS4008ES	●
ICASRF204050220	50	22	50	4						●
ICASRF203063220	63	22	50	3						●
ICASRF204063220	63	22	50	4						●
ICASRF204080310	80	31.75	55	4						●
ICASRF204080320	80	32	55	4						●
ICASRF205080310	80	31.75	55	5						●
ICASRF205080320	80	32	55	5						●

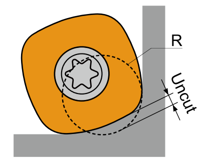
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.8 ~ 1.8	0.3 ~ 1.5
Stainless Steel	100 ~ 180	0.6 ~ 1.2	0.3 ~ 1.0
Cast Iron	120 ~ 250	0.8 ~ 1.8	0.3 ~ 1.5
High Temperature Alloy	40 ~ 100	0.5 ~ 1.2	0.3 ~ 1.0
Hardened Steel	50 ~ 100	0.5 ~ 1.2	0.3 ~ 1.0

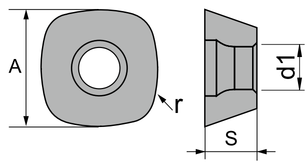
Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)	
	Input. R	Uncut
SDMT1205 / SDNW1205	4.5	0.83



Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	S	r	d1
SDMT1205	12.7	5.56	15	4.6
SDNW1205	12.7	5.56	15	4.6



Insert Designation 刀片型號

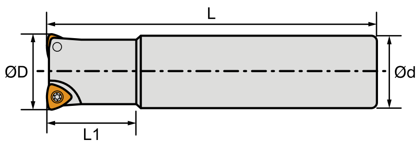
Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	ISDMT1205ZDSNMG23AX	SDMT1205ZDSN-MG-CX23AX	○	○	○		○	●
	ISDMT1205ZDSNMG32HS	SDMT1205ZDSN-MG-CX32HS	●	●	●		○	
	ISDMT1205ZDSNMG33TX	SDMT1205ZDSN-MG-CX33TX	●	●	●		●	●
	ISDMT1205ZDSNMG43TX	SDMT1205ZDSN-MG-CX43TX	●	●	●		●	
	ISDMT1205ZDTNMG23AX	SDMT1205ZDTN-MG-CX23AX	○	○	○		○	●
	ISDMT1205ZDTNMG32HS	SDMT1205ZDTN-MG-CX32HS	●	●	●		○	
	ISDMT1205ZDTNMG33TX	SDMT1205ZDTN-MG-CX33TX	●	●	●		●	●
	ISDMT1205ZDTNMG43TX	SDMT1205ZDTN-MG-CX43TX	●	●	●		●	
	ISDMT1205ZDTNRG23AX	SDMT1205ZDTN-RG-CX23AX	○	○	○		○	●
	ISDMT1205ZDTNRG32HS	SDMT1205ZDTN-RG-CX32HS	●	●	●		○	
	ISDMT1205ZDTNRG33TX	SDMT1205ZDTN-RG-CX33TX	●	●	●		●	●
	ISDMT1205ZDTNRG43TX	SDMT1205ZDTN-RG-CX43TX	●	●	●		●	
	ISDNW1205ZDSNMG32HS	SDNW1205ZDSN-MG-CX32HS	●	●	●		○	
	ISDNW1205ZDSNMG33TX	SDNW1205ZDSN-MG-CX33TX	●	●	●		●	●
	ISDNW1205ZDTNRG23AX	SDNW1205ZDTN-RG-CX23AX	○	○	○		○	●
	ISDNW1205ZDTNRG32HS	SDNW1205ZDTN-RG-CX32HS	●	●	●		○	
	ISDNW1205ZDTNRG33TX	SDNW1205ZDTN-RG-CX33TX	●	●	●		●	●
	ISDNW1205ZDTNRG43TX	SDNW1205ZDTN-RG-CX43TX	●	●	●		●	
	ISDNW1205ZDTNRG37TA	SDNW1205ZDTN-RG-CX37TA	○	○	●		○	○

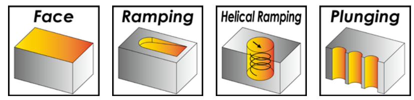
CF23 Series

- Use WP26 inserts with 3 cutting edges.
- High feed and high rigidity negative designed for hardened steel.
- 50~160mm cutter diameter, max. 2mm depth of cut.

- 使用 WP26 銑刀片，3 個可用切削角
- 高進給及高剛性負角設計，適用於較硬材料加工
- 50~160mm 刀桿直徑，最大切削深度可達 1.5mm

CF23E - Milling Tools 高進給銑刀

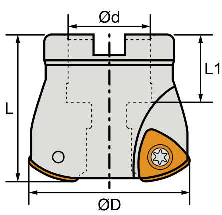


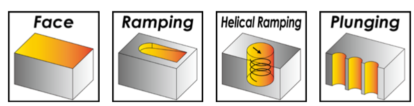


Insert Brand 建議刀片：Winstar, Walter, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICF23E203032150	32	28	150	32	3	WP26339R14	ITS4005	ITK15	○
ICF23E203035180	35	40	180	32	3				○
ICF23E203035230	35	40	230	32	3				●
ICF23E204040200	40	40	200	32	4				○
ICF23E202040200	40	45	200	32	2	WP26379R25	ITS5002	ITK20	○
ICF23E203050200	50	45	200	32	3				○

CF23F - Milling Tools 高進給銑刀





Insert Brand 建議刀片：Winstar, Walter, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICF23F203050220	50	21	50	22	3	WP26379R25	ITS5002	ITK20	●
ICF23F204063220	63	21	50	22	4				○
ICF23F205080270	80	23	50	27	5				○
ICF23F206100320	100	26	50	32	6				●
ICF23F207125400	125	38	63	40	7				○
ICF23F208160400	160	38	63	40	8				●

● stock ○ by inquiry

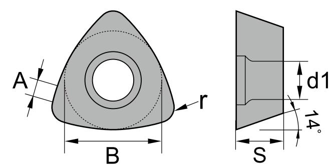
Customize available.

Recommended Cutting Conditions 建議切削數據

Working Material	WP26339R14			WP26379R25		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.4 ~ 1.5	0.4 ~ 1.5	120 ~ 250	0.4 ~ 3.0	0.4 ~ 2.0
Stainless Steel	100 ~ 180	0.4 ~ 1.2	0.4 ~ 1.0	100 ~ 180	0.4 ~ 2.0	0.4 ~ 1.4
Cast Iron	120 ~ 250	0.4 ~ 1.5	0.4 ~ 1.5	120 ~ 250	0.4 ~ 3.0	0.4 ~ 2.0
High Temperature Alloy	40 ~ 100	0.4 ~ 1.0	0.4 ~ 1.0	40 ~ 100	0.4 ~ 1.6	0.4 ~ 1.2

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
WP26339R14	-	9.52	3.97	1.2	4.4
WP26379R25	1.1	13	5.56	2.0	5.5



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IWP26314RG23AX	WP26339R14-RG-CX23AX	○	○	○		○	●
	IWP26314RG32HS	WP26339R14-RG-CX32HS	●	●	●		○	
	IWP26314RG33TX	WP26339R14-RG-CX33TX	●	●	●		●	●
	IWP26314RG43TX	WP26339R14-RG-CX43TX	●	●	●		●	
	IWP26725RG23AX	WP26379R25-RG-CX23AX	○	○	○		○	●
	IWP26725RG32HS	WP26379R25-RG-CX32HS	●	●	●		○	
	IWP26725RG33TX	WP26379R25-RG-CX33TX	●	●	●		●	●
	IWP26725RG43TX	WP26379R25-RG-CX43TX	●	●	●		●	

Face Milling Series Introduction 面銑刀系列介紹

CXHN Series

- Use HNMX double-sided inserts with 12 cutting edges.
- Sharp cutting edge design for low depth-of-cut face milling.
- 50~100mm cutter diameter, max. 3.5mm depth of cut.

- 使用 HNMX 雙面銑刀片，12 個可用切削角
- 鋒利切削刃設計適用於淺切面銑加工
- 50~100mm 刀盤直徑，最大切削深度可達 3.5mm

→ Page A090

CXSN Series

- Use SNMX or ONMX double-sided inserts with 8 or 16 cutting edges.
- 2 type inserts can fit in same cutter for multiple applications.
- 50~202.9mm cutter diameter, max. 6mm depth of cut.

- 使用 HNMX 雙面銑刀片，12 個可用切削角
- 兩種刀片可鎖附在相同刀盤上，可應用於不同的深淺加工
- 50~202.9mm 刀盤直徑，最大切削深度可達 6mm

→ Page A092

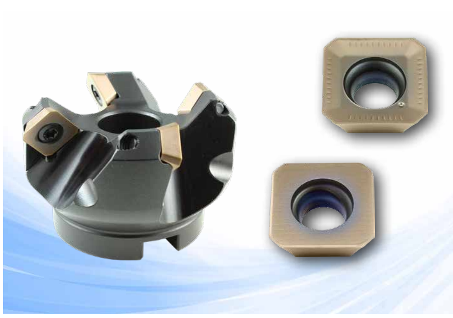
CAOF Series

- Use OFMT inserts with 8 cutting edges.
- Cost effective for low depth-of-cut face milling.
- 50~100mm cutter diameter, max. 2.8mm depth of cut.

- 使用 OFMT 銑刀片，8 個可用切削角
- 經濟實惠的較淺面銑加工
- 50~100mm 刀盤直徑，最大切削深度可達 2.8mm

→ Page A095

CASE Series



- Use SEKT or SEKW inserts with 4 cutting edges.
- Cost effective for wide range face milling applications.
- 50~100mm cutter diameter, max. 5.5mm depth of cut.

- 使用 SEKT 或 SEKW 銑刀片，4 個可用切削角
- 經濟實惠的不同切深面銑應用
- 50~100mm 刀盤直徑，最大切削深度可達 5.5mm

→ Page A097

WINSTAR

Face Milling Series Introduction 面銑刀系列介紹

CASX Series

- Use SEMT inserts with 4 cutting edges.
- Cost effective for wide range face milling applications.
- 50~315mm cutter diameter, max. 5.5mm depth of cut.

- 使用 SEMT 銑刀片，4 個可用切削角
- 經濟實惠的不同切深面銑應用
- 50~315mm 刀盤直徑，最大切削深度可達 5.5mm

→ Page A099

CR24 Series

- Use W245-12T3 inserts with 4 cutting edges.
- High performance face milling tools for general purpose.
- 50~315mm cutter diameter, max. 5.5mm depth of cut.

- 使用 SEMT 銑刀片，4 個可用切削角
- 高效率的泛用型面銑刀具
- 50~315mm 刀盤直徑，最大切削深度可達 5.5mm

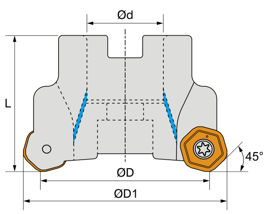
→ Page A101

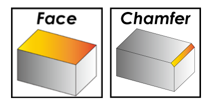
CXHN Series

- Use HNMX double-sided inserts with 12 cutting edges.
- Sharp cutting edge design for low depth-of-cut face milling.
- 50~100mm cutter diameter, max. 3.5mm depth of cut.

- 使用 HNMX 雙面銑刀片，12 個可用切削角
- 鋒利切削刃設計適用於淺切面銑加工
- 50~100mm 刀盤直徑，最大切削深度可達 3.5mm

CXHNF - Milling Tools 面銑刀





Insert Brand 建議刀片 : Winstar, Widia, ...

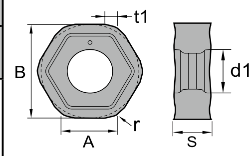
Order No. 訂購編碼	D	D1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXHNF705050224	50	58.7	40	22	5	✓	HNMX0704	ITS4005	ITK15	●
ICXHNF706063224	63	71.7	40	22	6	✓				●
ICXHNF708080274	80	88.7	50	27	8	✓				●
ICXHNF709100324	100	108.7	50	32	9	✓				●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	140 ~ 250	0.10 ~ 0.3	0.3 ~ 3.5
Stainless Steel	60 ~ 140	0.08 ~ 0.2	0.3 ~ 2.0
High Temperature Alloy	30 ~ 70	0.08 ~ 0.2	0.3 ~ 2.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)						
	A	B	S	r	d1	t1	
HNMX0704	6.8	12.7	4.45	1.2	4.9	1.4	

Insert Designation 刀片型號

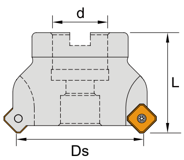
Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IHNMX0704SG32HS	HNMX0704-SG-CX32HS	●	●	●		○	
	IHNMX0704SG33TX	HNMX0704-SG-CX33TX	●	●	●		●	●
	IHNMX0704SG43TX	HNMX0704-SG-CX43TX	●	●	●		●	
	IHNMX0704SG47TA	HNMX0704-SG-CX47TA	●	●	○		●	○

CXSN Series

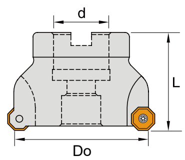
- Use SNMX or ONMX double-sided inserts with 8 or 16 cutting edges.
- 2 type inserts can fit in same cutter for multiple applications.
- 50~202.9mm cutter diameter, max. 6mm depth of cut.

- 使用 HNMX 雙面銑刀片，12 個可用切削角
- 兩種刀片可鎖附在相同刀盤上，可應用於不同的深淺加工
- 50~202.9mm 刀盤直徑，最大切削深度可達 6mm

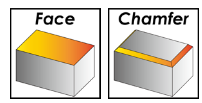
CXSNF - Milling Tools 面銑刀



for SNMX1205



for ONMX0505



Insert Brand 建議刀片：Winstar, Walter, ...

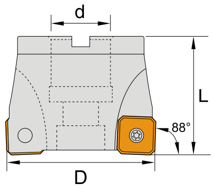
Order No. 訂購編碼	D		L	d	T	Inserts	Screw	Wrench	Stock
	Ds	Do							
ICXSNF504050220	50	52.9	40	22	4				●
ICXSNF505063220	63	65.9	40	22	5				●
ICXSNF506080270	80	82.9	50	27	6				●
ICXSNF508100320	100	102.9	50	32	8	SNMX1205 or ONMX0505	ITS4015	ITK15	●
ICXSNF510125400	125	127.9	63	40	10				●
ICXSNF512160400	160	162.9	63	40	12				●
ICXSNF514200600	200	202.9	63	60	14				●

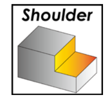
● stock ○ by inquiry *Customize available.*

Recommended Cutting Conditions 建議切削數據

Working Material	SNMX1205			ONMX0505		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	80 ~ 200	0.1 ~ 0.3	0.3 ~ 6.0	80 ~ 200	0.1 ~ 0.3	0.3 ~ 2.0
Stainless Steel	50 ~ 110	0.08 ~ 0.25	0.3 ~ 3.6	50 ~ 110	0.08 ~ 0.25	0.3 ~ 1.5
Cast Iron	80 ~ 180	0.1 ~ 0.3	0.3 ~ 6.0	80 ~ 180	0.1 ~ 0.3	0.3 ~ 2.0
High Temperature Alloy	30 ~ 60	0.08 ~ 0.2	0.3 ~ 3.6	30 ~ 60	0.08 ~ 0.2	0.3 ~ 1.5
Hardened Steel	35 ~ 70	0.08 ~ 0.23	0.3 ~ 3.6	35 ~ 70	0.08 ~ 0.23	0.3 ~ 1.5

CXSNE - Milling Tools 方肩銑刀





Insert Brand 建議刀片 : Winstar, Walter, ...

Order No. 訂購編碼	D	L	d	T	Inserts	Screw	Wrench	Stock
ICXSNE504050220	50	40	22	4	SNMX1205	ITS4015	ITK15	●
ICXSNE505063220	63	40	22	5				●
ICXSNE506080270	80	50	27	6				●

● stock　○ by inquiry

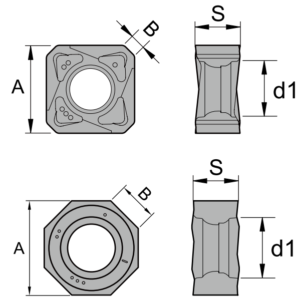
Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	80 ~ 200	0.1 ~ 0.2	0.3 ~ 11
Stainless Steel	50 ~ 110	0.08 ~ 0.18	0.3 ~ 5
Cast Iron	80 ~ 180	0.1 ~ 0.2	0.3 ~ 11
High Temperature Alloy	30 ~ 60	0.08 ~ 0.14	0.3 ~ 5
Hardened Steel	35 ~ 70	0.08 ~ 0.16	0.3 ~ 5

Face Milling - CXSN 面銑刀

Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	B	S	d1
SNMX1205	12.7	1.5	6.4	6
ONMX0505	12.7	5.0	6.4	6



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material P	M	K	N	S	H
	ISNMX1205MG23AX	SNMX1205-MG-CX23AX	○	○	○		○	●
	ISNMX1205MG32HS	SNMX1205-MG-CX32HS	●	●	●		○	
	ISNMX1205MG33TX	SNMX1205-MG-CX33TX	●	●	●		●	●
	ISNMX1205MG43TX	SNMX1205-MG-CX43TX	●	●	●		●	
	ISNMX1205MG37TA	SNMX1205-MG-CX37TA	○	○	●		○	○
	ISNMX1205MG47TA	SNMX1205-MG-CX47TA	○	●	○		●	○
	ISNMX1205RG23AX	SNMX1205-RG-CX23AX	○	○	○		○	●
	ISNMX1205RG32HS	SNMX1205-RG-CX32HS	●	●	●		○	
	ISNMX1205RG33TX	SNMX1205-RG-CX33TX	●	●	●		●	●
	ISNMX1205RG43TX	SNMX1205-RG-CX43TX	●	●	●		●	
	ISNMX1205RG37TA	SNMX1205-RG-CX37TA	○	○	●		○	○
	IONMX0505RG23AX	ONMX0505-RG-CX23AX	○	○	○		○	●
	IONMX0505RG32HS	ONMX0505-RG-CX32HS	●	●	●		○	
	IONMX0505RG33TX	ONMX0505-RG-CX33TX	●	●	●		●	●
	IONMX0505RG43TX	ONMX0505-RG-CX43TX	●	●	●		●	
	IONMX0505RG37TA	ONMX0505-RG-CX37TA	○	○	●		○	○

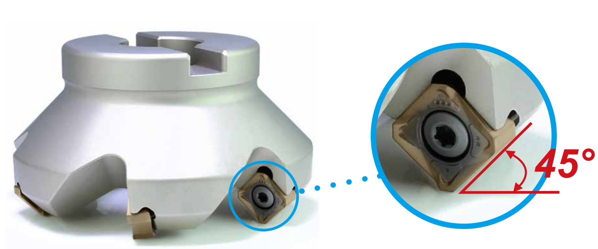
Tools Features 刀具特性

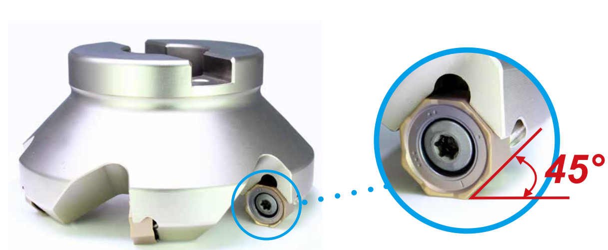
2 types of double sided inserts fit in same pocket !

2 種雙面刀片可鎖附一個刀盤

- *Depth of cutting > 2mm*
  use Square insert - ***SNMX1205 (Total 8 cutting edges)***
  最大切深超過 2 mm, 建議 SNMX1205(8 個切削角)

- *Depth of cutting <= 2mm*
  use Octagonal insert - ***ONMX0505 (Total 16 cutting edges)***
  最大切深小於 2 mm, 建議 ONMX0505(16 個切削角)



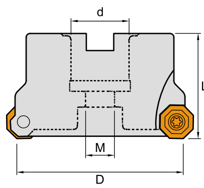


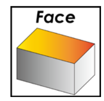
CAOF Series

- Use OFMT inserts with 8 cutting edges.
- Cost effective for low depth-of-cut face milling.
- 50~100mm cutter diameter, max. 2.8mm depth of cut.

- 使用 OFMT 銑刀片，8 個可用切削角
- 經濟實惠的較淺面銑加工
- 50~100mm 刀盤直徑，最大切削深度可達 2.8mm

CAOFF - Milling Tools 面銑刀





Insert Brand 建議刀片：Winstar, Taegutec, ...

Order No. 訂購編碼	D	d	L	M	T	Inserts	Screw	Wrench	Stock
ICAOFF505050220	50	22	40	11	5				●
ICAOFF506063220	63	22	40	11	6				●
ICAOFF506063250	63	25.4	50	13	6				●
ICAOFF507080250	80	25.4	50	13	7	OFMT05T3...	IMS4011A	ITK15	●
ICAOFF507080270	80	27	50	38	7				●
ICAOFF508100310	100	31.75	50	46	8				●
ICAOFF508100320	100	32	50	46	8				●

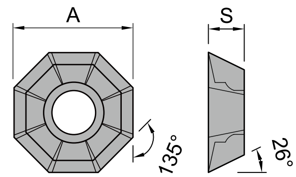
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.30	0.3 ~ 2.8
Stainless Steel	100 ~ 180	0.08 ~ 0.25	0.3 ~ 1.7
Cast Iron	120 ~ 250	0.10 ~ 0.30	0.3 ~ 2.8
High Temperature Alloy	40 ~ 100	0.08 ~ 0.25	0.3 ~ 1.7
Hardened Steel	50 ~ 100	0.08 ~ 0.25	0.3 ~ 1.7

Insert Specifications 刀片規格

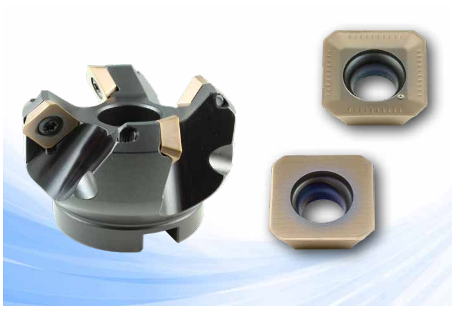
Insert	Dimensions (mm)			
	A	S	r	d1
OFMT05T3	12.7	3.8	0.6	4.6



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material P	M	K	N	S	H
	IOFMT05T3TNSG32HS	OFMT05T3TN-SG-CX32HS	●	●	●		○	
	IOFMT05T3TNSG33TX	OFMT05T3TN-SG-CX33TX	●	●	●		●	●
	IOFMT05T3TNMG32HS	OFMT05T3TN-MG-CX32HS	●	●	●		○	
	IOFMT05T3TNMG33TX	OFMT05T3TN-MG-CX33TX	●	●	●		●	●
	IOFMT05T3TNRG32HS	OFMT05T3TN-RG-CX32HS	●	●	●		○	
	IOFMT05T3TNRG33TX	OFMT05T3TN-RG-CX33TX	●	●	●		●	●
	IOFMT05T3TNRG43TX	OFMT05T3TN-RG-CX43TX	●	●	●		●	

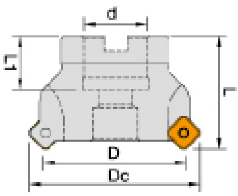
CASE Series

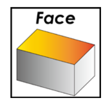


- Use SEKT or SEKW inserts with 4 cutting edges.
- Cost effective for wide range face milling applications.
- 50~100mm cutter diameter, max. 5.5mm depth of cut.

- 使用 SEKT 或 SEKW 銑刀片，4 個可用切削角
- 經濟實惠的不同切深面銑應用
- 50~100mm 刀盤直徑，最大切削深度可達 5.5mm

CASEF - Milling Tools 面銑刀





Insert Brand 建議刀片 : Winstar, Kennametal, LMT, ...

Order No. 訂購編碼	D	L	L1	d	Dc	T	Inserts	Screw	Wrench	Stock
ICASEF204050220	50	40	20	22	64	4	SEKT1204 SEKW1204 SEET1204	ITS5006	ITK20	●
ICASEF205063220	63	45	21	22	77	5				●
ICASEF205063250	63	45	21	25.4	77	5				○
ICASEF206080270	80	50	26	27	94	6				●
ICASEF206080310	80	50	26	31.75	94	6				○
ICASEF206100310	100	32	32	31.75	114	6				○
ICASEF206100320	100	32	32	32	114	6				○

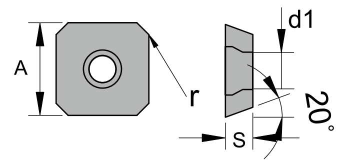
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.30	0.3 ~ 5.5
Stainless Steel	100 ~ 180	0.08 ~ 0.25	0.3 ~ 3.0
Cast Iron	120 ~ 250	0.10 ~ 0.30	0.3 ~ 5.0
Aluminum Alloy	300 ~ 1000	0.10 ~ 0.40	0.3 ~ 5.5
High Temperature Alloy	40 ~ 100	0.08 ~ 0.25	0.3 ~ 3.0
Hardened Steel	50 ~ 100	0.08 ~ 0.25	0.3 ~ 3.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	S	r	d1
SEKT1204	12.7	4.76	0.8	5.5
SEKW1204				
SEET1204				



Insert Designation 刀片型號

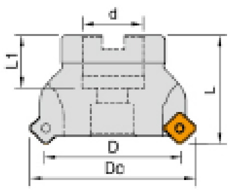
Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	ISEET1204AFFNAL10	SEET1204AFFN-AL-CX10				●		
	ISEET1204AFFNFG23AX	SEET1204AFFN-FG-CX23AX	○	○	○		○	●
	ISEKT1204AFENMF32HS	SEKT1204AFEN-MF-CX32HS	●	●	●		○	
	ISEKT1204AFENMF33TX	SEKT1204AFEN-MF-CX33TX	●	●	●		●	●
	ISEKT1204AFTNRG32HS	SEKT1204AFTN-RG-CX32HS	●	●	●		○	
	ISEKT1204AFTNRG33TX	SEKT1204AFTN-RG-CX33TX	●	●	●		●	●
	ISEKT1204AFTNRG43TX	SEKT1204AFTN-RG-CX43TX	●	●	●		●	
	ISEKW1204AFEN32HS	SEKW1204AFEN-CX32HS	●	●	●		○	
	ISEKW1204AFEN33TX	SEKW1204AFEN-CX33TX	●	●	●		●	●
	ISEKW1204AFEN43TX	SEKW1204AFEN-CX43TX	●	●	●		●	
	ISEKW1204AFTN32HS	SEKW1204AFTN-CX32HS	●	●	●		○	
	ISEKW1204AFTN33TX	SEKW1204AFTN-CX33TX	●	●	●		●	●
	ISEKW1204AFTN37TA	SEKW1204AFTN-CX37TA	○	○	●		○	○

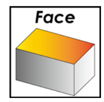
CASX Series

- Use SEMT inserts with 4 cutting edges.
- Cost effective for wide range face milling applications.
- 50~315mm cutter diameter, max. 5.5mm depth of cut.

- 使用 SEMT 銑刀片，4 個可用切削角
- 經濟實惠的不同切深面銑應用
- 50~315mm 刀盤直徑，最大切削深度可達 5.5mm

CASXF - Milling Tools 面銑刀





Insert Brand 建議刀片：Winstar, Mitsubishi, Seco, ...

Order No. 訂購編碼	D	L	L1	d	Dc	T	Inserts	Stock
ICASXF304050220	50	40	20	22	63	4		●
ICASXF304050250	50	40	20	25.4	63	4		●
ICASXF305063220	63	40	20	22	75.9	5		●
ICASXF305063250	63	40	20	25.4	75.9	5		●
ICASXF306080250	80	50	26	25.4	93.2	6		●
ICASXF306080270	80	50	26	27	93.2	6		●
ICASXF307100310	100	50	32	31.75	113.2	7		●
ICASXF307100320	100	50	32	32	113.2	7	SEMT13T3	●
ICASXF308125380	125	63	38	38.1	138	8		●
ICASXF308125400	125	63	38	40	138	8		●
ICASXF310160400	160	63	38	40	173	10		●
ICASXF310160500	160	63	38	50.8	173	10		●
ICASXF312200470	200	63	38	47.625	212.9	12		●
ICASXF314250470	250	63	38	47.625	262.9	14		●
ICASXF314315470	315	63	40	47.625	327.9	14		●

● stock ○ by inquiry

Spare parts 配件

Shim	Screw	Wrench	Screw	Wrench
IAS445N	IPS35T	IPL20	ITS3505	ITK15

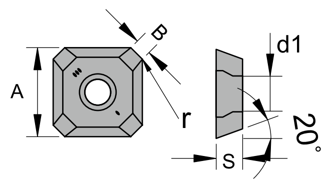
Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.30	0.3 ~ 5.5
Stainless Steel	100 ~ 180	0.08 ~ 0.25	0.3 ~ 3.0
Cast Iron	120 ~ 250	0.10 ~ 0.30	0.3 ~ 5.0
Aluminum Alloy	300 ~ 1000	0.10 ~ 0.40	0.3 ~ 5.5
High Temperature Alloy	40 ~ 100	0.08 ~ 0.25	0.3 ~ 3.0
Hardened Steel	50 ~ 100	0.08 ~ 0.25	0.3 ~ 3.0

※ Max ap of 6mm.

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
SEMT13T3	13.4	1.9	3.97	1.5	4.2
SEET13T3	13.4	1.9	3.97	1.5	4.2



Insert Designation 刀片型號

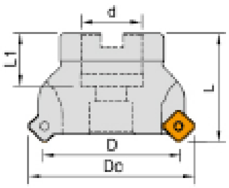
Insert	Order No. 訂購編碼	Designation	P	M	K	N	S	H
	ISEET13T3AGFNAL10	SEET13T3AGFN-AL-CX10				●		
	ISEET13T3AGFNFG23AX	SEET13T3AGFN-FG-CX23AX	○	○	○		○	●
	ISEMT13T3AGENMG23AX	SEMT13T3AGEN-MG-CX23AX	○	○	○		○	●
	ISEMT13T3AGENMG32HS	SEMT13T3AGEN-MG-CX32HS	●	●	●		○	
	ISEMT13T3AGENMG33TX	SEMT13T3AGEN-MG-CX33TX	●	●	●		●	●
	ISEMT13T3AGENMG43TX	SEMT13T3AGEN-MG-CX43TX	●	●	●		●	
	ISEMT13T3AGTNMG23AX	SEMT13T3AGTN-MG-CX23AX	○	○	○		○	●
	ISEMT13T3AGTNMG32HS	SEMT13T3AGTN-MG-CX32HS	●	●	●		○	
	ISEMT13T3AGTNMG33TX	SEMT13T3AGTN-MG-CX33TX	●	●	●		●	●
	ISEMT13T3AGTNMG43TX	SEMT13T3AGTN-MG-CX43TX	●	●	●		●	
	ISEMT13T3AGTNRG32HS	SEMT13T3AGTN-RG-CX32HS	●	●	●		○	
	ISEMT13T3AGTNRG33TX	SEMT13T3AGTN-RG-CX33TX	●	●	●		●	●
	ISEMT13T3AGTNRG43TX	SEMT13T3AGTN-RG-CX43TX	●	●	●		●	

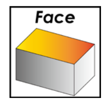
CR24 Series

- Use W245-12T3 inserts with 4 cutting edges.
- High performance face milling tools for general purpose.
- 50~315mm cutter diameter, max. 5.5mm depth of cut.

- 使用 SEMT 銑刀片，4 個可用切削角
- 高效率的泛用型面銑刀具
- 50~315mm 刀盤直徑，最大切削深度可達 5.5mm

CR24F - Milling Tools 面銑刀





Insert Brand 建議刀片 : Winstar, Seco, Mitsubishi, ...

Order No. 訂購編碼	D	L	L1	d	Dc	T	Inserts	Stock
ICR24F304050220	50	40	20	22	63	4	W245-12T3	●
ICR24F304050250	50	40	20	25.4	63	4		●
ICR24F305063220	63	40	20	22	75.9	5		●
ICR24F305063250	63	40	20	25.4	75.9	5		●
ICR24F306080250	80	50	26	25.4	93.2	6		●
ICR24F306080270	80	50	26	27	93.2	6		●
ICR24F307100310	100	50	32	31.75	113.2	7		●
ICR24F307100320	100	50	32	32	113.2	7		●
ICR24F308125380	125	63	38	38.1	138	8		●
ICR24F308125400	125	63	38	40	138	8		●
ICR24F310160400	160	63	38	40	173	10		●
ICR24F310160500	160	63	38	50.8	173	10		●
ICR24F312200470	200	63	38	47.625	212.9	12		●
ICR24F314250470	250	63	38	47.625	262.9	14		●
ICR24F314315470	315	63	40	47.625	327.9	14		●

● stock ○ by inquiry

Spare parts 配件

Shim	Screw	Wrench	Screw	Wrench
IAS445N	IPS35T	IPL20	ITS3505	ITK15

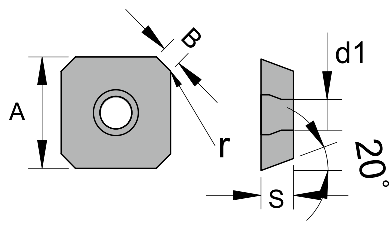
Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.30	0.3 ~ 5.5
Stainless Steel	100 ~ 180	0.08 ~ 0.25	0.3 ~ 3.0
Cast Iron	120 ~ 250	0.10 ~ 0.30	0.3 ~ 5.0
Aluminum Alloy	300 ~ 1000	0.10 ~ 0.40	0.3 ~ 5.5
High Temperature Alloy	40 ~ 100	0.08 ~ 0.25	0.3 ~ 3.0
Hardened Steel	50 ~ 100	0.08 ~ 0.25	0.3 ~ 3.0

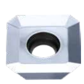
※ Max ap of 6mm.

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
W245-12T3	13.4	1.9	3.97	1.5	4.2



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	P	M	K	N	S	H
	IW24512T3AL10	W245-12T3-AL-CX10				●		
	IW24512T3FG23AX	W245-12T3-FG-CX23AX	○	○	○		○	●
	IW24512T3MG23AX	W245-12T3-MG-CX23AX	○	○	○		○	●
	IW24512T3MG32HS	W245-12T3-MG-CX32HS	●	●	●		○	
	IW24512T3MG33TX	W245-12T3-MG-CX33TX	●	●	●		●	●
	IW24512T3MG43TX	W245-12T3-MG-CX43TX	●	●	●		●	
	IW24512T3MG37TA	W245-12T3-MG-CX37TA	○	○	●		○	○
	IW24512T3MG47TA	W245-12T3-MG-CX47TA	●	●	○		●	○
	IW24512T3HG32HS	W245-12T3-HG-CX32HS	●	●	●		○	
	IW24512T3HG33TX	W245-12T3-HG-CX33TX	●	●	●		●	●
	IW24512T3HG43TX	W245-12T3-HG-CX43TX	●	●	●		●	
	IW24512T3HG37TA	W245-12T3-HG-CX37TA	○	○	●		○	○
	IW24512T3HG47TA	W245-12T3-HG-CX47TA	●	●	○		●	○

Copy Milling Series Introduction 仿形銑刀系列介紹

CARD Series

- Use RDMT or RDMW 2.5R, 3R, 3.5R, 5R, 6R and 8R round inserts.
- Suitable for mould & die machining and steel profiling.
- 50~315mm cutter diameter.

- 使用 RDMT 或 RDMW 2.5R, 3R, 3.5R, 5R, 6R 或 8R 圓形銑刀片
- 適用於模具與各類型鋼料仿形加工
- 10~100mm 刀桿直徑

→ Page A104

CARP Series

- Use RPMT or RPMW 4R, 5R and 6R round inserts.
- Suitable for mould & die machining and steel profiling.
- 50~315mm cutter diameter.

- 使用 RPMT 或 RPMW 4R, 5R 或 6R 圓形銑刀片
- 適用於模具與各類型鋼料仿形加工
- 16~80mm 刀桿直徑

→ Page A110

CF21 Series

- Use WP32 5R, 6R, 8R, 10R, 12.5R and 16R ball nose inserts.
- Suitable for mould & die finish or medium copy milling.
- 12~32mm cutter diameter.

- 使用 WP32 5R, 6R, 8R, 10R, 12.5R 或 16R 球形銑刀片
- 適用於模具中加工或精加工應用的仿形銑削
- 12~32mm 刀桿直徑

→ Page A114

CF22 Series

- Use WP26 inserts.
- Ball nose cutters are suitable for mould & die copy roughing.
- 25~50mm cutter diameter.

- 使用 WP26 銑刀片
- 適用於粗加工應用的仿形銑削
- 25~50mm 刀桿直徑

→ Page A117

CGWV Series

- Use WPBC16 inserts.
- Various corner radii available for copy or shoulder milling.
- 25~50mm cutter diameter.

- 使用 WPBC16 銑刀片
- 提供各種圓角，用於仿形或方肩銑削
- 16mm 刀桿直徑

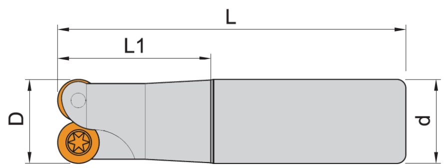
→ Page A119

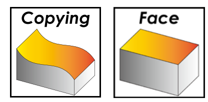
CARD Series

- Use RDMT or RDMW 2.5R, 3R, 3.5R, 5R, 6R and 8R round inserts.
- Suitable for mould & die machining and steel profiling.
- 50~315mm cutter diameter.

- 使用 RDMT 或 RDMW 2.5R, 3R, 3.5R, 5R, 6R 或 8R 圓形銑刀片
- 適用於模具與各類型鋼料仿形加工
- 10~100mm 刀桿直徑

CARDE - Milling Tools 仿形銑刀



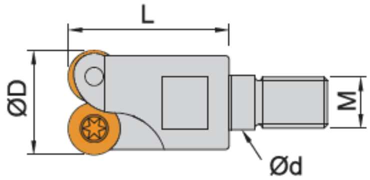


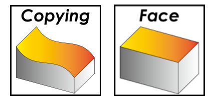
Insert Brand 建議刀片 : Winstar, Safety, Hitachi, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICARDE502010100	10	25	100	10	2	RDKW0501	ITS2003	ITK06	●
ICARDE502012100	12	25	100	12	2				○
ICARDE503016130	16	35	130	16	3				○
ICARDE703016130	16	40	130	16	3	RDKW0702	ITS2515	ITK08	○
ICARDE704020150	20	40	150	20	4				●
ICARDE704025150	25	40	150	25	4				○
ICARDE102025150	25	45	150	25	2	RDMT10T3 RDMW10T3	ITS3504	ITK15	●
ICARDE102030150	30	45	150	25	2				●
ICARDE103032150	32	45	150	32	3				○
ICARDE202032150	32	50	150	32	2	RDMT1204 RDMW1204	ITS4008	ITK15	○
ICARDE302020150	20	40	150	20	2	RDMT1003 RDMX1003	IMS3507A	ITK15	●
ICARDE303025150	25	40	150	25	3				●
ICARDE303026150	26	25	150	25	3				●
ICARDE303030150	30	25	150	25	3		IMS3509A		●
ICARDE304035150	35	40	150	32	4				●

● stock ○ by inquiry

CARDM - Modular Milling Heads 仿形銑刀頭





Insert Brand 建議刀片：Winstar, Safety, Hitachi, ...

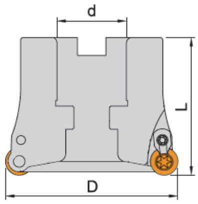
Order No. 訂購編碼	D	L1	d	M	T	Inserts	Screw	Wrench	Stock
ICARDM502012060	12	21	6.5	M06	2				●
ICARDM503012060	12	21	6.5	M06	3	RDKW0501	ITS2003	ITK06	○
ICARDM504016080	16	26	8.5	M08	4				○
ICARDM703016080	16	26	8.5	M08	3				○
ICARDM704020100	20	32	10.5	M10	4	RDKW0702	ITS2515	ITK08	○
ICARDM705025120	25	38	12.5	M12	5				○
ICARDM103025120	25	38	12.5	M12	3				●
ICARDM104030120	30	38	12.5	M12	4	RDMT10T3 RDMW10T3	ITS3504	ITK10	●
ICARDM105032120	35	38	12.5	M12	5				○

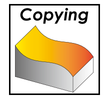
ICARDM302020100	20	30	10.5	M10	2				●
ICARDM302021100	21	30	10.5	M10	2		IMS3507A		●
ICARDM303025120	25	35	12.5	M12	3	RDMT1003 RDMX1003		ITK15	●
ICARDM303026120	26	35	12.5	M12	3				●
ICARDM303030120	30	35	12.5	M12	3		IMS3509A		●

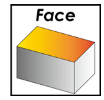
● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

CARDF - Milling Tools 仿形銑刀







Insert Brand 建議刀片 : Winstar, Hitachi, Kennametal, ...

Order No. 訂購編碼	D	L	d	T	Inserts	Screw	Wrench	Clamp	Clamp Screw	Stock
ICARDF104050220	50	45	22	4	RDMT10T3 RDMW10T3	ITS3504	ITK15	IRD-45	ITS4009	●
ICARDF106063220	63	45	22	6						●
ICARDF204050220	50	45	22	4	RDMT1204 RDMW1204	ITS4008	ITK15	IRD-6R	ITS5004	●
ICARDF205050220	50	45	22	5						●
ICARDF205063220	63	45	22	5						●
ICARDF206063220	63	45	22	6						●
ICARDF207080270	80	50	27	7						○
ICARDF208100320	100	50	32	8						○
ICARDF604063220	63	45	22	4	RDMT1604 RDMW1604	ITS5007	ITK20	IRD-68	ITS5009	●
ICARDF605063220	63	45	22	5						●
ICARDF606080270	80	50	27	6						○
ICARDF607100320	100	50	32	7						○
ICARDF305050220	50	40	22	5	RDMT1003 RDMX1003	IMS3509A	ITK15	IMC35-3V	-	●
ICARDF305050250	50	50	25.4	5						●
ICARDF306063250	63	50	25.4	6						●

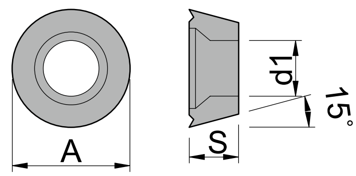
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	Dia ≤ 10		Dia > 10	
		fz	ap	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.1 ~ 0.6	0.3 ~ 1.5	0.2 ~ 0.8	0.5 ~ 2.5
Stainless Steel	100 ~ 180	0.08 ~ 0.4	0.3 ~ 1.2	0.15 ~ 0.4	0.5 ~ 2.0
Cast Iron	120 ~ 250	0.1 ~ 0.6	0.3 ~ 1.5	0.2 ~ 0.8	0.5 ~ 2.5
High Temperature Alloy	40 ~ 100	0.08 ~ 0.3	0.3 ~ 1.0	0.15 ~ 0.3	0.3 ~ 2.0
Hardened Steel	50 ~ 100	0.08 ~ 0.3	0.3 ~ 1.0	0.15 ~ 0.3	0.3 ~ 2.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)		
	A	S	d1
RDKW0501	5	1.59	2.2
RDKW0702	7	2.38	2.8
RDMT1003	10	3.18	3.9
RDMX1003	10	3.18	4.15
RDMT10T3	10	3.97	4.5
RDMW10T3	10	3.97	4.5
RDMT12T3	12	3.97	4.1
RDMX12T3	12	3.97	4.1
RDMT1204	12	4.76	4.4
RDMW1204	12	4.76	4.4
RDMT1604	16	4.76	5.5
RDMW1604	16	4.76	5.5



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IRDKW0501MOE23AX	RDKW0501MOE-CX23AX	○	○	○		○	●
	IRDKW0501MOE32HS	RDKW0501MOE-CX32HS	●	●	●		○	
	IRDKW0501MOE33TX	RDKW0501MOE-CX33TX	●	●	●		●	●
	IRDKW0702MOE23AX	RDKW0702MOE-CX23AX	○	○	○		○	●
	IRDKW0702MOE32HS	RDKW0702MOE-CX32HS	●	●	●		○	
	IRDKW0702MOE33TX	RDKW0702MOE-CX33TX	●	●	●		●	●
	IRDKW0702MOE43TX	RDKW0702MOE-CX43TX	●	●	●		●	
	IRDMT1003MOE23AX	RDMT1003MOE-CX23AX	○	○	○		○	●
	IRDMT1003MOE32HS	RDMT1003MOE-CX32HS	●	●	●		○	
	IRDMT1003MOE33TX	RDMT1003MOE-CX33TX	●	●	●		●	●
	IRDMT1003MOE43TX	RDMT1003MOE-CX43TX	●	●	●		●	
	IRDMT1003MOT23AX	RDMT1003MOT-CX23AX	○	○	○		○	●
	IRDMT1003MOT32HS	RDMT1003MOT-CX32HS	●	●	●		○	
	IRDMT1003MOT33TX	RDMT1003MOT-CX33TX	●	●	●		●	●
	IRDMT1003MOT43TX	RDMT1003MOT-CX43TX	●	●	●		●	

Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IRDMX1003MOE23AX	RDMX1003MOE-CX23AX	○	○	○		○	●
	IRDMX1003MOE32HS	RDMX1003MOE-CX32HS	●	●	●		○	
	IRDMX1003MOE33TX	RDMX1003MOE-CX33TX	●	●	●		●	●
	IRDMX1003MOE43TX	RDMX1003MOE-CX43TX	●	●	●		●	
	IRDMX1003MOT23AX	RDMX1003MOT-CX23AX	○	○	○		○	●
	IRDMX1003MOT32HS	RDMX1003MOT-CX32HS	●	●	●		○	
	IRDMX1003MOT33TX	RDMX1003MOT-CX33TX	●	●	●		●	●
	IRDMX1003MOT43TX	RDMX1003MOT-CX43TX	●	●	●		●	
	IRDMT10T3MOE23AX	RDMT10T3MOE-CX23AX	○	○	○		○	●
	IRDMT10T3MOE32HS	RDMT10T3MOE-CX32HS	●	●	●		○	
	IRDMT10T3MOE33TX	RDMT10T3MOE-CX33TX	●	●	●		●	●
	IRDMT10T3MOE43TX	RDMT10T3MOE-CX43TX	●	●	●		●	
	IRDMT10T3MOT23AX	RDMT10T3MOT-CX23AX	○	○	○		○	●
	IRDMT10T3MOT32HS	RDMT10T3MOT-CX32HS	●	●	●		○	
	IRDMT10T3MOT33TX	RDMT10T3MOT-CX33TX	●	●	●		●	●
	IRDMT10T3MOT43TX	RDMT10T3MOT-CX43TX	●	●	●		●	
	IRDMW10T3MOE32HS	RDMW10T3MOE-CX32HS	●	●	●		○	
	IRDMW10T3MOE33TX	RDMW10T3MOE-CX33TX	●	●	●		●	●
	IRDMW10T3MOT32HS	RDMW10T3MOT-CX32HS	●	●	●		○	
	IRDMW10T3MOT33TX	RDMW10T3MOT-CX33TX	●	●	●		●	●
	IRDMT12T3MOE23AX	RDMT12T3MOE-CX23AX	○	○	○		○	●
	IRDMT12T3MOE32HS	RDMT12T3MOE-CX32HS	●	●	●		○	
	IRDMT12T3MOE33TX	RDMT12T3MOE-CX33TX	●	●	●		●	●
	IRDMT12T3MOE37TA	RDMT12T3MOE-CX37TA	○	○	●		○	○
	IRDMT12T3MOT23AX	RDMT12T3MOT-CX23AX	○	○	○		○	●
	IRDMT12T3MOT32HS	RDMT12T3MOT-CX32HS	●	●	●		○	
	IRDMT12T3MOT33TX	RDMT12T3MOT-CX33TX	●	●	●		●	●
	IRDMX12T3MOE23AX	RDMX12T3MOE-CX23AX	○	○	○		○	●
	IRDMX12T3MOE32HS	RDMX12T3MOE-CX32HS	●	●	●		○	
	IRDMX12T3MOE33TX	RDMX12T3MOE-CX33TX	●	●	●		●	●
	IRDMX12T3MOE43TX	RDMX12T3MOE-CX43TX	●	●	●		●	
	IRDMX12T3MOT23AX	RDMX12T3MOT-CX23AX	○	○	○		○	●
	IRDMX12T3MOT32HS	RDMX12T3MOT-CX32HS	●	●	●		○	
	IRDMX12T3MOT33TX	RDMX12T3MOT-CX33TX	●	●	●		●	●
	IRDMX12T3MOT43TX	RDMX12T3MOT-CX43TX	●	●	●		●	

Insert Designation 刀片型號

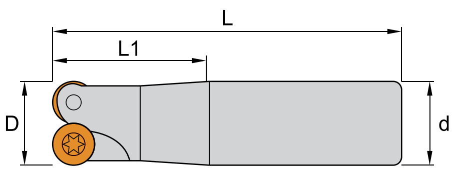
Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IRDHT1204MOE32HS	RDHT1204MOE-CX32HS	●	●	●		○	
	IRDHT1204MOE33TX	RDHT1204MOE-CX33TX	●	●	●		●	●
	IRDHT1204MOE32HS	RDHT1204MOE-CX32HS	●	●	●		○	
	IRDHT1204MOE33TX	RDHT1204MOE-CX33TX	●	●	●		●	●
	IRDMT1204MOE23AX	RDMT1204MOE-CX23AX	○	○	○		○	●
	IRDMT1204MOE32HS	RDMT1204MOE-CX32HS	●	●	●		○	
	IRDMT1204MOE33TX	RDMT1204MOE-CX33TX	●	●	●		●	●
	IRDMT1204MOE43TX	RDMT1204MOE-CX43TX	●	●	●		●	
	IRDMT1204MOT23AX	RDMT1204MOT-CX23AX	○	○	○		○	●
	IRDMT1204MOT32HS	RDMT1204MOT-CX32HS	●	●	●		○	
	IRDMT1204MOT33TX	RDMT1204MOT-CX33TX	●	●	●		●	●
	IRDMT1204MOT43TX	RDMT1204MOT-CX43TX	●	●	●		●	
	IRDMW1204MOE32HS	RDMW1204MOE-CX32HS	●	●	●		○	
	IRDMW1204MOE33TX	RDMW1204MOE-CX33TX	●	●	●		●	●
	IRDMW1204MOE43TX	RDMW1204MOE-CX43TX	●	●	●		●	
	IRDMW1204MOT23AX	RDMW1204MOT-CX23AX	○	○	○		○	●
	IRDMW1204MOT32HS	RDMW1204MOT-CX32HS	●	●	●		○	
	IRDMW1204MOT33TX	RDMW1204MOT-CX33TX	●	●	●		●	●
	IRDMW1204MOT43TX	RDMW1204MOT-CX43TX	●	●	●		●	
	IRDMW1204MOT37TA	RDMW1204MOT-CX37TA	○	○	●		○	○
	IRDMT1604MOT23AX	RDMT1604MOT-CX23AX	○	○	○		○	●
	IRDMT1604MOT32HS	RDMT1604MOT-CX32HS	●	●	●		○	
	IRDMT1604MOT33TX	RDMT1604MOT-CX33TX	●	●	●		●	●
	IRDMT1604MOT43TX	RDMT1604MOT-CX43TX	●	●	●		●	
	IRDMW1604MOT23AX	RDMW1604MOT-CX23AX	○	○	○		○	●
	IRDMW1604MOT32HS	RDMW1604MOT-CX32HS	●	●	●		○	
	IRDMW1604MOT33TX	RDMW1604MOT-CX33TX	●	●	●		●	●
	IRDMW1604MOT43TX	RDMW1604MOT-CX43TX	●	●	●		●	
	IRDMW1604MOT37TA	RDMW1604MOT-CX37TA	○	○	●		○	○

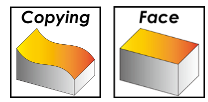
CARP Series

- Use RPMT or RPMW 4R, 5R and 6R round inserts.
- Suitable for mould & die machining and steel profiling.
- 50~315mm cutter diameter.

- 使用 RPMT 或 RPMW 4R, 5R 或 6R 圓形銑刀片
- 適用於模具與各類型鋼料仿形加工
- 16~80mm 刀桿直徑

CARPE - Milling Tools 仿形銑刀





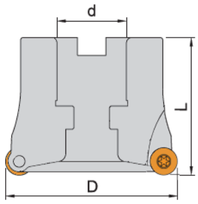
Insert Brand 建議刀片 : Winstar, Mitsubishi, ...

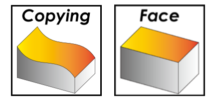
Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICARPE802016150	16	50	150	16	2	RPMT08T2	ITS3004	ITK09	●
ICARPE802020150	20	50	150	20	2				●
ICARPE803025150	25	40	150	25	3				●
ICARPE102025150	25	40	150	25	2	RPMT10T3	ITS3503	ITK15	●
ICARPE103030150	30	40	150	25	3				●
ICARPE103032150	32	40	150	32	3				●
ICARPE202032170	32	45	170	32	2	RPMT1204 RPMW1204	ITS4006	ITK15	●

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Clamp	Wrench	Stock
ICARPE302025150	25	50	150	25	2	RPMW1003	ITS4004	IAS5	ITK15	●
ICARPE302025180	25	50	180	25	2					●
ICARPE302025200	25	50	200	25	2					●
ICARPE302025250	25	50	250	25	2					●
ICARPE302026150	26	30	150	25	2					●
ICARPE302030150	30	35	150	25	2					●
ICARPE302030200	30	35	200	25	2					●
ICARPE302030300	30	35	300	25	2					●
ICARPE303032120	32	55	125	32	3					●
ICARPE303035150	35	55	150	32	3					●
ICARPE303035250	35	55	250	32	3					●
ICARPE303035300	35	55	300	32	3					●

● stock ○ by inquiry

CARPF - Milling Tools 仿形銑刀





Insert Brand 建議刀片 : Winstar, Mitsubishi, ...

Order No. 訂購編碼	D	L	d	T	Inserts	Screw	Wrench	Stock
ICARPF305050220	50	45	22	5	RPMT10T3	ITS3503	ITK15	●
ICARPF305050250	50	45	25.4	5				●
ICARPF306063220	63	45	22	6				○
ICARPF306063250	63	45	25.4	6				○
ICARPF204050250	50	45	25.4	4	RPMT1204 RPMW1204	ITS4006	ITK15	●
ICARPF205063220	63	45	22	5				●
ICARPF205063250	63	45	25.4	5				●
ICARPF206080250	80	50	25.4	6				●
ICARPF206080270	80	50	27	6				●

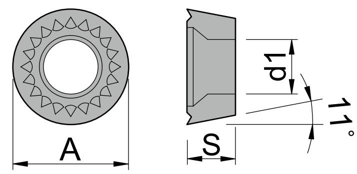
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	Dia ≤ 10		Dia > 10	
		fz	ap	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.1 ~ 0.6	0.3 ~ 1.5	0.2 ~ 0.8	0.5 ~ 2.5
Stainless Steel	100 ~ 180	0.08 ~ 0.4	0.3 ~ 1.2	0.15 ~ 0.4	0.5 ~ 2.0
Cast Iron	120 ~ 250	0.1 ~ 0.6	0.3 ~ 1.5	0.2 ~ 0.8	0.5 ~ 2.5
High Temperature Alloy	40 ~ 100	0.08 ~ 0.3	0.3 ~ 1.0	0.15 ~ 0.3	0.3 ~ 2.0
Hardened Steel	50 ~ 100	0.08 ~ 0.3	0.3 ~ 1.0	0.15 ~ 0.3	0.3 ~ 2.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)		
	A	S	d1
RPMT08T2	8	2.78	3.2
RPMW1003	10	3.18	4.6
RPMT10T3	10	3.97	4.5
RPMT1204	12	4.76	4.3
RPMW1204	12	4.76	4.3



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material P	M	K	N	S	H
	IRPMT08T2MOE32HS	RPMT08T2MOE-CX32HS	●	●	●		○	
	IRPMT08T2MOE33TX	RPMT08T2MOE-CX33TX	●	●	●		●	●
	IRPMT08T2MOE43TX	RPMT08T2MOE-CX43TX	●	●	●		●	
	IRPMT08T2MOT32HS	RPMT08T2MOT-CX32HS	●	●	●		○	
	IRPMT08T2MOT33TX	RPMT08T2MOT-CX33TX	●	●	●		●	●
	IRPMT08T2MOT43TX	RPMT08T2MOT-CX43TX	●	●	●		●	
	IRPMW1003MOE32HS	RPMW1003MOE-CX32HS	●	●	●		○	
	IRPMW1003MOE33TX	RPMW1003MOE-CX33TX	●	●	●		●	●
	IRPMW1003MOE43TX	RPMW1003MOE-CX43TX	●	●	●		●	
	IRPMW1003MOT23AX	RPMW1003MOT-CX23AX	○	○	○		○	●
	IRPMW1003MOT32HX	RPMW1003MOT-CX32HX	●	●	●		○	
	IRPMW1003MOT33TX	RPMW1003MOT-CX33TX	●	●	●		●	●
	IRPMW1003MOT43TX	RPMW1003MOT-CX43TX	●	●	●		●	

Copy Milling - CARP 仿形銑刀

Insert Designation 刀片型號

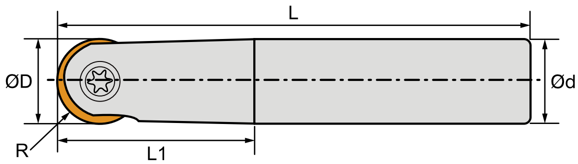
Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IRPHT10T3MOE43TX	RPHT10T3MOE-CX43TX	●	●	●		●	
	IRPMT10T3MOE32HS	RPMT10T3MOE-CX32HS	●	●	●		○	
	IRPMT10T3MOE33TX	RPMT10T3MOE-CX33TX	●	●	●		●	●
	IRPMT10T3MOE43TX	RPMT10T3MOE-CX43TX	●	●	●		●	
	IRPMT10T3MOT32HS	RPMT10T3MOT-CX32HS	●	●	●		○	
	IRPMT10T3MOT33TX	RPMT10T3MOT-CX33TX	●	●	●		●	●
	IRPMT10T3MOT43TX	RPMT10T3MOT-CX43TX	●	●	●		●	
	IRPMT1204MOE32HS	RPMT1204MOE-CX32HS	●	●	●		○	
	IRPMT1204MOE33TX	RPMT1204MOE-CX33TX	●	●	●		●	●
	IRPMT1204MOT32HS	RPMT1204MOT-CX32HS	●	●	●		○	
	IRPMT1204MOT33TX	RPMT1204MOT-CX33TX	●	●	●		●	●
	IRPMT1204MOE23AX	RPMT1204MOE-CX23AX	○	○	○		○	●
	IRPMT1204MOE32HS	RPMT1204MOE-CX32HS	●	●	●		○	
	IRPMT1204MOE33TX	RPMT1204MOE-CX33TX	●	●	●		●	●
	IRPMT1204MOE43TX	RPMT1204MOE-CX43TX	●	●	●		●	
	IRPMT1204MOT23AX	RPMT1204MOT-CX23AX	○	○	○		○	●
	IRPMT1204MOT32HS	RPMT1204MOT-CX32HS	●	●	●		○	
	IRPMT1204MOT33TX	RPMT1204MOT-CX33TX	●	●	●		●	●
	IRPMT1204MOT43TX	RPMT1204MOT-CX43TX	●	●	●		●	
	IRPMW1204MOE32HS	RPMW1204MOE-CX32HS	●	●	●		○	
	IRPMW1204MOE33TX	RPMW1204MOE-CX33TX	●	●	●		●	●
	IRPMW1204MOE43TX	RPMW1204MOE-CX43TX	●	●	●		●	
	IRPMW1204MOT32HS	RPMW1204MOT-CX32HS	●	●	●		○	
	IRPMW1204MOT43TX	RPMW1204MOT-CX43TX	●	●	●		●	●
	IRPMW1204MOT33TX	RPMW1204MOT-CX33TX	●	●	●		●	

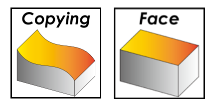
CF21 Series

- Use WP32 5R, 6R, 8R, 10R, 12.5R and 16R ball nose inserts.
- Suitable for mould & die finish or medium copy milling.
- 12~32mm cutter diameter.

- 使用 WP32 5R, 6R, 8R, 10R, 12.5R 或 16R 球形銑刀片
- 適用於模具中加工或精加工應用的仿形銑削
- 12~32mm 刀桿直徑

CF21E - Milling Tools 仿形銑刀



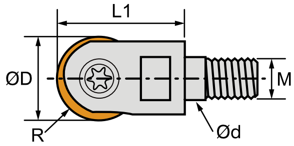


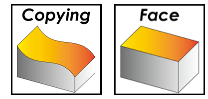
Insert Brand 建議刀片 : Winstar, Walter, ...

Order No. 訂購編碼	R	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICF21E302010100	5R	10	25	100	10	2	WP3210..	IMGR4012	IETL15	●
ICF21E302010150	5R	10	25	150	10	2				
ICF21E302012150	6R	12	32	150	12	2	WP3212..	IMGR5012	IETL20	●
ICF21E302012200	6R	12	58	200	16	2				
ICF21E302016150	8R	16	36	150	16	2	WP3216..	IMGR5016	IETL20	●
ICF21E302016200	8R	16	36	200	16	2				
ICF21E302016201	8R	16	65	200	20	2				
ICF21E302020150	10R	20	45	150	20	2	WP3220..	IMGR5020	IETL20	●
ICF21E302020200	10R	20	45	200	20	2				
ICF21E302020201	10R	20	76	200	25	2				
ICF21E302020250	10R	20	76	250	25	2				
ICF21E302025200	12.5R	25	45	200	25	2	WP3225..	IMGR6025	IETL30	●
ICF21E302025250	12.5R	25	45	250	25	2				
ICF21E302025201	12.5R	25	98	200	32	2				
ICF21E302025251	12.5R	25	98	250	32	2				
ICF21E302025300	12.5R	25	98	300	32	2				
ICF21E302032200	16R	32	50	200	32	2	WP3232..	IMGR8030	IETL30	●
ICF21E302032250	16R	32	50	250	32	2				
ICF21E302032300	16R	32	50	300	32	2				

● stock ○ by inquiry

CF21M - Modular Milling Heads 仿形銑刀頭





Insert Brand 建議刀片 : Winstar, Walter, ...

Order No. 訂購編碼	R	D	L1	d	M	T	Inserts	Screw	Wrench	Stock
ICF21M302010050	5R	10	20	5.5	M5	2	WP3210..	IMGR5010	IETL15	●
ICF21M302012060	6R	12	22	6.5	M6	2	WP3212..	IMGR5012	IETL20	●
ICF21M302012080	6R	12	30	8.5	M8	2				
ICF21M302016080	8R	16	28	8.5	M8	2	WP3216 ..	IMGR5016	IETL20	●
ICF21M302020100	10R	20	30	10.5	M10	2	WP3220 ..	IMGR5020	IETL20	●
ICF21M302025120	12.5R	25	40	12.5	M12	2	WP3225 ..	IMGR6025	IETL30	●
ICF21M302032160	16R	32	43	17	M16	2	WP3232 ..	IMGR8030	IETL30	●

● stock ○ by inquiry

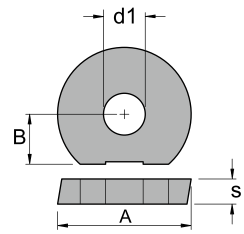
※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz					ap
		WP3212	WP3216	WP3220	WP3225	WP3232	
Carbon Steel / Alloy Steel	150 ~ 300	0.20	0.20	0.25	0.25	0.30	≤ 0.03 × ØD
Stainless Steel	100 ~ 250	0.20	0.20	0.25	0.25	0.30	≤ 0.03 × ØD
Cast Iron	90 ~ 350	0.25	0.30	0.30	0.35	0.40	≤ 0.04 × ØD
Hardened Steel	100 ~ 350	0.10	0.125	0.15	0.20	0.25	≤ 0.02 × ØD

Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	B	S	d1
WP3210	10	5	2.5	4
WP3212	12	6	2.5	5
WP3216	16	6	3	5
WP3220	20	6	3	5
WP3225	25	9	4	6
WP3232	32	10	5	8



Insert Designation 刀片型號

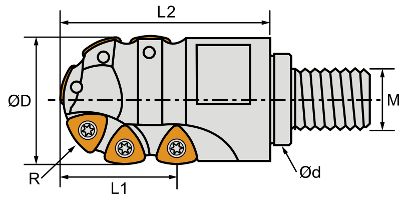
Insert	Order No. 訂購編碼	Designation	Working Material P	M	K	N	S	H
	IWP3210SM13TX	WP3210-SM-CX13TX	○	○	○		○	●
	IWP3210SM23AX	WP3210-SM-CX23AX	○	○	○		○	●
	IWP3212SM13TX	WP3212-SM-CX13TX	○	○	○		○	●
	IWP3212SM23AX	WP3212-SM-CX23AX	○	○	○		○	●
	IWP3216SM13TX	WP3216-SM-CX13TX	○	○	○		○	●
	IWP3216SM23AX	WP3216-SM-CX23AX	○	○	○		○	●
	IWP3220SM13TX	WP3220-SM-CX13TX	○	○	○		○	●
	IWP3220SM23AX	WP3220-SM-CX23AX	○	○	○		○	●
	IWP3225SM13TX	WP3225-SM-CX13TX	○	○	○		○	●
	IWP3225SM23AX	WP3225-SM-CX23AX	○	○	○		○	●
	IWP3232SM13TX	WP3232-SM-CX13TX	○	○	○		○	●
	IWP3232SM23AX	WP3232-SM-CX23AX	○	○	○		○	●
	IWP3210MM13TX	WP3210-MM-CX13TX	○	○	○		○	●
	IWP3210MM23AX	WP3210-MM-CX23AX	○	○	○		○	●
	IWP3212MM13TX	WP3212-MM-CX13TX	○	○	○		○	●
	IWP3212MM23AX	WP3212-MM-CX23AX	○	○	○		○	●
	IWP3216MM13TX	WP3216-MM-CX13TX	○	○	○		○	●
	IWP3216MM23AX	WP3216-MM-CX23AX	○	○	○		○	●
	IWP3220MM13TX	WP3220-MM-CX13TX	○	○	○		○	●
	IWP3220MM23AX	WP3220-MM-CX23AX	○	○	○		○	●
	IWP3225MM13TX	WP3225-MM-CX13TX	○	○	○		○	●
	IWP3225MM23AX	WP3225-MM-CX23AX	○	○	○		○	●
	IWP3232MM13TX	WP3232-MM-CX13TX	○	○	○		○	●
	IWP3232MM23AX	WP3232-MM-CX23AX	○	○	○		○	●

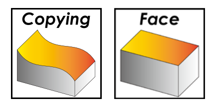
CF22 Series

- Use WP26 inserts.
- Ball nose cutters are suitable for mould & die copy roughing.
- 25~50mm cutter diameter.

- 使用 WP26 銑刀片
- 適用於粗加工應用的仿形銑削
- 25~50mm 刀桿直徑

CF22M - Modular Milling Heads 仿形銑刀頭





Insert Brand 建議刀片 : Winstar, Walter, ...

Order No. 訂購編碼	R	D	L1	L2	d	M	T	Inserts	Screw	Wrench	Stock
ICF22M202025120	12.5R	25	21	42	12.5	M12	2				●
ICF22M202030120	15R	30	23	50	12.5	M12	2	WP26339R14	ITS4023	ITK15	●
ICF22M202032160	16R	32	23	50	17.0	M16	2				●
ICF22M202040180	20R	40	38	65	28.0	M18	2	WP26379R25	ITS5002	ITK20	○
ICF22M202050250	25R	50	45	80	36.0	M25	2				●

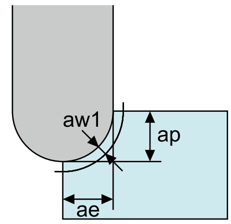
● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

Recommended Cutting Conditions 建議切削數據

WP26339R14

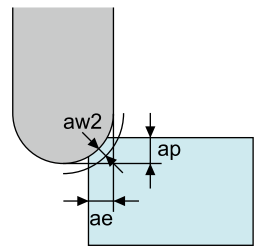
Working Material	Vc	aw1 = (0.5D, 0.5D)	aw2 = (0.25D, 0.25D)
		fz	
Carbon Steel / Alloy Steel	120 ~ 250	0.16 ~ 0.30	0.2 ~ 0.39
Stainless Steel	100 ~ 180	0.08 ~ 0.14	0.1 ~ 0.18
Cast Iron	120 ~ 250	0.16 ~ 0.30	0.2 ~ 0.39
High Temperature Alloy	40 ~ 100	0.08 ~ 0.12	0.1 ~ 0.18



aw1 = (ap, ae)

WP26379R25

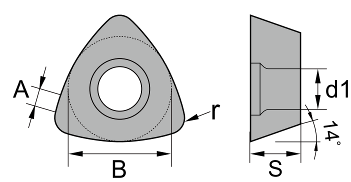
Working Material	Vc	aw1 = (0.5D, 0.5D)	aw2 = (0.25D, 0.25D)
		fz	
Carbon Steel / Alloy Steel	120 ~ 250	0.20 ~ 0.36	0.26 ~ 0.46
Stainless Steel	100 ~ 180	0.08 ~ 0.14	0.10 ~ 0.18
Cast Iron	120 ~ 250	0.20 ~ 0.36	0.26 ~ 0.46
High Temperature Alloy	40 ~ 100	0.08 ~ 0.12	0.10 ~ 0.18



aw2 = (ap, ae)

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
WP26339R14	-	9.52	3.97	1.2	4.4
WP26379R25	1.1	13	5.56	2.0	5.5



Insert Designation 刀片型號

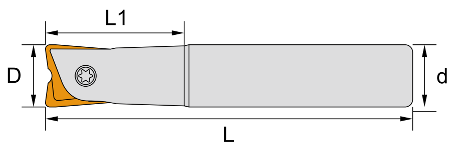
Insert	Order No. 訂購編碼	Designation	Working Material P	M	K	N	S	H
	IWP26314RG23AX	WP26339R14-RG-CX23AX	○	○	○		○	●
	IWP26314RG32HS	WP26339R14-RG-CX32HS	●	●	●		○	
	IWP26314RG33TX	WP26339R14-RG-CX33TX	●	●	●		●	●
	IWP26314RG43TX	WP26339R14-RG-CX43TX	●	●	●		●	
	IWP26725RG23AX	WP26379R25-RG-CX23AX	○	○	○		○	●
	IWP26725RG32HS	WP26379R25-RG-CX32HS	●	●	●		○	
	IWP26725RG33TX	WP26379R25-RG-CX33TX	●	●	●		●	●
	IWP26725RG43TX	WP26379R25-RG-CX43TX	●	●	●		●	

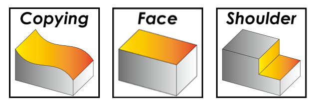
CGWV Series

- Use WPBC16 inserts.
- Various corner radii available for copy or shoulder milling.
- 25~50mm cutter diameter.

- 使用 WPBC16 銑刀片
- 提供各種圓角，用於仿形或方肩銑削
- 16mm 刀桿直徑

CGWV - Milling tools 仿形銑刀





Insert Brand 建議刀片 : Winstar, LMT tools, ...

Order No. 訂購編碼	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICGWVE016150	16	35	150	16	2	WPBC16..	MGR5016	ETL20	●
ICGWVE016200	16	35	200	16	2				●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

for Copy milling 適用於仿形銑削

Working Material	Vc	fz	ap	ae
Carbon Steel / Alloy Steel	170 ~ 270	0.20 ~ 0.25	≤ 0.03D	≤ 0.03D
Stainless Steel	170 ~ 190	0.20 ~ 0.25	≤ 0.03D	≤ 0.03D
Cast Iron	170 ~ 230	0.20 ~ 0.25	≤ 0.04D	≤ 0.04D
High Temperature Alloy	50 ~ 80	0.20 ~ 0.25	≤ 0.02D	≤ 0.02D
Hardened Steel	80 ~ 210	0.15 ~ 0.25	≤ 0.02D	≤ 0.02D

for Shoulder milling 適用於方肩銑削

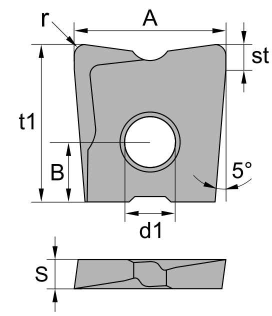
Working Material	Vc	fz	ap	ae
Carbon Steel / Alloy Steel	120 ~ 190	0.20 ~ 0.25	0.1 ~ 3	0.1D ~ 1D
Stainless Steel	120 ~ 135	0.20 ~ 0.25	0.1 ~ 3	0.1D ~ 1D
Cast Iron	120 ~ 160	0.20 ~ 0.25	0.1 ~ 3	0.1D ~ 1D
High Temperature Alloy	35 ~ 55	0.20 ~ 0.25	0.1 ~ 0.5	0.1D ~ 1D
Hardened Steel	55 ~ 145	0.15 ~ 0.25	0.1 ~ 0.5	0.1D ~ 1D

※ D = cutter cutting diameter D = 刀桿切削直徑

Copy Milling - CGWV 仿形銑刀

Insert Specifications 刀片規格

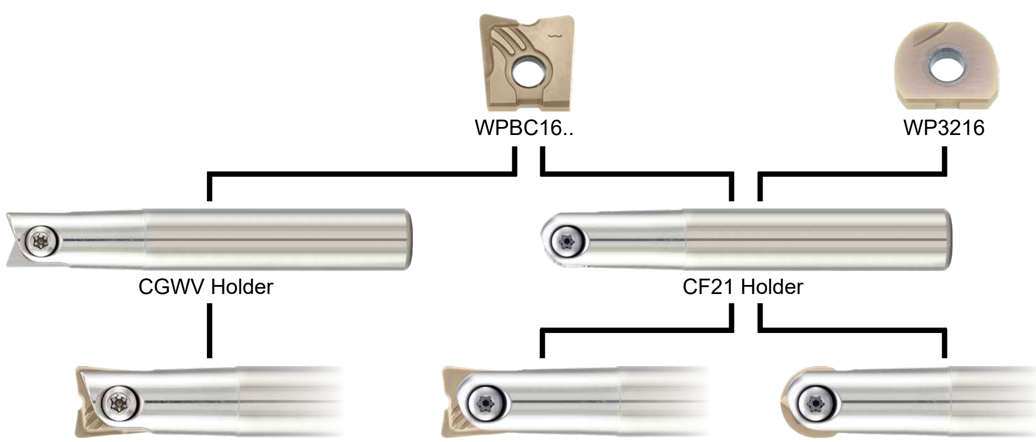
Insert	Dimensions (mm)						
	A	B	t1	st	S	r	d1
WPBC1605	16	6	16	3	3	0.5	5
WPBC1610	16	6	16	3	3	1.0	5
WPBC1613	16	6	16	3	3	1.3	5
WPBC1620	16	6	16	3	3	2.0	5
WPBC1630	16	6	16	3	3	3.0	5



Insert Designation 刀片型號

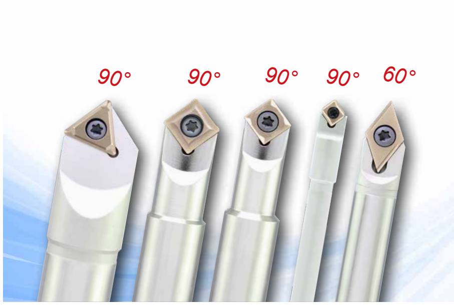
Insert	Order No. 訂購編碼	Designation 型號	Continuous 連續加工	Interrupted 斷續加工	Working Material P	M	K	N	S	H
	IWPBC1605MM33TX	WPBC1605-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1605MM43TX	WPBC1605-MM-CX43TX		✓	●	●	●		●	
	IWPBC1610MM33TX	WPBC1610-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1610MM43TX	WPBC1610-MM-CX43TX		✓	●	●	●		●	
	IWPBC1613MM33TX	WPBC1613-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1613MM43TX	WPBC1613-MM-CX43TX		✓	●	●	●		●	
	IWPBC1620MM33TX	WPBC1620-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1620MM43TX	WPBC1620-MM-CX43TX		✓	●	●	●		●	
	IWPBC1630MM33TX	WPBC1630-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1630MM43TX	WPBC1630-MM-CX43TX		✓	●	●	●		●	

CF21 holder can be use WPBC16 or WP3216 inserts CF21 刀桿可使用 WPBC16 或 WP3216 刀片



Engraving / Chamfering Series Introduction 雕刻倒角銑刀系列介紹

DTS Series



- Use DCEX, SCGX, SCMX, SDMX, TCMX inserts.
- Engraving, chamfering, countersinking, grooving and spotting functions in one tool.

- 使用 DCEX, SCMX 或 TCMX 銑刀片
- 一種刀具搞定雕刻、倒角、開槽和定位等功能

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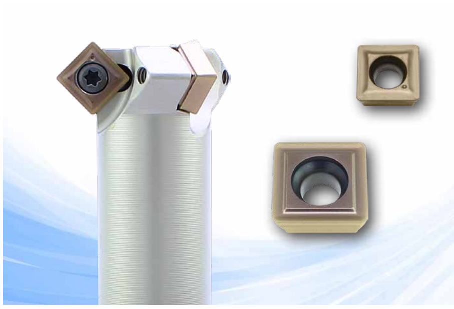
CSPC Series



- Use SPMG inserts with 4 cutting edges.
- T-slot cutter with up and down chamfering applications.
- 11~50mm cutter diameter.

- 使用 SPMG 銑刀片，4 個可用切削角
- T 型刀桿適用於上下倒角加工應用
- 11~50mm 刀桿直徑

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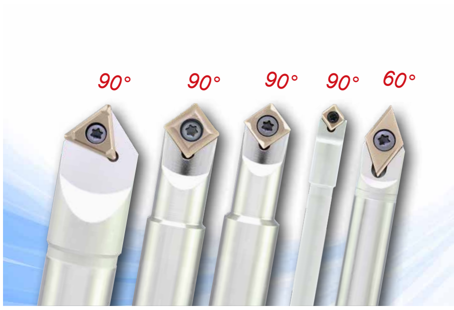
Engraving / Chamfering - DTS60 雕刻倒角銑刀

DTS Series



- Use DCEX, SCGX, SCMX, SDMX, TCMX inserts.
- Engraving, chamfering, countersinking, grooving and spotting functions in one tool.

- 使用 DCEX, SCMX 或 TCMX 銑刀片
- 一種刀具搞定雕刻、倒角、開槽和定位等功能

DTS60 - Milling Tools 雕刻倒角銑刀

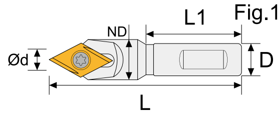


Fig.1

Fig.2

DTS 60 - DCEX11T3

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	ND	L	L1	Fig	Insert	Screw	Wrench	Stock
IDTS1006006011	10	12	60	30	1	DCEX11T3	ITS3520	ITK15	●
IDTS1210006011	12	12	100	-	2				●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

DTS 60 Chamfering / Countersinking

Material	Vc (m/min)	fr (mm/rev)
Carbon steel	12 ~ 180	0.05 ~ 0.15
Alloy steel	12 ~ 180	0.05 ~ 0.15
Stainless steel	12 ~ 180	0.05 ~ 0.15
Cast iron	12 ~ 180	0.05 ~ 0.15
Aluminum	12 ~ 180	0.10 ~ 0.20
Hardened steel	12 ~ 180	0.03 ~ 0.10

DTS 60 Grooving / Engraving

Material	Vc (m/min)	fr (mm/rev)
Carbon steel	10 ~ 170	0.005 ~ 0.05
Alloy steel	10 ~ 170	0.005 ~ 0.03
Stainless steel	10 ~ 170	0.005 ~ 0.05
Cast iron	10 ~ 170	0.005 ~ 0.03
Aluminum	10 ~ 170	0.005 ~ 0.08
Hardened steel	10 ~ 170	0.005 ~ 0.02

DTS 60 Cutting Depth of Passes

No. of Passes	ap of one pass (mm)					
	Aluminum	Cast iron	Carbon steel	Alloy steel	Stainless steel	Hardened steel
1	1.0	0.8	0.8	0.6	0.5	0.2
2	0.8	0.7	0.6	0.5	0.4	0.2
3	0.2	0.3	0.3	0.3	0.3	0.15
4		0.2	0.2	0.3	0.3	0.15
5			0.1	0.2	0.2	0.1
6				0.1	0.2	0.1
7					0.1	0.1

※ Max ap is 2mm

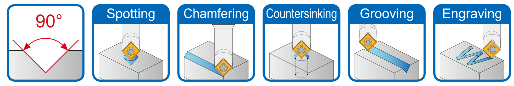
Engraving / Chamfering - DTS60 雕刻倒角銑刀

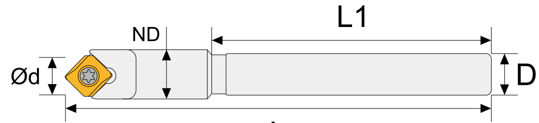
Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	r	Engraving Ød	P	M	K	N	S	H
	IDCEX11T301SG32HS	DCEX11T301-SG-CX32HS	0.1	0.2 ~ 1	●	●	●	●	●	
	IDCEX11T302SG32HS	DCEX11T302-SG-CX32HS	0.2	0.4 ~ 2	●	●	●	●	●	
	IDCEX11T304SG32HS	DCEX11T304-SG-CX32HS	0.4	0.8 ~ 3	●	●	●	●	●	
	IDCEX11T30132HS	DCEX11T301-CX32HS	0.1	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30232HS	DCEX11T302-CX32HS	0.2	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30432HS	DCEX11T304-CX32HS	0.4	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30832HS	DCEX11T308-CX32HS	0.8	0.8 ~ 3	●	●	●		●	●

Engraving / Chamfering - DTS90 雕刻倒角銑刀

DTS90 - Milling Tools 雕刻倒角銑刀

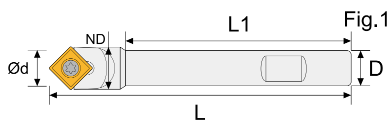


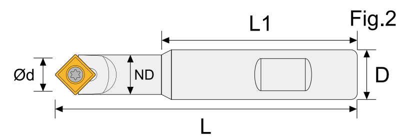


DTS90 - SDMX05T1 (for small lathe 適用於小型車床)

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS0604009005	6	40	7	20	1 ~ 5	0.8 ~ 1.5	SDMX05T1	ITS1801	ITK06	●
IDTS0606009005	6	60	7	40						●

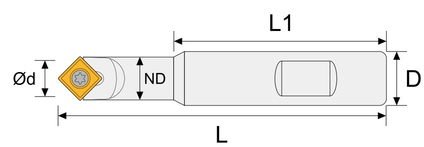




DTS90 - SCGX09T3, SCMX09T3

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	L	ND	L1	Fig	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS1010009009	10	100	12.2	71	1	2 ~ 11	0.8 ~ 2.5	SCGX09T3 SCMX09T3	ITS3520	ITK15	●
IDTS1210009009	12	100	12.2	71							●
IDTS1610009009	16	100	12.2	71	2						●
IDTS1613009009	16	130	12.2	101							●

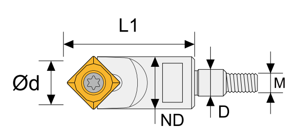


DTS90 - SDMX11T3

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS1610009011	16	100	14.1	71	3 ~ 14	1.6 ~ 4.0	SDMX11T3	ITS3521	ITK15	●

DTS90 - Modular Milling Heads 雕刻倒角銑刀頭



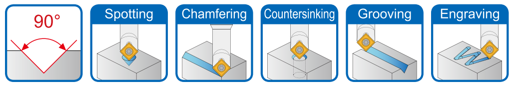
Insert Brand 建議刀片 : Winstar

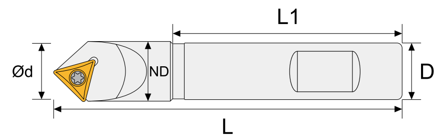
Order No. 訂購編碼	L1	ND	D	M	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTSM603009009	30	12.4	6.5	M6	2 ~ 11	0.8 ~ 2.5	SCMX09T3	ITS3520	ITK15	○

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

DTS90 - Milling Tools 雕刻倒角銑刀





DTS90 - TCMX16T3

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS2012009016	20	120	21.2	78	3 ~ 20	1.6 ~ 4.0	TCMX16T3	ITS3521	ITK15	●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

DTS 90 Spotting

Material	Vc (m/min)		Fr (mm/rev)	
	Ød = 2 ~ 4.9 mm	Ød ≥ 5 mm	Ød = 2 ~ 4.9 mm	Ød ≥ 5 mm
Carbon steel	60 ~ 120	90 ~ 220	0.04 ~ 0.08	0.06 ~ 0.10
Alloy steel	50 ~ 100	75 ~ 180	0.03 ~ 0.06	0.05 ~ 0.08
Stainless steel	30 ~ 60	45 ~ 120	0.02 ~ 0.04	0.04 ~ 0.06
Cast iron	40 ~ 80	60 ~ 130	0.04 ~ 0.08	0.06 ~ 0.10
Hardened steel	20 ~ 40	30 ~ 60	0.02 ~ 0.04	0.04 ~ 0.08

DTS 90 Chamfering / Countersinking

Material	Vc (m/min)	Fr (mm/rev)
Carbon steel	60 ~ 270	0.15 ~ 0.24
Alloy steel	50 ~ 220	0.12 ~ 0.20
Stainless steel	35 ~ 120	0.10 ~ 0.20
Cast iron	60 ~ 220	0.15 ~ 0.25
Hardened steel	20 ~ 60	0.03 ~ 0.08

DTS 90 Grooving / Engraving

Material	Vc (m/min)	Fr (mm/rev)
Carbon steel	40 ~ 140	0.12 ~ 0.18
Alloy steel	35 ~ 120	0.10 ~ 0.14
Stainless steel	25 ~ 70	0.08 ~ 0.12
Cast iron	30 ~ 100	0.12 ~ 0.18
Hardened steel	20 ~ 50	0.02 ~ 0.04

Insert Designation 刀片型號

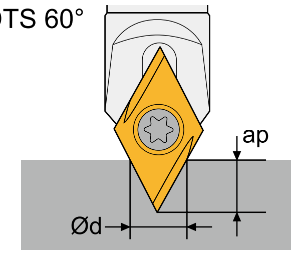
Insert	Order No. 訂購編碼	Designation	r	Spotting Ød	Engraving Ød	P	M	K	N	S	H
	ISCGX09T304AG10	SCGX09T304-AG-CX10	0.4	2 ~ 11	0.8 ~ 2.5				●		
	ISCGX09T304FG13TX	SCGX09T304-FG-CX13TX	0.4	2 ~ 11	0.8 ~ 2.5	●	●	●	○	●	●
	ISCMX09T304SM32HS	SCMX09T304-SM-CX32HS	0.4	2 ~ 11	0.8 ~ 2.5	●	●	●	○	●	○
	ISDMX05T104FG13TX	SDMX05T104-FG-CX13TX	0.4	1 ~ 5	0.8 ~ 1.5	●	●	●	○	●	●
	ISDMX05T104FG33TX	SDMX05T104-FG-CX33TX	0.4	1 ~ 5	0.8 ~ 1.5	●	●	●	○	●	●
	ISDMX11T308SG33TX	SDMX11T308-SG-CX33TX	0.8	3 ~ 14	1.6 ~ 4.0	●	●	●		●	●
	ITCMX16T308SM32HS	TCMX16T308-SM-CX32HS	0.8	3 ~ 20	1.6 ~ 4.0	●	●	●	○	●	●

How to calculate Ød ,RPM and Feed 如何計算 Ød ,RPM 和 Feed

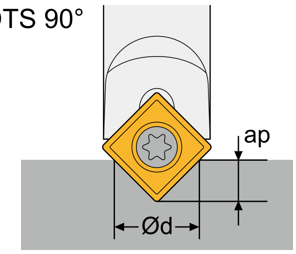
Formula :

$$RPM = \frac{Vc \times 1000}{Ød \times \pi}$$

Feed = RPM × fr



Ød ≒ (0.577 × (ap + r) + 0.05) × 2



Ød ≒ (0.4r + ap + 0.05) × 2

EX :

Working Material : Cast iron
Insert : SCGX09T304
Application : 90° Spotting
ap : 2.5mm

Ød = (0.4r + ap + 0.05) × 2 = (0.4 × 0.4 + 2.5 + 0.05) × 2 = 5.42 mm

Reference conditions table get Vc ≒ 85 m/min and fr ≒ 0.075 mm/rev

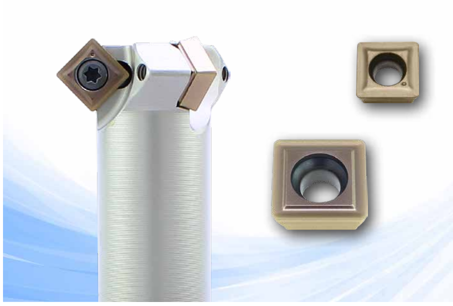
RPM = (Vc × 1000) / (Ød × π) = (85 × 1000) / (5.42 × π) ≒ 5000

Feed = RPM × fr = 5000 × 0.075 = 375 mm/min

Working Demonstration 加工實例

Cutting parameter	
Tools	DTS 90° with SCMX09T304-SP CX32HS
Material	Cast Iron
Coolant	Dry
Application	Spotting
Vc	85 m/min
S	4800 rpm
Feed	360 mm/min
ap	2.5 mm

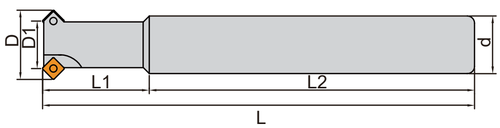
CSPC Series

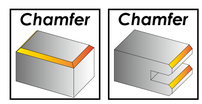


- Use SPMG inserts with 4 cutting edges.
- T-slot cutter with up and down chamfering applications.
- 11~50mm cutter diameter.

- 使用 SPMG 銑刀片，4 個可用切削角
- T 型刀桿適用於上下倒角加工應用
- 11~50mm 刀桿直徑

CSPCE - Milling Tools 倒角銑刀





Insert Brand 建議刀片：Winstar, Taegutec, ...

Order No. 訂購編碼	D	D1	d	L1	L2	L	T	Inserts	Screw	Wrench	Stock
ICSPCE501011100	11	6	10	17	83	100	1				●
ICSPCE502015120	15	10	12	20	100	120	2				●
ICSPCE503017150	17	11	16	25	125	150	3	SPMG0502	ITS2003	ITK06	●
ICSPCE503019150	19	13	16	30	120	150	3				●
ICSPCE504024150	24	18	20	35	115	150	4				●
ICSPCE603022120	22	16	16	30	90	120	3	SPMG0602	ITS2205	ITK06	●
ICSPCE703027120	27	17	20	30	90	120	3	SPMG07T3	ITS2511	ITK08	●
ICSPCE902030150	30	19	20	40	110	150	2				●
ICSPCE903040150	40	29	25	40	110	150	3	SPMG0904	ITS3504	ITK15	●
ICSPCE904050150	50	39	25	40	110	150	4				●

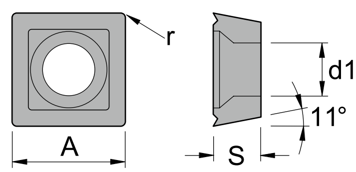
● stock　○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz				
		Ø11 ~ Ø15	Ø16 ~ Ø22	Ø23 ~ Ø33	Ø34 ~ Ø41	Ø42 ~ Ø50
Carbon Steel / Alloy Steel	120 ~ 250	0.06 ~ 0.12	0.06 ~ 0.12	0.06 ~ 0.12	0.12 ~ 0.24	0.12 ~ 0.25
Stainless Steel	100 ~ 180	0.05 ~ 0.10	0.05 ~ 0.10	0.05 ~ 0.10	0.10 ~ 0.17	0.10 ~ 0.17
Cast Iron	120 ~ 250	0.06 ~ 0.12	0.06 ~ 0.12	0.06 ~ 0.12	0.12 ~ 0.24	0.12 ~ 0.25
High Temperature Alloy	40 ~ 100	0.03 ~ 0.06	0.03 ~ 0.06	0.03 ~ 0.06	0.05 ~ 0.10	0.05 ~ 0.10
Hardened Steel	50 ~ 100	0.03 ~ 0.06	0.03 ~ 0.06	0.03 ~ 0.06	0.05 ~ 0.10	0.05 ~ 0.10

Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	S	r	d1
SPMG050204	5.00	2.38	0.4	2.30
SPMG060204	6.00	2.38	0.4	2.65
SPMG07T308	7.94	3.97	0.8	2.85
SPMG090408	9.80	4.3	0.8	4.05

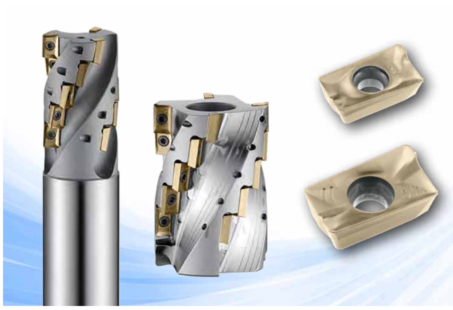


Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	ISPMG050204MG32HS	SPMG050204-MG-CX32HS	●	●	●		○	
	ISPMG050204MG33TX	SPMG050204-MG-CX33TX	●	●	●		●	●
	ISPMG050204MG43TX	SPMG050204-MG-CX43TX	●	●	●		●	
	ISPMG060204MG32HS	SPMG060204-MG-CX32HS	●	●	●		○	
	ISPMG060204MG33TX	SPMG060204-MG-CX33TX	●	●	●		●	●
	ISPMG060204MG43TX	SPMG060204-MG-CX43TX	●	●	●		●	
	ISPMG07T308MG32HS	SPMG07T308-MG-CX32HS	●	●	●		○	
	ISPMG07T308MG33TX	SPMG07T308-MG-CX33TX	●	●	●		●	●
	ISPMG07T308MG43TX	SPMG07T308-MG-CX43TX	●	●	●		●	
	ISPMG090408MG32HS	SPMG090408-MG-CX32HS	●	●	●		○	
	ISPMG090408MG33TX	SPMG090408-MG-CX33TX	●	●	●		●	●
	ISPMG090408MG43TX	SPMG090408-MG-CX43TX	●	●	●		●	
	ISPMG090408RG32HS	SPMG090408-RG-CX32HS	●	●	●		○	
	ISPMG090408RG33TX	SPMG090408-RG-CX33TX	●	●	●		●	●
	ISPMG090408RG43TX	SPMG090408-RG-CX43TX	●	●	●		●	

Helical Milling Series Introduction 玉米粗銑刀系列介紹

CAPH Series

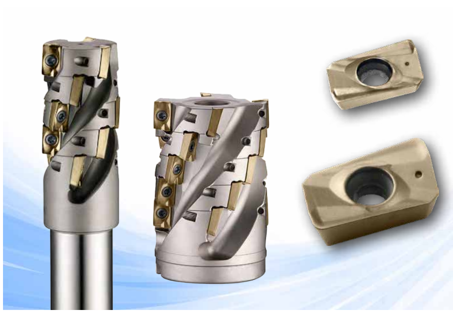


- Use APKT inserts with 2 cutting edges.
- Offers large depth of cut in rough contouring applications.
- 20~63mm cutter diameter.

- 使用 APKT 銑刀片，2 個可用切削角
- 適用於較大切削深度的輪廓粗加工應用
- 20~63mm 刀桿直徑

→ Page A131

CBAH Series



- Use APMT inserts with 2 cutting edges.
- Offers large depth of cut in rough contouring applications.
- 20~63mm cutter diameter.

- 使用 APMT 銑刀片，2 個可用切削角
- 適用於較大切削深度的輪廓粗加工應用
- 20~63mm 刀桿直徑

→ Page A133

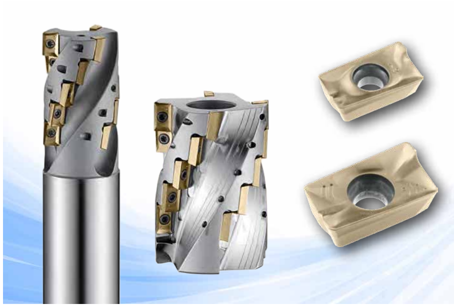
C39H Series

- Use W390 inserts with 2 cutting edges.
- High efficient and large depth of cut in rough contouring applications.
- 25~32mm cutter diameter.

- 使用 W390 銑刀片，2 個可用切削角
- 適用於高效率及較大切削深度的輪廓粗加工應用
- 25~32mm 刀桿直徑

→ Page A136

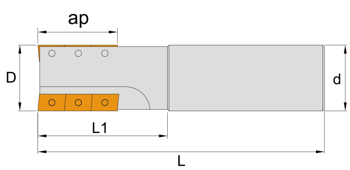
CAPH Series

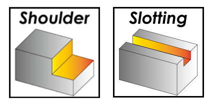


- Use APKT inserts with 2 cutting edges.
- Offers large depth of cut in rough contouring applications.
- 20~63mm cutter diameter.

- 使用 APKT 銑刀片，2 個可用切削角
- 適用於較大切削深度的輪廓粗加工應用
- 20~63mm 刀桿直徑

CAPHE - Milling Tools 玉米粗銑刀



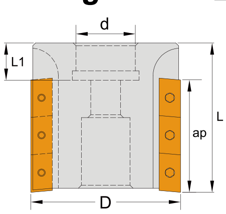


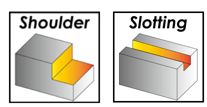
Insert Brand 建議刀片：Winstar, Iscar, Ceratizit, ...

Order No. 訂購編碼	D	ap	L1	L	d	T × Pcs	Inserts	Screw	Wrench	Stock
ICAPHE305020100	20	28	42	107	20	1 x 5	APKT1003	ITS2515	ITK08	●
ICAPHE308025120	25	35	50	125	25	2 x 4				●
ICAPHE315032130	32	44	60	135	32	3 x 5				●

● stock ○ by inquiry

CAPHF - Milling Tools 玉米粗銑刀





Insert Brand 建議刀片：Winstar, Iscar, Ceratizit, ...

Order No. 訂購編碼	D	ap	L2	L	d	T × Pcs	Inserts	Screw	Wrench	Stock
ICAPHF409050220	50	42	21	69	22	3 x 3	APKT1604 or APET1604	ITS4023	ITK15	●
ICAPHF412063250	63	42	38	69	25.4	4 x 3				●
ICAPHF420063252	63	68	38	97	25.4	4 x 5				●

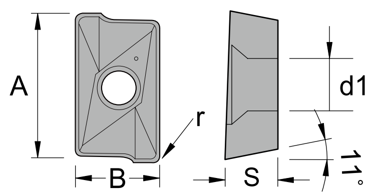
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

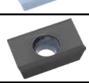
Working Material	APKT1003		APKT1604	
	Vc	fz	Vc	fz
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	120 ~ 250	0.12 ~ 0.28
Stainless Steel	100 ~ 180	0.08 ~ 0.18	100 ~ 180	0.10 ~ 0.22
Cast Iron	120 ~ 250	0.10 ~ 0.22	120 ~ 250	0.12 ~ 0.28
Aluminum Alloy	-	-	300 ~ 1000	0.10 ~ 0.40
High Temperature Alloy	40 ~ 100	0.07 ~ 0.14	40 ~ 100	0.10 ~ 0.18

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
APKT100304	10.5	6.7	3.5	0.4	2.8
APKT100308	10.5	6.7	3.5	0.8	2.8
APET160402	16.3	9.525	4.76	0.2	4.5
APET160404	16.3	9.525	4.76	0.4	4.5
APKT160408	16.3	9.525	5.25	0.8	4.5



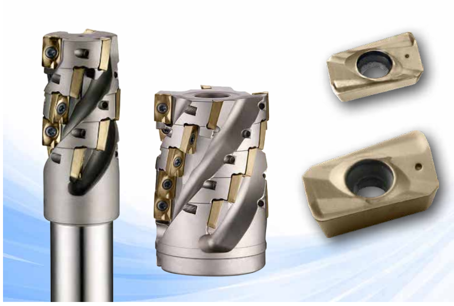
Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IAPKT100304ESG23AX	APKT100304PDER-SG-CX23AX	○	○	○		○	●
	IAPKT100304EMG23AX	APKT100304PDER-MG-CX23AX	○	○	○		○	●
	IAPKT100304EMG32HS	APKT100304PDER-MG-CX32HS	●	●	●		○	
	IAPKT100304EMG33TX	APKT100304PDER-MG-CX33TX	●	●	●		●	●
	IAPKT100304EMG43TX	APKT100304PDER-MG-CX43TX	●	●	●		●	
	IAPKT100308EMG23AX	APKT100308PDER-MG-CX23AX	○	○	○		○	●
	IAPKT100308EMG32HS	APKT100308PDER-MG-CX32HS	●	●	●		○	
	IAPKT100308EMG33TX	APKT100308PDER-MG-CX33TX	●	●	●		●	●
	IAPKT100308EMG43TX	APKT100308PDER-MG-CX43TX	●	●	●		●	
	IAPKT100304ERG32HS	APKT100304PDER-RG-CX32HS	●	●	●		○	
	IAPKT100304ERG33TX	APKT100304PDER-RG-CX33TX	●	●	●		●	●
	IAPET160402FAL10	APET160402PDFR-AL-CX10				●		
	IAPET160404FAL10	APET160404PDFR-AL-CX10				●		
	IAPET160402FFG23AX	APET160402PDFR-FG-CX23AX	○	○	○		○	●
	IAPET160404FFG23AX	APET160404PDFR-FG-CX23AX	○	○	○		○	●
	IAPKT160408EMG23AX	APKT160408PDER-MG-CX23AX	○	○	○		○	●
	IAPKT160408EMG32HS	APKT160408PDER-MG-CX32HS	●	●	●		○	
	IAPKT160408EMG33TX	APKT160408PDER-MG-CX33TX	●	●	●		●	●
	IAPKT160408EMG43TX	APKT160408PDER-MG-CX43TX	●	●	●		●	
	IAPKT160408ERG23AX	APKT160408PDER-RG-CX23AX	○	○	○		○	●
	IAPKT160408ERG32HS	APKT160408PDER-RG-CX32HS	●	●	●		○	
	IAPKT160408ERG33TX	APKT160408PDER-RG-CX33TX	●	●	●		●	●
	IAPKT160408ERG43TX	APKT160408PDER-RG-CX43TX	●	●	●		●	

WINSTAR

Helical Milling - CBAH 玉米粗銑刀

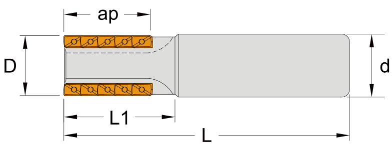
CBAH Series

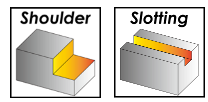


- Use APMT inserts with 2 cutting edges.
- Offers large depth of cut in rough contouring applications.
- 20~63mm cutter diameter.

- 使用 APMT 銑刀片，2 個可用切削角
- 適用於較大切削深度的輪廓粗加工應用
- 20~63mm 刀桿直徑

CBAHE - Milling Tools 玉米粗銑刀

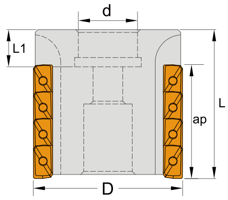


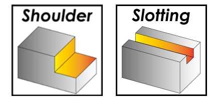


Insert Brand 建議刀片：Winstar, Mitsubishi, ...

Order No. 訂購編碼	D	ap	L1	L	d	T × Pcs	Inserts	Screw	Wrench	Stock
ICBAHE305020100	20	28	42	107	20	1 x 5	APMT1135	ITS2515	ITK08	●
ICBAHE308025120	25	35	50	125	25	2 x 4				●
ICBAHE315032130	32	44	60	135	32	3 x 5				●
ICBAHE324040170	40	72	94	175	32	3 x 8				●
ICBAHE406032130	32	42	55	135	32	2 x 3	APMT1604 or APGT1604	ITS4023	ITK15	●
ICBAHE410040170	40	68	94	175	32	2 x 5				●
ICBAHE415040170	40	68	94	175	32	3 x 5				●
ICBAHE424050220	50	100	128	224	50.8	3 x 8				●
ICBAHE436050280	50	158	188	284	50.8	3 x 12				●

CBAHF - Milling Tools 玉米粗銑刀





Insert Brand 建議刀片：Winstar, Mitsubishi, ...

Order No. 訂購編碼	D	ap	L1	L	d	T × Pcs	Inserts	Screw	Wrench	Stock
ICBAHF409050220	50	42	21	69	22	3 x 3	APMT1604 or APGT1604	ITS4023	ITK15	●
ICBAHF412063250	63	42	38	69	25.4	4 x 3				●
ICBAHF420063250	63	68	38	97	25.4	4 x 5				●

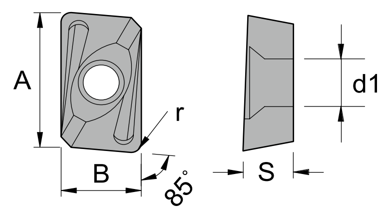
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	APMT1135		APMT1604	
	Vc	fz	Vc	fz
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	120 ~ 250	0.12 ~ 0.28
Stainless Steel	100 ~ 180	0.08 ~ 0.18	100 ~ 180	0.10 ~ 0.22
Cast Iron	120 ~ 250	0.10 ~ 0.22	120 ~ 250	0.12 ~ 0.28
Aluminum Alloy	-	-	300 ~ 1000	0.10 ~ 0.40
High Temperature Alloy	40 ~ 100	0.07 ~ 0.14	40 ~ 100	0.10 ~ 0.22

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
APMT113508	11.0	6.35	3.5	0.8	2.8
APMT113516	11.0	6.35	3.5	1.6	2.8
APMT160408	16.5	9.525	4.76	0.8	4.4
APMT160416	16.5	9.525	4.76	1.6	4.4
APGT160408	16.5	9.525	4.76	0.8	4.4



Insert Designation 刀片型號

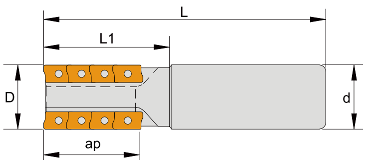
Insert	Order No. 訂購編碼	Designation	Working Material P	M	K	N	S	H
	IAPMT113508EMG23AX	APMT113508PDER-MG-CX23AX	○	○	○		○	●
	IAPMT113508EMG32HS	APMT113508PDER-MG-CX32HS	●	●	●		○	
	IAPMT113508EMG33TX	APMT113508PDER-MG-CX33TX	●	●	●		●	●
	IAPMT113508EMG43TX	APMT113508PDER-MG-CX43TX	●	●	●		●	
	IAPMT113516EMG23AX	APMT113516PDER-MG-CX23AX	○	○	○		○	●
	IAPMT113516EMG32HS	APMT113516PDER-MG-CX32HS	●	●	●		○	
	IAPMT113516EMG33TX	APMT113516PDER-MG-CX33TX	●	●	●		●	●
	IAPMT113516EMG43TX	APMT113516PDER-MG-CX43TX	●	●	●		●	
	IAPMT113508ERG23AX	APMT113508PDER-RG-CX23AX	○	○	○		○	●
	IAPMT113508ERG32HS	APMT113508PDER-RG-CX32HS	●	●	●		○	
	IAPMT113508ERG33TX	APMT113508PDER-RG-CX33TX	●	●	●		●	●
	IAPMT113508ERG43TX	APMT113508PDER-RG-CX43TX	●	●	●		●	
	IAPMT113508EHG32HS	APMT113508PDER-HG-CX32HS	●	●	●		○	
	IAPMT113508EHG33TX	APMT113508PDER-HG-CX33TX	●	●	●		●	●
	IAPMT113508EHG43TX	APMT113508PDER-HG-CX43TX	●	●	●		●	
	IAPGT160408EAL10	APGT160408PDER-AL-CX10				●		
	IAPGT160408EFG23AX	APGT160408PDER-FG-CX23AX	○	○	○		○	●
	IAPMT160408EMG23AX	APMT160408PDER-MG-CX23AX	○	○	○		○	●
	IAPMT160408EMG32HS	APMT160408PDER-MG-CX32HS	●	●	●		○	
	IAPMT160408EMG33TX	APMT160408PDER-MG-CX33TX	●	●	●		●	●
	IAPMT160408EMG43TX	APMT160408PDER-MG-CX43TX	●	●	●		●	
	IAPMT160408EMG47TA	APMT160408PDER-MG-CX47TA	●	●	○		●	○
	IAPMT160416EMG32HS	APMT160416PDER-MG-CX32HS	●	●	●		○	
	IAPMT160416EMG33TX	APMT160416PDER-MG-CX33TX	●	●	●		●	●
	IAPMT160416EMG43TX	APMT160416PDER-MG-CX43TX	●	●	●		●	
	IAPMT160408ERG23AX	APMT160408PDER-RG-CX23AX	○	○	○		○	●
	IAPMT160408ERG32HS	APMT160408PDER-RG-CX32HS	●	●	●		○	
	IAPMT160408ERG33TX	APMT160408PDER-RG-CX33TX	●	●	●		●	●
	IAPMT160408ERG43TX	APMT160408PDER-RG-CX43TX	●	●	●		●	
	IAPMT160408EHG23AX	APMT160408PDER-HG-CX23AX	○	○	○		○	●
	IAPMT160408EHG32HS	APMT160408PDER-HG-CX32HS	●	●	●		○	
	IAPMT160408EHG33TX	APMT160408PDER-HG-CX33TX	●	●	●		●	●
	IAPMT160408EHG43TX	APMT160408PDER-HG-CX43TX	●	●	●		●	

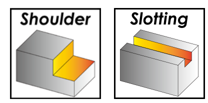
C39H Series

- Use W390 inserts with 2 cutting edges.
- High efficient and large depth of cut in rough contouring applications.
- 25~32mm cutter diameter.

- 使用 W390 銑刀片 , 2 個可用切削角
- 適用於高效率及較大切削深度的輪廓粗加工應用
- 25~32mm 刀桿直徑

C39HE - Milling Tools 玉米粗銑刀





Insert Brand 建議刀片 : Winstar, Sandvik, ...

Order No. 訂購編碼	D	ap	L1	L	d	T × Pcs	Inserts	Screw	Wrench	Stock
IC39HE308025110	25	36	50	110	25	2 x 4	W39011T3	ITS2509	ITK08	●
IC39HE308032120	32	36	50	125	32	2 x 4				●

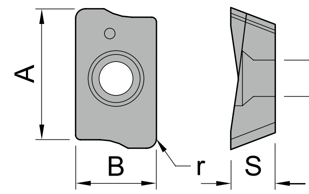
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22
Stainless Steel	100 ~ 180	0.08 ~ 0.18
Cast Iron	120 ~ 250	0.10 ~ 0.22
High Temperature Alloy	40 ~ 100	0.07 ~ 0.14

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
W39011T308	11	6.9	3.59	0.8	2.8
W39011T320	11	6.9	3.59	2.0	2.8



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IW39011T308SG23AX	W39011T308-SG-CX23AX	○	○	○		○	●
	IW39011T308SG32HS	W39011T308-SG-CX32HS	●	●	●		○	
	IW39011T308SG33TX	W39011T308-SG-CX33TX	●	●	●		●	●
	IW39011T308SG43TX	W39011T308-SG-CX43TX	●	●	●		●	
	IW39011T308MG23AX	W39011T308-MG-CX23AX	○	○	○		○	●
	IW39011T308MG32HS	W39011T308-MG-CX32HS	●	●	●		○	
	IW39011T308MG33TX	W39011T308-MG-CX33TX	●	●	●		●	●
	IW39011T308MG43TX	W39011T308-MG-CX43TX	●	●	●		●	
	IW39011T308MG37TA	W39011T308-MG-CX37TA	○	○	●		○	○
	IW39011T308MG47TA	W39011T308-MG-CX47TA	●	●	○		●	○
	IW39011T320MG23AX	W39011T320-MG-CX23AX	○	○	○		○	●
	IW39011T320MG32HS	W39011T320-MG-CX32HS	●	●	●		○	
	IW39011T320MG33TX	W39011T320-MG-CX33TX	●	●	●		●	●
	IW39011T320MG43TX	W39011T320-MG-CX43TX	●	●	●		●	
	IW39011T320MG37TA	W39011T320-MG-CX37TA	○	○	●		○	○
	IW39011T320MG47TA	W39011T320-MG-CX47TA	●	●	○		●	○

Disc Milling Series Introduction 三面刃銑刀系列介紹

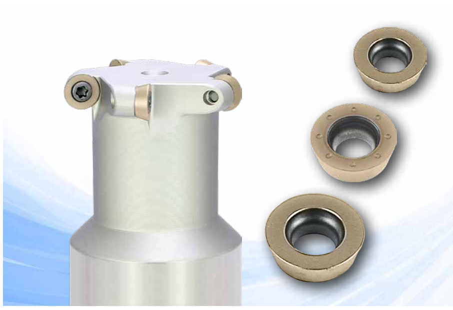
CSPT Series

- Use SPMG inserts with 4 cutting edges.
- For side slotting and T-slotting applications.
- 19~32mm cutter diameter.

- 使用 SPMG 銑刀片，4 個可用切削角
- 適用於側溝和 T 型槽加工應用
- 19~32mm 刀桿直徑

→ Page A139

CRDT Series

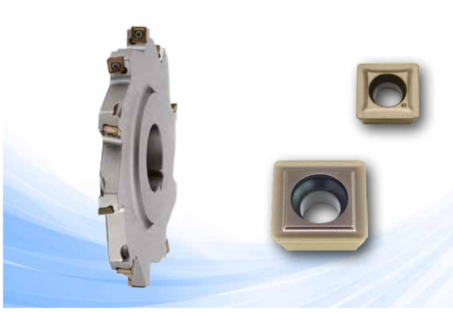


- Use RDKW or RPMT round inserts.
- For side R slotting and T-slotting applications.
- 26~50mm cutter diameter.

- 使用 RDKW 或 RPMT 圓形刀片
- 適用於 R 底側溝和 T 型槽加工應用
- 26~50mm 刀桿直徑

→ Page A141

CSPD Series



- Use SPMG inserts with 4 cutting edges.
- Economical and versatile disc cutting solution.
- 19~32mm cutter diameter.

- 使用 SPMG 銑刀片，4 個可用切削角
- 經濟且多功能三面刃適用於側邊較深加工
- 80~200mm 刀桿直徑

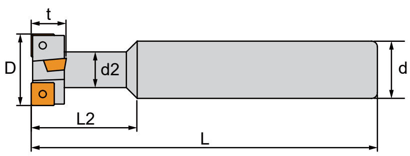
→ Page A143

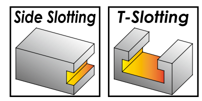
CSPT Series

- Use SPMG inserts with 4 cutting edges.
- For side slotting and T-slotting applications.
- 19~32mm cutter diameter.

- 使用 SPMG 銑刀片，4 個可用切削角
- 適用於側溝和 T 型槽加工應用
- 19~32mm 刀桿直徑

CSPTE - T-Slot Milling Tools T 型銑刀





Insert Brand 建議刀片：Winstar, Taegutec, ...

Order No. 訂購編碼	D	t	d2	L2	L	d	T	Inserts	Screw	Wrench	Stock
ICSPTE504019090	19	8	9.5	25	95	16	4	SPMG0502	ITS2003	ITK06	●
ICSPTE604021100	21	9	11	27	100	16	4	SPMG0602	ITS2205	ITK06	●
ICSPTE504022090	22	6.3	15	15	90	20	4	SPMG0502	ITS2003	ITK06	●
ICSPTE704025110	25	11	12	31	110	20	4	SPMG07T3	ITS2511	ITK08	●
ICSPTE504032110	32	7.8	19	9.5	110	20	4	SPMG0502	ITS2003	ITK06	●
ICSPTE504032112	32	8	19	9.5	110	20	4	SPMG0502	ITS2003	ITK06	●
ICSPTE904032110	32	14	17	39	110	25	4	SPMG0904	ITS3504	ITK15	●
ICSPTE104040120	40	18	21	49	125	25	4	SPMG1104	ITS4006	ITK15	●

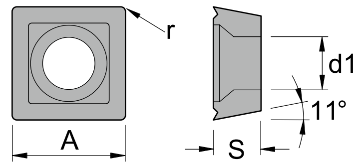
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz
Carbon Steel / Alloy Steel	120 ~ 250	0.08 ~ 0.12
Stainless Steel	100 ~ 180	0.07 ~ 0.10
Cast Iron	120 ~ 250	0.08 ~ 0.12
High Temperature Alloy	40 ~ 100	0.05 ~ 0.08
Hardened Steel	50 ~ 100	0.05 ~ 0.08

Insert Specifications 刀片規格

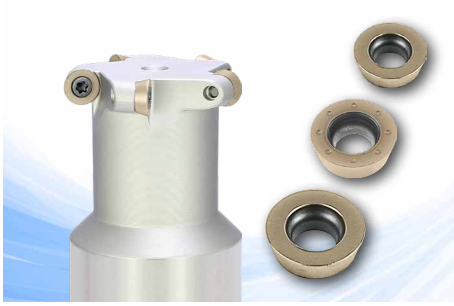
Insert	Dimensions (mm)			
	A	S	r	d1
SPMG050204	5.00	2.38	0.4	2.30
SPMG060204	6.00	2.38	0.4	2.65
SPMG07T308	7.94	3.97	0.8	2.85
SPMG090408	9.80	4.3	0.8	4.05



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	ISPMG050204MG32HS	SPMG050204-MG-CX32HS	●	●	●		○	
	ISPMG050204MG33TX	SPMG050204-MG-CX33TX	●	●	●		●	●
	ISPMG050204MG43TX	SPMG050204-MG-CX43TX	●	●	●		●	
	ISPMG060204MG32HS	SPMG060204-MG-CX32HS	●	●	●		○	
	ISPMG060204MG33TX	SPMG060204-MG-CX33TX	●	●	●		●	●
	ISPMG060204MG43TX	SPMG060204-MG-CX43TX	●	●	●		●	
	ISPMG07T308MG32HS	SPMG07T308-MG-CX32HS	●	●	●		○	
	ISPMG07T308MG33TX	SPMG07T308-MG-CX33TX	●	●	●		●	●
	ISPMG07T308MG43TX	SPMG07T308-MG-CX43TX	●	●	●		●	
	ISPMG090408MG32HS	SPMG090408-MG-CX32HS	●	●	●		○	
	ISPMG090408MG33TX	SPMG090408-MG-CX33TX	●	●	●		●	●
	ISPMG090408MG43TX	SPMG090408-MG-CX43TX	●	●	●		●	
	ISPMG090408RG32HS	SPMG090408-RG-CX32HS	●	●	●		○	
	ISPMG090408RG33TX	SPMG090408-RG-CX33TX	●	●	●		●	●
	ISPMG090408RG43TX	SPMG090408-RG-CX43TX	●	●	●		●	

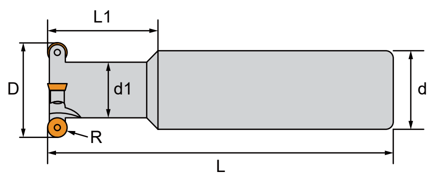
CRDT Series

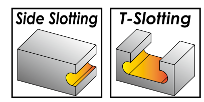


- Use RDKW or RPMT round inserts.
- For side R slotting and T-slotting applications.
- 26~50mm cutter diameter.

- 使用 RDKW 或 RPMT 圓形刀片
- 適用於 R 底側溝和 T 型槽加工應用
- 26~50mm 刀桿直徑

CRDTE - T-Slot Milling Tools 圓頭 T 型銑刀





Insert Brand 建議刀片 : Winstar, Safety, Mitsubishi, ...

Order No. 訂購編碼	D	R	d1	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICRDTE505026100	26	2.5	18	21	105	25	5	RDKW0501	ITS2001	ITK06	●
ICRDTE506033110	33	2.5	23	25	110	32	6	RDKW0501	ITS2001	ITK06	●
ICRDTE604030110	30	3	18	35	110	25	4	RDKW0620	ITS2205	ITK06	●
ICRDTE606050110	50	3	32	30	110	32	6	RDKW0620	ITS2504	ITK08	●
ICRDTE705039110	39.3	3.5	26	26	110	32	5	RDKW0702	ITS2515	ITK08	●
ICRPTE104050150	50	5	28	35	150	32	4	RPMT10T3	ITS3503	ITK15	○

● stock ○ by inquiry

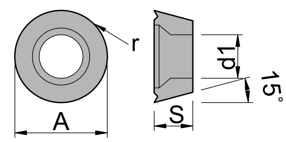
Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz
Carbon Steel / Alloy Steel	120 ~ 250	0.08 ~ 0.12
Stainless Steel	100 ~ 180	0.07 ~ 0.10
Cast Iron	120 ~ 250	0.08 ~ 0.12
High Temperature Alloy	40 ~ 100	0.05 ~ 0.08
Hardened Steel	50 ~ 100	0.05 ~ 0.08

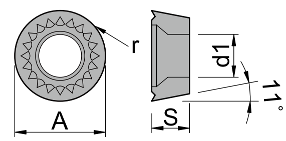
Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	r	S	d1
RDKW0501	5	2.5	1.59	2.2
RDMW0620	6	3.0	1.99	2.6
RDKW0702	7	3.5	2.38	2.8
RPMT10T3	10	5.0	3.97	4.5

RD..



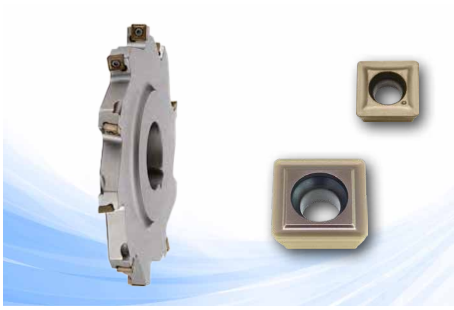
RP..



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation 型號	Working Material P	M	K	N	S	H
	IRDKW0501MOE23AX	RDKW0501MOE-CX23AX	○	○	○		○	●
	IRDKW0501MOE32HS	RDKW0501MOE-CX32HS	●	●	●		○	
	IRDKW0501MOE33TX	RDKW0501MOE-CX33TX	●	●	●		●	●
	IRDKW0620MOE32HS	RDKW0620MOE-CX32HS	●	●	●		○	
	IRDKW0620MOE33TX	RDKW0620MOE-CX33TX	●	●	●		●	●
	IRDKW0702MOE23AX	RDKW0702MOE-CX23AX	○	○	○		○	●
	IRDKW0702MOE32HS	RDKW0702MOE-CX32HS	●	●	●		○	
	IRDKW0702MOE33TX	RDKW0702MOE-CX33TX	●	●	●		●	●
	IRDKW0702MOE43TX	RDKW0702MOE-CX43TX	●	●	●		●	
	IRPMT10T3MOE32HS	RPMT10T3MOE-CX32HS	●	●	●		○	
	IRPMT10T3MOE33TX	RPMT10T3MOE-CX33TX	●	●	●		●	●
	IRPMT10T3MOE43TX	RPMT10T3MOE-CX43TX	●	●	●		●	
	IRPMT10T3MOT32HS	RPMT10T3MOT-CX32HS	●	●	●		○	
	IRPMT10T3MOT33TX	RPMT10T3MOT-CX33TX	●	●	●		●	●
	IRPMT10T3MOT43TX	RPMT10T3MOT-CX43TX	●	●	●		●	

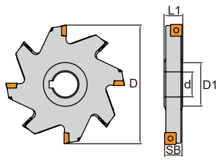
CSPD Series

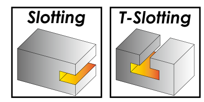


- Use SPMG inserts with 4 cutting edges.
- Economical and versatile disc cutting solution.
- 19~32mm cutter diameter.

- 使用 SPMG 銑刀片 , 4 個可用切削角
- 經濟且多功能三面刃適用於側邊較深加工
- 80~200mm 刀桿直徑

CSPDE - Milling Tools 三面刃銑刀

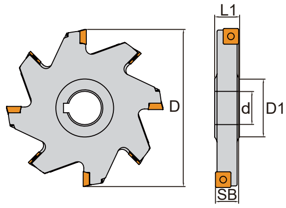


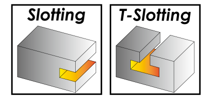


Insert Brand 建議刀片 : Winstar, Taegutec, ...

Order No. 訂購編碼	D	L1	SB	d	D1	T	Inserts	Screw	Wrench	Stock
ICSPDE506080220	80	12	6	22	44	2 × 4	SPMG0502	ITS2003	ITK06	●
ICSPDE507080220	80	12	7	22	44	2 × 4	SPMG0502	ITS2003	ITK06	○
ICSPDE608080220	80	12	8	22	44	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDE609080220	80	12	9	22	44	2 × 4	SPMG0602	ITS2205	ITK06	○
ICSPDE610080220	80	12	10	22	44	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDE711080220	80	12	11	22	44	2 × 4	SPMG07T3	ITS2511	ITK08	○
ICSPDE712080220	80	12	12	22	44	2 × 4	SPMG07T3	ITS2511	ITK08	●
ICSPDE506100270	100	12	6	27	50	2 × 5	SPMG0502	ITS2003	ITK06	●
ICSPDE507100270	100	12	7	27	50	2 × 5	SPMG0502	ITS2003	ITK06	●
ICSPDE608100270	100	12	8	27	50	2 × 5	SPMG0602	ITS2205	ITK06	●
ICSPDE609100270	100	12	9	27	50	2 × 5	SPMG0602	ITS2205	ITK06	○
ICSPDE710100270	100	12	10	27	50	2 × 5	SPMG07T3	ITS2511	ITK08	●
ICSPDE711100270	100	12	11	27	50	2 × 5	SPMG07T3	ITS2511	ITK08	○
ICSPDE712100270	100	12	12	27	50	2 × 5	SPMG07T3	ITS2511	ITK08	●
ICSPDE914100270	100	16	14	27	50	2 × 5	SPMG0904	ITS3504	ITK15	○
ICSPDE916100270	100	16	16	27	50	2 × 5	SPMG0904	ITS3504	ITK15	●
ICSPDE711125320	125	12	11	32	65	2 × 6	SPMG07T3	ITS2511	ITK08	○
ICSPDE712125320	125	12	12	32	65	2 × 6	SPMG07T3	ITS2511	ITK08	○
ICSPDE914125320	125	16	14	32	65	2 × 6	SPMG0904	ITS3504	ITK15	○
ICSPDE916125320	125	16	16	32	65	2 × 6	SPMG0904	ITS3504	ITK15	●
ICSPDE118125320	125	20	18	32	65	2 × 5	SPMG1104	ITS4006	ITK15	○
ICSPDE120125320	125	20	20	32	65	2 × 5	SPMG1104	ITS4006	ITK15	○
ICSPDE711160400	160	12	11	40	75	2 × 8	SPMG07T3	ITS2511	ITK08	○
ICSPDE712160400	160	12	12	40	75	2 × 8	SPMG07T3	ITS2511	ITK08	●
ICSPDE914160400	160	16	14	40	75	2 × 8	SPMG0904	ITS3504	ITK15	○
ICSPDE916160400	160	16	16	40	75	2 × 8	SPMG0904	ITS3504	ITK15	●
ICSPDE118160400	160	20	18	40	75	2 × 6	SPMG1104	ITS4006	ITK15	○
ICSPDE120160400	160	20	20	40	75	2 × 6	SPMG1104	ITS4006	ITK15	●
ICSPDE914200400	200	16	14	40	80	2 × 9	SPMG0904	ITS3504	ITK15	○
ICSPDE915200400	200	16	16	40	80	2 × 9	SPMG0904	ITS3504	ITK15	●
ICSPDE118200400	200	20	18	40	80	2 × 9	SPMG1104	ITS4006	ITK15	○
ICSPDE120200400	200	20	20	40	80	2 × 7	SPMG1104	ITS4006	ITK15	○

CSPDE - Milling Tools 三面刃銑刀



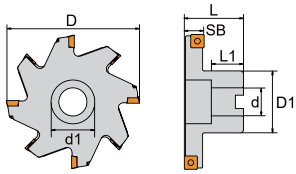


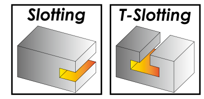
Insert Brand 建議刀片 : Winstar, Taegutec, ...

Order No. 訂購編碼	D	L1	SB	d	D1	T	Inserts	Screw	Wrench	Stock
ICSPDE506080250	80	12	6	25.4	44	2 × 4	SPMG0502	ITS2003	ITK06	●
ICSPDE507080250	80	12	7	25.4	44	2 × 4	SPMG0502	ITS2003	ITK06	●
ICSPDE608080250	80	12	8	25.4	44	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDE609080250	80	12	9	25.4	44	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDE610080250	80	12	10	25.4	44	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDE711080250	80	12	11	25.4	44	2 × 4	SPMG07T3	ITS2511	ITK08	●
ICSPDE712080250	80	12	12	25.4	44	2 × 4	SPMG07T3	ITS2511	ITK08	●
ICSPDE608100250	100	12	8	25.4	50	2 × 5	SPMG0602	ITS2205	ITK06	○
ICSPDE609100250	100	12	9	25.4	50	2 × 5	SPMG0602	ITS2205	ITK06	●
ICSPDE610100250	100	12	10	25.4	50	2 × 5	SPMG0602	ITS2205	ITK06	●
ICSPDE711100250	100	12	11	25.4	50	2 × 5	SPMG07T3	ITS2511	ITK08	○
ICSPDE712100250	100	12	12	25.4	50	2 × 5	SPMG07T3	ITS2511	ITK08	●
ICSPDE914100250	100	16	14	25.4	50	2 × 5	SPMG0904	ITS3504	ITK15	○
ICSPDE916100250	100	16	16	25.4	50	2 × 5	SPMG0904	ITS3504	ITK15	○
ICSPDE506125310	125	12	6	31.75	65	2 × 6	SPMG0502	ITS2003	ITK06	●
ICSPDE507125310	125	12	7	31.75	65	2 × 6	SPMG0502	ITS2003	ITK06	○
ICSPDE608125310	125	12	8	31.75	65	2 × 6	SPMG0602	ITS2205	ITK06	○
ICSPDE610125310	125	12	10	31.75	65	2 × 6	SPMG0602	ITS2205	ITK06	○
ICSPDE711125310	125	12	11	31.75	65	2 × 6	SPMG07T3	ITS2511	ITK08	○
ICSPDE712125310	125	12	12	31.75	65	2 × 6	SPMG07T3	ITS2511	ITK08	○
ICSPDE914125310	125	16	14	31.75	65	2 × 6	SPMG0904	ITS3504	ITK15	●
ICSPDE916125310	125	16	16	31.75	65	2 × 6	SPMG0904	ITS3504	ITK15	○
ICSPDE118125310	125	20	18	31.75	65	2 × 5	SPMG1104	ITS4006	ITK15	○
ICSPDE120125310	125	20	20	31.75	65	2 × 5	SPMG1104	ITS4006	ITK15	○

● stock ○ by inquiry

CSPDF - Milling Tools 三面刃銑刀





Insert Brand 建議刀片 : Winstar, Taegutec, ...

Order No. 訂購編碼	D	L1	L	SB	d	D1	T	Inserts	Screw	Wrench	Stock
ICSPDF506080220	80	22	40	6	22	42	2 × 4	SPMG0502	ITS2003	ITK06	●
ICSPDF507080220	80	22	40	7	22	42	2 × 4	SPMG0502	ITS2003	ITK06	●
ICSPDF608080220	80	22	40	8	22	42	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDF609080220	80	22	40	9	22	42	2 × 4	SPMG0602	ITS2205	ITK06	○
ICSPDF610080220	80	22	40	10	22	42	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDF711080220	80	22	40	11	22	42	2 × 4	SPMG07T3	ITS2511	ITK08	○
ICSPDF712080220	80	22	40	12	22	42	2 × 4	SPMG07T3	ITS2511	ITK08	●
ICSPDF506100270	100	22	40	6	27	50	2 × 5	SPMG0502	ITS2003	ITK06	○
ICSPDF507100270	100	22	40	7	27	50	2 × 5	SPMG0502	ITS2003	ITK06	○
ICSPDF608100270	100	22	40	8	27	50	2 × 5	SPMG0602	ITS2205	ITK06	●
ICSPDF609100270	100	22	40	9	27	50	2 × 5	SPMG0602	ITS2205	ITK06	●
ICSPDF610100270	100	22	40	10	27	50	2 × 5	SPMG0602	ITS2511	ITK08	●
ICSPDF711100270	100	22	40	11	27	50	2 × 5	SPMG07T3	ITS2511	ITK08	○
ICSPDF712100270	100	22	40	12	27	50	2 × 5	SPMG07T3	ITS2511	ITK08	●
ICSPDF914100270	100	22	40	14	27	50	2 × 5	SPMG0904	ITS3504	ITK15	○
ICSPDF916100270	100	22	40	16	27	50	2 × 5	SPMG0904	ITS3504	ITK15	○
ICSPDF608125320	125	25	45	8	32	70	2 × 6	SPMG0602	ITS2205	ITK06	○
ICSPDF610125320	125	25	45	10	32	70	2 × 6	SPMG0602	ITS2205	ITK06	●
ICSPDF711125320	125	25	45	11	32	70	2 × 6	SPMG07T3	ITS2511	ITK08	●
ICSPDF712125320	125	25	45	12	32	70	2 × 6	SPMG07T3	ITS2511	ITK08	●
ICSPDF914125320	125	25	45	14	32	70	2 × 6	SPMG0904	ITS3504	ITK15	○
ICSPDF916125320	125	25	45	16	32	70	2 × 6	SPMG0904	ITS3504	ITK15	○

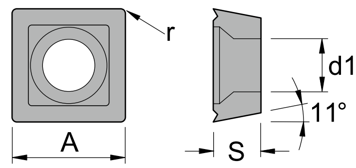
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz
Carbon Steel / Alloy Steel	100 ~ 220	0.10 ~ 0.35
Stainless Steel	130 ~ 200	0.12 ~ 0.30
Cast Iron	100 ~ 210	0.10 ~ 0.20

Insert Specifications 刀片規格

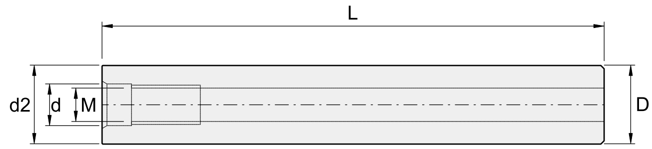
Insert	Dimensions (mm)			
	A	S	r	d1
SPMG050204	5.00	2.38	0.4	2.30
SPMG060204	6.00	2.38	0.4	2.65
SPMG07T308	7.94	3.97	0.8	2.85
SPMG090408	9.80	4.3	0.8	4.05
SPMG110408	11.50	4.8	0.8	4.45



Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material P	M	K	N	S	H
	ISPMG050204MG32HS	SPMG050204-MG-CX32HS	●	●	●		○	
	ISPMG050204MG33TX	SPMG050204-MG-CX33TX	●	●	●		●	●
	ISPMG050204MG43TX	SPMG050204-MG-CX43TX	●	●	●		●	
	ISPMG060204MG32HS	SPMG060204-MG-CX32HS	●	●	●		○	
	ISPMG060204MG33TX	SPMG060204-MG-CX33TX	●	●	●		●	●
	ISPMG060204MG43TX	SPMG060204-MG-CX43TX	●	●	●		●	
	ISPMG07T308MG32HS	SPMG07T308-MG-CX32HS	●	●	●		○	
	ISPMG07T308MG33TX	SPMG07T308-MG-CX33TX	●	●	●		●	●
	ISPMG07T308MG43TX	SPMG07T308-MG-CX43TX	●	●	●		●	
	ISPMG090408MG32HS	SPMG090408-MG-CX32HS	●	●	●		○	
	ISPMG090408MG33TX	SPMG090408-MG-CX33TX	●	●	●		●	●
	ISPMG090408MG43TX	SPMG090408-MG-CX43TX	●	●	●		●	
	ISPMG090408RG32HS	SPMG090408-RG-CX32HS	●	●	●		○	
	ISPMG090408RG33TX	SPMG090408-RG-CX33TX	●	●	●		●	●
	ISPMG090408RG43TX	SPMG090408-RG-CX43TX	●	●	●		●	
	ISPMG110408MG32HS	SPMG110408-MG-CX32HS	●	●	●		○	
	ISPMG110408MG33TX	SPMG110408-MG-CX33TX	●	●	●		●	●
	ISPMG110408MG43TX	SPMG110408-MG-CX43TX	●	●	●		●	
	ISPMG110408RG32HS	SPMG110408-RG-CX32HS	●	●	●		○	
	ISPMG110408RG33TX	SPMG110408-RG-CX33TX	●	●	●		●	●
	ISPMG110408RG43TX	SPMG110408-RG-CX43TX	●	●	●		●	

SWMEA - Carbide Adapter (Straight)

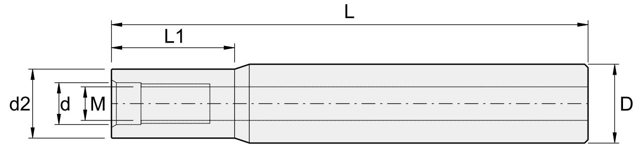


Straight

Order No. 訂購編碼	Dimensions (mm)				
	d2	d	L	D	M
ISWMEA10075050	10	5.5	75	10	M5
ISWMEA10100050	10	5.5	100	10	M5
ISWMEA10150050	10	5.5	150	10	M5
ISWMEA10100060	10	5.5	100	10	M6
ISWMEA10150060	10	5.5	150	10	M6
ISWMEA11100060	11	6.5	100	11	M6
ISWMEA11150060	11	6.5	150	11	M6
ISWMEA12075060	12	6.5	75	12	M6
ISWMEA12100060	12	6.5	100	12	M6
ISWMEA12150060	12	6.5	150	12	M6
ISWMEA12200060	12	6.5	200	12	M6
ISWMEA15100080	15	8.5	100	15	M8
ISWMEA15150080	15	8.5	150	15	M8
ISWMEA15200080	15	8.5	200	15	M8
ISWMEA16100080	16	8.5	100	16	M8
ISWMEA16150080	16	8.5	150	16	M8
ISWMEA16200080	16	8.5	200	16	M8
ISWMEA16250080	16	8.5	250	16	M8
ISWMEA20100100	20	10.5	100	20	M10
ISWMEA20150100	20	10.5	150	20	M10
ISWMEA20200100	20	10.5	200	20	M10
ISWMEA20250100	20	10.5	250	20	M10
ISWMEA20300100	20	10.5	300	20	M10
ISWMEA25100120	25	12.5	100	25	M12
ISWMEA25150120	25	12.5	150	25	M12
ISWMEA25200120	25	12.5	200	25	M12
ISWMEA25250120	25	12.5	250	25	M12
ISWMEA25300120	25	12.5	300	25	M12
ISWMEA32200160	32	17.0	200	32	M16
ISWMEA32300160	32	17.0	300	32	M16

Customize available.

SWMEB - Carbide Adapter (Straight Neck)

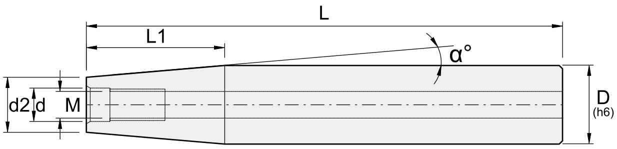


Straight Neck

Order No. 訂購編碼	Dimensions (mm)					
	d2	d	L1	L	D	M
ISWMEB12100060	11.5	6.5	24	100	12	M6
ISWMEB12100061	11.5	6.5	40	100	12	M6
ISWMEB12100062	11.5	6.5	60	100	12	M6
ISWMEB12150060	11.5	6.5	24	150	12	M6
ISWMEB12150061	11.5	6.5	100	150	12	M6
ISWMEB16150082	13.0	8.5	32	150	16	M8
ISWMEB16150080	15.0	8.5	30	150	16	M8
ISWMEB16150081	15.0	8.5	100	150	16	M8
ISWMEB16200080	15.0	8.5	40	200	16	M8
ISWMEB16200081	15.0	8.5	120	200	16	M8
ISWMEB20150102	17.0	10.5	40	150	20	M10
ISWMEB20150100	19.0	10.5	40	150	20	M10
ISWMEB20150101	19.0	10.5	100	150	20	M10
ISWMEB20200100	19.0	10.5	40	200	20	M10
ISWMEB20200101	19.0	10.5	120	200	20	M10
ISWMEB25150120	24.0	12.5	48	150	25	M12
ISWMEB25150121	24.0	12.5	100	150	25	M12
ISWMEB25200120	24.0	12.5	48	200	25	M12
ISWMEB25200121	24.0	12.5	100	200	25	M12

Customize available.

SWMET - Carbide Adapter (Taper Neck)



Taper Neck

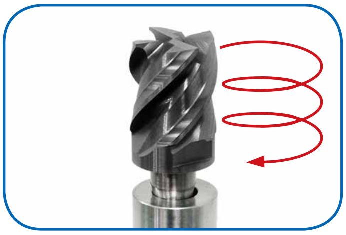
Order No. 訂購編碼	Dimensions (mm)						
	d2	d	α°	L1	L	D	M
ISWMET12150050	9.8	5.5	1°	60	150	12	M5
ISWMET12150060	9.8	5.5	1°	60	150	12	M6
ISWMET16150060	11.8	6.5	1.5°	70	150	16	M6
ISWMET20200080	15.5	8.5	1.5°	90	200	20	M8
ISWMET25200100	19.8	10.5	1.5°	90	200	25	M10
ISWMET32200120	24.5	12.5	2	90	200	32	M12

Customize available.

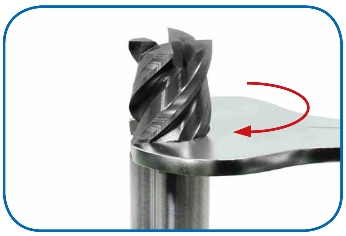
Modular Tools Installation 安裝模組化銑刀

How to install the Modular Solid Head 如何安裝全鎢鋼銑刀頭至抗震刀桿

1. Screw the adapter to the holder and clean.
將抗震刀桿鎖在刀把上



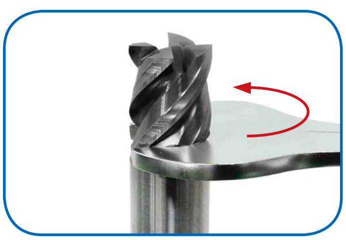
2. Screw the Solid Head to the adapter.
將全鎢鋼銑刀頭鎖在抗震刀桿上



3. Use the spanner to screw the Solid Head.
使用板手鎖緊全鎢鋼銑刀頭

4. Complete installation.
完成安裝

How to uninstall the Modular Solid Head 如何拆卸全鎢鋼銑刀頭



When uninstall the Solid head, please push the spanner lightly for avoiding the neck broken.
拆卸全鎢鋼銑刀頭時，請輕輕推動板手，避免刀頭頸部斷裂

Recommended Torque 建議板手扭力值

Suitable Modular Solid Head Diameter	Recommended Clamping Torque (N · m)
10mm	10
12mm	10
16mm	12
20mm	12

How to install the Modular Milling Head 如何安裝銑刀頭至抗震刀桿

1. Screw the adapter to the holder and clean.
   將抗震刀桿鎖在刀把上

2. Screw the Milling Head to the adapter.
   將銑刀頭鎖在抗震刀桿上

3. Use the spanner to screw the Milling Head.
   使用板手鎖緊銑刀頭

4. Complete installation.
   完成安裝

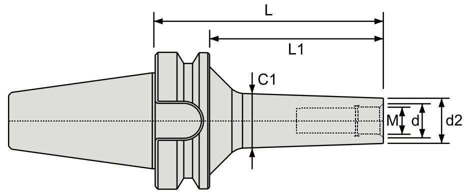
How to uninstall the Modular Milling Head 如何拆卸銑刀頭

When uninstall the Milling head, please push the spanner lightly for avoiding the neck broken.
拆卸銑刀頭時，請輕輕推動板手，避免刀頭頸部斷裂

Recommended Torque 建議板手扭力值

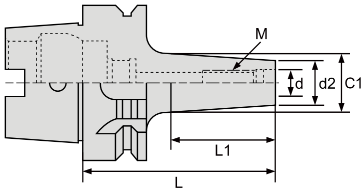
Suitable Modular Milling Head	Recommended Clamping Torque (N · m)
M5	10
M6	15
M8	23
M10	46
M12	80
M16	90

BT40/50 Adapter



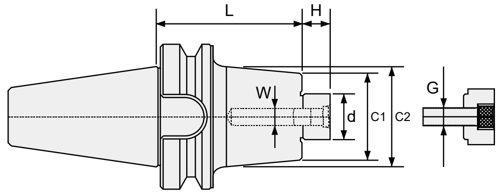
Order No. 訂購編碼	d2	d	C1	L1	L	M	Arbor Type
IBT40DM08050	13	8.5	15	23	50	M8	BT40
IBT40DM10057	18	10.5	21	30	57	M10	
IBT40DM12080	21	12.5	25	53	80	M12	
IBT40DM16087	28	17.0	31	60	87	M16	
IBT40FMC403060	36	28.0	40	30	60	M18	
IBT40FMC406090	36	28.0	40	60	90	M18	
IBT50FMC5003065	48	36.0	50	30	65	M25	BT50
IBT50FMC50080115	48	36.0	50	80	115	M25	
IBT50FMC50130165	48	36.0	50	130	165	M25	

HSK63 Adapter



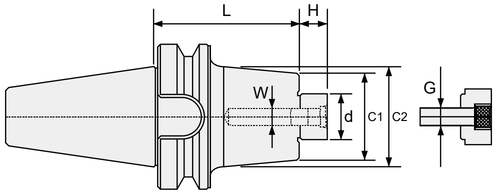
Order No. 訂購編碼	d2	d	C1	L1	L	M
IHSK63AM08050	17	8.5	18	16	50	M8×P1.25
IHSK63AM10060	18	10.5	23	26	60	M10×P1.5
IHSK63AM10080	20	10.5	24	44	80	M10×P1.5
IHSK63AM12060	23	12.5	24	26	60	M12×P1.75
IHSK63AM12080	21	12.5	24	44	80	M12×P1.75
IHSK63AM16080	29	17	34	46	80	M16×P2.0
IHSK63AM16100	34	17	34	66	100	M16×P2.0

BT FMA Series (BT30, BT40, BT50)



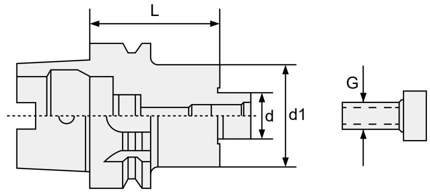
Order No. 訂購編碼	Dimensions (mm)							
	Cutter dia.	d	L	C1	C2	H	W	G
IBT30FMA25045	76	25.4	45	45	-	20	9.5	M12
IBT30FMA31045	100	31.75	45	60	-	22	12.7	M12
IBT40FMA25045	76	25.4	45	50	-	20	9.5	M12
IBT40FMA25090	76	25.4	90	50	60	20	9.5	M12
IBT40FMA31045	100	31.75	45	60	-	22	12.5	M12
IBT40FMA31075	100	31.75	75	60	70	22	12.5	M12
IBT40FMA31105	100	31.75	105	60	70	22	12.5	M12
IBT50FMA25045	76	25.4	45	50	-	20	9.5	M12
IBT50FMA25075	76	25.4	75	50	60	20	9.5	M12
IBT50FMA25100	76	25.4	100	50	60	20	9.5	M12
IBT50FMA31045	100	31.75	45	60	-	20	12.5	M12
IBT50FMA31075	100	31.75	75	60	70	20	12.5	M12
IBT50FMA31100	100	31.75	100	60	70	20	12.5	M12

BT FMB Series (BT30, BT40, BT50)



Order No. 訂購編碼	Dimensions (mm)							
	Cutter dia.	d	L	C1	C2	H	W	G
IBT30FMB22045	60	22	45	56	-	18	10	M10
IBT30FMB27045	80	27	45	64	-	20	12	M12
IBT30FMB32045	100	32	45	70	-	20	14	M16
IBT40FMB22045	60	22	45	50	-	18	10	M10
IBT40FMB22060	60	22	60	50	60	18	10	M10
IBT40FMB22090	60	22	90	50	60	18	10	M10
IBT40FMB27045	80	27	45	60	-	20	12	M12
IBT40FMB27060	80	27	60	60	-	20	12	M12
IBT40FMB27090	80	27	90	60	-	20	12	M12
IBT40FMB27105	80	27	105	60	-	20	12	M12
IBT40FMB32045	100	32	45	78	-	20	14	M16
IBT40FMB40060	125	40	60	85	-	22	16	M16
IBT50FMB22060	60	22	60	50	-	18	10	M10
IBT50FMB22090	60	22	90	50	60	18	10	M10
IBT50FMB22150	60	22	150	50	60	18	10	M10
IBT50FMB27045	80	27	45	60	-	20	12	M12
IBT50FMB27090	80	27	90	60	70	20	12	M12
IBT50FMB27150	80	27	150	60	70	20	12	M12
IBT50FMB32045	100	32	45	70	-	20	14	M16
IBT50FMB32090	100	32	90	70	80	20	14	M16
IBT50FMB40045	125	40	45	90	-	23	16	M16
IBT50FMB40090	125	40	90	90	100	23	16	M16

HSK63 FMA / FMB Series

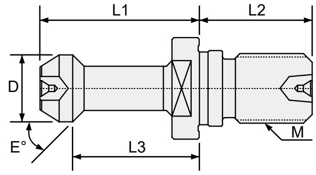


Order No. 訂購編碼	Dimensions (mm)			
	d	d1	L	G
IHSK63AFMA25050	25.4	52	50	M12
IHSK63AFMA25075	25.4	51	75	M12
IHSK63AFMA25105	25.4	54	105	M12
IHSK63AFMA25150	25.4	54	150	M12
IHSK63AFMB16045	16	37	45	M8
IHSK63AFMB22050	22	45	50	M10
IHSK63AFMB22075	22	47	75	M10
IHSK63AFMB22105	22	47	105	M10
IHSK63AFMB22150	22	47	150	M10
IHSK63AFMB27050	27	52	50	M12
IHSK63AFMB27150	27	58	150	M12
IHSK63AFMB32150	32	76	150	M16

BT Pull Studs

BT 刀柄拉桿螺絲

BT Pull Studs



Order No. 訂購編碼	Dimensions (mm)						For Shank
	L1	L2	L3	D	E°	M	
IP30T01	23	20	18	11	45°	M12	BT30
IP30T02	23	20	18	11	60°	M12	BT30
IP40T01	35	25	28	15	45°	M16	BT40
IP40T02	35	25	28	15	60°	M16	BT40
IP50T01	45	40	35	23	45°	M24	BT50
IP50T02	45	40	35	23	60°	M24	BT50

Milling Inserts Grade Comparison - PVD
銑刀片材質比較表 - PVD

ISO Code		WINSTAR 萬事達	Mitsubishi 三菱	Hitachi 日立	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	Korloy 克勞伊	TaeguTec 特固克
P Steel	P10			JP4115	ACU2500 ACP200	PR1225 PR1230 PR1525		PC2005 PC2010	TT2510
	P20	CX23AX CX32HS CX33TX	MP6120 VP15TF	JP4020 JP4120 CP9020 CY150	ACP3000 ACU2500 ACP200 ACP300	PR1225 PR1230 PR1525	AH725 AH120 AH330	PC3600 PC3700 PC2510	TT7080 TT7030
	P30	CX32HS CX32HX CX33TX CX43TX	VP15TF MP6120 MP6130 VP30RT	JS4045 CY250 CY25	ACP3000 ACU2500 ACP200 ACP300	PR1225 PR1230 PR1525	AH725 AH130 AH140 AH730	PC5300	TT9080 TT9030
	P40	CX43TX	VP30RT	JS4060 JS4160 JX1060	ACP3000 ACU2500 ACP300		AH140 AH3035	PC5400	TT8080 TT8020
M Stainless Steel	M10				ACM100 ACU2500 ACK300 ACP300	PR1225 PR1525			
	M20	CX23AX	VP15TF MP7130 MP7140 VP20RT	JP4020 JP4120	ACM300 ACU2500 ACP300	PR1225 PR1525 PR1535	AH725 AH120 AH330 GH110	PC210F PC5300	TT9080 TT9030
	M30	CX33TX CX43TX	VP15TF MP7130 MP7140 VP30RT	JS4045 CY250 CY25	ACM300	PR1225 PR1525 PR1535	AH725 AH130 AH730 GH130	PC9530	TT3540 TT8080 TT8020
	M40	CX43TX	MP7140 VP30RT	JM4160	ACM300	PR1525 PR1535	AH140 AH3135 AH4035	PC5400 PC9540	TT3540
K Cast Iron	K01		MP8010	ATH80D TH308		PR1510	AH110 GH110 AH330	PC8110	
	K10	CX23AX	MP8010	TH315 CY100H	ACK3000 ACU2500	PR1210 PR1510	AH110 AH120 GH110 AH725 AH330	PC6510	TT7515 TT6080
	K20	CX32HS CX33TX	VP15TF VP20RT	CY150 JP4120 CY9020	ACK3000 ACU2500 ACK300	PR1210 PR1510	GH130	PC5300	TT7515 TT6080
	K30	CX33TX CX43TX	VP15TF VP20RT	CY250 JS4045	ACK3000 ACU2500 ACK300	PR1510		PC5300	TT3080
S High-Temp Alloy	S01			PN08M PN208	ACM100 ACU2500 ACK300 ACP300	PR905 PR1210 PR1535	AH110 AH710		
	S10	CX33TX	MP9120 VP15TF	JS1025 JP4120	ACM100 ACU2500 ACK300 ACP300	PR905 PR1210 PR1535	AH120 AH725		TT9030 TT9080 TT8080
	S20	CX33TX CX43TX	MP9120 VP15TF MP9130 MP9030	PTH30H	ACM300 ACU2500 ACP300	PR905 PR1210 PR1535	AH725 AH130 AH6030	PC5300	TT8080 TT8020
	S30	CX43TX	MP9140	JM4160	ACM300	PR1535	AH130	PC3545	TT3540 TT8020

The above table is selected from a publication for reference only, which is not obtained approval from each brand.
此材質比較表僅供參考

Milling Inserts Grade Comparison - PVD 銑刀片材質比較表 - PVD

ISO Code		WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
P Steel	P10		GC1010	IC903 IC4100 IC4050	KC715M KC930M KC935M		WKP25 WKP25S WPP20 WKK20S
	P20	CX23AX CX33TX	GC1010 GC1030 GC1130 GC2030	IC8080 IC810 IC380	KC715M KC930M KC935M	F25M MP3000	WSM20
	P30	CX33TX CX43TX	GC1010 GC1030 GC1130 GC2030	IC830 IC928 IC330	KC735M KC530M KC537M	F30M F40M MP3000	WSM30 WSM35
	P40	CX43TX	GC2030 GC1030 GC1130		KC735M KC537M KCPM40	F40M T60M	WKP45 WP45S WSP45
M Stainless Steel	M10		GC1025 GC1030	IC903	KC715M KC515M		
	M20	CX23AX	GC1025 GC1030 GC1040 GC2230	IC908 IC928	KC635M KC730M KC525M KCPM40	F25M MP3000	WSM35 WXM35
	M30	CX33TX CX43TX	S30T GC1040 GC2230	IC328 IC330 IC830	KC530M KC537M K735M KCPM40	F30M F40M MP3000	WSM35 WXM35
	M40	CX43TX		IC328 IC300 IC330		F40M	WSP45 WSM45S
K Cast Iron	K01						
	K10	CX23AX	GC1010	IC350 IC810	KC514M KC515M KC527M KC635M	MK1500	WAK15
	K20	CX33TX	GC1010 GC1020	IC5100 IC830	KC514M KC610M KC520M KC620M	MK1500 MK2000 T150M	WAK15 WKK25 WKP25S
	K30	CX33TX CX43TX	GC1020	IC810 IC908 IC910 IC928 IC950	KC522M KC725M KC524M KC735M	MK2000 MK2050	WKP35S WPP20
S High-Temp Alloy	S01		GC1010	IC808 IC907 IC908	KC510M		
	S10	CX33TX	S30T GC1010 GC1030 GC2030	IC808 IC907 IC908 IC903	KC510M KC610M	MS2050	
	S20	CX33TX CX43TX	S30T GC1030 GC1040 GC2030 GC2040	IC300 IC900 IC830 IC928	KC522M KC525M KC610M	MS2050 F40M	WSM35 WSM36
	S30	CX43TX	S30T GC1040 GC2040	IC830 IC928	KC522M KC525M KC725M	MS2050 F40M	WSM35 WSM36 WSP45 WSP46

The above table is selected from a publication for reference only, which is not obtained approval from each brand.
此材質比較表僅供參考

Milling Inserts Grade Comparison - CVD 銑刀片材質比較表 - CVD

ISO Code		WINSTAR 萬事達	Mitsubishi 三菱	Hitachi 日立	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	Korloy 克勞伊	TaeguTec 特固克
P Steel	P10				XCU2500 ACP2000 ACP100				
	P20	CX47TA	F7030 MC7020	GX2140	XCU2500 ACP2000 ACP100		T3130 T3225	NC5330	
	P30	CX47TA	F7030 MC7020	GX2140 GX2160	XCU2500 ACP2000 ACP100		T3130 T3225	NC5330 NCM535	TT8525B
	P40			GX2030 GX30 GX2160				NCM545	TT8525B
M Stainless Steel	M10				XCU2500 ACM200			NC5330	
	M20	CX47TA	F7030 MC7020	AX2040 GX2140	XCU2500 ACM200	CA6535	T3130 T3225	NC5330	TT9540
	M30	CX47TA	F7030 FC7020 MC7020	AX2040 GX2140 GX2160 GX30	XCU2500 ACM200	CA6535	T3130 T3225	NCM535 NCM545	TT8525B TT9540
	M40			GX2030 GX2160 GX30				NCM545	TT8525B TT9540
K Cast Iron	K01								
	K10	CX37TA	MC5020		XCK2000 ACK2000 ACK200	CA420M	T1215 T1115 T1015	NC5330	TT7515
	K20	CX37TA	MC5020		XCK2000 XCU2500 ACK2000 ACK200		T1115 T1015	NC5330	TT7515
	K30			GX30				NCM535	TT7515

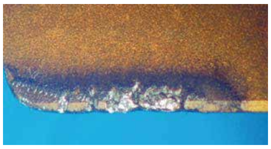
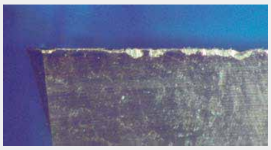
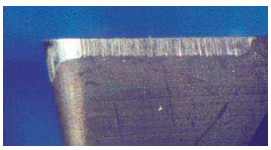
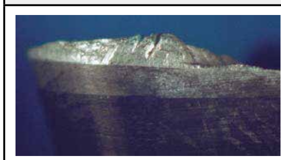
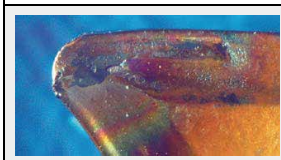
The above table is selected from a publication for reference only, which is not obtained approval from each brand.
此材質比較表僅供參考

Milling Inserts Grade Comparison - CVD 銑刀片材質比較表 - CVD

ISO Code		WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
P Steel	P10			IC9080 IC4100 IC9015		MP1500	WKP25
	P20	CX37TA	GC4220	IC5500 IC5100 IC520M		MP1500 MP2500	WKP35
	P30	CX37TA	GC4330 GC4230	IC5500 IC4050	KCPK30 KC930M	MP2500	
	P40	CX47TA	GC4340 GC4240		KC935M KC530M KCPM20		
M Stainless Steel	M10			IC9250			
	M20			IC520M IC9350	KC925M	MP2500 MM4500	
	M30	CX47TA	GC2040	IC9350 IC4050	KC930M KCPM20	MP2500 MM4500	
	M40			IC635	KC930M KC935M		
K Cast Iron	K01						
	K10						WAK15
	K20	CX37TA	GC3220 GC3330 K20W	IC5100 IC9150	KC915M	MK1500 MK2000	WKP25
	K30	CX37TA CX47TA	GC3330 GC3040	IC4100 IC4050 IC520M	KC920M KC925M KCPK30 KC930M KC935M KCPM20	MK2000 MK3000	WKP35

The above table is selected from a publication for reference only, which is not obtained approval from each brand.
此材質比較表僅供參考

Troubleshooting in Insert 刀片加工異常原因及對策

Trouble / 情況	Occurrences / 原因	Countermeasures / 對策
 Thermal Crackin 熱裂	Intermittent heating of the cutting edge. High speed, high volume metal removal. 切削角間歇性高熱，高切削線速度和較大的金屬移除量，造成的熱裂	1.Use heat resistant grades 使用具有耐熱阻抗的刀片材質 2.Use positive or large rake tools 使用正角或較銳利的刀片 3.Increase nose radius 使用較大半徑刀口的刀片 4.Reduce speed, feed or depth of cut 降低切削線速度、進給或切深
 Chipping 脆裂	Cutting tool excessively brittle. 刀片材質太硬脆	1.Use tougher grades 使用韌性較高的刀片材質 2.Use negative or smaller rake tools 使用負角或較鈍的刀片 3.Increase nose radius 使用較大半徑刀口的刀片 4.Use increased edge land 使用較大刀口平台的刀片 5.Increase cutting speed 增加切削線速度
 Excessive Flank Wear 過度磨耗	Cutting tool too soft. 刀片材質太軟 Surface speed too fast. 切削線速度太快	1.Use harder and more wear resistant grade 使用較硬或較耐磨的刀片材質 2.Reduce cutting speed 降低切削線速度 3.Increase feed 增加進給 4.Use coolant 使用冷卻液
 Notching 凹陷	Cutting material working harden cause serious wear of insert. 被加工材料產生硬化而造成刀片嚴重磨損	1.Increase approach angle 增加進刀時切削邊隙角 2.Reduce cutting speed and feed 降低切削線速度及進給量 3.Use high lubricity coolant 使用潤滑性較高的冷卻液
 Built-Up-Edge 積屑	Cutting speed too slow for material being machined. 就被加工材料而言，切削線速度太低	1.Increase cutting speed 提高切削線速度 2.Use friction reducing grade 使用摩擦力較低的刀片材質 3.Use high lubricity coolant 使用潤滑性較高的冷卻液
 Deformation 變形	Heavy feeds or higher cutting speed. 切削線速度太快或是進給量太大	1.Reduce cutting speed or feed 降低切削線速度或進給量 2.Use polished tools to reducing friction 使用拋光刀片降低磨擦阻力 3.Use more heat resistant grade 使用更高耐熱阻抗的刀片材質
 Crater Wear 熱裂	Excessive heat and pressure welding of chip to rake. 切削產生的高溫和高壓，造成鐵屑焊黏在刀口上	1.Use a harder grade 使用較硬的刀片材質 2.Reduce cutting speed and feed 降低切削線速度及進給量 3.Use high lubricity coolant 使用潤滑性較高的冷卻液

＊ Pictures from Kennametal Tooling Catalogue

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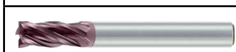
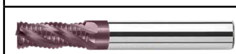
G450 Series for Carbon Steel / Alloy Steel / Cast Iron・General・Helix 35 適用碳鋼 / 合金鋼 / 鑄鐵・螺旋角 35												
	Square · Standard · 2F 平銑刀・標準型・2 刃	EPSSA	Ø1~Ø20	35°	TACO	●	●	●	○		○	B015
	Square · Standard · 3F 平銑刀・標準型・3 刃	EPSSA	Ø1~Ø20	35°	TACO	●	●	●	○		○	B016
	Square · Standard · 4F 平銑刀・標準型・4 刃	EPSSA	Ø1~Ø20	35°	TACO	●	●	●	○		○	B017
	Square · Short Flute · 4F 平銑刀・短刃型・4 刃	EPSHA	Ø3~Ø16	35°	TACO	●	●	●	○		○	B018
	Square · High Helix · 4F 平銑刀・高導高效能型・4 刃	EPSSB	Ø1~Ø16	45°	TACO	●	●	●	○		○	B019
	Square · Long Shank · 4F 平銑刀・長柄型・4 刃	EPSLA	Ø4~Ø12	35°	TACO	●	●	●	○		○	B020
	Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃	EPBSA	0.5R~6R	35°	TACO	●	●	●	○		○	B021
	Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃	EPCSA	Ø1~Ø12	35°	TACO	●	●	●	○		○	B022

G550 Series for Carbon Steel / Alloy Steel / Cast Iron・General・Helix 30 適用碳鋼 / 合金鋼 / 鑄鐵・螺旋角 30

Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Helix 螺旋角	Coating 塗層	P	M	K	N	S	H	Page 頁碼
	Square · Standard · 2F 平銑刀・標準型・2 刃	EPSSC	Ø0.2~Ø25	30°	UNICO	●	●	●			○	B023
	Square · Standard · 3F 平銑刀・標準型・3 刃	EPSSC	Ø1~Ø25	30°	UNICO	●	●	●			○	B024
	Square · Standard · 4F 平銑刀・標準型・4 刃	EPSSC	Ø1~Ø25	30°	UNICO	●	●	●			○	B025
	Square · Sharp Edge · 4F 平銑刀・銳角型・4 刃	EPSPC	Ø1~Ø12	30°	UNICO	●	●	●			○	B026
	Square · High Helix · 4F 平銑刀・高導型・4 刃	EPSSH	Ø1~Ø16	45°	UNICO	●	●	●			○	B027
	Square · Long Flute · 4F 平銑刀・長刃型・4 刃	EPSCC	Ø3~Ø25	35°	UNICO	●	●	●			○	B028
	Square · High Helix · 6F 平銑刀・高導型・6 刃	EPSSH	Ø6~Ø12	45°	UNICO	●	●	●			○	B029
	Square · High Helix · Long Flute · 6F 平銑刀・高導長刃型・6 刃	EPSCH	Ø6~Ø16	45°	UNICO	●	●	●			○	B030
	Square · High Helix · Extra Long Flute · 4F 平銑刀・高導超長刃型・4 刃	EPSCH	Ø6~Ø12	45°	SNAX	●	○	●		○	●	B031
	Square · Long Shank · 2F 平銑刀・長柄型・2 刃	EPSLC	Ø4~Ø20	30°	UNICO	●	●	●			○	B032
	Square · Long Shank · 4F 平銑刀・長柄型・4 刃	EPSLC	Ø3~Ø20	30°	UNICO	●	●	●			○	B033
	Square · Roughing · 4F 平銑刀・粗銑型・4 刃	EPSRR	Ø6~Ø20	30°	UNICO	●	●	●			○	B034
	Square · Stub Length · 2F 平銑刀・短刃型・2 刃	EPSHC	Ø0.2~Ø6	30°	UNICO	●	●	●		○	○	B035
	Square · Stub Length · 4F 平銑刀・短刃型・4 刃	EPSHC	Ø1~Ø6	30°	UNICO	●	●	●		○	○	B036
	Square · Taper · 2F 平銑刀・斜度型・2 刃	EPSST	Ø0.15~Ø10	35°	UNICO	●	●	●			○	B037

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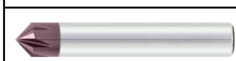
G550 Series for Carbon Steel / Alloy Steel / Cast Iron・General・Helix 30 適用碳鋼 / 合金鋼 / 鑄鐵・螺旋角 30												
	Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃	EPBSC	0.1R~10R	30°	UNICO	●	●	●			○	B040
	Ball Nose · Standard · 4F 球型銑刀・標準型・4 刃	EPBSC	1R~10R	30°	UNICO	●	●	●			○	B041
	Ball Nose · Long Shank · 2F 球型銑刀・長柄型・2 刃	EPBLC	1.5R~10R	30°	UNICO	●	●	●			○	B042
	Ball Nose · Long Shank · 4F 球型銑刀・長柄型・4 刃	EPBLC	2R~8R	30°	UNICO	●	●	●			○	B043
	Ball Nose · Stub Length · 2F 球型銑刀・短刃型・2 刃	EPBHC	0.1R~3R	30°	UNICO	●	●	●		○	○	B044
	Ball Nose · Taper · 2F 球型銑刀・斜度型・2 刃	EPBST	1R~3R	30°	UNICO	●	●	●			○	B045
	Corner Radius · Standard · 2F 圓鼻銑刀・標準型・2 刃	EPCSC	Ø1~Ø12	30°	UNICO	●	●	●			○	B046
	Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃	EPCSC	Ø1~Ø16	30°	UNICO	●	●	●			○	B047
	Corner Radius · High Helix · 4F 圓鼻銑刀・高導型・4 刃	EPCSH	Ø3~Ø12	45°	UNICO	●	●	●			○	B048
	Corner Radius · Long Shank · 4F 圓鼻銑刀・長柄型・4 刃	EPCLC	Ø4~Ø16	30°	UNICO	●	●	●			○	B049
	Corner Radius · Stub Length · 2F 圓鼻銑刀・短刃型・2 刃	EPCHC	Ø1~Ø6	30°	UNICO	●	●	●		○	○	B050
	Corner Radius · Stub Length · 4F 圓鼻銑刀・短刃型・4 刃	EPCHC	Ø2~Ø6	30°	UNICO	●	●	●		○	○	B051
	Long Neck · Square · 2F 長頸型・平銑刀・2 刃	EPSRC	Ø0.2~Ø12	30°	UNICO	●	●	●			○	B052
	Long Neck · Square · 4F 長頸型・平銑刀・4 刃	EPSRC	Ø1~Ø12	30°	UNICO	●	●	●			○	B058
	Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃	EPBRC	0.15R~6R	30°	UNICO	●	●	●			○	B061
	Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃	EPCRC	Ø1~Ø12	30°	UNICO	●	●	●			○	B066
	Long Neck · Corner Radius · 4F 長頸型・圓鼻銑刀・4 刃	EPCRC	Ø2~Ø12	30°	UNICO	●	●	●			○	B073
	Taper Neck · Ball Nose · 2F 斜頸型・球型銑刀・2 刃	EPBRT	0.5R~2R	30°	UNICO	●	●	●			○	B078
	Taper Neck · Corner Radius · 2F 斜頸型・圓鼻銑刀・2 刃	EPCRT	Ø1~Ø6	30°	UNICO	●	●	●			○	B079
	Inner Radius Endmill · 2F / 4F 內 R 角銑刀・2 刃 / 4 刃	EPISA	Ø2.9~Ø3.9	0°	UNICO	●	●	●			○	B081
	Chamfer Endmill · 4F / 5F / 6F 倒角銑刀・4 刃 / 5 刃 / 6 刃	EPFSA	Ø4~Ø12	0°	UNICO	●	●	●	○	●	●	B082
	Drill Mills · 2F 倒角兼用銑刀・2 刃	EPFSC	Ø3~Ø12	30°	UNICO	●	●	●	○			B083
	Dovetail Endmill · 4F 鳩尾槽銑刀・4 刃	EPSDT	Ø3~Ø12	0°, 15°	UNICO	●	●	●	●			B084

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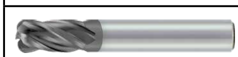
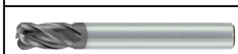
V470 Series for Carbon Steel / Alloy Steel / Cast Iron・Anti-Vibration・Unequal Spacing 適用碳鋼 / 合金鋼 / 鑄鐵・抗震・不等分割												
	Square · Unequal Spacing · Standard · 4F 不等分割平銑刀・標準型・4 刃	EPSSVB	Ø4~Ø16	35°	TACO	●	●	●			○	B085
	Square · Unequal Spacing · Standard · 4F 不等分割平銑刀・標準型・4 刃	EPSSVC	Ø1~Ø25	38°	TACO	●	○	●		○	○	B086
	Square · Unequal Spacing · Inch · 4F 不等分割平銑刀・英吋・4 刃	EP⬚⬚V	Ø1/8"~1"	38°	UNICO	●	●	●		●	○	B087
	Ball Nose · Unequal Spacing · Inch · 2F / 4F 不等分割球型銑刀・英吋・2 刃 /4 刃	EPB⬚V	Ø1/8"~5/8"	38°	UNICO	●	●	●		●	○	B090

H65X Series for High Hardened Steel・High Speed・General Purpose 適用高硬度鋼・高速加工

	Square · High Helix · 2F / 4F 平銑刀・高導型・2 刃 / 4 刃	EHSSH	Ø0.2~Ø20	45°	ANAX	●	○	●		○	●	B092
	Square · High Helix · Long Shank · 4F 平銑刀・高導長柄型・4 刃	EHSLH	Ø3~Ø20	45°	ANAX	●	○	●		○	●	B093
	Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃	EHBSH	0.1R~8R	30°	ANAX	●	○	●		○	●	B094
	Ball Nose · Long Shank · 2F 球型銑刀・長柄型・2 刃	EHBLH	1R~10R	30°	ANAX	●	○	●		○	●	B095
	Ball Nose · Short Flute · 2F 球型銑刀・短刃型・2 刃	EHBUH	1R~8R	27°	ANAX	●	○	●		○	●	B096
	Ball Nose · Near Center Design · 3F / 4F 球型銑刀・刃近中心型・3 刃 / 4 刃	EHBHS	1R~8R	30°	ANAX	●	●	●		●	●	B097
	Ball Nose · Spherical · 2F 球型銑刀・寬球型・2 刃	EHRRC	1R~3R	15°	SNAX	●	○	●		○	●	B098
	Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃	EHCSH	Ø1~Ø12	30°	ANAX	●	○	●		○	●	B099
	Corner Radius · Long Shank · 4F 圓鼻銑刀・長柄型・4 刃	EHCLH	Ø4~Ø12	30°	ANAX	●	○	●		○	●	B100
	Corner Radius · Short Flute · 4F 圓鼻銑刀・短刃型・4 刃	EHCUH	Ø3~Ø12	30°	ANAX	●	○	●		○	●	B101
	Double Corner High Feed EndMill · 4F / 6F 圓鼻銑刀・高進給型・4 刃 / 6 刃	EHWSA	Ø3.175~16	38°	SNAX	●	○	●		○	●	B102
	Long Neck · Square · 2F 長頸型・平銑刀・2 刃	EHSRC	Ø0.2~Ø12	30°	ANAX	●	○	●		○	●	B103
	Long Neck · Square · 4F 長頸型・平銑刀・4 刃	EHSRC	Ø1~Ø12	30°	ANAX	●	○	●		○	●	B109
	Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃	EHBRC	0.15R~6R	30°	ANAX	●	○	●		○	●	B112
	Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃	EHCRC	Ø1~Ø12	30°	ANAX	●	○	●		○	●	B117
	Long Neck · Corner Radius · 4F 長頸型・圓鼻銑刀・4 刃	EHCRC	Ø2~Ø12	30°	ANAX	●	○	●		○	●	B124
	Taper Neck · Ball Nose · 2F 斜頸型・球型銑刀・2 刃	EHBRT	0.5R~6R	30°	ANAX	●	○	●		○	●	B129
	Taper Neck · Corner Radius · 2F 斜頸型・圓鼻銑刀・2 刃	EHCRT	Ø1~Ø6	30°	ANAX	●	○	●		○	●	B130

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H68X Series for High Hardened Steel・High Speed・High Precision Finishing 適用高硬度鋼・高速・高精加工												
	Square · High Precision · Standard · 4F 平銑刀・高精標準型・4 刃	EHSSF	Ø1~Ø12	45°	SNAX	●	○	●		○	●	B132
	Square · High Precision · Long Shank · 4F 平銑刀・高精長柄型・4 刃	EHSLF	Ø4~Ø16	45°	SNAX	●	○	●		○	●	B133
	Ball Nose · High Precision · Standard · 2F 球型銑刀・高精標準型・2 刃	EHBSF	0.5R~6R	30°	SNAX	●	○	●		○	●	B134
	Ball Nose · High Precision · Long Shank · 2F 球型銑刀・高精長柄型・2 刃	EHBLF	2R~6R	30°	SNAX	●	○	●		○	●	B135
	Ball Nose · High Precision · Short with Neck · 2F 球型銑刀・高精短刃型・2 刃	EHBUF	0.5R~6R	30°	SNAX	●	○	●		○	●	B136
	Corner Radius · High Precision · Standard · 4F 圓鼻銑刀・高精標準型・4 刃	EHCSF	Ø1~Ø12	30°	SNAX	●	○	●		○	●	B137
	Corner Radius · High Precision · Long Shank · 4F 圓鼻銑刀・高精長柄型・4 刃	EHCLF	Ø4~Ø12	30°	SNAX	●	○	●		○	●	B138
H70X Series for High Hardened Steel・High Feed・Finishing 適用高硬度鋼・高進給・精加工												
	Square · High Helix · 6F 平銑刀・高導型・6 刃	EHSSS	Ø6~Ø12	45°	NACO	●	○	●		○	●	B139
	Square · High Helix · 8F 平銑刀・高導型・8 刃	EHSSS	Ø16~Ø20	45°	SNAX	●	○	●		○	●	B139
	Square · High Helix · Short Flute · 4F 平銑刀・高導短刃型・4 刃	EHSUS	Ø1~Ø5	45°	NACO	●	○	●		○	●	B140
	Square · High Helix · Short Flute · 6F 平銑刀・高導短刃型・6 刃	EHSUS	Ø6~Ø12	45°	NACO	●	○	●		○	●	B140
	Square · High Helix · Short Flute · 8F 平銑刀・高導短刃型・8 刃	EHSUS	Ø16~Ø20	45°	SNAX	●	○	●		○	●	B140
	Ball Nose · Low Helix · Short Flute · 2F 球型銑刀・低導短刃型・2 刃	EHBUS	0.5R~8R	15°	NACO	●	○	●		○	●	B141
	Corner Radius · High Feed · Short Flute · 4F 圓鼻銑刀・高進給直刃型・4 刃	EHCUK	Ø2~Ø12	0°	SNAX	●	○	●		○	●	B142
	Corner Radius · High Feed · 4F 圓鼻銑刀・高進給直刃型・4 刃	EHCUS	Ø1~Ø12	0°	NACO	●	○	●		○	●	B143

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M50X Series for Exotic Material・General Purpose 適用不鏽鋼 / 難削材・泛用加工

Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Helix 螺旋角	Coating 塗層	P	M	K	N	S	H	Page 頁碼
	Square · Standard · 2F 平銑刀・標準型・2 刃	ESSSA	Ø0.5~Ø16	35°	ANAX	●	●	●		○	○	B145
	Square · Standard · 4F 平銑刀・標準型・4 刃	ESSSA	Ø1~Ø14	35°	ANAX	●	●	●		○	○	B146
	Square · Short Flute · 4F 平銑刀・短刃型・4 刃	ESSHA	Ø3~Ø16	35°	ANAX	●	●	●		○	○	B147
	Square · High Helix · 4F 平銑刀・高導高效能型・4 刃	ESSSB	Ø1~Ø16	45°	ANAX	●	●	●		○	○	B148
	Square · Wave Edge · 3F 平銑刀・波浪型・3 刃	ESSSW	Ø6~Ø20	30°	ANAX	●	●	●		○	○	B149
	Square · Wave Edge · 4F 平銑刀・波浪型・4 刃	ESSSW	Ø6~Ø20	30°	ANAX	●	●	●		○	○	B150
	Square · Chamfer · High Feed · 4F 平銑刀・高進給倒角型・4 刃	ESSSU	Ø3~Ø16	30°	ANAX	●	●	●		○	○	B151
	Square · Radius · High Feed · 4F 平銑刀・高進給圓角型・4 刃	ESCSU	Ø3~Ø16	40°	ANAX	●	●	●		○	○	B152
	Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃	ESBSA	0.25R~8R	30°	ANAX	●	●	●		○	○	B153
	Ball Nose · Near Center Design · 3F / 4F 球型銑刀・刃近中心型・3 刃 / 4 刃	ESBHS	1R~8R	35°	ANAX	●	●	●		○	○	B154
	Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃	ESCSA	Ø1~Ø12	35°	ANAX	●	●	●		○	○	B155

V47X Series for Exotic Material・Anti-Vibration・Unequal Spacing 適用不鏽鋼 / 高溫合金・抗震・不等分割

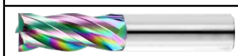
Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Helix 螺旋角	Coating 塗層	P	M	K	N	S	H	Page 頁碼
	Square · Unequal Spacing · Standard · 4F 不等分割平銑刀・標準型・4 刃	EPSSVC	Ø1~Ø25	38°	ANAX	●	●	●		○	○	B157
	Square · Unequal Spacing · Standard · 5F 不等分割平銑刀・標準型・5 刃	EPSSVC	Ø6~Ø16	38°	ANAX	○	●	○		●	○	B158
	Square · Unequal Spacing · Necked · 4F 不等分割平銑刀・帶頸型・4 刃	EPSUVC	Ø6~Ø16	38°	ANAX	●	●	●		○	○	B159
	Square · Unequal Spacing · Roughing & Finishing · 4F 不等分割平銑刀・粗精一體型・4 刃	EPSRVC	Ø6~Ø16	38°	ANAX	●	●	●		○	○	B160
	Square · Unequal Spacing · Standard · 4F 不等分割平銑刀・標準型・4 刃	EPSSVD	Ø4~Ø16	45°	ANAX	●	●	●		●	○	B161
	Square · Unequal Spacing · Standard · 5F 不等分割平銑刀・標準型・5 刃	EPSSVD	Ø6~Ø16	43°	ANAX	●	●	●		●	●	B162
	Square · Unequal Spacing · Standard · 7F 不等分割平銑刀・標準型・7 刃	EPSSVD	Ø10~Ø16	43°	ANAX		●			●	●	B163
	Square · Unequal Spacing · Long Flute · 5F 不等分割平銑刀・長刃型・5 刃	EPSCVD	Ø6~Ø16	43°	ANAX	●	●	●		●	●	B164
	Square · Unequal Spacing · Long Flute · 7F 不等分割平銑刀・長刃型・7 刃	EPSCVD	Ø10~Ø16	43°	ANAX		●			●	●	B165
	Square · Unequal Spacing · Standard · 4F 不等分割平銑刀・標準型・4 刃	EPSSVE	Ø8~Ø16	52°	ANAX		●			●	●	B166

V53X Series for Exotic Material・Anti-vibration・Variable Helix 適用不鏽鋼 / 高溫合金・抗震・不等螺旋

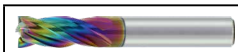
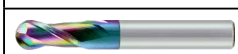
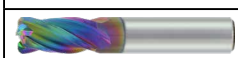
Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Helix 螺旋角	Coating 塗層	P	M	K	N	S	H	Page 頁碼
	Square · Variable Helix · Standard · 4F 不等螺旋平銑刀・標準型・4 刃	ESSSVC	Ø1~Ø25	38°~41°	SNAX	●	○	●		○	●	B168
	Square · Variable Helix · Standard · 5F 不等螺旋平銑刀・標準型・5 刃	ESSSVC	Ø4~Ø16	38°~42°	SNAX	●	○	●		○	●	B169
	Square · Variable Helix · Standard · 4F 不等螺旋平銑刀・標準型・4 刃	ESSSVD	Ø4~Ø12	43°~46°	SNAX	●	○	●		○	●	B170
	Square · Variable Helix · Standard · 4F 不等螺旋平銑刀・標準型・4 刃	ESSSVA	Ø6~Ø16	30°~32°	SNAX	●	○	●		○	●	B171
	Square · Variable Helix · Standard · 4F 不等螺旋平銑刀・標準型・4 刃	ESSSVB	Ø4~Ø20	35°~38°	SNAX	●	○	●		○	●	B172
	Square · Variable Helix · Necked · 4F 不等螺旋平銑刀・帶頸型・4 刃	ESSUVB	Ø8~Ø12	35°~38°	SNAX	●	○	●		○	●	B173

Index 索引

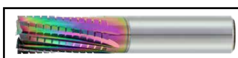
A100 Series for Aluminum Alloy・Plastic・Copper 適用鋁合金・塑料・銅加工

Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Helix 螺旋角	Coating 塗層	P	M	K	N	S	H	Page 頁碼
	Square · Standard · 1F 平銑刀・標準型・1 刃	ENSSC	Ø1~Ø12	30°	–				●			B175
	Square · Standard · 2F 平銑刀・標準型・2 刃	ENSSS	Ø1~Ø20	45°	–				●			B176
	Square · Standard · 3F 平銑刀・標準型・3 刃	ENSSS	Ø2~Ø20	45°	–				●			B177
	Square · Long Flute · 3F 平銑刀・長刃型・3 刃	ENSCS	Ø3~Ø20	45°	–				●			B178
	Square · High Helix · 3F 平銑刀・高導型・3 刃	ENSSH	Ø4~Ø16	55°	–				●			B179
	Square · High Performance(for side milling) · 3F 平銑刀・高導型・3 刃	ENSSB	Ø3~Ø20	45°	–				●			B180
	Square · AL Finishing · 3F 平銑刀・AL 高光鏡面型・3 刃	ENSSF	Ø1~Ø12	45°	–				●			B181
	Square · AL-U Finishing · 3F 平銑刀・AL-U 高光鏡面型・3 刃	ENSSP	Ø6~Ø16	45°	–				●			B182
	Square · Unequal Spacing · Standard · 3F 不等分割平銑刀 - 標準型・3 刃	ENSSV	Ø3~Ø16	40°	–				●			B183
	Square · Roughing · 3F 平銑刀・粗銑型・3 刃	ENSSR	Ø6~Ø20	30°	–				●			B184
	Square · Roughing · 4F 平銑刀・粗銑型・4 刃	ENSSR	Ø6~Ø20	30°	–				●			B185
	Square · Wave Edge · 3F 平銑刀・波浪型・3 刃	ENSSW	Ø6~Ø12	30°	–				●			B186
	Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃	ENBSA	0.5R~3R	35°	–				●			B187
	Corner Radius · Standard · 3F 圓鼻銑刀・標準型・3 刃	ENCSS	Ø6~Ø16	45°	–				●			B188
	Square · Standard · 4F (for CU & AL) 平銑刀・標準型・4 刃	ENSSC	Ø5~Ø12	30°	NDLC				●			B189
	Long Neck · Square · 2F (for CU & AL) 長頸型・平銑刀・2 刃	ENSRC	Ø0.5~Ø4	38°	NDLC				●			B190
	Long Neck · Ball Nose · 2F (for CU & AL) 長頸型・球型銑刀・2 刃	ENBRC	0.25R~2R	30°	NDLC				●			B191
	Long Neck · Corner Radius · 2F (for CU & AL) 長頸型・圓鼻銑刀・2 刃	ENCRC	Ø0.5~Ø4	38°	NDLC				●			B192

A200 Series for Graphite 適用石墨加工

	Square · Standard · 4F 平銑刀・標準型・4 刃	EGSSC	Ø3~Ø12	30°	NDLC				●			B193
	Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃	EGBSC	0.1R~6R	30°	NDLC				●			B194
	Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃	EGCSC	Ø3~Ø12	30°	NDLC				●			B195
	Long Neck · Square · 2F 長頸型・平銑刀・2 刃	EGSRC	Ø0.5~Ø6	30°	NDLC				●			B196
	Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃	EGBRC	0.25R~3R	30°	NDLC				●			B197
	Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃	EGCRC	Ø1~Ø6	30°	NDLC				●			B198

A300 Series for CFRP/GFRP 適用 CFRP/GFRP 複合材料加工

	Square · Finishing · 6F / 8F 平銑刀 - 精銑用・6 刃 / 8 刃	ECSSF	Ø6~Ø12	8°	NDLC				●			B199
	Square · Roughing · 8~17F 平銑刀 - 粗銑用・8~17 刃	ECSSR	Ø4~Ø12	±25°	NDLC				●			B200

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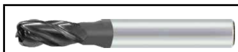
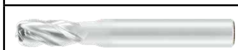
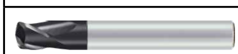
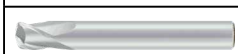
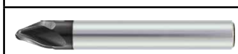
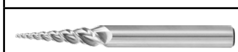
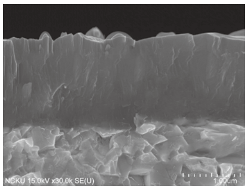
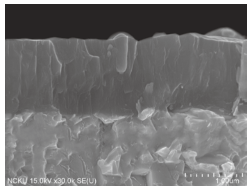
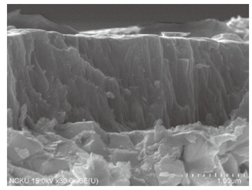
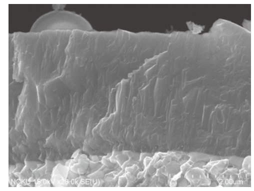
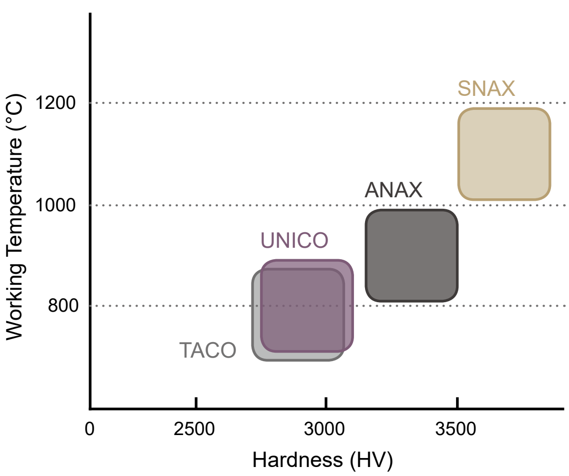
Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Helix 螺旋角	Coating 塗層	P	M	K	N	S	H	Page 頁碼
S910 Series Modular Endmills · Deep Milling 模組化銑刀・深加工												
	Square Solid Head · 4F 平銑刀頭・4 刃	EHSWH	Ø10~Ø20	45°	SNAX	●	○	●		○	●	B202
	Square Solid Head (Unequal spacing) · 4F 不等分割平銑刀頭 (難削材用)・4 刃	EPSWV	Ø12~Ø20	38°	ANAX	●	●	●		○	●	B202
	Square Solid Head (Unequal spacing) · 3F 不等分割平銑刀頭 (鋁用)・3 刃	ENSWV	Ø12~Ø20	45°	–				●			B203
	Ball Nose Solid Head · 2F 球型銑刀頭・2 刃	EHBWH	Ø10~Ø20	30°	SNAX	●	○	●		○	●	B203
	Corner Radius Solid Head · 4F 圓鼻銑刀頭・4 刃	EHCWH	Ø10~Ø20	30°	SNAX	●	○	●		○	●	B204
	Chamfer Solid Head · 4F / 6F 倒角刀頭・4 刃 / 6 刃	EHFWH	Ø10~Ø16	0°	ANAX	●	●	●		○	○	B204
S920 Series for Thread milling 適用銑牙加工												
	Thread mill · 3F / 4F / 5F (ISO Metric) 銑牙刀・3 刃 / 4 刃 / 5 刃 (ISO 牙)	ETSNM	Ø0.72~Ø9.9	10~15°	ANAX	●	●	●		○	○	B206
	Thread mill · 3F (ISO Metric) 銑牙刀・3 刃 (ISO 牙)	ETTNM	Ø1.5~Ø15.9	10~15°	ANAX	●	●	●		○	○	B206
	Thread mill · 3F / 4F (American UN) 銑牙刀・3 刃 / 4 刃 (UN 牙)	ETSNU	Ø3.31~Ø14.4	10~15°	ANAX	●	●	●		○	○	B207
	Thread mill · 3F / 4F (ISO Metric) 銑牙刀・3 刃 / 4 刃 (ISO 牙)	ETMNM	Ø3.9~Ø11.9	10~15°	ANAX	●	●	●		○	○	B208
	Thread mills with coolant hole · 3F / 4F (ISO Metric) 銑牙刀含內冷卻孔・3 刃 / 4 刃 (ISO 牙)	ETMCM	Ø3.9~Ø11.9	10~15°	ANAX	●	●	●		○	○	B208
	Thread mill · 3F / 4F (American UN) 銑牙刀・3 刃 / 4 刃 (UN 牙)	ETMNU	Ø3~Ø17	10~15°	ANAX	●	●	●		○	○	B209
	Drll/Thread mill · 2F 銑牙刀 - 鑽孔 & 螺紋銑削・2 刃	ETDNM	Ø4.2~Ø8.5	26°	UNICO			●				B211
S930 Series Barrel Endmills · 5-axis · Profile Milling 酒桶銑刀・5 軸・曲面加工												
	Barrel Shape · 4F 酒桶形・4 刃	EBASB	Ø10~Ø12	30°	ANAX	●	●	○		●	○	B212
	Barrel Shape · 4F 酒桶形・4 刃	EBNSB	Ø10~Ø12	40°	–				●			B212
	Oval Shape · 3F / 4F 橢圓形・3 刃 / 4 刃	EBASO	Ø6~Ø12	30°	ANAX	●	●	○		●	○	B213
	Oval Shape · 3F / 4F 橢圓形・3 刃 / 4 刃	EBNSO	Ø6~Ø12	40°	–				●			B213
	Lens Shape · 3F 透鏡形・3 刃	EBASL	Ø6~Ø12	30°	ANAX	●	●	○		●	○	B214
	Lens Shape · 3F 透鏡形・3 刃	EBNSL	Ø6~Ø12	40°	–				●			B214
	ST Taper Shape · 3F 圓錐形・3 刃	EBAST	Ø6~Ø12	20°	ANAX	●	●	○		●	○	B215
	ST Taper Shape · 3F 圓錐形・3 刃	EBNST	Ø6~Ø12	30°	–				●			B215
	HT Taper Shape · 2F 短錐形・2 刃	EBAHT	Ø10	20°	ANAX	●	●	○		●	○	B216
	HT Taper Shape · 2F 短錐形・2 刃	EBNHT	Ø10	30°	–				●			B216
	FT Taper Shape · 3F 斜度球形・3 刃	EBNFT	0.5R~1.0R	45°	–				●			B217

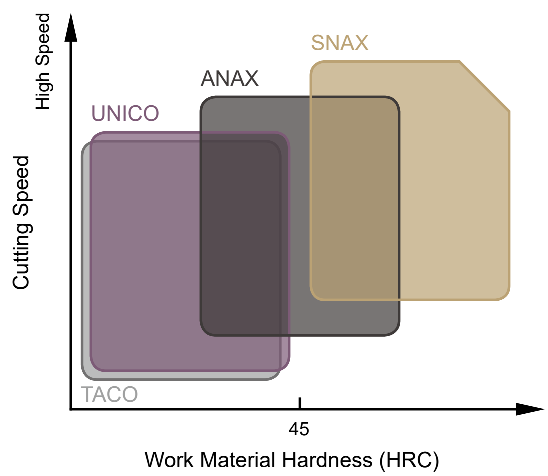
Coating Introduction 塗層介紹

	TACO	UNICO	ANAX	SNAX	NACO
Coating Type 塗層類型					
Hardness(HV 0.05) 硬度	HV2800 ~ 3100	HV2800 ~ 3100	HV3200 ~ 3500	HV3500 ~ 3800	
Friction Coefficient 摩擦系數	0.4 ~ 0.5	0.4 ~ 0.5	0.3 ~ 0.4	0.3 ~ 0.4	0.4 ~ 0.5
Working Temperature 加工溫度	800 ~ 900 °C	800 ~ 900 °C	900 ~ 1000 °C	1100 ~ 1200 °C	
Coating Structure 塗層結構	Multi-layer	Multi-layer	Multi-layer	Nano Multi-layer	
Coating Elements 塗層元素	Al, Ti, N	Al, Ti, Cr, N	Al, Ti, Cr, N	Al, Ti, Si, Cr, N	

◆ Working Temperature and Hardness
加工溫度及硬度



◆ Speed and Work Material Hardness
加工速度及加工材料硬度



ICONS Descriptions 圖標說明

Tool Material	
MG	Micro Grain
UMG	Ultra Micro Grain
UMG 0.4μm	Ultra Micro Grain 0.4μm

Material Hardness	
HRC 35	Material Hardness

Coating	
UNICO	UNICO Coated
TACO	TACO Coated
ANAX	ANAX Smooth Coated
SNAX	SNAX Smooth Coated
NACO	Naco Blue Coaded
NDLC	NDLC Coated
DIA	DIA Coated

Tool Geometry	
30°	Helix Angle
Unequal	Unequal Flute Spacing
35°~38°	Variable Helix
	Sharp Edge
	Flatland Edge
45° Chamfer	Chamfer Edge
Radius	Radius Edge
2	2 Flutes
3	3 Flutes
4	4 Flutes
5	5 Flutes
6	6 Flutes
7	7 Flutes
8	8 Flutes

Cutting Application	
	Face Milling
	Slot Milling
	Side Milling
	Helical Milling
	Rlunge Milling
	Ramping
	Trochoidal Milling
	Profile Milling
	Inner R Side Milling
	Chamfering
	Chamfering
	Undercutting
	Dovetail Slotting
	Dovetail Side Milling

Selection Guide 選擇指南

P Steel 鋼

Application 應用	1st Recommendation 第一推薦 (Series・Type・Coating)	2nd Recommendation 第二推薦 (Series・Type・Coating)
Slotting 溝銑削	V470・EPSSVC4・TACO 	G550・EPSSC2・UNICO 
Side Roughing 粗側銑削	V470・EPSSVC4・TACO 	G550・EPSSC4・UNICO 
Side Finishing 精側銑削	V47X・EPSSVD4・ANAX 	G550・EPSSH4・UNICO 
Profiling 輪廓銑削	G550・EPBSC2・UNICO 	G450・EPBSA2・TACO 

M Stainless Steel 不鏽鋼

Application 應用	1st Recommendation 第一推薦 (Series・Type・Coating)	2nd Recommendation 第二推薦 (Series・Type・Coating)
Slotting 溝銑削	V47X・EPSSVC4・ANAX 	V53X・ESSSVC4・SNAX 
Side Roughing 粗側銑削	V47X・EPSSVC4・ANAX 	V53X・ESSSVC4・SNAX 
Side Finishing 精側銑削	V47X・EPSSVC5・ANAX 	V53X・ESSSVD4・SNAX 
Profiling 輪廓銑削	M50X・ESBHS4・ANAX 	M50X・ESBSA2・ANAX 

Selection Guide 選擇指南

K *Cast Iron* 鑄鐵

Application 應用	**1st Recommendation** 第一推薦 (Series · Type · Coating)	**2nd Recommendation** 第二推薦 (Series · Type · Coating)
Slotting 溝銑削	V470 · EPSSVC4 · TACO 	G550 · EPSSC2 · UNICO 
Side Roughing 粗側銑削	V470 · EPSSVC4 · TACO 	G550 · EPSSC4 · UNICO 
Side Finishing 精側銑削	V47X · EPSSVD4 · ANAX 	G550 · EPSSH4 · UNICO 
Profiling 輪廓銑削	G550 · EPBSC2 · UNICO 	G450 · EPBSA2 · TACO 

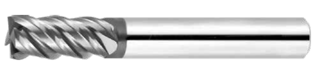
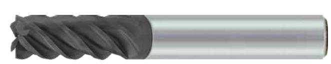
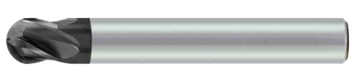
N *Aluminum alloy & Brass* 鋁合金與銅

Application 應用	**1st Recommendation** 第一推薦 (Series · Type · Coating)	**2nd Recommendation** 第二推薦 (Series · Type · Coating)
Slotting 溝銑削	A100 · ENSSV3 · Uncoated 	A100 · ENSSS3 · Uncoated 
Side Roughing 粗側銑削	A100 · ENSSV3 · Uncoated 	A100 · ENSSP3 · Uncoated 
Side Finishing 精側銑削	A100 · ENSSF3 · Uncoated 	A100 · ENSSP3 · Uncoated 
Profiling 輪廓銑削	A100 · ENBSA2 · Uncoated 	G450 · EPBSA2 · Uncoated 

S *High Temperature Alloy* 高溫合金

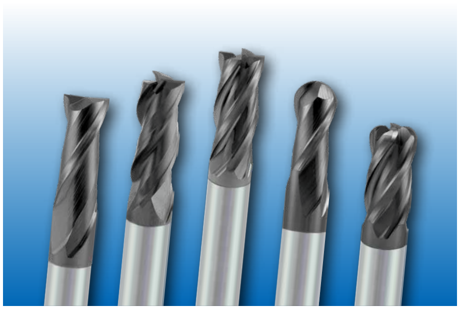
Application 應用	**1st Recommendation** 第一推薦 (Series・Type・Coating)	**2nd Recommendation** 第二推薦 (Series・Type・Coating)
Slotting 溝銑削	V53X・ESSSVC4・SNAX 	V47X・EPSSVC4・ANAX 
Side Roughing 粗側銑削	V53X・ESSSVC4・SNAX 	V47X・EPSSVC5・ANAX 
Side Finishing 精側銑削	V47X・EPSSVD5・ANAX 	V53X・ESSSVD4・SNAX 
Profiling 輪廓銑削	M50X・ESBHS4・ANAX 	H65X・EHBHS4・ANAX 

H *Hardened Steel* 高硬度鋼

Application 應用	**1st Recommendation** 第一推薦 (Series・Type・Coating)	**2nd Recommendation** 第二推薦 (Series・Type・Coating)
Slotting 溝銑削	H65X・EHCUH4・ANAX 	H68X・EHCSF4・SNAX 
Side Roughing 粗側銑削	H65X・EHSSH4・ANAX 	V47X・EPSSVD5・ANAX 
Side Finishing 精側銑削	H70X・EHSSS6・SNAX 	V47X・EPSSVD5・ANAX 
Profiling 輪廓銑削	H65X・EHBHS4・ANAX 	H65X・EHBSH2・ANAX 

For General Milling Series Introduction 泛用銑刀系列介紹

G450 Series

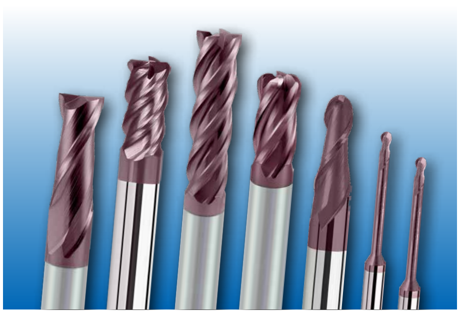


- For carbon steel, alloy steel & cast iron.
- General semi-finishing to medium cutting, HRC < 48.
- Positive rake angle and high rigidity design.
- 35° helix angle, TACO coating.

- 適用於碳鋼 , 合金鋼 & 鑄鐵
- 較一般速 , 半精加工至中加工
- 較鋒利刀口與高剛性設計
- 35°螺旋角 , 高鋁鈦塗層

→ Page B015

G550 Series

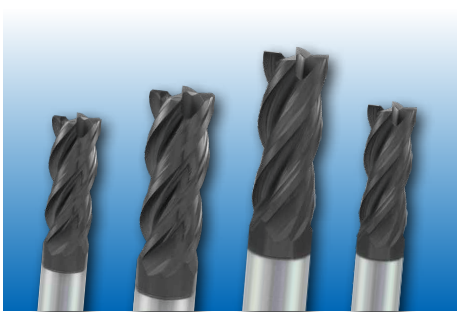


- For carbon steel, alloy steel & cast iron.
- General medium to rough cutting, HRC < 55.
- Positive rake angle and high rigidity design.
- 30° helix angle, UNICO coating.

- 適用於碳鋼 , 合金鋼 & 鑄鐵
- 較高速 , 中加工至粗加工
- 較鋒利刀口與高剛性設計
- 30°螺旋角 , 高鋁鈦塗層

→ Page B023

V470 Series



- For carbon steel, alloy steel & cast iron.
- High efficiency cutting, HRC < 48
- Unequal flute spacing for anti-vibration.
- TACO coating.

- 適用於碳鋼 , 合金鋼 & 鑄鐵
- 高效益、高去除率加工
- 抗震不等分割刃設計
- 高鋁鈦塗層

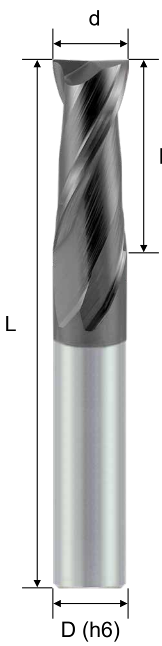
→ Page B085

G450 - Square · Standard · 2F 平銑刀・標準型・2 刃

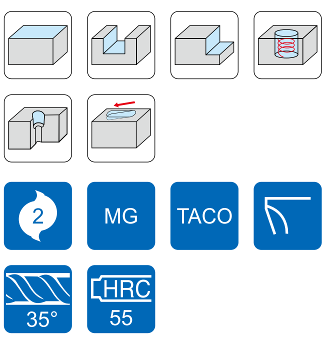
- General purpose milling for Stainless Steel, Alloy Steel, Carbon Steel.
- Semi-finishing for Mold Steel.
- TACO coating (Al, Ti, N) provide superior wear resistance.

EPSSA

P	M	K	N	S	H
●	●	●	○		○



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSA241000T	1	3	50	4	2
EPSSA241500T	1.5	4	50	4	2
EPSSA242000T	2	5	50	4	2
EPSSA242500T	2.5	6	50	4	2
EPSSA243000T	3	8	50	4	2
EPSSA243500T	3.5	9	50	4	2
EPSSA244000T	4	10	50	4	2
EPSSA204500T	4.5	11	50	6	2
EPSSA205000T	5	13	50	6	2
EPSSA205500T	5.5	14	50	6	2
EPSSA206000T	6	15	50	6	2
EPSSA206500T	6.5	16	60	8	2
EPSSA207000T	7	18	60	8	2
EPSSA208000T	8	20	60	8	2
EPSSA209000T	9	22	75	10	2
EPSSA210000T	10	25	75	10	2
EPSSA212000T	12	30	75	12	2
EPSSA214000T	14	30	75	14	2
EPSSA216000T	16	40	100	16	2
EPSSA218000T	18	40	100	20	2
EPSSA220000T	20	45	100	20	2



※ To choose uncoated tools for N material machining.

Cutting conditions：Page B218

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

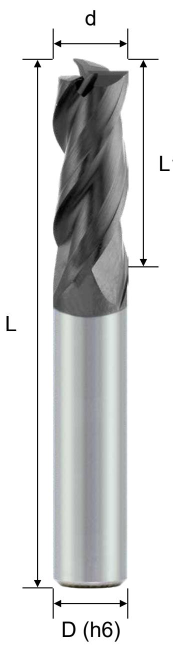
WINSTAR

G450 - Square · Standard · 3F 平銑刀・標準型・3 刃

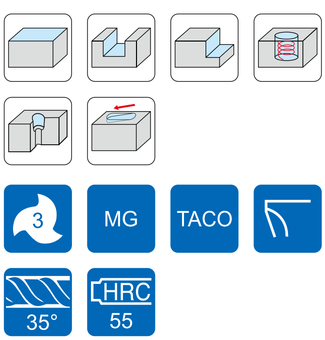
- General purpose milling for Stainless Steel, Alloy Steel, Carbon Steel.
- Semi-finishing for Mold Steel.
- TACO coating (Al, Ti, N) provide superior wear resistance.

EPSSA

P	M	K	N	S	H
●	●	●	○		○



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSA341000T	1	3	50	4	3
EPSSA341500T	1.5	4	50	4	3
EPSSA342000T	2	5	50	4	3
EPSSA342500T	2.5	6	50	4	3
EPSSA343000T	3	8	50	4	3
EPSSA344000T	4	10	50	4	3
EPSSA305000T	5	13	50	6	3
EPSSA306000T	6	15	50	6	3
EPSSA308000T	8	20	60	8	3
EPSSA310000T	10	25	75	10	3
EPSSA312000T	12	30	75	12	3
EPSSA314000T	14	30	75	14	3
EPSSA316000T	16	40	100	16	3
EPSSA320000T	20	45	100	20	3



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

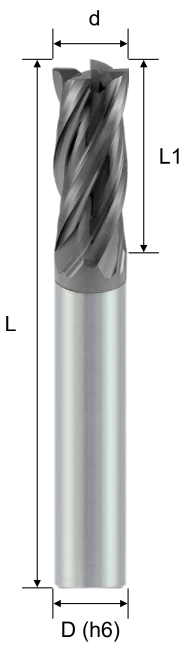
Cutting conditions : Page B218

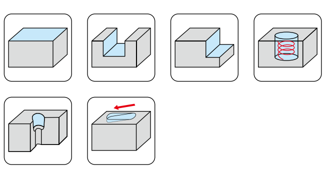
G450 - Square · Standard · 4F 平銑刀・標準型・4 刃

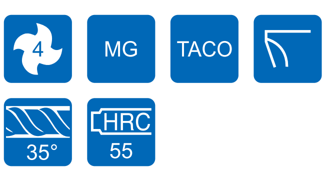
- General purpose milling for Stainless Steel, Alloy Steel, Carbon Steel.
- Semi-finishing for Mold Steel.
- TACO coating (Al, Ti, N) provide superior wear resistance.

EPSSA

P	M	K	N	S	H
●	●	●	○		○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSA441000T	1	3	50	4	4
EPSSA441500T	1.5	4	50	4	4
EPSSA442000T	2	5	50	4	4
EPSSA442500T	2.5	6	50	4	4
EPSSA443000T	3	8	50	4	4
EPSSA444000T	4	10	50	4	4
EPSSA405000T	5	13	50	6	4
EPSSA406000T	6	15	50	6	4
EPSSA408000T	8	20	60	8	4
EPSSA410000T	10	25	75	10	4
EPSSA412000T	12	30	75	12	4
EPSSA414000T	14	30	75	14	4
EPSSA416000T	16	40	100	16	4
EPSSA420000T	20	45	100	20	4

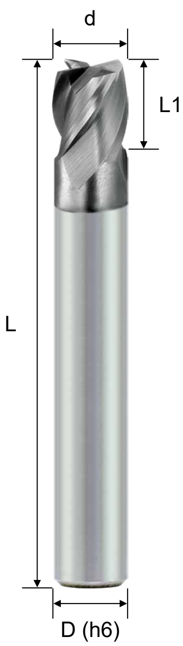
Cutting conditions : Page B218

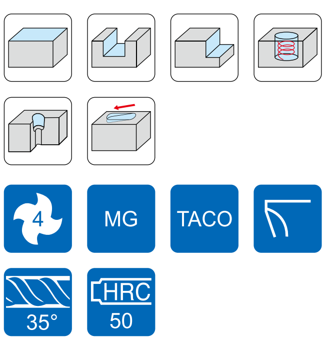
G450 - Square · Short Flute · 4F　平銑刀・短刃型・4 刃

- General purpose milling for Stainless Steel, Alloy Steel, Carbon Steel.
- Semi-finishing for Mold Steel.
- TACO coating (Al, Ti, N) provide superior wear resistance.

EPSHA

P	M	K	N	S	H
●	●	●	○		○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSHA443000T	3	3	50	4	4
EPSHA444000T	4	4	50	4	4
EPSHA404000T	4	4	50	6	4
EPSHA405000T	5	5	50	6	4
EPSHA406000T	6	7	50	6	4
EPSHA408000T	8	9	60	8	4
EPSHA410000T	10	11	75	10	4
EPSHA412000T	12	13	75	12	4
EPSHA414000T	14	15	75	14	4
EPSHA416000T	16	17	100	16	4

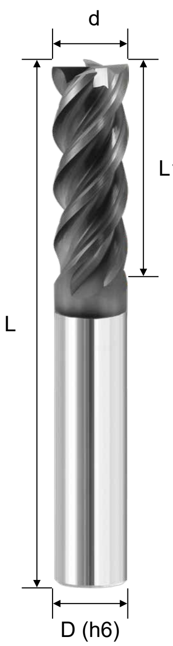
Cutting conditions : Page B218

G450 - Square · High Helix · 4F 平銑刀・高導型・4 刃

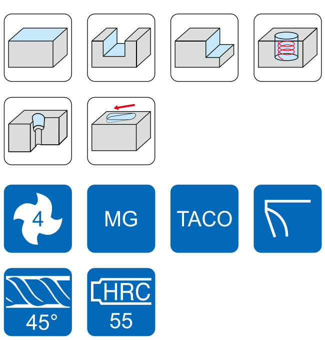
- General purpose milling for Stainless Steel, Alloy Steel, Carbon Steel.
- U-flute design with high chips volume space and easy to remove chips.
- Semi-finishing for Mold Steel.
- TACO coating (Al, Ti, N) provide superior wear resistance.

EPSSB

P	M	K	N	S	H
●	●	●	○		○



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESSSB441000T	1	3	50	4	4
ESSSB442000T	2	5	50	4	4
ESSSB443000T	3	8	50	4	4
ESSSB444000T	4	10	50	4	4
ESSSB404000T	4	10	50	6	4
ESSSB405000T	5	13	50	6	4
ESSSB406000T	6	15	50	6	4
ESSSB408000T	8	20	60	8	4
ESSSB410000T	10	25	75	10	4
ESSSB412000T	12	30	75	12	4
ESSSB416000T	16	35	100	16	4



Cutting conditions：Page B257

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

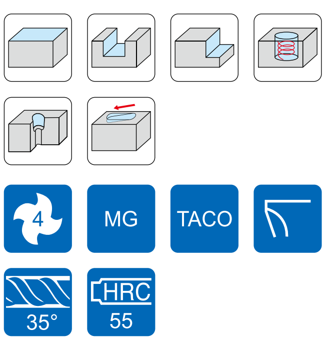
WINSTAR

G450 - Square · Long Shank · 4F 平銑刀・長柄型・4 刃

- General purpose milling for Stainless Steel, Alloy Steel, Carbon Steel.
- Semi-finishing for Mold Steel.
- TACO coating (Al, Ti, N) provide superior wear resistance.

EPSLA

P	M	K	N	S	H
●	●	●	○		○



d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSLA444007T	4	10	75	4	4
EPSLA406007T	6	15	75	6	4
EPSLA408010T	8	20	100	8	4
EPSLA410010T	10	25	100	10	4
EPSLA412010T	12	30	100	12	4

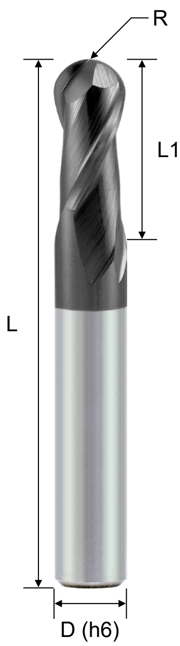
Cutting conditions：Page B221

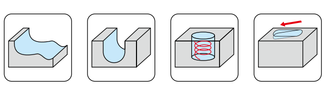
G450 - Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃

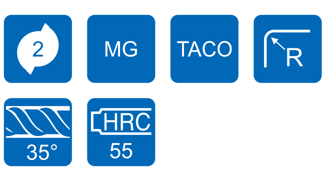
- General purpose milling for Stainless Steel, Alloy Steel, Carbon Steel.
- Semi-finishing for Mold Steel.
- TACO coating (Al, Ti, N) provide superior wear resistance.

EPBSA

P	M	K	N	S	H
●	●	●	○		○







R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPBSA241000T	0.5R	1	2	50	4	2
EPBSA241500T	0.75R	1.5	3	50	4	2
EPBSA242000T	1.0R	2	4	50	4	2
EPBSA242500T	1.25R	2.5	5	50	4	2
EPBSA243000T	1.5R	3	6	50	4	2
EPBSA244000T	2.0R	4	8	50	4	2
EPBSA205000T	2.5R	5	10	50	6	2
EPBSA206000T	3.0R	6	12	50	6	2
EPBSA208000T	4.0R	8	16	60	8	2
EPBSA210000T	5.0R	10	20	75	10	2
EPBSA212000T	6.0R	12	24	75	12	2

Cutting conditions : Page B223

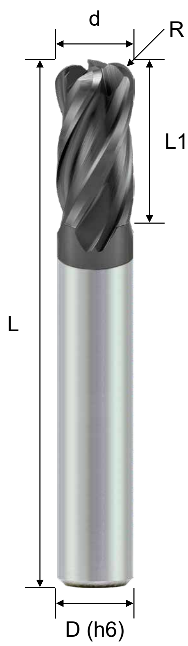
WINSTAR

G450 - Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃

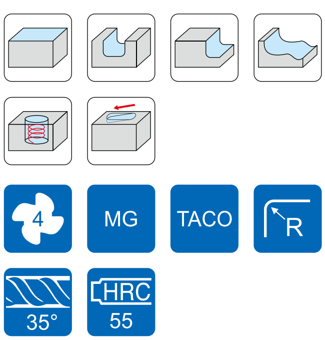
- General purpose milling for Stainless Steel, Alloy Steel, Carbon Steel.
- Semi-finishing for Mold Steel.
- TACO coating (Al, Ti, N) provide superior wear resistance.

EPCSA

P	M	K	N	S	H
●	●	●	○		○



Order No. 訂購編碼	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPCSA441002T	1	0.2R	2	50	4	4
EPCSA441502T	1.5	0.2R	3	50	4	4
EPCSA442002T	2	0.2R	4	50	4	4
EPCSA443002T	3	0.2R	6	50	4	4
EPCSA443005T	3	0.5R	6	50	4	4
EPCSA444002T	4	0.2R	8	50	4	4
EPCSA444005T	4	0.5R	8	50	4	4
EPCSA406005T	6	0.5R	12	50	6	4
EPCSA406010T	6	1.0R	12	50	6	4
EPCSA408005T	8	0.5R	16	60	8	4
EPCSA408010T	8	1.0R	16	60	8	4
EPCSA410005T	10	0.5R	20	75	10	4
EPCSA410010T	10	1.0R	20	75	10	4
EPCSA412005T	12	0.5R	24	75	12	4
EPCSA412010T	12	1.0R	24	75	12	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

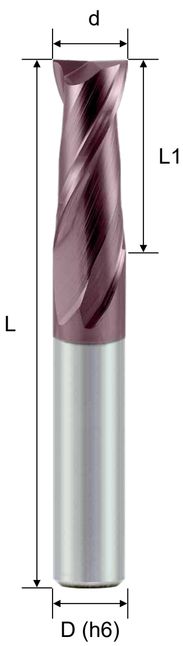
Cutting conditions : Page B226

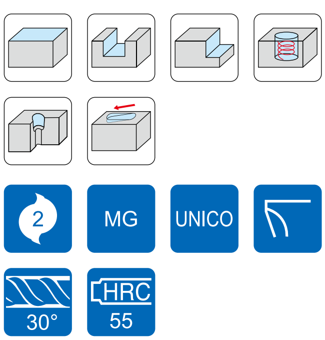
G550 - Square · Standard · 2F 平銑刀・標準型・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel,etc.
- Strong geometry design has excellent cutting ability of cutting edges.
- High precision cutting for side milling.

EPSSC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSC240200U	0.2	0.4	50	4	2
EPSSC240300U	0.3	0.6	50	4	2
EPSSC240400U	0.4	0.8	50	4	2
EPSSC240500U	0.5	1.0	50	4	2
EPSSC240600U	0.6	1.5	50	4	2
EPSSC240700U	0.7	2.0	50	4	2
EPSSC240800U	0.8	2.0	50	4	2
EPSSC240900U	0.9	2.0	50	4	2
EPSSC241000U	1.0	3.0	50	4	2
EPSSC201000U	1.0	3.0	50	6	2
EPSSC241500U	1.5	4.0	50	4	2
EPSSC242000U	2.0	5.0	50	4	2
EPSSC202000U	2.0	5.0	50	6	2
EPSSC242500U	2.5	6.0	50	4	2
EPSSC233000U	3.0	8.0	50	3	2
EPSSC243000U	3.0	8.0	50	4	2
EPSSC203000U	3.0	8.0	50	6	2
EPSSC243500U	3.5	9.0	50	4	2
EPSSC203500U	3.5	9.0	50	6	2
EPSSC244000U	4.0	10.0	50	4	2
EPSSC204000U	4.0	10.0	50	6	2
EPSSC204500U	4.5	11.0	50	6	2
EPSSC205000U	5.0	13.0	50	6	2
EPSSC205500U	5.5	14.0	50	6	2
EPSSC206000U	6.0	15.0	50	6	2
EPSSC206500U	6.5	16.0	60	8	2
EPSSC207000U	7.0	18.0	60	8	2
EPSSC208000U	8.0	20.0	60	8	2
EPSSC209000U	9.0	22.0	75	10	2
EPSSC210000U	10.0	25.0	75	10	2
EPSSC211000U	11.0	25.0	75	12	2
EPSSC212000U	12.0	30.0	75	12	2
EPSSC214000U	14.0	30.0	75	14	2
EPSSC216000U	16.0	40.0	100	16	2
EPSSC218000U	18.0	40.0	100	20	2
EPSSC220000U	20.0	45.0	100	20	2
EPSSC225000U	25.0	45.0	100	25	2

Cutting conditions ： Page B218

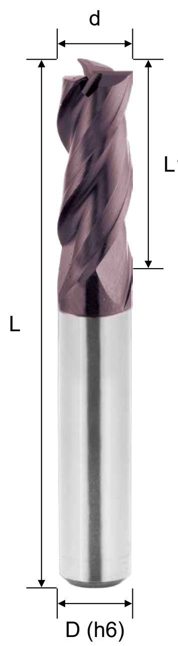
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Square · Standard · 3F 平銑刀・標準型・3 刃

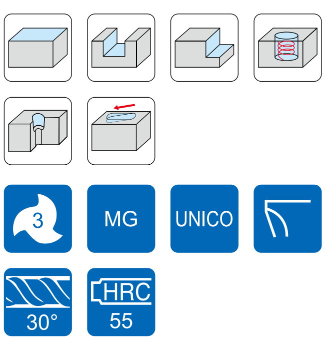
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel,etc.
- Strong geometry design has excellent cutting ability of cutting edges.
- High precision cutting for side milling.

EPSSC

P	M	K	N	S	H
●	●	●			○



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSC331000U	1.0	3	50	3	3
EPSSC331500U	1.5	4	50	3	3
EPSSC332000U	2.0	5	50	3	3
EPSSC333000U	3.0	8	50	3	3
EPSSC341000U	1.0	3	50	4	3
EPSSC341500U	1.5	4	50	4	3
EPSSC342000U	2.0	5	50	4	3
EPSSC342500U	2.5	6	50	4	3
EPSSC343000U	3.0	8	50	4	3
EPSSC343500U	3.5	9	50	4	3
EPSSC344000U	4.0	10	50	4	3
EPSSC303000U	3.0	8	50	6	3
EPSSC303500U	3.5	9	50	6	3
EPSSC304000U	4.0	10	50	6	3
EPSSC304500U	4.5	11	50	6	3
EPSSC305000U	5.0	13	50	6	3
EPSSC305500U	5.5	14	50	6	3
EPSSC306000U	6.0	15	50	6	3
EPSSC306500U	6.5	16	60	8	3
EPSSC307000U	7.0	18	60	8	3
EPSSC308000U	8.0	20	60	8	3
EPSSC309000U	9.0	22	75	10	3
EPSSC310000U	10.0	25	75	10	3
EPSSC311000U	11.0	25	75	12	3
EPSSC312000U	12.0	30	75	12	3
EPSSC314000U	14.0	30	75	14	3
EPSSC316000U	16.0	40	100	16	3
EPSSC318000U	18.0	40	100	20	3
EPSSC320000U	20.0	45	100	20	3
EPSSC325000U	25.0	45	100	25	3



Cutting conditions ： Page B218

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

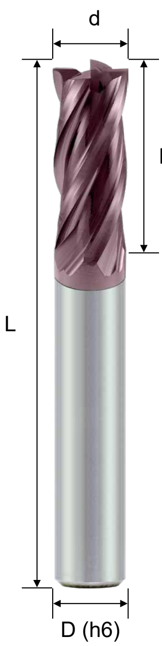
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

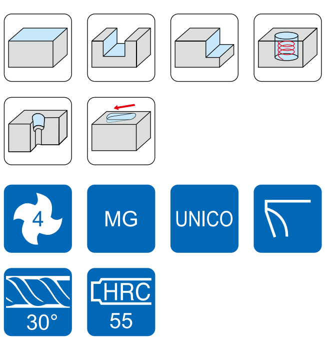
G550 - Square · Standard · 4F 平銑刀・標準型・4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Strong geometry design has excellent cutting ability of cutting edges.
- High precision cutting for side milling.

EPSSC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSC431000U	1.0	3	50	3	4
EPSSC431500U	1.5	4	50	3	4
EPSSC432000U	2.0	5	50	3	4
EPSSC433000U	3.0	8	50	3	4
EPSSC441000U	1.0	3	50	4	4
EPSSC441500U	1.5	4	50	4	4
EPSSC442000U	2.0	5	50	4	4
EPSSC442500U	2.5	6	50	4	4
EPSSC443000U	3.0	8	50	4	4
EPSSC443500U	3.5	9	50	4	4
EPSSC444000U	4.0	10	50	4	4
EPSSC403000U	3.0	8	50	6	4
EPSSC403500U	3.5	9	50	6	4
EPSSC404000U	4.0	10	50	6	4
EPSSC404500U	4.5	11	50	6	4
EPSSC405000U	5.0	13	50	6	4
EPSSC405500U	5.5	14	50	6	4
EPSSC406000U	6.0	15	50	6	4
EPSSC406500U	6.5	16	60	8	4
EPSSC407000U	7.0	18	60	8	4
EPSSC408000U	8.0	20	60	8	4
EPSSC409000U	9.0	22	75	10	4
EPSSC410000U	10.0	25	75	10	4
EPSSC411000U	11.0	25	75	12	4
EPSSC412000U	12.0	30	75	12	4
EPSSC414000U	14.0	30	75	14	4
EPSSC416000U	16.0	40	100	16	4
EPSSC418000U	18.0	40	100	20	4
EPSSC420000U	20.0	45	100	20	4
EPSSC425000U	25.0	45	100	25	4

Cutting conditions : Page B218

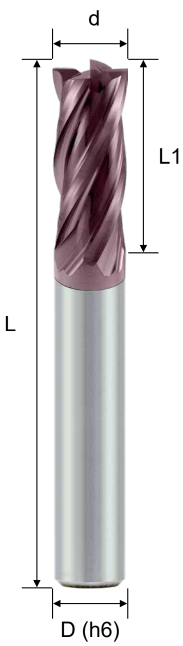
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

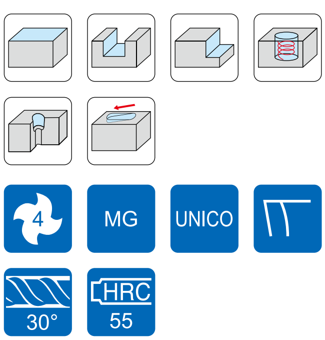
G550 - Square · Shape Edge · 4F 平銑刀・銳角型・4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Strong geometry design has excellent cutting ability of cutting edges.
- High precision cutting for side milling.

EPSPC

P	M	K	N	S	H
●	●	●			○





Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSPC441000U	1.0	3	50	4	4
EPSPC442000U	2.0	5	50	4	4
EPSPC443000U	3.0	8	50	4	4
EPSPC444000U	4.0	10	50	4	4
EPSPC405000U	5.0	13	50	6	4
EPSPC406000U	6.0	15	50	6	4
EPSPC408000U	8.0	20	60	8	4
EPSPC410000U	10.0	25	75	10	4
EPSPC412000U	12.0	30	75	12	4

Cutting conditions：Page B218

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

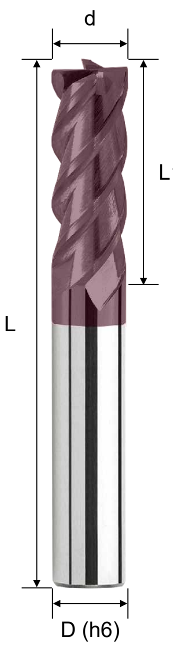
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

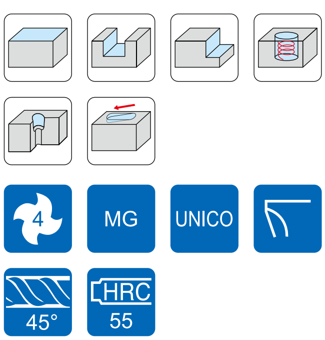
G550 - Square · High Helix · 4F 平銑刀・高導型・4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, FRP, etc.
- Greater shearing action results in increased speeds and feeds and faster stock removal.
- Strong helix design provides high speed milling capabilities.

EPSSH

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSH441000U	1.0	3	50	4	4
EPSSH442000U	2.0	5	50	4	4
EPSSH443000U	3.0	8	50	4	4
EPSSH444000U	4.0	10	50	4	4
EPSSH405000U	5.0	13	50	6	4
EPSSH406000U	6.0	15	50	6	4
EPSSH407000U	7.0	18	60	8	4
EPSSH408000U	8.0	20	60	8	4
EPSSH409000U	9.0	22	75	10	4
EPSSH410000U	10.0	25	75	10	4
EPSSH411000U	11.0	25	75	12	4
EPSSH412000U	12.0	30	75	12	4
EPSSH414000U	14.0	30	75	14	4
EPSSH416000U	16.0	35	100	16	4

Cutting conditions：Page B219

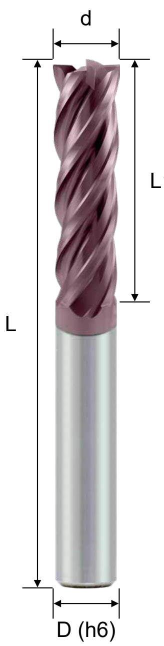
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Square · Long Flute · 4F 平銑刀・長刃型・4 刃

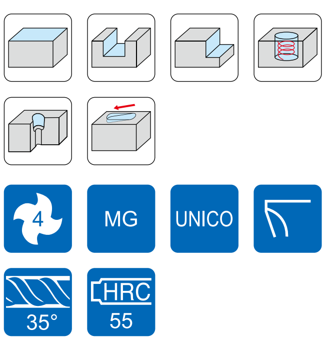
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various length of cut and overall length end mills.
- Long cutting length is suitable for deep side milling.

EPSCC

P	M	K	N	S	H
●	●	●			○



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSCC403000U	3	15	60	6	4
EPSCC404000U	4	20	60	6	4
EPSCC405000U	5	25	75	6	4
EPSCC406000U	6	30	75	6	4
EPSCC408000U	8	35	100	8	4
EPSCC410000U	10	45	100	10	4
EPSCC412000U	12	45	100	12	4
EPSCC414000U	14	70	150	14	4
EPSCC416000U	16	70	150	16	4
EPSCC420000U	20	75	150	20	4
EPSCC425000U	25	75	150	25	4



Cutting conditions ： Page B219

d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

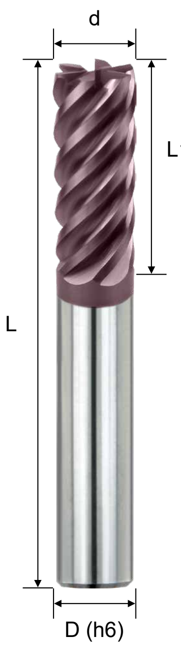
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

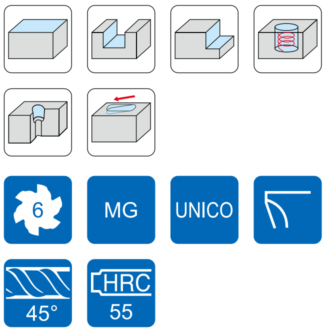
G550 - Square · High Helix · 6F 平銑刀・高導型・6 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, FRP, etc.
- Greater shearing action results in increased speeds and feeds and faster stock removal.
- Strong helix design provides high speed milling capabilities.
- Six flute for good surface milling.

EPSSH

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSH606000U	6	15	50	6	6
EPSSH608000U	8	20	60	8	6
EPSSH610000U	10	25	75	10	6
EPSSH612000U	12	30	75	12	6

Cutting conditions ： Page B219

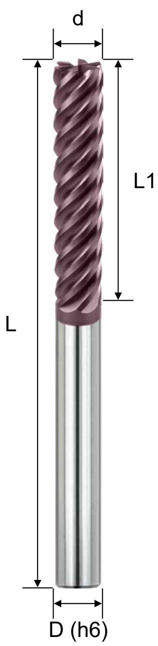
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Square · High Helix · Long Flute · 6F　平銑刀・高導長刃型・6 刃

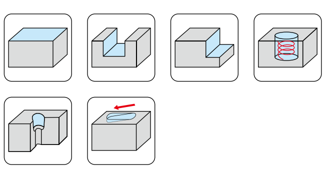
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, FRP, etc.
- Greater shearing action results in increased speeds and feeds and faster stock removal.
- Strong helix design provides high speed milling capabilities.
- Six flute for good surface milling.

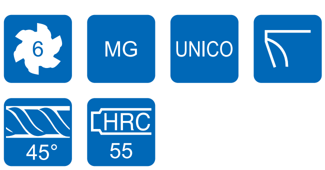
EPSCH

P	M	K	N	S	H
●	●	●			○



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSCH606000U	6	30	75	6	6
EPSCH608000U	8	35	100	8	6
EPSCH610000U	10	45	100	10	6
EPSCH612000U	12	45	100	12	6
EPSCH616000U	16	70	150	16	6





Cutting conditions ： Page B220

d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

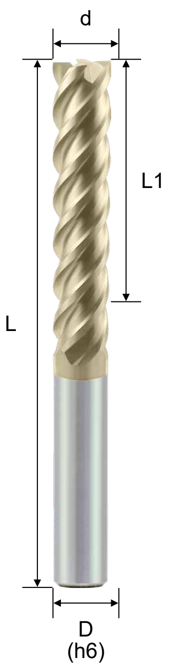
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

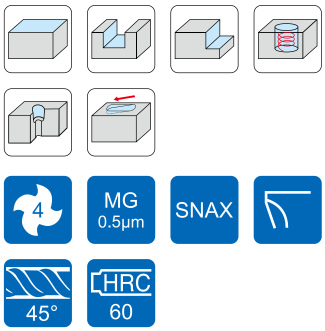
G550 - Square · High Helix · Extra Long Flute · 4F 平銑刀・高導超長刃型・4 刃

- SNAX smooth coating (Al, Ti, Si, Cr, N) with anti-high temperature & anti-oxidation.
- Suitable for HRC 30 to HRC 60 Alloy Steel, Cast Iron, Prehardened steel, Hardened Steel, etc.
- Suitable for deep side milling and finishing.
- Special geometry design, outstanding anti-vibrations and high surface finish quality.

EPSCH

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSCH406035S	6	35	100	6	4
EPSCH408040S	8	40	100	8	4
EPSCH410035S	10	35	75	10	4
EPSCH410050S	10	50	100	10	4
EPSCH412035S	12	35	75	12	4
EPSCH412055S	12	55	100	12	4

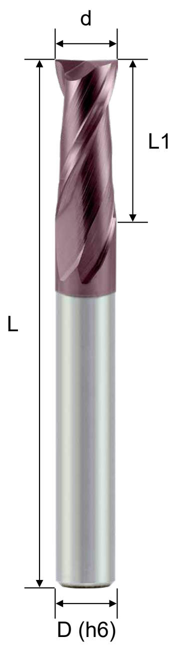
Cutting conditions：Page B219

G550 - Square · Long Shank · 2F 平銑刀・長柄型・2 刃

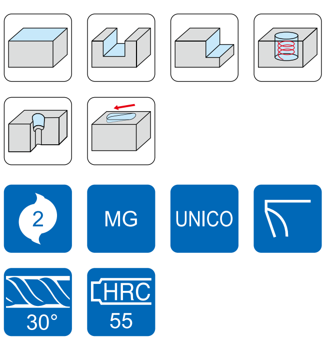
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various length of cut and overall length end mills.
- Flat design to avoid chipping of the cutting tip.

EPSLC

P	M	K	N	S	H
●	●	●			○



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSLC244006U	4	10	60	4	2
EPSLC244007U	4	10	75	4	2
EPSLC244010U	4	10	100	4	2
EPSLC204006U	4	10	60	6	2
EPSLC204007U	4	10	75	6	2
EPSLC204010U	4	10	100	6	2
EPSLC206006U	6	15	60	6	2
EPSLC206007U	6	15	75	6	2
EPSLC206010U	6	15	100	6	2
EPSLC208007U	8	20	75	8	2
EPSLC208010U	8	20	100	8	2
EPSLC208015U	8	20	150	8	2
EPSLC210010U	10	25	100	10	2
EPSLC210015U	10	25	150	10	2
EPSLC212010U	12	30	100	12	2
EPSLC212015U	12	30	150	12	2
EPSLC216015U	16	40	150	16	2
EPSLC220015U	20	40	150	20	2



Cutting conditions : Page B220

d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

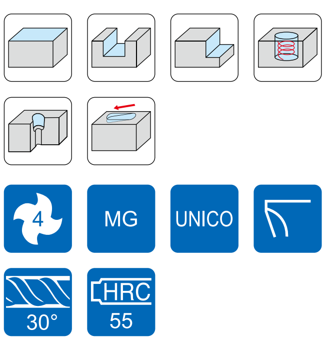
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Square · Long Shank · 4F 平銑刀 · 長柄型 · 4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various length of cut and overall length end mills.
- Flat design to avoid chipping of the cutting tip.

EPSLC

P	M	K	N	S	H
●	●	●			○



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSLC443007U	3	8	75	4	4
EPSLC443010U	3	8	100	4	4
EPSLC444006U	4	10	60	4	4
EPSLC444007U	4	10	75	4	4
EPSLC444010U	4	10	100	4	4
EPSLC404006U	4	10	60	6	4
EPSLC404007U	4	10	75	6	4
EPSLC404010U	4	10	100	6	4
EPSLC406006U	6	15	60	6	4
EPSLC406007U	6	15	75	6	4
EPSLC406010U	6	15	100	6	4
EPSLC408007U	8	20	75	8	4
EPSLC408010U	8	20	100	8	4
EPSLC408015U	8	20	150	8	4
EPSLC410010U	10	25	100	10	4
EPSLC410015U	10	25	150	10	4
EPSLC412010U	12	30	100	12	4
EPSLC412015U	12	30	150	12	4
EPSLC416015U	16	40	150	16	4
EPSLC420015U	20	40	150	20	4

Cutting conditions : Page B221

d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

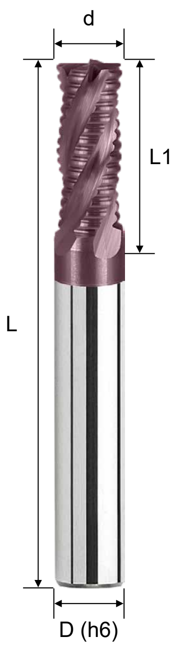
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

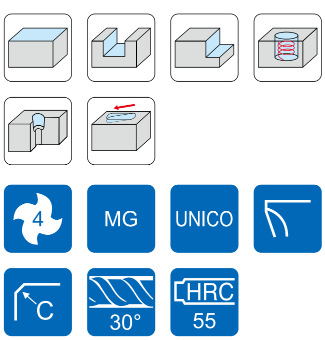
G550 - Square · Roughing · 4F 平銑刀・粗銑型・4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Suitable for rough and high remove rate cutting environment.
- Chamfering design provides a stronger cutting edge.
- Middle coarse pitch provides high performance and avoids tip fracture.

EPSRR

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	**Dia.** (d)	**CL** (L1)	**OAL** (L)	**Shank** (D)	**Flutes** (Z)
EPSRR406000U	6	15	50	6	4
EPSRR408000U	8	20	60	8	4
EPSRR410000U	10	25	75	10	4
EPSRR412000U	12	30	75	12	4
EPSRR416000U	16	40	100	16	4
EPSRR420000U	20	45	100	20	4

Cutting conditions：Page B221

The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

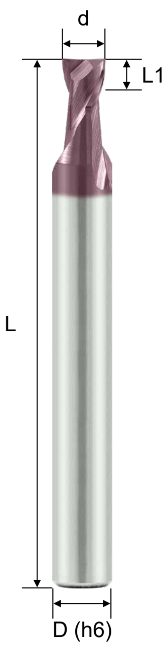
WINSTAR

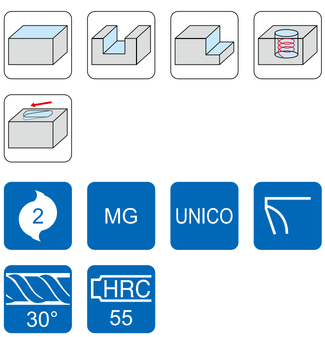
G550 - Square · Stub Length · 2F 平銑刀・短刃型・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- The cutting length of approximately 1×D.
- Short cutting length with high rigidity is suitable for high feed milling.
- For die, mold, mechanical and electronic parts made of steel.
- Good for surface milling.

EPSHC

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSHC240200U	0.2	0.3	50	4	2
EPSHC240300U	0.3	0.4	50	4	2
EPSHC240400U	0.4	0.5	50	4	2
EPSHC240500U	0.5	0.6	50	4	2
EPSHC240600U	0.6	0.7	50	4	2
EPSHC240700U	0.7	0.8	50	4	2
EPSHC240800U	0.8	1.0	50	4	2
EPSHC240900U	0.9	1.1	50	4	2
EPSHC241000U	1.0	1.2	50	4	2
EPSHC241200U	1.2	1.5	50	4	2
EPSHC241400U	1.4	1.8	50	4	2
EPSHC241500U	1.5	1.8	50	4	2
EPSHC241600U	1.6	1.9	50	4	2
EPSHC241800U	1.8	2.0	50	4	2
EPSHC242000U	2.0	2.5	50	4	2
EPSHC242500U	2.5	3.0	50	4	2
EPSHC203000U	3.0	3.5	50	6	2
EPSHC204000U	4.0	4.5	50	6	2
EPSHC205000U	5.0	7.0	50	6	2
EPSHC206000U	6.0	9.0	50	6	2

Cutting conditions：Page B222

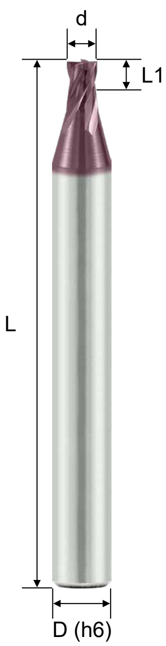
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

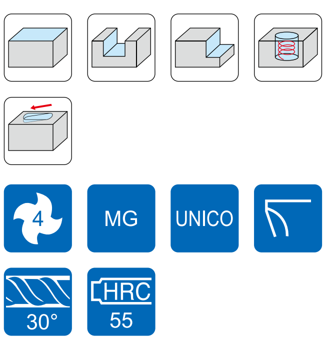
G550 - Square · Stub Length · 4F 平銑刀・短刃型・4 刃

• UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
• The cutting length of approximately 1×D.
• Short cutting length with high rigidity is suitable for high feed milling.
• For die, mold, mechanical and electronic parts made of steel.
• Good for surface milling.

EPSHC

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSHC441000U	1.0	1.0	50	4	4
EPSHC441500U	1.5	1.5	50	4	4
EPSHC442000U	2.0	2.0	50	4	4
EPSHC442500U	2.5	2.5	50	4	4
EPSHC403000U	3.0	3.0	50	6	4
EPSHC404000U	4.0	4.0	50	6	4
EPSHC405000U	5.0	5.0	50	6	4
EPSHC406000U	6.0	6.0	50	6	4

Cutting conditions：Page B222

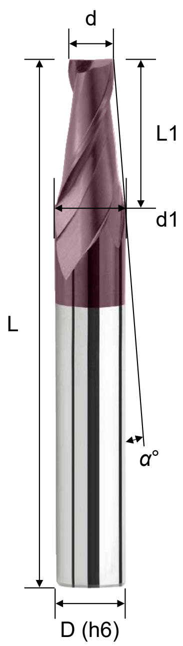
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

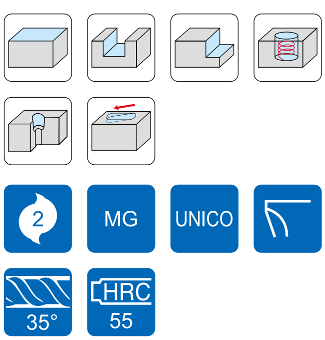
G550 - Square · Taper · 2F 平銑刀・斜度型・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- High strength of taper cutting length, can cut deep grooves without breaking.
- Convenient for Tap cutting in 3 axis machine.

EPSST

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	α°	CL (L1)	NL (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPSST24015CU	0.15	20°	5.29	-	42	4	2
EPSST24030CU	0.30	20°	5.08	-	42	4	2
EPSST24030DU	0.30	25°	3.96	-	42	4	2
EPSST24060BU	0.60	15°	4.50	-	42	4	2
EPSST24060CU	0.60	20°	4.67	-	42	4	2
EPSST24120CU	1.20	20°	3.84	-	42	4	2
EPSST241005U	1.0	0.5°	4.0	1.07	50	4	2
EPSST241010U	1.0	1.0°	4.0	1.14	50	4	2
EPSST241015U	1.0	1.5°	4.0	1.21	50	4	2
EPSST241020U	1.0	2.0°	4.0	1.28	50	4	2
EPSST241025U	1.0	2.5°	4.0	1.35	50	4	2
EPSST241030U	1.0	3.0°	4.0	1.42	50	4	2
EPSST241050U	1.0	5.0°	4.0	1.70	50	4	2
EPSST241070U	1.0	7.0°	4.0	1.98	50	4	2
EPSST2410A0U	1.0	10.0°	4.0	2.41	50	4	2
EPSST2410A5U	1.0	15.0°	4.0	3.14	50	4	2
EPSST241505U	1.5	0.5°	5.0	1.59	50	4	2
EPSST241510U	1.5	1.0°	5.0	1.68	50	4	2
EPSST241515U	1.5	1.5°	5.0	1.76	50	4	2
EPSST241520U	1.5	2.0°	5.0	1.85	50	4	2
EPSST241525U	1.5	2.5°	5.0	1.93	50	4	2
EPSST241530U	1.5	3.0°	5.0	2.02	50	4	2
EPSST241550U	1.5	5.0°	5.0	2.37	50	4	2
EPSST242005U	2.0	0.5°	6.0	2.10	50	4	2
EPSST242010U	2.0	1.0°	6.0	2.21	50	4	2
EPSST242015U	2.0	1.5°	6.0	2.31	50	4	2
EPSST242020U	2.0	2.0°	6.0	2.41	50	4	2
EPSST242025U	2.0	2.5°	6.0	2.52	50	4	2
EPSST242030U	2.0	3.0°	6.0	2.62	50	4	2
EPSST242050U	2.0	5.0°	6.0	3.05	50	4	2
EPSST242070U	2.0	7.0°	6.0	3.47	50	4	2
EPSST2020A0U	2.0	10.0°	6.0	4.11	50	6	2
EPSST2020A5U	2.0	15.0°	6.0	5.22	50	6	2

Cutting conditions：Page B222

The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

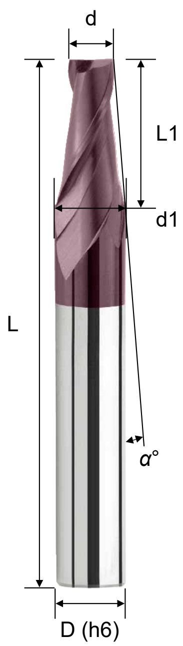
WINSTAR

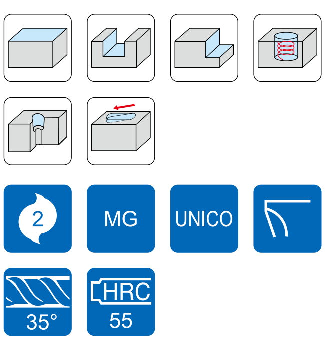
G550 - Square · Taper · 2F 平銑刀・斜度型・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- High strength of taper cutting length, can cut deep grooves without breaking.
- Convenient for Tap cutting in 3 axis machine.

EPSST

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	α°	CL (L1)	NL (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPSST242505U	2.5	0.5°	8.0	2.64	50	4	2
EPSST242510U	2.5	1.0°	8.0	2.78	50	4	2
EPSST242515U	2.5	1.5°	8.0	2.91	50	4	2
EPSST242520U	2.5	2.0°	8.0	3.05	50	4	2
EPSST242525U	2.5	2.5°	8.0	3.20	50	4	2
EPSST242530U	2.5	3.0°	8.0	3.33	50	4	2
EPSST242550U	2.5	5.0°	8.0	3.90	50	4	2
EPSST203005U	3.0	0.5°	10.0	3.17	50	6	2
EPSST203010U	3.0	1.0°	10.0	3.35	50	6	2
EPSST203015U	3.0	1.5°	10.0	3.52	50	6	2
EPSST203020U	3.0	2.0°	10.0	3.69	50	6	2
EPSST203025U	3.0	2.5°	10.0	3.87	50	6	2
EPSST203030U	3.0	3.0°	10.0	4.05	50	6	2
EPSST203050U	3.0	5.0°	10.0	4.75	50	6	2
EPSST203070U	3.0	7.0°	12.0	6.00	50	6	2
EPSST2030A0U	3.0	10.0°	12.0	7.22	60	8	2
EPSST2030A5U	3.0	15.0°	12.0	9.40	75	10	2
EPSST204005U	4.0	0.5°	15.0	4.26	50	6	2
EPSST204010U	4.0	1.0°	15.0	4.52	50	6	2
EPSST204015U	4.0	1.5°	15.0	4.79	50	6	2
EPSST204020U	4.0	2.0°	15.0	5.04	50	6	2
EPSST204025U	4.0	2.5°	15.0	5.31	50	6	2
EPSST204030U	4.0	3.0°	15.0	5.57	50	6	2
EPSST204050U	4.0	5.0°	15.0	6.62	60	8	2
EPSST204070U	4.0	7.0°	16.0	8.00	60	8	2
EPSST2040A0U	4.0	10.0°	17.0	10.00	75	10	2
EPSST2040A5U	4.0	15.0°	14.9	12.00	75	12	2

Cutting conditions：Page B222

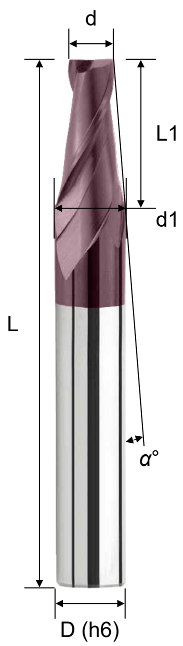
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

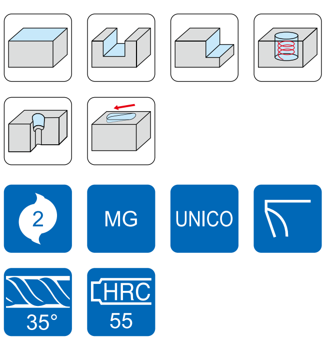
G550 - Square · Taper · 2F 平銑刀・斜度型・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- High strength of taper cutting length, can cut deep grooves without breaking.
- Convenient for Tap cutting in 3 axis machine.

EPSST

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	α°	CL (L1)	NL (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPSST205005U	5.0	0.5°	20.0	5.34	60	6	2
EPSST205010U	5.0	1.0°	20.0	5.70	60	6	2
EPSST205015U	5.0	1.5°	19.6	6.00	60	6	2
EPSST205020U	5.0	2.0°	20.0	6.39	60	8	2
EPSST205025U	5.0	2.5°	20.0	6.74	60	8	2
EPSST205030U	5.0	3.0°	20.0	7.10	60	8	2
EPSST205050U	5.0	5.0°	20.0	8.50	75	10	2
EPSST205070U	5.0	7.0°	20.0	10.00	75	10	2
EPSST2050A0U	5.0	10.0°	20.0	12.00	75	12	2
EPSST206005U	6.0	0.5°	20.0	6.35	60	8	2
EPSST206010U	6.0	1.0°	20.0	6.70	60	8	2
EPSST206015U	6.0	1.5°	20.0	7.05	60	8	2
EPSST206020U	6.0	2.0°	20.0	7.40	60	8	2
EPSST206025U	6.0	2.5°	20.0	7.75	60	8	2
EPSST206030U	6.0	3.0°	20.0	8.10	75	10	2
EPSST206050U	6.0	5.0°	20.0	9.50	75	10	2
EPSST206070U	6.0	7.0°	24.0	12.00	75	12	2
EPSST2060A0U	6.0	10.0°	22.0	14.00	75	14	2
EPSST208005U	8.0	0.5°	25.0	8.44	75	10	2
EPSST208010U	8.0	1.0°	25.0	8.87	75	10	2
EPSST208015U	8.0	1.5°	25.0	9.31	75	10	2
EPSST208020U	8.0	2.0°	25.0	9.75	75	10	2
EPSST208030U	8.0	3.0°	25.0	10.62	75	12	2
EPSST208050U	8.0	5.0°	25.0	12.37	75	14	2
EPSST208070U	8.0	7.0°	32.0	16.00	100	16	2
EPSST2080A0U	8.0	10.0°	28.0	18.00	100	18	2
EPSST210005U	10.0	0.5°	35.0	10.61	75	12	2
EPSST210010U	10.0	1.0°	35.0	11.22	75	12	2
EPSST210015U	10.0	1.5°	35.0	11.83	75	12	2
EPSST210020U	10.0	2.0°	35.0	12.44	75	14	2
EPSST210030U	10.0	3.0°	35.0	13.67	75	14	2
EPSST210050U	10.0	5.0°	34.2	16.00	100	16	2

Cutting conditions：Page B222

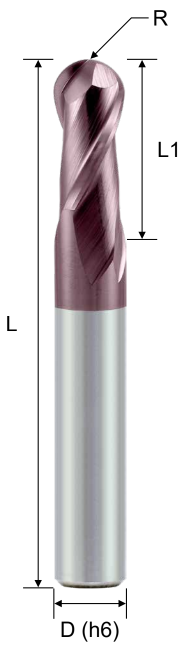
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

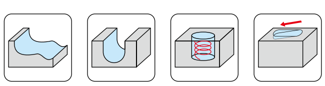
G550 - Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃

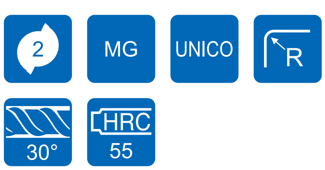
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- It provides an excellent surface due to better surface grindings.
- New tool geometry increases wear resistance and cutting force is decreased.
- Suitable for high speed profile surface milling.

EPBSC

P	M	K	N	S	H
●	●	●			○







R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPBSC240200U	0.10R	0.2	0.4	50	4	2
EPBSC240300U	0.15R	0.3	0.6	50	4	2
EPBSC240400U	0.20R	0.4	0.8	50	4	2
EPBSC240500U	0.25R	0.5	1.0	50	4	2
EPBSC240600U	0.30R	0.6	1.2	50	4	2
EPBSC240700U	0.35R	0.7	1.4	50	4	2
EPBSC240800U	0.40R	0.8	1.6	50	4	2
EPBSC240900U	0.45R	0.9	1.8	50	4	2
EPBSC241000U	0.50R	1.0	2.0	50	4	2
EPBSC241500U	0.75R	1.5	3.0	50	4	2
EPBSC242000U	1.00R	2.0	4.0	50	4	2
EPBSC233000U	1.50R	3.0	6.0	50	3	2
EPBSC243000U	1.50R	3.0	6.0	50	4	2
EPBSC244000U	2.00R	4.0	8.0	50	4	2
EPBSC203000U	1.50R	3.0	6.0	50	6	2
EPBSC204000U	2.00R	4.0	8.0	50	6	2
EPBSC205000U	2.50R	5.0	10.0	50	6	2
EPBSC206000U	3.00R	6.0	12.0	50	6	2
EPBSC207000U	3.50R	7.0	14.0	60	8	2
EPBSC208000U	4.00R	8.0	16.0	60	8	2
EPBSC210000U	5.00R	10.0	20.0	75	10	2
EPBSC212000U	6.00R	12.0	24.0	75	12	2
EPBSC216000U	8.00R	16.0	32.0	100	16	2
EPBSC220000U	10.00R	20.0	40.0	100	20	2

Cutting conditions : Page B223

The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

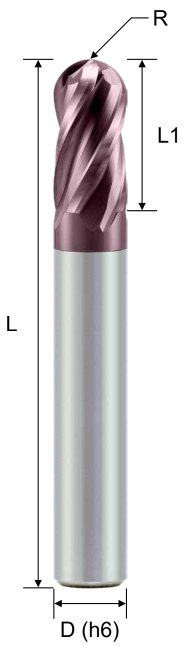
G550 - Ball Nose · Standard · 4F

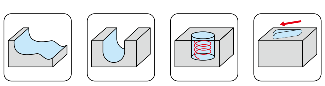
球型銑刀・標準型・4 刃

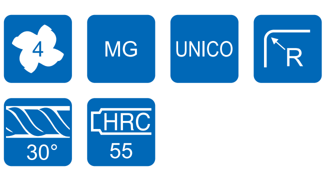
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- It provides an excellent surface due to better surface grindings.
- New tool geometry increases wear resistance and cutting force is decreased.
- Multiple flutes design improves the cutting surface.

EPBSC

P	M	K	N	S	H
●	●	●			○







R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPBSC442000U	1.0R	2	4	50	4	4
EPBSC443000U	1.5R	3	6	50	4	4
EPBSC444000U	2.0R	4	8	50	4	4
EPBSC404000U	2.0R	4	8	50	6	4
EPBSC405000U	2.5R	5	10	50	6	4
EPBSC406000U	3.0R	6	12	50	6	4
EPBSC408000U	4.0R	8	16	60	8	4
EPBSC410000U	5.0R	10	20	75	10	4
EPBSC412000U	6.0R	12	24	75	12	4
EPBSC416000U	8.0R	16	32	100	16	4
EPBSC420000U	10.0R	20	40	100	20	4

Cutting conditions ： Page B223

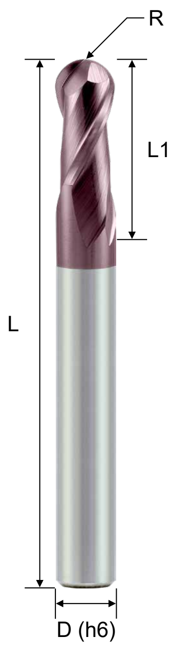
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

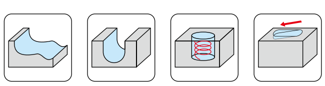
G550 - Ball Nose · Long Shank · 2F 球型銑刀・長柄型・2 刃

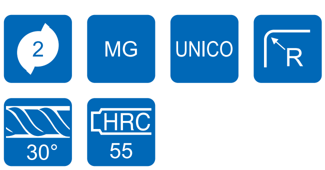
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- It provides an excellent surface due to better surface grindings.
- New tool geometry increases wear resistance and cutting force is decreased.
- Suitable for high speed profile surface milling.

EPBLC

P	M	K	N	S	H
●	●	●			○







R Tolerance	
R ≤ 3	±0.020
R > 3	±0.025

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPBLC243007U	1.5R	3	6	75	4	2
EPBLC243010U	1.5R	3	6	100	4	2
EPBLC244006U	2.0R	4	8	60	4	2
EPBLC244007U	2.0R	4	8	75	4	2
EPBLC244010U	2.0R	4	8	100	4	2
EPBLC204006U	2.0R	4	8	60	6	2
EPBLC204007U	2.0R	4	8	75	6	2
EPBLC204010U	2.0R	4	8	100	6	2
EPBLC206006U	3.0R	6	12	60	6	2
EPBLC206007U	3.0R	6	12	75	6	2
EPBLC206010U	3.0R	6	12	100	6	2
EPBLC208007U	4.0R	8	16	75	8	2
EPBLC208010U	4.0R	8	16	100	8	2
EPBLC208015U	4.0R	8	16	150	8	2
EPBLC210010U	5.0R	10	20	100	10	2
EPBLC210015U	5.0R	10	20	150	10	2
EPBLC212010U	6.0R	12	24	100	12	2
EPBLC212015U	6.0R	12	24	150	12	2
EPBLC216015U	8.0R	16	32	150	16	2
EPBLC220015U	10.0R	20	40	150	20	2

Cutting conditions : Page B224

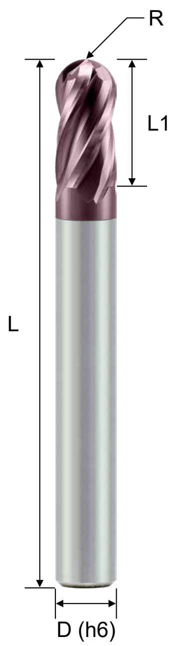
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

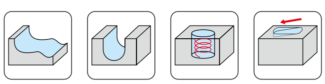
G550 - Ball Nose · Long Shank · 4F 球型銑刀・長柄型・4 刃

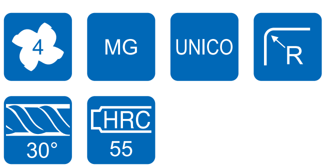
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- It provides an excellent surface due to better surface grindings.
- New tool geometry increases wear resistance and cutting force is decreased.
- Multiple flutes design and long shank design makes possible deep surface cutting.

EPBLC

P	M	K	N	S	H
●	●	●			○







R Tolerance	
R ≤ 3	±0.020
R > 3	±0.025

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPBLC444007U	2R	4	8	75	4	4
EPBLC444010U	2R	4	8	100	4	4
EPBLC404007U	2R	4	8	75	6	4
EPBLC404010U	2R	4	8	100	6	4
EPBLC406007U	3R	6	12	75	6	4
EPBLC406010U	3R	6	12	100	6	4
EPBLC408007U	4R	8	16	75	8	4
EPBLC408010U	4R	8	16	100	8	4
EPBLC408015U	4R	8	16	150	8	4
EPBLC410010U	5R	10	20	100	10	4
EPBLC410015U	5R	10	20	150	10	4
EPBLC412010U	6R	12	24	100	12	4
EPBLC412015U	6R	12	24	150	12	4
EPBLC416015U	8R	16	32	150	16	4

Cutting conditions：Page B224

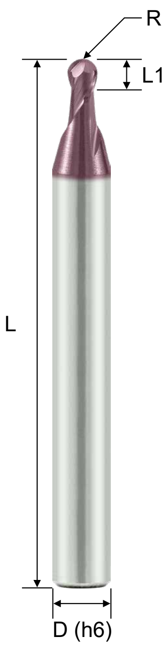
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

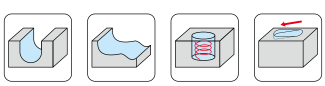
G550 - Ball Nose · Stub Length · 2F 球型銑刀・短刃型・2 刃

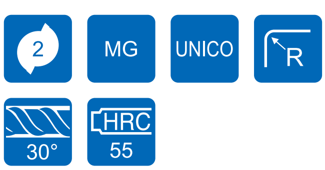
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- The cutting length of approximately 1×D.
- Short cutting length with high rigidity is suitable for high feed milling.
- For die, mold, mechanical and electronic parts made of steel.
- Good for surface milling.

EPBHC

P	M	K	N	S	H
●	●	●		○	○







R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPBHC240200U	0.10R	0.2	0.2	50	4	2
EPBHC240300U	0.15R	0.3	0.3	50	4	2
EPBHC240400U	0.20R	0.4	0.4	50	4	2
EPBHC240500U	0.25R	0.5	0.5	50	4	2
EPBHC240600U	0.30R	0.6	0.6	50	4	2
EPBHC240700U	0.35R	0.7	0.7	50	4	2
EPBHC240800U	0.40R	0.8	0.8	50	4	2
EPBHC240900U	0.45R	0.9	0.9	50	4	2
EPBHC241000U	0.50R	1.0	1.0	50	4	2
EPBHC241200U	0.60R	1.2	1.2	50	4	2
EPBHC241400U	0.70R	1.4	1.4	50	4	2
EPBHC241500U	0.75R	1.5	1.5	50	4	2
EPBHC241600U	0.80R	1.6	1.6	50	4	2
EPBHC241800U	0.90R	1.8	1.8	50	4	2
EPBHC242000U	1.00R	2.0	2.0	50	4	2
EPBHC242500U	1.25R	2.5	2.5	50	4	2
EPBHC203000U	1.50R	3.0	3.0	50	6	2
EPBHC204000U	2.00R	4.0	4.0	50	6	2
EPBHC205000U	2.50R	5.0	5.0	50	6	2
EPBHC206000U	3.00R	6.0	9.0	50	6	2

Cutting conditions : Page B225

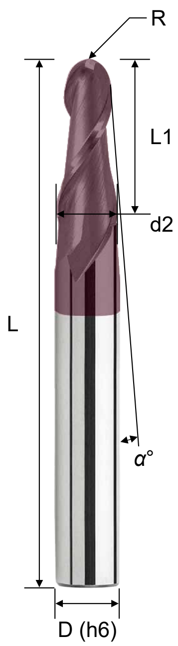
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

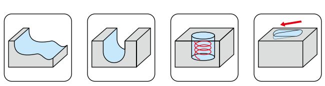
G550 - Ball Nose · Taper · 2F 球型銑刀・斜度型・2 刃

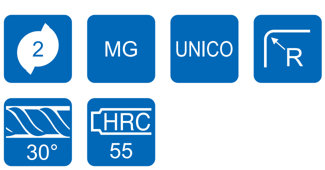
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Tape cutting length is convenient for high performance 3D milling.
- Stronger geometry design gives good wear resistance.

EPBST

P	M	K	N	S	H
●	●	●			○







R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	α°	CL (L1)	NL (d2)	OAL (L)	Shank (D)	Flutes (Z)
EPBST242010U	1.00R	1°	8	2.24	50	4	2
EPBST242030U	1.00R	3°	8	2.74	50	4	2
EPBST242050U	1.00R	5°	8	3.23	50	4	2
EPBST242510U	1.25R	1°	10	2.81	50	4	2
EPBST242530U	1.25R	3°	10	3.42	50	4	2
EPBST202550U	1.25R	5°	10	4.04	50	6	2
EPBST243010U	1.50R	1°	12	3.37	50	4	2
EPBST203030U	1.50R	3°	12	4.10	50	6	2
EPBST203050U	1.50R	5°	12	4.85	50	6	2
EPBST204010U	2.00R	1°	16	4.49	60	6	2
EPBST204030U	2.00R	3°	16	5.47	60	6	2
EPBST204050U	2.00R	5°	16	6.46	60	8	2
EPBST206010U	3.00R	1°	24	6.73	75	8	2
EPBST206030U	3.00R	3°	24	8.20	75	10	2
EPBST206050U	3.00R	5°	24	9.67	75	10	2

Cutting conditions：Page B225

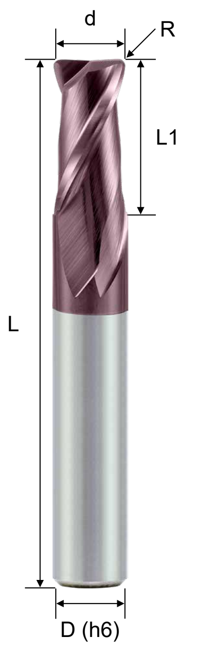
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

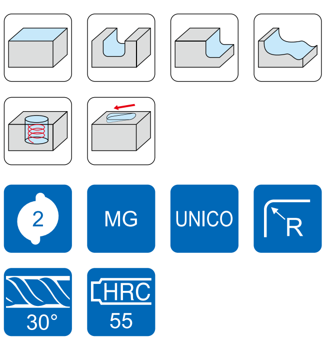
G550 - Corner Radius · Standard · 2F 圓鼻銑刀・標準型・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Corner radius design is suitable for high speed surface milling and profiling.

EPCSC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPCSC241001U	1.0	0.1R	2	50	4	2
EPCSC241002U	1.0	0.2R	2	50	4	2
EPCSC241003U	1.0	0.3R	2	50	4	2
EPCSC241502U	1.5	0.2R	3	50	4	2
EPCSC241503U	1.5	0.3R	3	50	4	2
EPCSC241505U	1.5	0.5R	3	50	4	2
EPCSC242002U	2.0	0.2R	4	50	4	2
EPCSC242003U	2.0	0.3R	4	50	4	2
EPCSC242005U	2.0	0.5R	4	50	4	2
EPCSC243002U	3.0	0.2R	6	50	4	2
EPCSC243003U	3.0	0.3R	6	50	4	2
EPCSC243005U	3.0	0.5R	6	50	4	2
EPCSC244002U	4.0	0.2R	8	50	4	2
EPCSC244003U	4.0	0.3R	8	50	4	2
EPCSC244005U	4.0	0.5R	8	50	4	2
EPCSC244010U	4.0	1R	8	50	4	2
EPCSC204003U	4.0	0.3R	8	50	6	2
EPCSC204005U	4.0	0.5R	8	50	6	2
EPCSC204010U	4.0	1.0R	8	50	6	2
EPCSC205005U	5.0	0.5R	10	50	6	2
EPCSC205010U	5.0	1.0R	10	50	6	2
EPCSC206003U	6.0	0.3R	12	50	6	2
EPCSC206005U	6.0	0.5R	12	50	6	2
EPCSC206010U	6.0	1.0R	12	50	6	2
EPCSC208005U	8.0	0.5R	16	60	8	2
EPCSC208010U	8.0	1.0R	16	60	8	2
EPCSC208015U	8.0	1.5R	16	60	8	2
EPCSC210005U	10.0	0.5R	20	75	10	2
EPCSC210010U	10.0	1.0R	20	75	10	2
EPCSC210015U	10.0	1.5R	20	75	10	2
EPCSC212020U	10.0	2.0R	20	75	10	2
EPCSC212005U	12.0	0.5R	20	75	12	2
EPCSC212010U	12.0	1.0R	20	75	12	2
EPCSC212015U	12.0	1.5R	20	75	12	2
EPCSC212020U	12.0	2.0R	20	75	12	2

Cutting conditions：Page B226

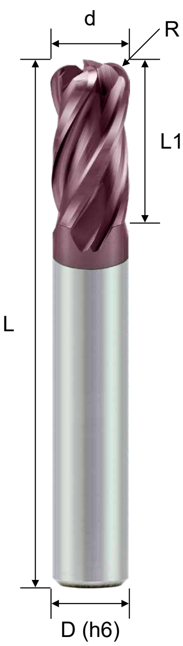
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

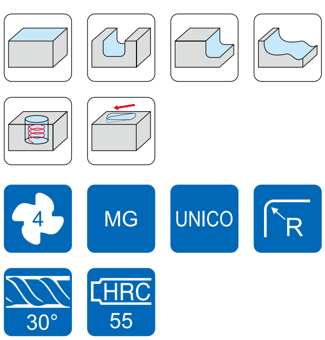
G550 - Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Corner radius with multiple design increases the finish milling surface.

EPCSC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPCSC441002U	1.0	0.2R	2	50	4	4
EPCSC441003U	1.0	0.3R	2	50	4	4
EPCSC441502U	1.5	0.2R	3	50	4	4
EPCSC441503U	1.5	0.3R	3	50	4	4
EPCSC441505U	1.5	0.5R	3	50	4	4
EPCSC442002U	2.0	0.2R	4	50	4	4
EPCSC442003U	2.0	0.3R	4	50	4	4
EPCSC442005U	2.0	0.5R	4	50	4	4
EPCSC443002U	3.0	0.2R	6	50	4	4
EPCSC443003U	3.0	0.3R	6	50	4	4
EPCSC433005U	3.0	0.5R	6	50	3	4
EPCSC443005U	3.0	0.5R	6	50	4	4
EPCSC443010U	3.0	1.0R	6	50	4	4
EPCSC403003U	3.0	0.3R	6	50	6	4
EPCSC403005U	3.0	0.5R	6	50	6	4
EPCSC403010U	3.0	1.0R	6	50	6	4
EPCSC444001U	4.0	0.1R	8	50	4	4
EPCSC444002U	4.0	0.2R	8	50	4	4
EPCSC444003U	4.0	0.3R	8	50	4	4
EPCSC444005U	4.0	0.5R	8	50	4	4
EPCSC444010U	4.0	1.0R	8	50	4	4
EPCSC404003U	4.0	0.3R	8	50	6	4
EPCSC404005U	4.0	0.5R	8	50	6	4
EPCSC404010U	4.0	1.0R	8	50	6	4
EPCSC405005U	5.0	0.5R	10	50	6	4
EPCSC405010U	5.0	1.0R	10	50	6	4
EPCSC406003U	6.0	0.3R	12	50	6	4
EPCSC406005U	6.0	0.5R	12	50	6	4
EPCSC406010U	6.0	1.0R	12	50	6	4
EPCSC408005U	8.0	0.5R	16	60	8	4
EPCSC408010U	8.0	1.0R	16	60	8	4
EPCSC408015U	8.0	1.5R	16	60	8	4
EPCSC410005U	10.0	0.5R	20	75	10	4
EPCSC410010U	10.0	1.0R	20	75	10	4
EPCSC410015U	10.0	1.5R	20	75	10	4
EPCSC410020U	10.0	2.0R	20	75	10	4
EPCSC412005U	12.0	0.5R	24	75	12	4
EPCSC412010U	12.0	1.0R	24	75	12	4
EPCSC412015U	12.0	1.5R	24	75	12	4
EPCSC412020U	12.0	2.0R	24	75	12	4
EPCSC412030U	12.0	3.0R	24	75	12	4
EPCSC416010U	16.0	1.0R	32	100	16	4
EPCSC416020U	16.0	2.0R	32	100	16	4
EPCSC416030U	16.0	3.0R	32	100	16	4

Cutting conditions ： Page B226

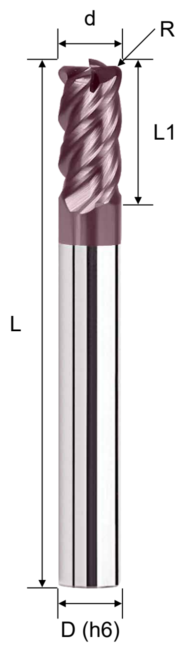
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional. 提供塗層可選擇 SNAX 光滑塗層

G550 - Corner Radius · High Helix · 4F 圓鼻銑刀・高導型・4 刃

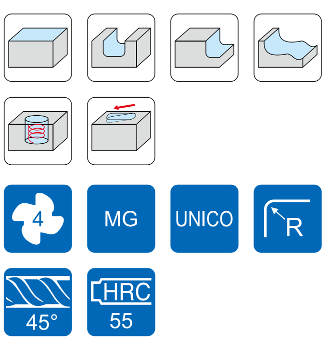
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Corner radius with high helix angle improves the side milling quality.

EPCSH

P	M	K	N	S	H
●	●	●			○



Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPCSH443005U	3.0	0.5R	6	50	4	4
EPCSH444005U	4.0	0.5R	8	50	4	4
EPCSH405005U	5.0	0.5R	10	50	6	4
EPCSH405010U	5.0	1.0R	10	50	6	4
EPCSH406005U	6.0	0.5R	12	50	6	4
EPCSH406010U	6.0	1.0R	12	50	6	4
EPCSH408005U	8.0	0.5R	16	60	8	4
EPCSH408010U	8.0	1.0R	16	60	8	4
EPCSH410005U	10.0	0.5R	20	75	10	4
EPCSH410010U	10.0	1.0R	20	75	10	4
EPCSH410015U	10.0	1.5R	20	75	10	4
EPCSH410020U	10.0	2.0R	20	75	10	4
EPCSH412010U	12.0	1.0R	24	75	12	4
EPCSH412020U	12.0	2.0R	24	75	12	4
EPCSH412030U	12.0	3.0R	24	75	12	4



Cutting conditions : Page B227

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

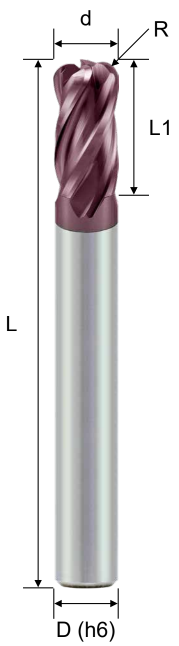
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

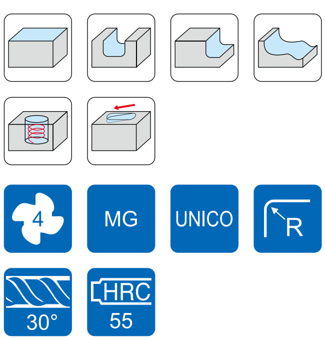
G550 - Corner Radius · Long Shank · 4F 圓鼻銑刀・長柄型・4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Corner radius with multiple flutes is suitable for general cutting and 3D milling.

EPCLC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

R Tolerance	
R < 2	±0.020
R ≥ 2	±0.025

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPCLC44400507U	4	0.5R	8	75	4	4
EPCLC44400510U	4	0.5R	8	100	4	4
EPCLC40300507U	3	0.5R	6	75	6	4
EPCLC40301007U	3	1.0R	6	75	6	4
EPCLC40400507U	4	0.5R	8	75	6	4
EPCLC40401007U	4	1.0R	8	75	6	4
EPCLC40500507U	5	0.5R	10	75	6	4
EPCLC40501007U	5	1.0R	10	75	6	4
EPCLC40600507U	6	0.5R	12	75	6	4
EPCLC40601007U	6	1.0R	12	75	6	4
EPCLC40600510U	6	0.5R	12	100	6	4
EPCLC40800507U	8	0.5R	16	75	8	4
EPCLC40800510U	8	0.5R	16	100	8	4
EPCLC40801010U	8	1.0R	16	100	8	4
EPCLC40801510U	8	1.5R	16	100	8	4
EPCLC41000510U	10	0.5R	20	100	10	4
EPCLC41001010U	10	1.0R	20	100	10	4
EPCLC41001510U	10	1.5R	20	100	10	4
EPCLC41002010U	10	2.0R	20	100	10	4
EPCLC41000515U	10	0.5R	20	150	10	4
EPCLC41200510U	12	0.5R	24	100	12	4
EPCLC41201010U	12	1.0R	24	100	12	4
EPCLC41201510U	12	1.5R	24	100	12	4
EPCLC41202010U	12	2.0R	24	100	12	4
EPCLC41200515U	12	0.5R	24	150	12	4
EPCLC41601015U	16	1.0R	32	150	16	4
EPCLC41602015U	16	2.0R	32	150	16	4
EPCLC41603015U	16	3.0R	32	150	16	4

Cutting conditions：Page B227

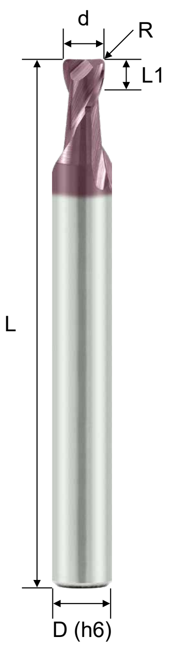
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

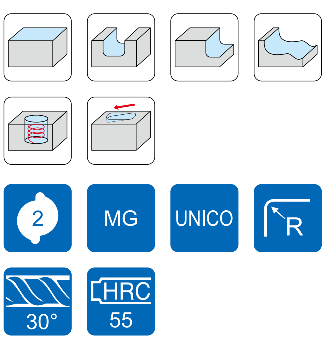
G550 - Corner Radius · Stub Length · 2F 圓鼻銑刀 · 短刃型 · 2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- The cutting length of approximately 1×D.
- Short cutting length with high rigidity is suitable for high feed milling.
- For die, mold, mechanical and electronic parts made of steel.
- Good for surface milling.

EPCHC

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPCHC241001U	1.0	0.1R	1.0	50	4	2
EPCHC241002U	1.0	0.2R	1.0	50	4	2
EPCHC241003U	1.0	0.3R	1.0	50	4	2
EPCHC241201U	1.2	0.1R	1.2	50	4	2
EPCHC241202U	1.2	0.2R	1.2	50	4	2
EPCHC241203U	1.2	0.3R	1.2	50	4	2
EPCHC241501U	1.5	0.1R	1.5	50	4	2
EPCHC241502U	1.5	0.2R	1.5	50	4	2
EPCHC241503U	1.5	0.3R	1.5	50	4	2
EPCHC241505U	1.5	0.5R	1.5	50	4	2
EPCHC242001U	2.0	0.1R	2.0	50	4	2
EPCHC242002U	2.0	0.2R	2.0	50	4	2
EPCHC242003U	2.0	0.3R	2.0	50	4	2
EPCHC242005U	2.0	0.5R	2.0	50	4	2
EPCHC242501U	2.5	0.1R	2.5	50	4	2
EPCHC242502U	2.5	0.2R	2.5	50	4	2
EPCHC242503U	2.5	0.3R	2.5	50	4	2
EPCHC242505U	2.5	0.5R	2.5	50	4	2
EPCHC203001U	3.0	0.1R	3.0	50	6	2
EPCHC203002U	3.0	0.2R	3.0	50	6	2
EPCHC203003U	3.0	0.3R	3.0	50	6	2
EPCHC203005U	3.0	0.5R	3.0	50	6	2
EPCHC203010U	3.0	1.0R	3.0	50	6	2
EPCHC204001U	4.0	0.1R	4.0	50	6	2
EPCHC204002U	4.0	0.2R	4.0	50	6	2
EPCHC204003U	4.0	0.3R	4.0	50	6	2
EPCHC204005U	4.0	0.5R	4.0	50	6	2
EPCHC204010U	4.0	1.0R	4.0	50	6	2
EPCHC205001U	5.0	0.1R	5.0	50	6	2
EPCHC205002U	5.0	0.2R	5.0	50	6	2
EPCHC205003U	5.0	0.3R	5.0	50	6	2
EPCHC205005U	5.0	0.5R	5.0	50	6	2
EPCHC205010U	5.0	1.0R	5.0	50	6	2
EPCHC206001U	6.0	0.1R	7.0	50	6	2
EPCHC206002U	6.0	0.2R	7.0	50	6	2
EPCHC206003U	6.0	0.3R	7.0	50	6	2
EPCHC206005U	6.0	0.5R	7.0	50	6	2
EPCHC206010U	6.0	1.0R	7.0	50	6	2
EPCHC206015U	6.0	1.5R	7.0	50	6	2

Cutting conditions：Page B228

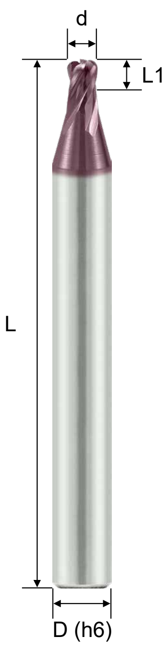
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

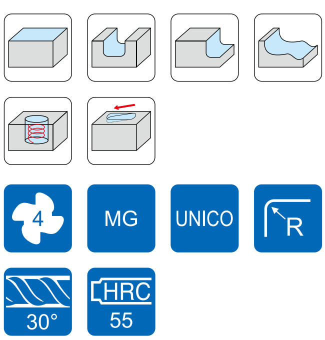
G550 - Corner Radius · Stub Length · 4F 圓鼻銑刀・短刃型・4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- The cutting length of approximately 1×D.
- Short cutting length with high rigidity is suitable for high feed milling.
- For die, mold, mechanical and electronic parts made of steel.
- Good for surface milling.

EPCHC

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPCHC442001U	2.0	0.1R	2.0	50	4	4
EPCHC442002U	2.0	0.2R	2.0	50	4	4
EPCHC442003U	2.0	0.3R	2.0	50	4	4
EPCHC442005U	2.0	0.5R	2.0	50	4	4
EPCHC442501U	2.5	0.1R	2.5	50	4	4
EPCHC442502U	2.5	0.2R	2.5	50	4	4
EPCHC442503U	2.5	0.3R	2.5	50	4	4
EPCHC442505U	2.5	0.5R	2.5	50	4	4
EPCHC403001U	3.0	0.1R	3.0	50	6	4
EPCHC403002U	3.0	0.2R	3.0	50	6	4
EPCHC403003U	3.0	0.3R	3.0	50	6	4
EPCHC403005U	3.0	0.5R	3.0	50	6	4
EPCHC403010U	3.0	1.0R	3.0	50	6	4
EPCHC404001U	4.0	0.1R	4.0	50	6	4
EPCHC404002U	4.0	0.2R	4.0	50	6	4
EPCHC404003U	4.0	0.3R	4.0	50	6	4
EPCHC404005U	4.0	0.5R	4.0	50	6	4
EPCHC404010U	4.0	1.0R	4.0	50	6	4
EPCHC405001U	5.0	0.1R	5.0	50	6	4
EPCHC405002U	5.0	0.2R	5.0	50	6	4
EPCHC405003U	5.0	0.3R	5.0	50	6	4
EPCHC405005U	5.0	0.5R	5.0	50	6	4
EPCHC405010U	5.0	1.0R	5.0	50	6	4
EPCHC406001U	6.0	0.1R	7.0	50	6	4
EPCHC406002U	6.0	0.2R	7.0	50	6	4
EPCHC406003U	6.0	0.3R	7.0	50	6	4
EPCHC406005U	6.0	0.5R	7.0	50	6	4
EPCHC406010U	6.0	1.0R	7.0	50	6	4
EPCHC406015U	6.0	1.5R	7.0	50	6	4

Cutting conditions：Page B228

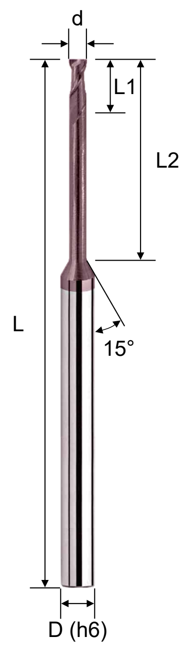
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

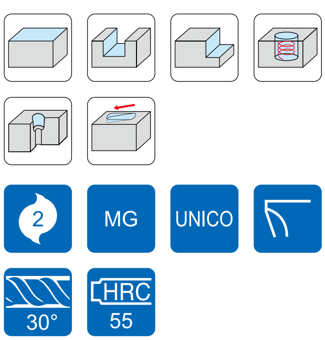
G550 - Long Neck · Square · 2F 長頸型・平銑刀・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSRC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC240201U	0.2	0.3	1	50	4	2
EPSRC240202U	0.2	0.3	2	50	4	2
EPSRC240301U	0.3	0.4	1	50	4	2
EPSRC240302U	0.3	0.4	2	50	4	2
EPSRC240303U	0.3	0.4	3	50	4	2
EPSRC240304U	0.3	0.4	4	50	4	2
EPSRC240305U	0.3	0.4	5	50	4	2
EPSRC240401U	0.4	0.5	1	50	4	2
EPSRC240402U	0.4	0.5	2	50	4	2
EPSRC240403U	0.4	0.5	3	50	4	2
EPSRC240404U	0.4	0.5	4	50	4	2
EPSRC240405U	0.4	0.5	5	50	4	2
EPSRC240406U	0.4	0.5	6	50	4	2
EPSRC240408U	0.4	0.5	8	50	4	2
EPSRC240410U	0.4	0.5	10	50	4	2
EPSRC240502U	0.5	0.6	2	50	4	2
EPSRC240503U	0.5	0.6	3	50	4	2
EPSRC240504U	0.5	0.6	4	50	4	2
EPSRC240505U	0.5	0.6	5	50	4	2
EPSRC240506U	0.5	0.6	6	50	4	2
EPSRC240508U	0.5	0.6	8	50	4	2
EPSRC240510U	0.5	0.6	10	50	4	2
EPSRC240512U	0.5	0.6	12	50	4	2
EPSRC240514U	0.5	0.6	14	50	4	2

Cutting conditions：Page B229

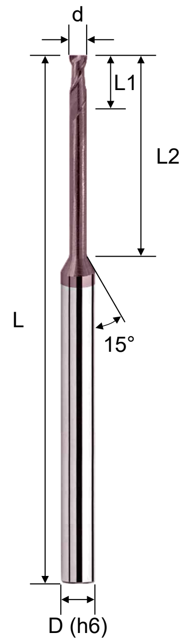
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

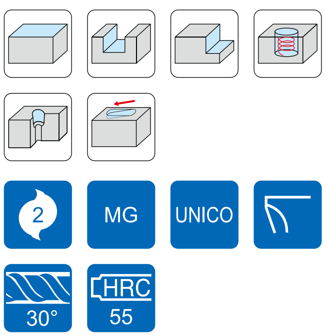
G550 - Long Neck · Square · 2F 長頸型・平銑刀・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSRC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC240602U	0.6	0.7	2	50	4	2
EPSRC240603U	0.6	0.7	3	50	4	2
EPSRC240604U	0.6	0.7	4	50	4	2
EPSRC240605U	0.6	0.7	5	50	4	2
EPSRC240606U	0.6	0.7	6	50	4	2
EPSRC240608U	0.6	0.7	8	50	4	2
EPSRC240610U	0.6	0.7	10	50	4	2
EPSRC240612U	0.6	0.7	12	50	4	2
EPSRC240614U	0.6	0.7	14	50	4	2
EPSRC240616U	0.6	0.7	16	50	4	2
EPSRC240702U	0.7	0.8	2	50	4	2
EPSRC240704U	0.7	0.8	4	50	4	2
EPSRC240706U	0.7	0.8	6	50	4	2
EPSRC240708U	0.7	0.8	8	50	4	2
EPSRC240710U	0.7	0.8	10	50	4	2
EPSRC240712U	0.7	0.8	12	50	4	2
EPSRC240802U	0.8	1.0	2	50	4	2
EPSRC240804U	0.8	1.0	4	50	4	2
EPSRC240806U	0.8	1.0	6	50	4	2
EPSRC240808U	0.8	1.0	8	50	4	2
EPSRC240810U	0.8	1.0	10	50	4	2
EPSRC240812U	0.8	1.0	12	50	4	2
EPSRC240814U	0.8	1.0	14	50	4	2
EPSRC240906U	0.9	1.1	6	50	4	2
EPSRC240908U	0.9	1.1	8	50	4	2
EPSRC240910U	0.9	1.1	10	50	4	2

Cutting conditions : Page B229

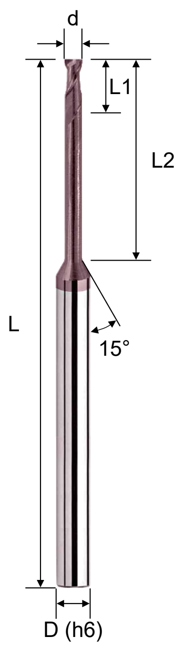
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

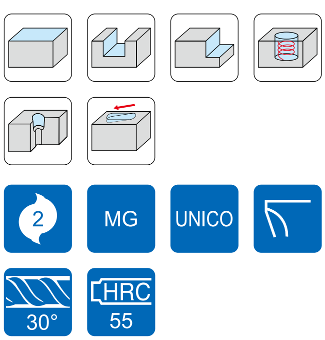
G550 - Long Neck · Square · 2F　　長頸型・平銑刀・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSRC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC241002U	1.0	1.2	2	50	4	2
EPSRC241003U	1.0	1.2	3	50	4	2
EPSRC241004U	1.0	1.2	4	50	4	2
EPSRC241005U	1.0	1.2	5	50	4	2
EPSRC241006U	1.0	1.2	6	50	4	2
EPSRC241008U	1.0	1.2	8	50	4	2
EPSRC241010U	1.0	1.2	10	50	4	2
EPSRC241012U	1.0	1.2	12	50	4	2
EPSRC241014U	1.0	1.2	14	50	4	2
EPSRC241016U	1.0	1.2	16	50	4	2
EPSRC241018U	1.0	1.2	18	50	4	2
EPSRC241020U	1.0	1.2	20	50	4	2
EPSRC241204U	1.2	1.5	4	50	4	2
EPSRC241206U	1.2	1.5	6	50	4	2
EPSRC241208U	1.2	1.5	8	50	4	2
EPSRC241210U	1.2	1.5	10	50	4	2
EPSRC241212U	1.2	1.5	12	50	4	2
EPSRC241216U	1.2	1.5	16	50	4	2
EPSRC241220U	1.2	1.5	20	50	4	2
EPSRC241406U	1.4	1.8	6	50	4	2
EPSRC241408U	1.4	1.8	8	50	4	2
EPSRC241410U	1.4	1.8	10	50	4	2
EPSRC241414U	1.4	1.8	14	50	4	2
EPSRC241416U	1.4	1.8	16	50	4	2
EPSRC241420U	1.4	1.8	20	50	4	2

Cutting conditions：Page B229

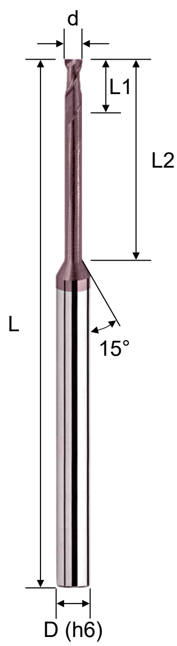
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

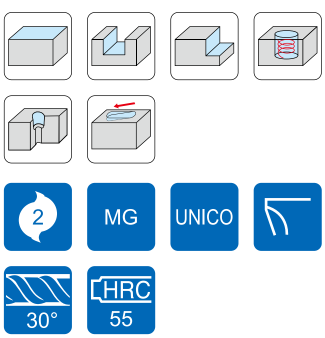
G550 - Long Neck · Square · 2F 長頸型・平銑刀・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSRC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC241504U	1.5	1.8	4	50	4	2
EPSRC241506U	1.5	1.8	6	50	4	2
EPSRC241508U	1.5	1.8	8	50	4	2
EPSRC241510U	1.5	1.8	10	50	4	2
EPSRC241512U	1.5	1.8	12	50	4	2
EPSRC241514U	1.5	1.8	14	50	4	2
EPSRC241516U	1.5	1.8	16	50	4	2
EPSRC241518U	1.5	1.8	18	50	4	2
EPSRC241520U	1.5	1.8	20	50	4	2
EPSRC241610U	1.6	1.9	10	50	4	2
EPSRC241614U	1.6	1.9	14	50	4	2
EPSRC241618U	1.6	1.9	18	50	4	2
EPSRC241810U	1.8	2.0	10	50	4	2
EPSRC241814U	1.8	2.0	14	50	4	2
EPSRC241818U	1.8	2.0	18	50	4	2
EPSRC242004U	2.0	2.5	4	50	4	2
EPSRC242006U	2.0	2.5	6	50	4	2
EPSRC242008U	2.0	2.5	8	50	4	2
EPSRC242010U	2.0	2.5	10	50	4	2
EPSRC242012U	2.0	2.5	12	50	4	2
EPSRC242014U	2.0	2.5	14	50	4	2
EPSRC242016U	2.0	2.5	16	50	4	2
EPSRC242018U	2.0	2.5	18	50	4	2
EPSRC242020U	2.0	2.5	20	50	4	2
EPSRC242022U	2.0	2.5	22	60	4	2
EPSRC242025U	2.0	2.5	25	60	4	2
EPSRC242030U	2.0	2.5	30	75	4	2
EPSRC242035U	2.0	2.5	35	75	4	2

Cutting conditions : Page B229

The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Long Neck · Square · 2F 長頸型・平銑刀・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSRC

P	M	K	N	S	H
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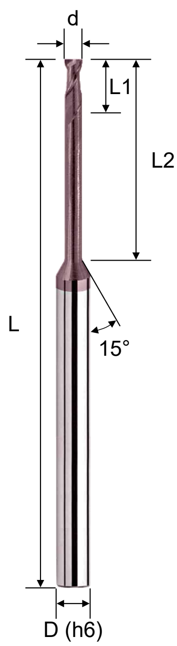

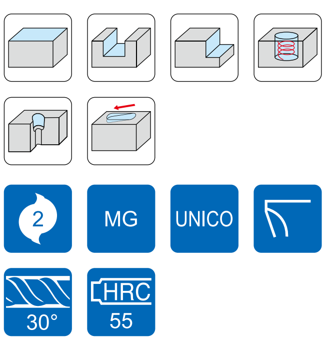

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC242508U	2.5	3.0	8	50	4	2
EPSRC242510U	2.5	3.0	10	50	4	2
EPSRC242512U	2.5	3.0	12	50	4	2
EPSRC242516U	2.5	3.0	16	50	4	2
EPSRC242520U	2.5	3.0	20	50	4	2
EPSRC242525U	2.5	3.0	25	60	4	2
EPSRC242530U	2.5	3.0	30	75	4	2
EPSRC242535U	2.5	3.0	35	75	4	2
EPSRC203006U	3.0	3.5	6	50	6	2
EPSRC203010U	3.0	3.5	10	50	6	2
EPSRC203012U	3.0	3.5	12	50	6	2
EPSRC203016U	3.0	3.5	16	50	6	2
EPSRC203020U	3.0	3.5	20	60	6	2
EPSRC203025U	3.0	3.5	25	60	6	2
EPSRC203030U	3.0	3.5	30	75	6	2
EPSRC203035U	3.0	3.5	35	75	6	2
EPSRC204008U	4.0	4.5	8	50	6	2
EPSRC204010U	4.0	4.5	10	50	6	2
EPSRC204012U	4.0	4.5	12	50	6	2
EPSRC204016U	4.0	4.5	16	50	6	2
EPSRC204020U	4.0	4.5	20	60	6	2
EPSRC204025U	4.0	4.5	25	60	6	2
EPSRC204030U	4.0	4.5	30	75	6	2
EPSRC204035U	4.0	4.5	35	75	6	2

Cutting conditions：Page B229

The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

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G550 - Long Neck · Square · 2F 長頸型・平銑刀・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSRC

P	M	K	N	S	H
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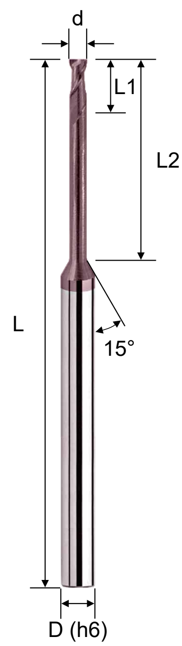

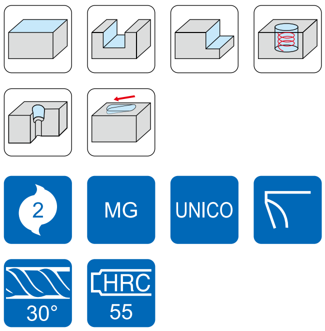

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC205016U	5.0	7.0	16	50	6	2
EPSRC205020U	5.0	7.0	20	60	6	2
EPSRC205025U	5.0	7.0	25	60	6	2
EPSRC205030U	5.0	7.0	30	75	6	2
EPSRC205035U	5.0	7.0	35	75	6	2
EPSRC206020U	6.0	10.0	20	60	6	2
EPSRC206030U	6.0	10.0	30	75	6	2
EPSRC208020U	8.0	15.0	20	60	8	2
EPSRC208030U	8.0	15.0	30	75	8	2
EPSRC208040U	8.0	15.0	40	100	8	2
EPSRC210025U	10.0	20.0	25	75	10	2
EPSRC210035U	10.0	20.0	35	75	10	2
EPSRC210045U	10.0	20.0	45	100	10	2
EPSRC212030U	12.0	25.0	30	75	12	2
EPSRC212040U	12.0	25.0	40	100	12	2
EPSRC212050U	12.0	25.0	50	100	12	2

Cutting conditions : Page B229

The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Long Neck · Square · 4F 長頸型・平銑刀・4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSRC

P	M	K	N	S	H
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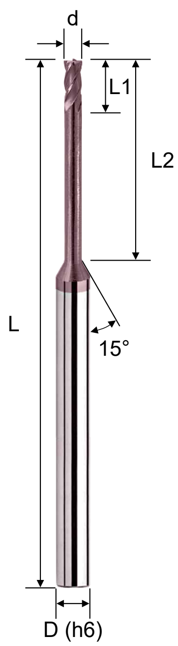
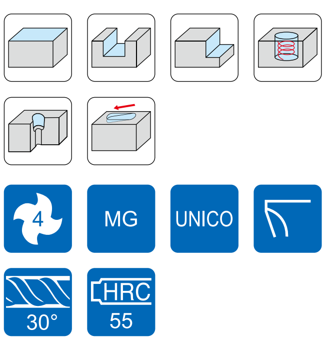




d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC441003U	1.0	1.0	3	50	4	4
EPSRC441004U	1.0	1.0	4	50	4	4
EPSRC441006U	1.0	1.0	6	50	4	4
EPSRC441008U	1.0	1.0	8	50	4	4
EPSRC441010U	1.0	1.0	10	50	4	4
EPSRC441012U	1.0	1.0	12	50	4	4
EPSRC441016U	1.0	1.0	16	50	4	4
EPSRC441020U	1.0	1.0	20	50	4	4
EPSRC441025U	1.0	1.0	25	60	4	4
EPSRC401004U	1.0	1.0	4	50	6	4
EPSRC401006U	1.0	1.0	6	50	6	4
EPSRC401008U	1.0	1.0	8	50	6	4
EPSRC401010U	1.0	1.0	10	50	6	4
EPSRC401012U	1.0	1.0	12	50	6	4
EPSRC441506U	1.5	1.5	6	50	4	4
EPSRC441508U	1.5	1.5	8	50	4	4
EPSRC441510U	1.5	1.5	10	50	4	4
EPSRC441512U	1.5	1.5	12	50	4	4
EPSRC441516U	1.5	1.5	16	50	4	4
EPSRC441520U	1.5	1.5	20	50	4	4
EPSRC441525U	1.5	1.5	25	60	4	4
EPSRC401506U	1.5	1.5	6	50	6	4
EPSRC401508U	1.5	1.5	8	50	6	4
EPSRC401510U	1.5	1.5	10	50	6	4
EPSRC401512U	1.5	1.5	12	50	6	4

Cutting conditions：Page B232

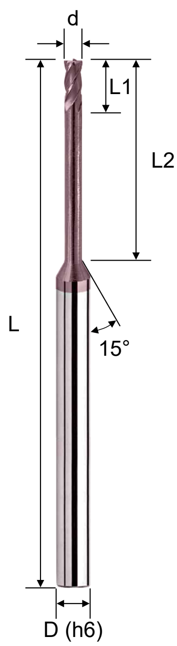
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

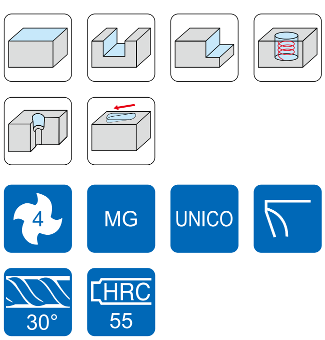
G550 - Long Neck · Square · 4F 長頸型・平銑刀・4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSRC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC442006U	2.0	2.0	6	50	4	4
EPSRC442008U	2.0	2.0	8	50	4	4
EPSRC442010U	2.0	2.0	10	50	4	4
EPSRC442012U	2.0	2.0	12	50	4	4
EPSRC442016U	2.0	2.0	16	50	4	4
EPSRC442020U	2.0	2.0	20	50	4	4
EPSRC442025U	2.0	2.0	25	60	4	4
EPSRC442030U	2.0	2.0	30	75	4	4
EPSRC402006U	2.0	2.0	6	50	6	4
EPSRC402008U	2.0	2.0	8	50	6	4
EPSRC402010U	2.0	2.0	10	50	6	4
EPSRC402016U	2.0	2.0	16	50	6	4
EPSRC442510U	2.5	2.5	10	50	4	4
EPSRC442512U	2.5	2.5	12	50	4	4
EPSRC442516U	2.5	2.5	16	50	4	4
EPSRC442520U	2.5	2.5	20	50	4	4
EPSRC442525U	2.5	2.5	25	60	4	4
EPSRC442530U	2.5	2.5	30	75	4	4
EPSRC402506U	2.5	2.5	6	50	6	4
EPSRC402510U	2.5	2.5	10	50	6	4
EPSRC403010U	3.0	3.0	10	50	6	4
EPSRC403012U	3.0	3.0	12	50	6	4
EPSRC403016U	3.0	3.0	16	50	6	4
EPSRC403020U	3.0	3.0	20	60	6	4
EPSRC403025U	3.0	3.0	25	60	6	4
EPSRC403030U	3.0	3.0	30	75	6	4
EPSRC403035U	3.0	3.0	35	75	6	4

Cutting conditions : Page B232

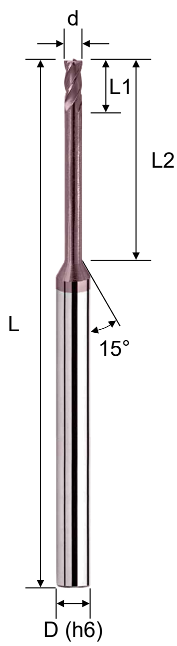
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

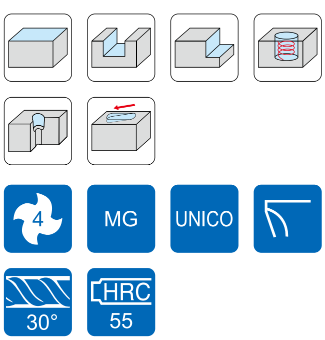
G550 - Long Neck · Square · 4F 長頸型・平銑刀・4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSRC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC404010U	4.0	4.0	10	50	6	4
EPSRC404012U	4.0	4.0	12	50	6	4
EPSRC404016U	4.0	4.0	16	50	6	4
EPSRC404020U	4.0	4.0	20	60	6	4
EPSRC404025U	4.0	4.0	25	60	6	4
EPSRC404030U	4.0	4.0	30	75	6	4
EPSRC405016U	5.0	5.0	16	50	6	4
EPSRC405020U	5.0	5.0	20	60	6	4
EPSRC405025U	5.0	5.0	25	60	6	4
EPSRC405030U	5.0	5.0	30	75	6	4
EPSRC406020U	6.0	6.0	20	60	6	4
EPSRC406030U	6.0	6.0	30	75	6	4
EPSRC408020U	8.0	15.0	20	60	8	4
EPSRC408030U	8.0	15.0	30	75	8	4
EPSRC408040U	8.0	15.0	40	100	8	4
EPSRC410025U	10.0	20.0	25	75	10	4
EPSRC410035U	10.0	20.0	35	100	10	4
EPSRC410045U	10.0	20.0	45	100	10	4
EPSRC412030U	12.0	25.0	30	75	12	4
EPSRC412040U	12.0	25.0	40	100	12	4
EPSRC412050U	12.0	25.0	50	100	12	4

Cutting conditions：Page B232

The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.

EPBRC

P	M	K	N	S	H
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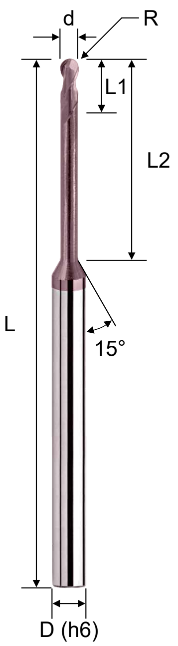
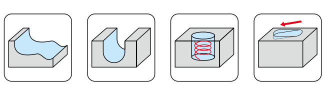
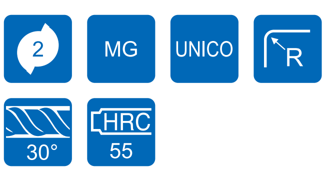






R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPBRC240301U	0.15R	0.3	0.3	1	50	4	2
EPBRC240302U	0.15R	0.3	0.3	2	50	4	2
EPBRC240303U	0.15R	0.3	0.3	3	50	4	2
EPBRC240401U	0.20R	0.4	0.4	1	50	4	2
EPBRC240402U	0.20R	0.4	0.4	2	50	4	2
EPBRC240403U	0.20R	0.4	0.4	3	50	4	2
EPBRC240404U	0.20R	0.4	0.4	4	50	4	2
EPBRC240405U	0.20R	0.4	0.4	5	50	4	2
EPBRC240406U	0.20R	0.4	0.4	6	50	4	2
EPBRC240408U	0.20R	0.4	0.4	8	50	4	2
EPBRC240501U	0.25R	0.5	0.5	1	50	4	2
EPBRC240502U	0.25R	0.5	0.5	2	50	4	2
EPBRC240503U	0.25R	0.5	0.5	3	50	4	2
EPBRC240504U	0.25R	0.5	0.5	4	50	4	2
EPBRC240505U	0.25R	0.5	0.5	5	50	4	2
EPBRC240506U	0.25R	0.5	0.5	6	50	4	2
EPBRC240508U	0.25R	0.5	0.5	8	50	4	2
EPBRC240510U	0.25R	0.5	0.5	10	50	4	2
EPBRC240601U	0.30R	0.6	0.6	1	50	4	2
EPBRC240602U	0.30R	0.6	0.6	2	50	4	2
EPBRC240603U	0.30R	0.6	0.6	3	50	4	2
EPBRC240604U	0.30R	0.6	0.6	4	50	4	2
EPBRC240605U	0.30R	0.6	0.6	5	50	4	2
EPBRC240606U	0.30R	0.6	0.6	6	50	4	2
EPBRC240608U	0.30R	0.6	0.6	8	50	4	2
EPBRC240610U	0.30R	0.6	0.6	10	50	4	2
EPBRC240612U	0.30R	0.6	0.6	12	50	4	2

Cutting conditions : Page B234

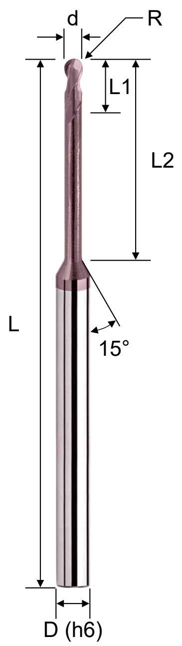
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

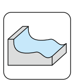
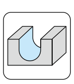
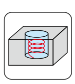
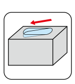
G550 - Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.

EPBRC

P	M	K	N	S	H
●	●	●			○



R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPBRC240702U	0.35R	0.7	0.7	2	50	4	2
EPBRC240704U	0.35R	0.7	0.7	4	50	4	2
EPBRC240708U	0.35R	0.7	0.7	8	50	4	2
EPBRC240710U	0.35R	0.7	0.7	10	50	4	2
EPBRC240712U	0.35R	0.7	0.7	12	50	4	2
EPBRC240802U	0.40R	0.8	0.8	2	50	4	2
EPBRC240804U	0.40R	0.8	0.8	4	50	4	2
EPBRC240806U	0.40R	0.8	0.8	6	50	4	2
EPBRC240808U	0.40R	0.8	0.8	8	50	4	2
EPBRC240810U	0.40R	0.8	0.8	10	50	4	2
EPBRC240812U	0.40R	0.8	0.8	12	50	4	2
EPBRC240904U	0.45R	0.9	0.9	4	50	4	2
EPBRC241002U	0.50R	1.0	1.0	2	50	4	2
EPBRC241003U	0.50R	1.0	1.0	3	50	4	2
EPBRC241004U	0.50R	1.0	1.0	4	50	4	2
EPBRC241005U	0.50R	1.0	1.0	5	50	4	2
EPBRC241006U	0.50R	1.0	1.0	6	50	4	2
EPBRC241008U	0.50R	1.0	1.0	8	50	4	2
EPBRC241010U	0.50R	1.0	1.0	10	50	4	2
EPBRC241012U	0.50R	1.0	1.0	12	50	4	2
EPBRC241014U	0.50R	1.0	1.0	14	50	4	2
EPBRC241016U	0.50R	1.0	1.0	16	50	4	2
EPBRC241018U	0.50R	1.0	1.0	18	50	4	2
EPBRC241020U	0.50R	1.0	1.0	20	50	4	2
EPBRC241022U	0.50R	1.0	1.0	22	60	4	2
EPBRC201004U	0.50R	1.0	1.0	4	50	6	2
EPBRC201006U	0.50R	1.0	1.0	6	50	6	2
EPBRC201008U	0.50R	1.0	1.0	8	50	6	2
EPBRC201010U	0.50R	1.0	1.0	10	50	6	2
EPBRC201012U	0.50R	1.0	1.0	12	50	6	2

Cutting conditions：B234

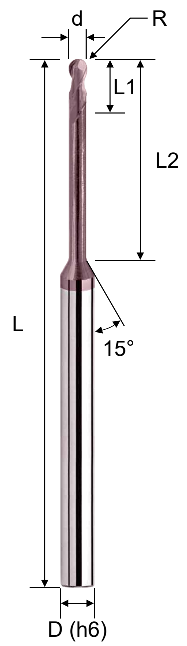
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

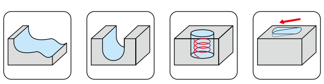
G550 - Long Neck · Ball Nose · 2F
長頸型・球型銑刀・2 刃

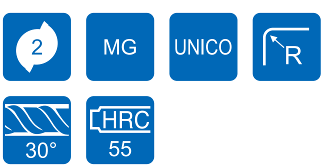
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.

EPBRC

P	M	K	N	S	H
●	●	●			○







R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPBRC241204U	0.60R	1.2	1.2	4	50	4	2
EPBRC241206U	0.60R	1.2	1.2	6	50	4	2
EPBRC241208U	0.60R	1.2	1.2	8	50	4	2
EPBRC241210U	0.60R	1.2	1.2	10	50	4	2
EPBRC241212U	0.60R	1.2	1.2	12	50	4	2
EPBRC241216U	0.60R	1.2	1.2	16	50	4	2
EPBRC241220U	0.60R	1.2	1.2	20	50	4	2
EPBRC241224U	0.60R	1.2	1.2	24	60	4	2
EPBRC241406U	0.70R	1.4	1.4	6	50	4	2
EPBRC241408U	0.70R	1.4	1.4	8	50	4	2
EPBRC241412U	0.70R	1.4	1.4	12	50	4	2
EPBRC241416U	0.70R	1.4	1.4	16	50	4	2
EPBRC241503U	0.75R	1.5	1.5	3	50	4	2
EPBRC241504U	0.75R	1.5	1.5	4	50	4	2
EPBRC241506U	0.75R	1.5	1.5	6	50	4	2
EPBRC241508U	0.75R	1.5	1.5	8	50	4	2
EPBRC241510U	0.75R	1.5	1.5	10	50	4	2
EPBRC241512U	0.75R	1.5	1.5	12	50	4	2
EPBRC241514U	0.75R	1.5	1.5	14	50	4	2
EPBRC241516U	0.75R	1.5	1.5	16	50	4	2
EPBRC241518U	0.75R	1.5	1.5	18	50	4	2
EPBRC241520U	0.75R	1.5	1.5	20	50	4	2
EPBRC241522U	0.75R	1.5	1.5	22	60	4	2
EPBRC241525U	0.75R	1.5	1.5	25	60	4	2
EPBRC241530U	0.75R	1.5	1.5	30	75	4	2
EPBRC201506U	0.75R	1.5	1.5	6	50	6	2
EPBRC201508U	0.75R	1.5	1.5	8	50	6	2
EPBRC201510U	0.75R	1.5	1.5	10	50	6	2
EPBRC201512U	0.75R	1.5	1.5	12	50	6	2

Cutting conditions : Page B234

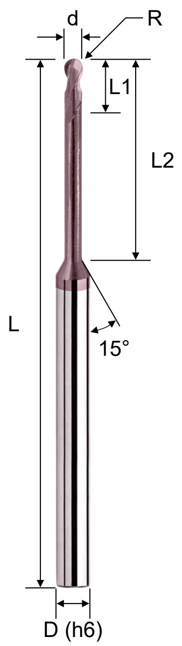
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

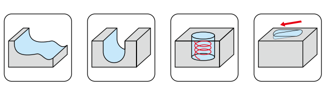
G550 - Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃

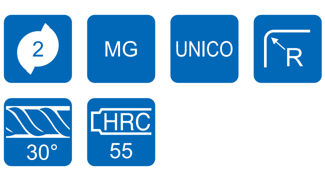
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.

EPBRC

P	M	K	N	S	H
●	●	●			○







R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPBRC241606U	0.80R	1.6	1.6	6	50	4	2
EPBRC241608U	0.80R	1.6	1.6	8	50	4	2
EPBRC241612U	0.80R	1.6	1.6	12	50	4	2
EPBRC241616U	0.80R	1.6	1.6	16	50	4	2
EPBRC241620U	0.80R	1.6	1.6	20	50	4	2
EPBRC241806U	0.90R	1.8	1.8	6	50	4	2
EPBRC241808U	0.90R	1.8	1.8	8	50	4	2
EPBRC241812U	0.90R	1.8	1.8	12	50	4	2
EPBRC241816U	0.90R	1.8	1.8	16	50	4	2
EPBRC241820U	0.90R	1.8	1.8	20	50	4	2
EPBRC242004U	1.00R	2.0	2.0	4	50	4	2
EPBRC242006U	1.00R	2.0	2.0	6	50	4	2
EPBRC242008U	1.00R	2.0	2.0	8	50	4	2
EPBRC242010U	1.00R	2.0	2.0	10	50	4	2
EPBRC242012U	1.00R	2.0	2.0	12	50	4	2
EPBRC242014U	1.00R	2.0	2.0	14	50	4	2
EPBRC242016U	1.00R	2.0	2.0	16	50	4	2
EPBRC242018U	1.00R	2.0	2.0	18	50	4	2
EPBRC242020U	1.00R	2.0	2.0	20	50	4	2
EPBRC242022U	1.00R	2.0	2.0	22	60	4	2
EPBRC242025U	1.00R	2.0	2.0	25	60	4	2
EPBRC202006U	1.00R	2.0	2.0	6	50	6	2
EPBRC202008U	1.00R	2.0	2.0	8	50	6	2
EPBRC202010U	1.00R	2.0	2.0	10	50	6	2
EPBRC202016U	1.00R	2.0	2.0	16	50	6	2

Cutting conditions：Page B234

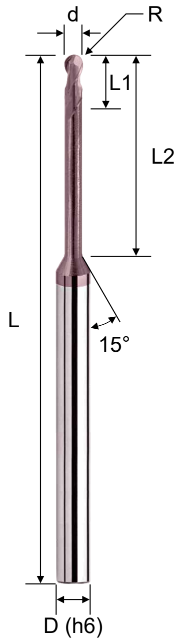
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

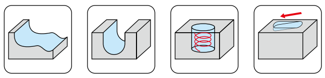
G550 - Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃

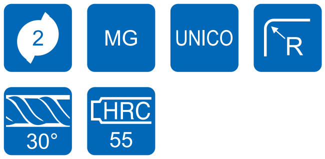
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.

EPBRC

P	M	K	N	S	H
●	●	●			○







R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPBRC242508U	1.25R	2.5	2.5	8	50	4	2
EPBRC242510U	1.25R	2.5	2.5	10	50	4	2
EPBRC242516U	1.25R	2.5	2.5	16	50	4	2
EPBRC242520U	1.25R	2.5	2.5	20	60	4	2
EPBRC242525U	1.25R	2.5	2.5	25	60	4	2
EPBRC242530U	1.25R	2.5	2.5	30	75	4	2
EPBRC202506U	1.25R	2.5	2.5	6	50	6	2
EPBRC202510U	1.25R	2.5	2.5	10	50	6	2
EPBRC203006U	1.50R	3.0	3.0	6	50	6	2
EPBRC203008U	1.50R	3.0	3.0	8	50	6	2
EPBRC203012U	1.50R	3.0	3.0	12	50	6	2
EPBRC203016U	1.50R	3.0	3.0	16	60	6	2
EPBRC203020U	1.50R	3.0	3.0	20	60	6	2
EPBRC203025U	1.50R	3.0	3.0	25	60	6	2
EPBRC203030U	1.50R	3.0	3.0	30	75	6	2
EPBRC203035U	1.50R	3.0	3.0	35	75	6	2
EPBRC204008U	2.00R	4.0	4.0	8	50	6	2
EPBRC204010U	2.00R	4.0	4.0	10	50	6	2
EPBRC204012U	2.00R	4.0	4.0	12	50	6	2
EPBRC204016U	2.00R	4.0	4.0	16	60	6	2
EPBRC204020U	2.00R	4.0	4.0	20	60	6	2
EPBRC204025U	2.00R	4.0	4.0	25	60	6	2
EPBRC204030U	2.00R	4.0	4.0	30	75	6	2
EPBRC204035U	2.00R	4.0	4.0	35	75	6	2
EPBRC205015U	2.50R	5.0	5.0	15	60	6	2
EPBRC205020U	2.50R	5.0	5.0	20	60	6	2
EPBRC205025U	2.50R	5.0	5.0	25	60	6	2
EPBRC205030U	2.50R	5.0	5.0	30	75	6	2
EPBRC206015U	3.00R	6.0	10.0	15	50	6	2
EPBRC208025U	4.00R	8.0	12.0	25	60	8	2
EPBRC210030U	5.00R	10.0	16.0	30	75	10	2
EPBRC212030U	6.00R	12.0	18.0	30	75	12	2

Cutting conditions：Page B234

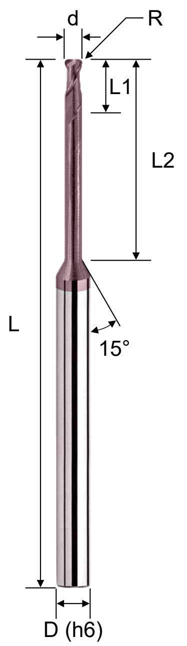
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃

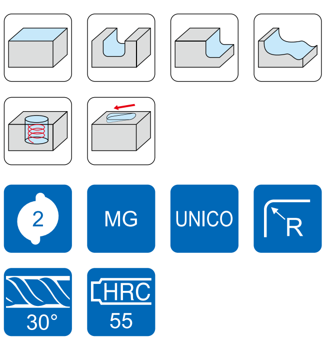
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCRC

P	M	K	N	S	H
●	●	●			○



Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC24100104U	1.0	0.1R	1.0	4	50	4	2
EPCRC24100106U	1.0	0.1R	1.0	6	50	4	2
EPCRC24100108U	1.0	0.1R	1.0	8	50	4	2
EPCRC24100110U	1.0	0.1R	1.0	10	50	4	2
EPCRC24100112U	1.0	0.1R	1.0	12	50	4	2
EPCRC24100204U	1.0	0.2R	1.0	4	50	4	2
EPCRC24100206U	1.0	0.2R	1.0	6	50	4	2
EPCRC24100208U	1.0	0.2R	1.0	8	50	4	2
EPCRC24100210U	1.0	0.2R	1.0	10	50	4	2
EPCRC24100212U	1.0	0.2R	1.0	12	50	4	2
EPCRC24100304U	1.0	0.3R	1.0	4	50	4	2
EPCRC24100306U	1.0	0.3R	1.0	6	50	4	2
EPCRC24100308U	1.0	0.3R	1.0	8	50	4	2
EPCRC24100310U	1.0	0.3R	1.0	10	50	4	2
EPCRC24100312U	1.0	0.3R	1.0	12	50	4	2
EPCRC24120104U	1.2	0.1R	1.2	4	50	4	2
EPCRC24120106U	1.2	0.1R	1.2	6	50	4	2
EPCRC24120108U	1.2	0.1R	1.2	8	50	4	2
EPCRC24120110U	1.2	0.1R	1.2	10	50	4	2
EPCRC24120112U	1.2	0.1R	1.2	12	50	4	2
EPCRC24120204U	1.2	0.2R	1.2	4	50	4	2
EPCRC24120206U	1.2	0.2R	1.2	6	50	4	2
EPCRC24120208U	1.2	0.2R	1.2	8	50	4	2
EPCRC24120210U	1.2	0.2R	1.2	10	50	4	2
EPCRC24120212U	1.2	0.2R	1.2	12	50	4	2
EPCRC24120304U	1.2	0.3R	1.2	4	50	4	2
EPCRC24120306U	1.2	0.3R	1.2	6	50	4	2
EPCRC24120308U	1.2	0.3R	1.2	8	50	4	2
EPCRC24120310U	1.2	0.3R	1.2	10	50	4	2
EPCRC24120312U	1.2	0.3R	1.2	12	50	4	2



Cutting conditions：Page B237

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

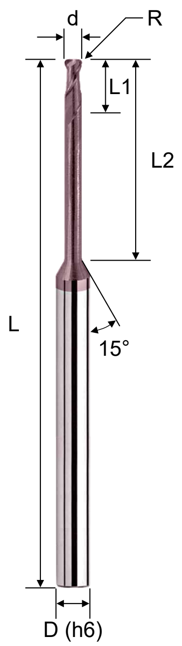
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Long Neck · Corner Radius · 2F　長頸型・圓鼻銑刀・2 刃

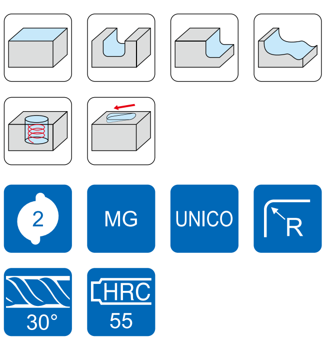
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCRC

P	M	K	N	S	H
●	●	●			○



Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC24150106U	1.5	0.1R	1.5	6	50	4	2
EPCRC24150108U	1.5	0.1R	1.5	8	50	4	2
EPCRC24150110U	1.5	0.1R	1.5	10	50	4	2
EPCRC24150112U	1.5	0.1R	1.5	12	50	4	2
EPCRC24150116U	1.5	0.1R	1.5	16	50	4	2
EPCRC24150206U	1.5	0.2R	1.5	6	50	4	2
EPCRC24150208U	1.5	0.2R	1.5	8	50	4	2
EPCRC24150210U	1.5	0.2R	1.5	10	50	4	2
EPCRC24150212U	1.5	0.2R	1.5	12	50	4	2
EPCRC24150216U	1.5	0.2R	1.5	16	50	4	2
EPCRC24150306U	1.5	0.3R	1.5	6	50	4	2
EPCRC24150308U	1.5	0.3R	1.5	8	50	4	2
EPCRC24150310U	1.5	0.3R	1.5	10	50	4	2
EPCRC24150312U	1.5	0.3R	1.5	12	50	4	2
EPCRC24150316U	1.5	0.3R	1.5	16	50	4	2
EPCRC24150506U	1.5	0.5R	1.5	6	50	4	2
EPCRC24150508U	1.5	0.5R	1.5	8	50	4	2
EPCRC24150510U	1.5	0.5R	1.5	10	50	4	2
EPCRC24150512U	1.5	0.5R	1.5	12	50	4	2
EPCRC24150516U	1.5	0.5R	1.5	16	50	4	2



Cutting conditions : Page B237

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

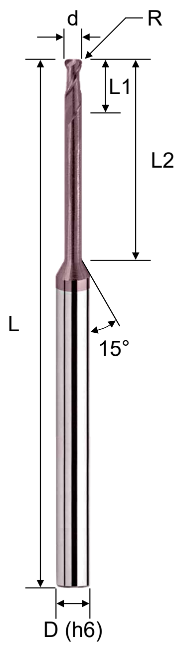
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

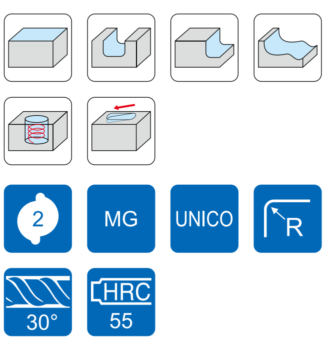
G550 - Long Neck · Corner Radius · 2F　長頸型・圓鼻銑刀・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCRC

P	M	K	N	S	H
●	●	●			○





Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC24200106U	2.0	0.1R	2.0	6	50	4	2
EPCRC24200108U	2.0	0.1R	2.0	8	50	4	2
EPCRC24200110U	2.0	0.1R	2.0	10	50	4	2
EPCRC24200112U	2.0	0.1R	2.0	12	50	4	2
EPCRC24200116U	2.0	0.1R	2.0	16	50	4	2
EPCRC24200120U	2.0	0.1R	2.0	20	50	4	2
EPCRC24200125U	2.0	0.1R	2.0	25	60	4	2
EPCRC24200206U	2.0	0.2R	2.0	6	50	4	2
EPCRC24200208U	2.0	0.2R	2.0	8	50	4	2
EPCRC24200210U	2.0	0.2R	2.0	10	50	4	2
EPCRC24200212U	2.0	0.2R	2.0	12	50	4	2
EPCRC24200216U	2.0	0.2R	2.0	16	50	4	2
EPCRC24200220U	2.0	0.2R	2.0	20	50	4	2
EPCRC24200225U	2.0	0.2R	2.0	25	60	4	2
EPCRC24200306U	2.0	0.3R	2.0	6	50	4	2
EPCRC24200308U	2.0	0.3R	2.0	8	50	4	2
EPCRC24200310U	2.0	0.3R	2.0	10	50	4	2
EPCRC24200312U	2.0	0.3R	2.0	12	50	4	2
EPCRC24200316U	2.0	0.3R	2.0	16	50	4	2
EPCRC24200320U	2.0	0.3R	2.0	20	50	4	2
EPCRC24200325U	2.0	0.3R	2.0	25	60	4	2
EPCRC24200506U	2.0	0.5R	2.0	6	50	4	2
EPCRC24200508U	2.0	0.5R	2.0	8	50	4	2
EPCRC24200510U	2.0	0.5R	2.0	10	50	4	2
EPCRC24200512U	2.0	0.5R	2.0	12	50	4	2
EPCRC24200516U	2.0	0.5R	2.0	16	50	4	2
EPCRC24200520U	2.0	0.5R	2.0	20	50	4	2
EPCRC24200525U	2.0	0.5R	2.0	25	60	4	2
EPCRC20200510U	2.0	0.5R	2.0	10	50	6	2
EPCRC20200515U	2.0	0.5R	2.0	15	50	6	2

Cutting conditions：Page B237

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

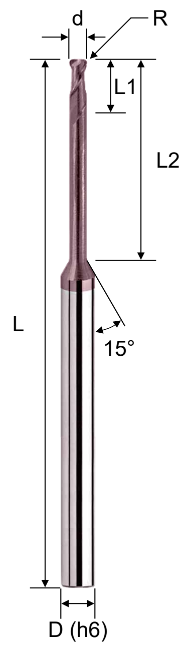
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

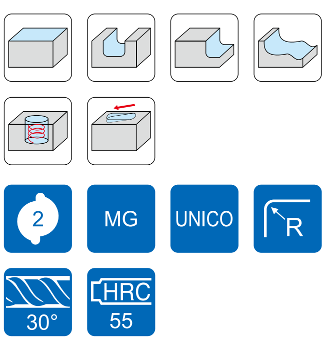
G550 - Long Neck · Corner Radius · 2F　長頸型・圓鼻銑刀・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCRC

P	M	K	N	S	H
●	●	●			○





Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC24250110U	2.5	0.1R	2.5	10	50	4	2
EPCRC24250116U	2.5	0.1R	2.5	16	50	4	2
EPCRC24250120U	2.5	0.1R	2.5	20	50	4	2
EPCRC24250125U	2.5	0.1R	2.5	25	60	4	2
EPCRC24250210U	2.5	0.2R	2.5	10	50	4	2
EPCRC24250216U	2.5	0.2R	2.5	16	50	4	2
EPCRC24250220U	2.5	0.2R	2.5	20	50	4	2
EPCRC24250225U	2.5	0.2R	2.5	25	60	4	2
EPCRC24250310U	2.5	0.3R	2.5	10	50	4	2
EPCRC24250316U	2.5	0.3R	2.5	16	50	4	2
EPCRC24250320U	2.5	0.3R	2.5	20	50	4	2
EPCRC24250325U	2.5	0.3R	2.5	25	60	4	2
EPCRC24250510U	2.5	0.5R	2.5	10	50	4	2
EPCRC24250516U	2.5	0.5R	2.5	16	50	4	2
EPCRC24250520U	2.5	0.5R	2.5	20	50	4	2
EPCRC24250525U	2.5	0.5R	2.5	25	60	4	2

Cutting conditions：Page B237

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

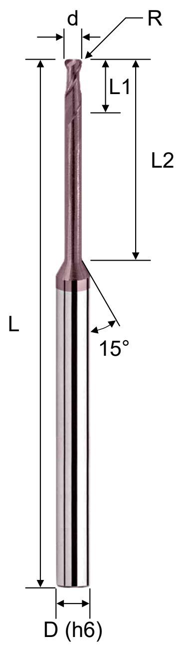
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

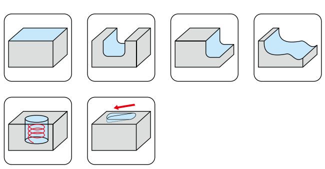
G550 - Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃

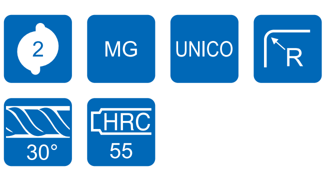
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCRC

P	M	K	N	S	H
●	●	●			○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC20300110U	3.0	0.1R	3.0	10	50	6	2
EPCRC20300116U	3.0	0.1R	3.0	16	60	6	2
EPCRC20300120U	3.0	0.1R	3.0	20	60	6	2
EPCRC20300125U	3.0	0.1R	3.0	25	60	6	2
EPCRC20300130U	3.0	0.1R	3.0	30	75	6	2
EPCRC20300135U	3.0	0.1R	3.0	35	75	6	2
EPCRC20300210U	3.0	0.2R	3.0	10	50	6	2
EPCRC20300216U	3.0	0.2R	3.0	16	60	6	2
EPCRC20300220U	3.0	0.2R	3.0	20	60	6	2
EPCRC20300225U	3.0	0.2R	3.0	25	60	6	2
EPCRC20300230U	3.0	0.2R	3.0	30	75	6	2
EPCRC20300235U	3.0	0.2R	3.0	35	75	6	2
EPCRC20300310U	3.0	0.3R	3.0	10	50	6	2
EPCRC20300316U	3.0	0.3R	3.0	16	60	6	2
EPCRC20300320U	3.0	0.3R	3.0	20	60	6	2
EPCRC20300325U	3.0	0.3R	3.0	25	60	6	2
EPCRC20300330U	3.0	0.3R	3.0	30	75	6	2
EPCRC20300335U	3.0	0.3R	3.0	35	75	6	2
EPCRC20300510U	3.0	0.5R	3.0	10	50	6	2
EPCRC20300516U	3.0	0.5R	3.0	16	60	6	2
EPCRC20300520U	3.0	0.5R	3.0	20	60	6	2
EPCRC20300525U	3.0	0.5R	3.0	25	60	6	2
EPCRC20300530U	3.0	0.5R	3.0	30	75	6	2
EPCRC20300535U	3.0	0.5R	3.0	35	75	6	2
EPCRC20301010U	3.0	1.0R	3.0	10	50	6	2
EPCRC20301016U	3.0	1.0R	3.0	16	60	6	2
EPCRC20301020U	3.0	1.0R	3.0	20	60	6	2
EPCRC20301025U	3.0	1.0R	3.0	25	60	6	2
EPCRC20301030U	3.0	1.0R	3.0	30	75	6	2
EPCRC20301035U	3.0	1.0R	3.0	35	75	6	2

Cutting conditions：Page B237

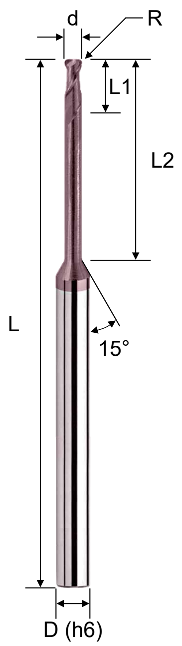
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

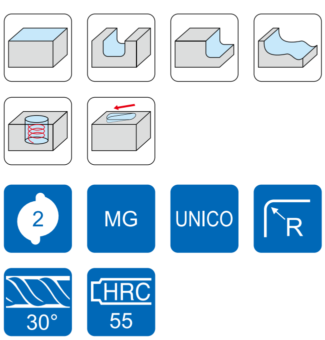
G550 - Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCRC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC20400113U	4.0	0.1R	4.0	13	50	6	2
EPCRC20400116U	4.0	0.1R	4.0	16	60	6	2
EPCRC20400120U	4.0	0.1R	4.0	20	60	6	2
EPCRC20400125U	4.0	0.1R	4.0	25	60	6	2
EPCRC20400130U	4.0	0.1R	4.0	30	75	6	2
EPCRC20400135U	4.0	0.1R	4.0	35	75	6	2
EPCRC20400213U	4.0	0.2R	4.0	13	50	6	2
EPCRC20400216U	4.0	0.2R	4.0	16	60	6	2
EPCRC20400220U	4.0	0.2R	4.0	20	60	6	2
EPCRC20400225U	4.0	0.2R	4.0	25	60	6	2
EPCRC20400230U	4.0	0.2R	4.0	30	75	6	2
EPCRC20400235U	4.0	0.2R	4.0	35	75	6	2
EPCRC20400313U	4.0	0.3R	4.0	13	50	6	2
EPCRC20400316U	4.0	0.3R	4.0	16	60	6	2
EPCRC20400320U	4.0	0.3R	4.0	20	60	6	2
EPCRC20400325U	4.0	0.3R	4.0	25	60	6	2
EPCRC20400330U	4.0	0.3R	4.0	30	75	6	2
EPCRC20400335U	4.0	0.3R	4.0	35	75	6	2
EPCRC20400513U	4.0	0.5R	4.0	13	50	6	2
EPCRC20400516U	4.0	0.5R	4.0	16	60	6	2
EPCRC20400520U	4.0	0.5R	4.0	20	60	6	2
EPCRC20400525U	4.0	0.5R	4.0	25	60	6	2
EPCRC20400530U	4.0	0.5R	4.0	30	75	6	2
EPCRC20400535U	4.0	0.5R	4.0	35	75	6	2
EPCRC20401013U	4.0	1.0R	4.0	13	50	6	2
EPCRC20401016U	4.0	1.0R	4.0	16	60	6	2
EPCRC20401020U	4.0	1.0R	4.0	20	60	6	2
EPCRC20401025U	4.0	1.0R	4.0	25	60	6	2
EPCRC20401030U	4.0	1.0R	4.0	30	75	6	2
EPCRC20401035U	4.0	1.0R	4.0	35	75	6	2

Cutting conditions：Page B237

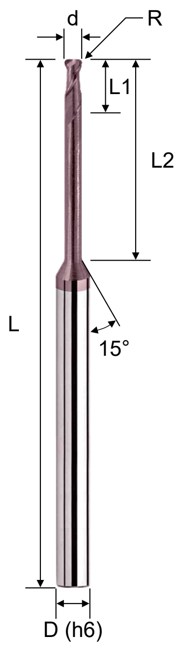
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

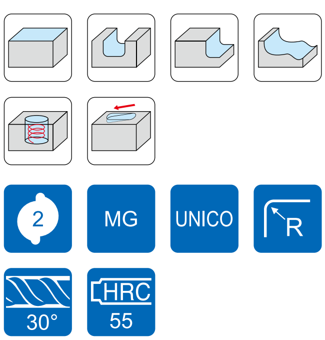
G550 - Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCRC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC20500116U	5.0	0.1R	5.0	16	60	6	2
EPCRC20500130U	5.0	0.1R	5.0	30	75	6	2
EPCRC20500216U	5.0	0.2R	5.0	16	60	6	2
EPCRC20500230U	5.0	0.2R	5.0	30	75	6	2
EPCRC20500316U	5.0	0.3R	5.0	16	60	6	2
EPCRC20500330U	5.0	0.3R	5.0	30	75	6	2
EPCRC20500516U	5.0	0.5R	5.0	16	60	6	2
EPCRC20500530U	5.0	0.5R	5.0	30	75	6	2
EPCRC20501016U	5.0	1.0R	5.0	16	60	6	2
EPCRC20501030U	5.0	1.0R	5.0	30	75	6	2
EPCRC20600120U	6.0	0.1R	7.0	20	60	6	2
EPCRC20600130U	6.0	0.1R	7.0	30	75	6	2
EPCRC20600220U	6.0	0.2R	7.0	20	60	6	2
EPCRC20600230U	6.0	0.2R	7.0	30	75	6	2
EPCRC20600320U	6.0	0.3R	7.0	20	60	6	2
EPCRC20600330U	6.0	0.3R	7.0	30	75	6	2
EPCRC20600520U	6.0	0.5R	7.0	20	60	6	2
EPCRC20600530U	6.0	0.5R	7.0	30	75	6	2
EPCRC20601020U	6.0	1.0R	7.0	20	60	6	2
EPCRC20601030U	6.0	1.0R	7.0	30	75	6	2
EPCRC20601520U	6.0	1.5R	7.0	20	60	6	2
EPCRC20601530U	6.0	1.5R	7.0	30	75	6	2
EPCRC20800522U	8.0	0.5R	9.0	22	60	8	2
EPCRC20801022U	8.0	1.0R	9.0	22	60	8	2
EPCRC20801522U	8.0	1.5R	9.0	22	60	8	2
EPCRC20802022U	8.0	2.0R	9.0	22	60	8	2
EPCRC21000524U	10.0	0.5R	11.0	24	75	10	2
EPCRC21001024U	10.0	1.0R	11.0	24	75	10	2
EPCRC21001524U	10.0	1.5R	11.0	24	75	10	2
EPCRC21002024U	10.0	2.0R	11.0	24	75	10	2
EPCRC21200526U	12.0	0.5R	13.0	26	75	12	2
EPCRC21201026U	12.0	1.0R	13.0	26	75	12	2
EPCRC21201526U	12.0	1.5R	13.0	26	75	12	2
EPCRC21202026U	12.0	2.0R	13.0	26	75	12	2

Cutting conditions：Page B237

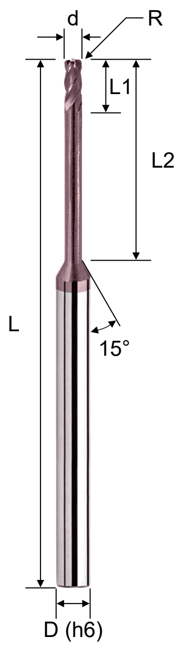
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

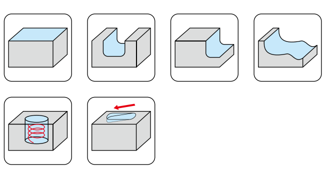
G550 - Long Neck · Corner Radius · 4F 長頸型・圓鼻銑刀・4 刃

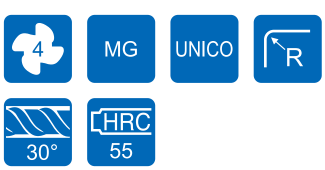
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.

EPCRC

P	M	K	N	S	H
●	●	●			○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC44200106U	2.0	0.1R	2.0	6	50	4	4
EPCRC44200108U	2.0	0.1R	2.0	8	50	4	4
EPCRC44200110U	2.0	0.1R	2.0	10	50	4	4
EPCRC44200112U	2.0	0.1R	2.0	12	50	4	4
EPCRC44200116U	2.0	0.1R	2.0	16	50	4	4
EPCRC44200120U	2.0	0.1R	2.0	20	50	4	4
EPCRC44200125U	2.0	0.1R	2.0	25	60	4	4
EPCRC44200206U	2.0	0.2R	2.0	6	50	4	4
EPCRC44200208U	2.0	0.2R	2.0	8	50	4	4
EPCRC44200210U	2.0	0.2R	2.0	10	50	4	4
EPCRC44200212U	2.0	0.2R	2.0	12	50	4	4
EPCRC44200216U	2.0	0.2R	2.0	16	50	4	4
EPCRC44200220U	2.0	0.2R	2.0	20	50	4	4
EPCRC44200225U	2.0	0.2R	2.0	25	60	4	4
EPCRC44200306U	2.0	0.3R	2.0	6	50	4	4
EPCRC44200308U	2.0	0.3R	2.0	8	50	4	4
EPCRC44200310U	2.0	0.3R	2.0	10	50	4	4
EPCRC44200312U	2.0	0.3R	2.0	12	50	4	4
EPCRC44200316U	2.0	0.3R	2.0	16	50	4	4
EPCRC44200320U	2.0	0.3R	2.0	20	50	4	4
EPCRC44200325U	2.0	0.3R	2.0	25	60	4	4
EPCRC44200506U	2.0	0.5R	2.0	6	50	4	4
EPCRC44200508U	2.0	0.5R	2.0	8	50	4	4
EPCRC44200510U	2.0	0.5R	2.0	10	50	4	4
EPCRC44200512U	2.0	0.5R	2.0	12	50	4	4
EPCRC44200516U	2.0	0.5R	2.0	16	50	4	4
EPCRC44200520U	2.0	0.5R	2.0	20	50	4	4
EPCRC44200525U	2.0	0.5R	2.0	25	60	4	4
EPCRC40200510U	2.0	0.5R	2.0	10	50	6	4
EPCRC40200515U	2.0	0.5R	2.0	15	50	6	4

Cutting conditions：Page B237

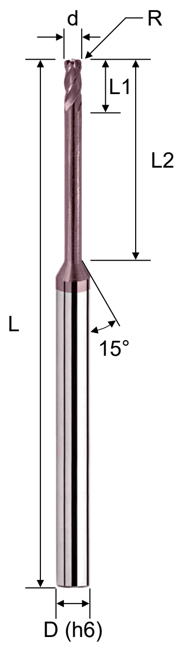
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Long Neck · Corner Radius · 4F 長頸型・圓鼻銑刀・4 刃

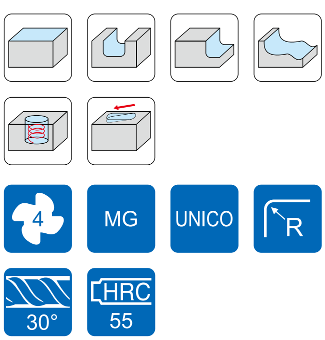
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.

EPCRC

P	M	K	N	S	H
●	●	●			○



Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC44250110U	2.5	0.1R	2.5	10	50	4	4
EPCRC44250116U	2.5	0.1R	2.5	16	50	4	4
EPCRC44250120U	2.5	0.1R	2.5	20	50	4	4
EPCRC44250125U	2.5	0.1R	2.5	25	60	4	4
EPCRC44250210U	2.5	0.2R	2.5	10	50	4	4
EPCRC44250216U	2.5	0.2R	2.5	16	50	4	4
EPCRC44250220U	2.5	0.2R	2.5	20	50	4	4
EPCRC44250225U	2.5	0.2R	2.5	25	60	4	4
EPCRC44250310U	2.5	0.3R	2.5	10	50	4	4
EPCRC44250316U	2.5	0.3R	2.5	16	50	4	4
EPCRC44250320U	2.5	0.3R	2.5	20	50	4	4
EPCRC44250325U	2.5	0.3R	2.5	25	60	4	4
EPCRC44250510U	2.5	0.5R	2.5	10	50	4	4
EPCRC44250516U	2.5	0.5R	2.5	16	50	4	4
EPCRC44250520U	2.5	0.5R	2.5	20	50	4	4
EPCRC44250525U	2.5	0.5R	2.5	25	60	4	4



Cutting conditions : Page B237

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

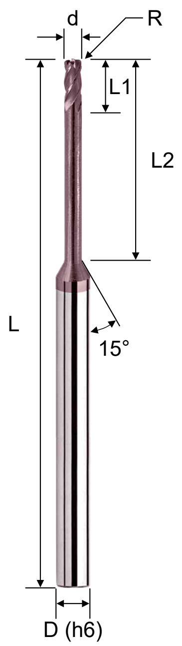
R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

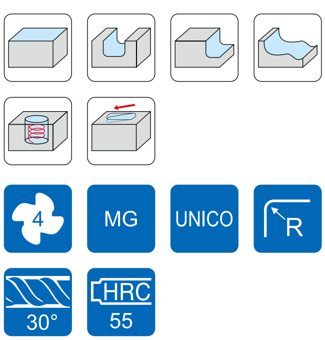
G550 - Long Neck · Corner Radius · 4F 長頸型・圓鼻銑刀・4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.

EPCRC

P	M	K	N	S	H
●	●	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC40300110U	3.0	0.1R	3.0	10	50	6	4
EPCRC40300116U	3.0	0.1R	3.0	16	60	6	4
EPCRC40300120U	3.0	0.1R	3.0	20	60	6	4
EPCRC40300125U	3.0	0.1R	3.0	25	60	6	4
EPCRC40300130U	3.0	0.1R	3.0	30	75	6	4
EPCRC40300135U	3.0	0.1R	3.0	35	75	6	4
EPCRC40300210U	3.0	0.2R	3.0	10	50	6	4
EPCRC40300216U	3.0	0.2R	3.0	16	60	6	4
EPCRC40300220U	3.0	0.2R	3.0	20	60	6	4
EPCRC40300225U	3.0	0.2R	3.0	25	60	6	4
EPCRC40300230U	3.0	0.2R	3.0	30	75	6	4
EPCRC40300235U	3.0	0.2R	3.0	35	75	6	4
EPCRC40300310U	3.0	0.3R	3.0	10	50	6	4
EPCRC40300316U	3.0	0.3R	3.0	16	60	6	4
EPCRC40300320U	3.0	0.3R	3.0	20	60	6	4
EPCRC40300325U	3.0	0.3R	3.0	25	60	6	4
EPCRC40300330U	3.0	0.3R	3.0	30	75	6	4
EPCRC40300335U	3.0	0.3R	3.0	35	75	6	4
EPCRC40300510U	3.0	0.5R	3.0	10	50	6	4
EPCRC40300516U	3.0	0.5R	3.0	16	60	6	4
EPCRC40300520U	3.0	0.5R	3.0	20	60	6	4
EPCRC40300525U	3.0	0.5R	3.0	25	60	6	4
EPCRC40300530U	3.0	0.5R	3.0	30	75	6	4
EPCRC40300535U	3.0	0.5R	3.0	35	75	6	4
EPCRC40301010U	3.0	1.0R	3.0	10	50	6	4
EPCRC40301016U	3.0	1.0R	3.0	16	60	6	4
EPCRC40301020U	3.0	1.0R	3.0	20	60	6	4
EPCRC40301025U	3.0	1.0R	3.0	25	60	6	4
EPCRC40301030U	3.0	1.0R	3.0	30	75	6	4
EPCRC40301035U	3.0	1.0R	3.0	35	75	6	4

Cutting conditions : Page B237

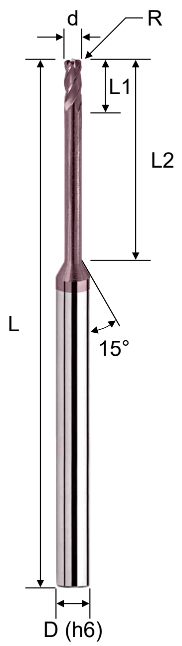
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

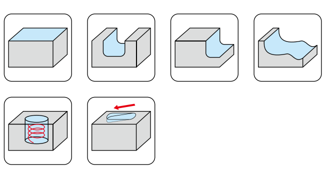
G550 - Long Neck · Corner Radius · 4F 長頸型・圓鼻銑刀・4 刃

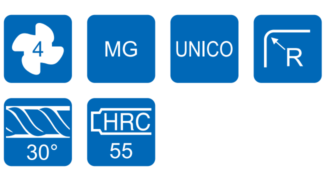
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.

EPCRC

P	M	K	N	S	H
●	●	●			○







Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC40400113U	4.0	0.1R	4.0	13	50	6	4
EPCRC40400116U	4.0	0.1R	4.0	16	60	6	4
EPCRC40400120U	4.0	0.1R	4.0	20	60	6	4
EPCRC40400125U	4.0	0.1R	4.0	25	60	6	4
EPCRC40400130U	4.0	0.1R	4.0	30	75	6	4
EPCRC40400135U	4.0	0.1R	4.0	35	75	6	4
EPCRC40400213U	4.0	0.2R	4.0	13	50	6	4
EPCRC40400216U	4.0	0.2R	4.0	16	60	6	4
EPCRC40400220U	4.0	0.2R	4.0	20	60	6	4
EPCRC40400225U	4.0	0.2R	4.0	25	60	6	4
EPCRC40400230U	4.0	0.2R	4.0	30	75	6	4
EPCRC40400235U	4.0	0.2R	4.0	35	75	6	4
EPCRC40400313U	4.0	0.3R	4.0	13	50	6	4
EPCRC40400316U	4.0	0.3R	4.0	16	60	6	4
EPCRC40400320U	4.0	0.3R	4.0	20	60	6	4
EPCRC40400325U	4.0	0.3R	4.0	25	60	6	4
EPCRC40400330U	4.0	0.3R	4.0	30	75	6	4
EPCRC40400335U	4.0	0.3R	4.0	35	75	6	4
EPCRC40400513U	4.0	0.5R	4.0	13	50	6	4
EPCRC40400516U	4.0	0.5R	4.0	16	60	6	4
EPCRC40400520U	4.0	0.5R	4.0	20	60	6	4
EPCRC40400525U	4.0	0.5R	4.0	25	60	6	4
EPCRC40400530U	4.0	0.5R	4.0	30	75	6	4
EPCRC40400535U	4.0	0.5R	4.0	35	75	6	4
EPCRC40401013U	4.0	1.0R	4.0	13	50	6	4
EPCRC40401016U	4.0	1.0R	4.0	16	60	6	4
EPCRC40401020U	4.0	1.0R	4.0	20	60	6	4
EPCRC40401025U	4.0	1.0R	4.0	25	60	6	4
EPCRC40401030U	4.0	1.0R	4.0	30	75	6	4
EPCRC40401035U	4.0	1.0R	4.0	35	75	6	4

Cutting conditions：Page B237

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

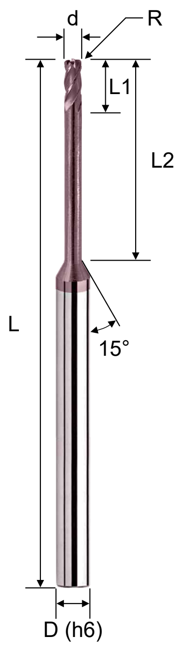
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

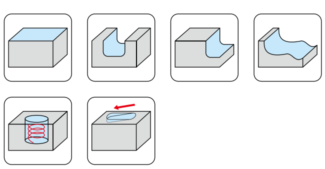
G550 - Long Neck · Corner Radius · 4F 長頸型・圓鼻銑刀・4 刃

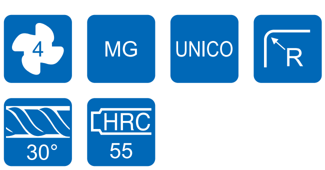
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.

EPCRC

P	M	K	N	S	H
●	●	●			○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC40500116U	5.0	0.1R	5.0	16	60	6	4
EPCRC40500130U	5.0	0.1R	5.0	30	75	6	4
EPCRC40500216U	5.0	0.2R	5.0	16	60	6	4
EPCRC40500230U	5.0	0.2R	5.0	30	75	6	4
EPCRC40500316U	5.0	0.3R	5.0	16	60	6	4
EPCRC40500330U	5.0	0.3R	5.0	30	75	6	4
EPCRC40500516U	5.0	0.5R	5.0	16	60	6	4
EPCRC40500530U	5.0	0.5R	5.0	30	75	6	4
EPCRC40501016U	5.0	1.0R	5.0	16	60	6	4
EPCRC40501030U	5.0	1.0R	5.0	30	75	6	4
EPCRC40600120U	6.0	0.1R	7.0	20	60	6	4
EPCRC40600130U	6.0	0.1R	7.0	30	75	6	4
EPCRC40600220U	6.0	0.2R	7.0	20	60	6	4
EPCRC40600230U	6.0	0.2R	7.0	30	75	6	4
EPCRC40600320U	6.0	0.3R	7.0	20	60	6	4
EPCRC40600330U	6.0	0.3R	7.0	30	75	6	4
EPCRC40600520U	6.0	0.5R	7.0	20	60	6	4
EPCRC40600530U	6.0	0.5R	7.0	30	75	6	4
EPCRC40601020U	6.0	1.0R	7.0	20	60	6	4
EPCRC40601030U	6.0	1.0R	7.0	30	75	6	4
EPCRC40601520U	6.0	1.5R	7.0	20	60	6	4
EPCRC40601530U	6.0	1.5R	7.0	30	75	6	4
EPCRC40800522U	8.0	0.5R	9.0	22	60	8	4
EPCRC40801022U	8.0	1.0R	9.0	22	60	8	4
EPCRC40801522U	8.0	1.5R	9.0	22	60	8	4
EPCRC40802022U	8.0	2.0R	9.0	22	60	8	4
EPCRC41000524U	10.0	0.5R	11.0	24	75	10	4
EPCRC41001024U	10.0	1.0R	11.0	24	75	10	4
EPCRC41001524U	10.0	1.5R	11.0	24	75	10	4
EPCRC41002024U	10.0	2.0R	11.0	24	75	10	4
EPCRC41200526U	12.0	0.5R	13.0	26	75	12	4
EPCRC41201026U	12.0	1.0R	13.0	26	75	12	4
EPCRC41201526U	12.0	1.5R	13.0	26	75	12	4
EPCRC41202026U	12.0	2.0R	13.0	26	75	12	4

Cutting conditions : Page B237

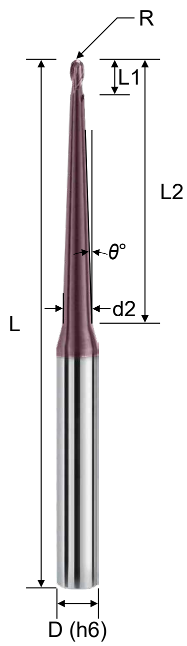
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Taper Neck · Ball Nose · 2F 斜頸型・球型銑刀・2 刃

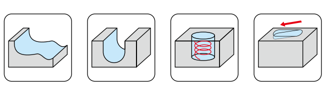
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Suitable for high performance profile milling.
- High strength of taper neck, can cut deep grooves without breaking.

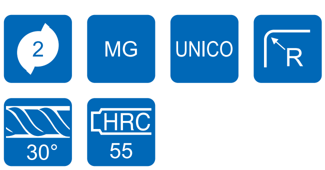
EPBRT

P	M	K	N	S	H
●	●	●			○



Order No. 訂購編碼	Radius (R)	Dia. (d)	θ°	CL (L1)	EFF-L (L2)	NL (d2)	OAL (L)	Shank (D)	Flutes (Z)
EPBRT201023AU	0.5R	1	1.5°	2	23	2.10	60	6	2
EPBRT2010235U	0.5R	1	5.0°	2	23	4.67	60	6	2
EPBRT2010423U	0.5R	1	3.0°	2	42	5.19	75	6	2
EPBRT202035HU	1.0R	2	0.5°	4	35	2.54	75	6	2
EPBRT2020351U	1.0R	2	1.0°	4	35	3.08	75	6	2
EPBRT202023AU	1.0R	2	1.5°	4	23	3.00	60	6	2
EPBRT202035AU	1.0R	2	1.5°	4	35	3.62	75	6	2
EPBRT2020235U	1.0R	2	5.0°	4	23	5.32	60	6	2
EPBRT2020413U	1.0R	2	3.0°	4	41	5.88	75	6	2
EPBRT203052AU	1.5R	3	1.5°	6	52	5.40	100	6	2
EPBRT2030323U	1.5R	3	3.0°	6	32	5.73	75	6	2
EPBRT204046AU	2.0R	4	1.5°	8	46	6.00	100	6	2
EPBRT2040273U	2.0R	4	3.0°	8	27	6.00	75	6	2





R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Cutting conditions : Page B225

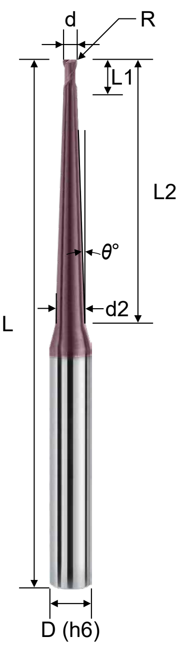
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Taper Neck · Corner Radius · 2F 斜頸型・圓鼻銑刀・2 刃

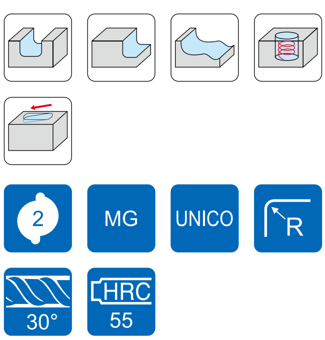
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Various tape angle makes it suitable for different applications.
- Small corner radius applied protect chipping of cutting edges.
  High strength of taper neck, can cut deep grooves without breaking.

EPCRT

P	M	K	N	S	H
●	●	●			○



Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	θ°	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRT20100120HU	1.0	0.10R	0.5°	2.0	20	60	6	2
EPCRT201001201U	1.0	0.10R	1.0°	2.0	20	60	6	2
EPCRT20100120AU	1.0	0.10R	1.5°	2.0	20	60	6	2
EPCRT201201230HU2C	1.2	0.12R	0.5°	2.0	30	75	6	2
EPCRT2012012301U2C	1.2	0.12R	1.0°	2.0	30	75	6	2
EPCRT201201230AU2C	1.2	0.12R	1.5°	2.0	30	75	6	2
EPCRT201501530HU2C	1.5	0.15R	0.5°	2.0	30	75	6	2
EPCRT2015015301U2C	1.5	0.15R	1.0°	2.0	30	75	6	2
EPCRT201501530AU2C	1.5	0.15R	1.5°	2.0	30	75	6	2
EPCRT201801830HU2C	1.8	0.18R	0.5°	2.0	30	75	6	2
EPCRT2018018301U2C	1.8	0.18R	1.0°	2.0	30	75	6	2
EPCRT201801830AU2C	1.8	0.18R	1.5°	2.0	30	75	6	2
EPCRT20200225AU	2.0	0.20R	1.5°	3.0	25	75	6	2
EPCRT20200239AU	2.0	0.20R	1.5°	3.0	39	75	6	2
EPCRT20200525AU	2.0	0.50R	1.5°	3.0	25	75	6	2
EPCRT20200539AU	2.0	0.50R	1.5°	3.0	39	75	6	2
EPCRT20200550AU	2.0	0.50R	1.5°	3.0	50	100	6	2
EPCRT20200535HU4C	2.0	0.50R	0.5°	4.0	35	75	6	2
EPCRT202005351U4C	2.0	0.50R	1.0°	4.0	35	75	6	2
EPCRT20200535AU4C	2.0	0.50R	1.5°	4.0	35	75	6	2
EPCRT20250535HU5C	2.5	0.50R	0.5°	5.0	35	75	6	2
EPCRT202505351U5C	2.5	0.50R	1.0°	5.0	35	75	6	2
EPCRT20250535AU5C	2.5	0.50R	1.5°	5.0	35	75	6	2
EPCRT20251035HU5C	2.5	1.00R	0.5°	5.0	35	75	6	2
EPCRT202510351U5C	2.5	1.00R	1.0°	5.0	35	75	6	2
EPCRT20251035AU5C	2.5	1.00R	1.5°	5.0	35	75	6	2



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

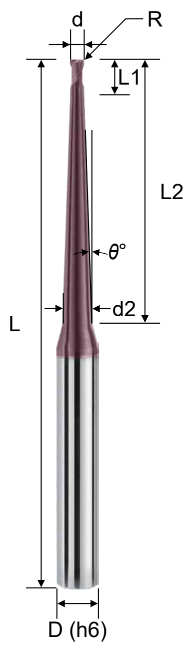
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

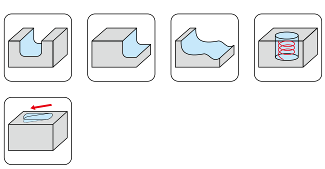
G550 - Taper Neck · Corner Radius · 2F 斜頸型・圓鼻銑刀・2 刃

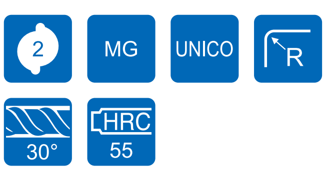
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Various tape angle makes it suitable for different applications.
- Small corner radius applied protect chipping of cutting edges.
  High strength of taper neck, can cut deep grooves without breaking.

EPCRT

P	M	K	N	S	H
●	●	●			○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	θ°	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRT20300525AU	3.0	0.50R	1.5°	4.5	25	75	6	2
EPCRT20301025AU	3.0	1.00R	1.5°	4.5	25	75	6	2
EPCRT20301039AU	3.0	1.00R	1.5°	4.5	39	75	6	2
EPCRT20301050AU	3.0	1.00R	1.5°	4.5	50	100	6	2
EPCRT20300535HU5C	3.0	0.50R	0.5°	5.0	35	75	6	2
EPCRT203005351U5C	3.0	0.50R	1.0°	5.0	35	75	6	2
EPCRT20300535AU5C	3.0	0.50R	1.5°	5.0	35	75	6	2
EPCRT20301035HU5C	3.0	1.00R	0.5°	5.0	35	75	6	2
EPCRT203010351U5C	3.0	1.00R	1.0°	5.0	35	75	6	2
EPCRT20301035AU5C	3.0	1.00R	1.5°	5.0	35	75	6	2
EPCRT20350535HU	3.5	0.50R	0.5°	5.0	35	75	6	2
EPCRT203505351U	3.5	0.50R	1.0°	5.0	35	75	6	2
EPCRT20350535AU	3.5	0.50R	1.5°	5.0	35	75	6	2
EPCRT20351035HU	3.5	1.00R	0.5°	5.0	35	75	6	2
EPCRT203510351U	3.5	1.00R	1.0°	5.0	35	75	6	2
EPCRT20351035AU	3.5	1.00R	1.5°	5.0	35	75	6	2
EPCRT20400545HU	4.0	0.50R	0.5°	6.0	45	100	6	2
EPCRT204005451U	4.0	0.50R	1.0°	6.0	45	100	6	2
EPCRT20400525AU	4.0	0.50R	1.5°	6.0	25	75	6	2
EPCRT20400545AU	4.0	0.50R	1.5°	6.0	45	100	6	2
EPCRT20401045HU	4.0	1.00R	0.5°	6.0	45	100	6	2
EPCRT204010451U	4.0	1.00R	1.0°	6.0	45	100	6	2
EPCRT20401025AU	4.0	1.00R	1.5°	6.0	25	75	6	2
EPCRT20401045AU	4.0	1.00R	1.5°	6.0	45	100	6	2
EPCRT20501025AU	5.0	1.00R	1.5°	7.5	25	75	6	2
EPCRT20501050AU	5.0	1.00R	1.5°	7.5	50	100	8	2
EPCRT20601035AU	6.0	1.00R	1.5°	9.0	35	75	8	2
EPCRT20601050AU	6.0	1.00R	1.5°	9.0	50	100	10	2

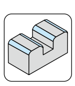
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

G550 - Inner Radius Endmill · 2F / 4F 內 R 角銑刀 · 2 刃 / 4 刃

- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Inner radius tools are suitable for chamfering with round corner application.

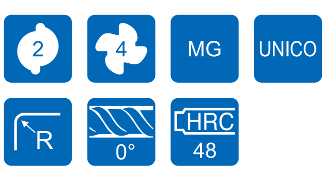
EPISA

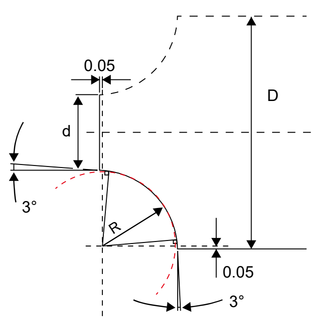
P	M	K	N	S	H
●	●	●			○



Order No. 訂購編碼	Corner Radius (R)	Dia. (d)	OAL (L)	Shank (D)	Flutes (Z)
EPISA242905U	0.5R	2.9	50	4	2
EPISA204905U	0.5R	4.9	50	6	2
EPISA241910U	1.0R	1.9	50	4	2
EPISA203910U	1.0R	3.9	50	6	2
EPISA205910U	1.0R	5.9	60	8	2
EPISA204915U	1.5R	4.9	60	8	2
EPISA205920U	2.0R	5.9	75	10	2
EPISA204925U	2.5R	4.9	75	10	2
EPISA205930U	3.0R	5.9	75	12	2
EPISA203940U	4.0R	3.9	75	12	2
EPISA205950U	5.0R	5.9	75	16	2
EPISA203960U	6.0R	3.9	75	16	2
EPISA442905U	0.5R	2.9	50	4	4
EPISA404905U	0.5R	4.9	50	6	4
EPISA441910U	1.0R	1.9	50	4	4
EPISA403910U	1.0R	3.9	50	6	4
EPISA405910U	1.0R	5.9	60	8	4
EPISA404915U	1.5R	4.9	60	8	4
EPISA405920U	2.0R	5.9	75	10	4
EPISA404925U	2.5R	4.9	75	10	4
EPISA405930U	3.0R	5.9	75	12	4
EPISA403940U	4.0R	3.9	75	12	4
EPISA405950U	5.0R	5.9	75	16	4
EPISA403960U	6.0R	3.9	75	16	4

Cutting conditions：Page B238





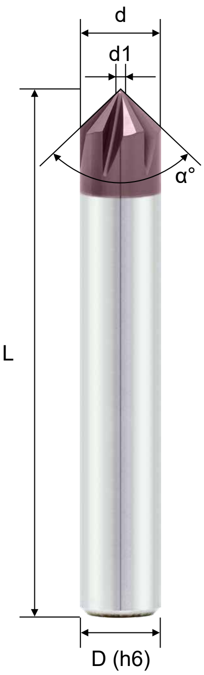
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

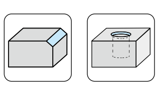
G550 - Chamfer Endmill · 4F / 5F /6F   倒角銑刀・4 刃 / 5 刃 / 6 刃

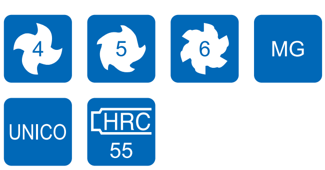
- Designed for chamfer milling.
- Chamfering angle can be divided into 30° or 45°.
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for Steel, Alloy steel, Stainless steel, Cast iron, & Hardened steel.

EPFSA

P	M	K	N	S	H
●	●	●	○	●	●







Order No. 訂購編碼	Dia. (d)	(d1)	OAL (L)	Shank (D)	α°	Flutes (Z)
EPFSA444060U	4	0.5	50	4	60°	4
EPFSA406060U	6	1.0	60	6	60°	4
EPFSA508060U	8	1.5	60	8	60°	5
EPFSA610060U	10	1.5	75	10	60°	6
EPFSA612060U	12	2.0	75	12	60°	6
EPFSA444090U	4	0.5	50	4	90°	4
EPFSA406090U	6	1.0	60	6	90°	4
EPFSA508090U	8	1.5	60	8	90°	5
EPFSA610090U	10	1.5	75	10	90°	6
EPFSA612090U	12	2.0	75	12	90°	6

※ Use uncoating tools for N material machining.

Cutting conditions：Page B239

The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

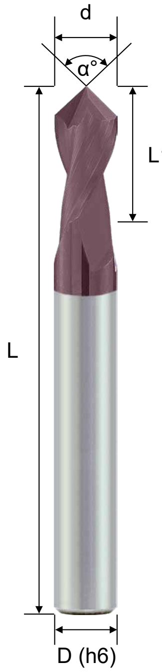
WINSTAR

G550 - Drill Mills · 2F　倒角兼用銑刀 · 2 刃

- Designed for chamfer milling.
- Chamfering angle can be divided into 30° or 45°.
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance and reduces the coefficient of friction.
- Suitable for Steel, Alloy steel, Stainless steel, Cast iron, & Hardened steel.

EPFSC

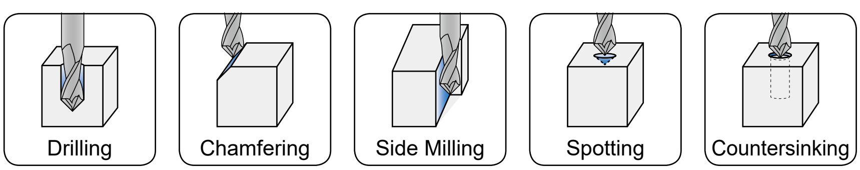
P	M	K	N	S	H
●	●	●	○		



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	α°	Flutes (Z)
EPFSC203060U	3	6	50	6	60°	2
EPFSC204060U	4	8	50	6	60°	2
EPFSC205060U	5	10	50	6	60°	2
EPFSC206060U	6	12	50	6	60°	2
EPFSC208060U	8	16	60	8	60°	2
EPFSC210060U	10	20	75	10	60°	2
EPFSC212060U	12	24	75	12	60°	2
EPFSC203090U	3	6	50	6	90°	2
EPFSC204090U	4	8	50	6	90°	2
EPFSC205090U	5	10	50	6	90°	2
EPFSC206090U	6	12	50	6	90°	2
EPFSC208090U	8	16	60	8	90°	2
EPFSC210090U	10	20	75	10	90°	2
EPFSC212090U	12	24	75	12	90°	2
EPFSC203012U	3	6	50	6	120°	2
EPFSC204012U	4	8	50	6	120°	2
EPFSC205012U	5	10	50	6	120°	2
EPFSC206012U	6	12	50	6	120°	2
EPFSC208012U	8	16	60	8	120°	2
EPFSC210012U	10	20	75	10	120°	2
EPFSC212012U	12	24	75	12	120°	2

Cutting conditions : Page B239

2　MG　UNICO　30°　HRC 45



Tolerance	
Ød ≤ 6	0 ~ -0.02
6 < Ød ≤ 12	0 ~ -0.03
Ød > 12	0 ~ -0.04

The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.
提供塗層可選擇 SNAX 光滑塗層

Solid Carbide Endmills

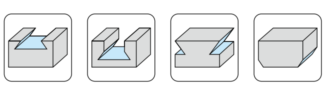
WINSTAR

G550 - Dovetail Endmill · 4F 鳩尾槽銑刀 · 4 刃

- For dovetail slotting and side milling.
- Suitable for chamfering the bottom edge of the workpiece.
- Neck grinding is suitable for deep machining.
- Provide 30°, 60°, 90° and 120° included angle.
- α ° < 90°, helix angle = 15° ; α ° ≥ 90°, helix angle = 0°.

EPSDT

P	M	K	N	S	H
●	●	●	●		



Order No. 訂購編碼	Dia. (d)	α°	CL (L1)	NL (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPSDT40330030U	3	30°	2.0	3	2.0	50	6	4
EPSDT40360030U	3	60°	0.9	3	2.0	50	6	4
EPSDT40390030U	3	90°	0.8	3	1.5	50	6	4
EPSDT40312030U	3	120°	0.4	3	1.5	50	6	4
EPSDT40430040U	4	30°	2.6	4	2.6	50	6	4
EPSDT40460040U	4	60°	1.2	4	2.6	50	6	4
EPSDT40490040U	4	90°	1.0	4	2.0	50	6	4
EPSDT40412040U	4	120°	0.6	4	2.0	50	6	4
EPSDT40530050U	5	30°	3.3	5	3.3	50	6	4
EPSDT40560050U	5	60°	1.5	5	3.3	50	6	4
EPSDT40590050U	5	90°	1.3	5	2.5	50	6	4
EPSDT40512050U	5	120°	0.7	5	2.5	50	6	4
EPSDT40630060U	6	30°	3.9	6	3.9	50	6	4
EPSDT40660060U	6	60°	1.8	6	3.9	50	6	4
EPSDT40690060U	6	90°	1.5	6	3.0	50	6	4
EPSDT40612060U	6	120°	0.9	6	3.0	50	6	4
EPSDT40830080U	8	30°	5.2	8	5.2	60	8	4
EPSDT40860080U	8	60°	2.4	8	5.2	60	8	4
EPSDT40890080U	8	90°	2.0	8	4.0	60	8	4
EPSDT40812080U	8	120°	1.2	8	4.0	60	8	4
EPSDT41030100U	10	30°	6.5	10	6.5	75	10	4
EPSDT41060100U	10	60°	3.0	10	6.5	75	10	4
EPSDT41090100U	10	90°	2.5	10	5.0	75	10	4
EPSDT41012100U	10	120°	1.4	10	5.0	75	10	4
EPSDT41230120U	12	30°	7.8	12	7.8	75	12	4
EPSDT41260120U	12	60°	3.6	12	7.8	75	12	4
EPSDT41290120U	12	90°	3.0	12	6.0	75	12	4
EPSDT41212120U	12	120°	1.7	12	6.0	75	12	4

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

α° Tolerance	
α°	±1°

Working Material	Carbon / Alloy steel (< HRC 30)		Stainless Steel		Aluminum Alloys	
Vc	25 - 30 - 35 m/min		20 - 25 - 30 m/min		50 - 60 - 70 m/min	
Diameter (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
4mm	2400	96	2000	77	4800	125
6mm	1600	96	1350	77	3200	125
8mm	1200	90	1000	72	2400	117
10mm	960	85	800	68	2000	111
12mm	800	85	670	68	1600	111

※If α° ≤ 90°, increase Vc and feed 30%.

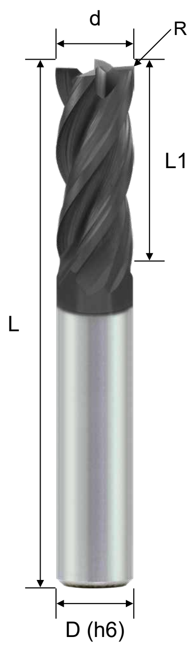
The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional. 提供塗層可選擇 SNAX 光滑塗層

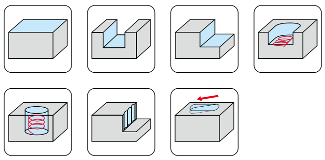
V470B - Square · Unequal Spacing · Standard · 4F 不等分割平銑刀・標準型・4 刃

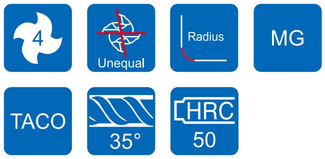
- Unequal flute spacing for anti-vibration.
- 35° helix angle design for alloy steel and stainless steel slot milling and side roughing.
- TACO coating (Al, Ti, N) provide superior wear resistance.

EPSSVB

P	M	K	N	S	H
●	●	●			○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	R	Flutes (Z)
EPSSVB4440000T	4	10	50	4	-	4
EPSSVB4060000T	6	15	50	6	-	4
EPSSVB4080000T	8	20	60	8	-	4
EPSSVB4080052T	8	16	60	8	0.5R	4
EPSSVB4080102T	8	16	60	8	1R	4
EPSSVB4080152T	8	16	60	8	1.5R	4
EPSSVB4100000T	10	25	75	10	-	4
EPSSVB4100052T	10	20	75	10	0.5R	4
EPSSVB4120000T	12	30	75	12	-	4
EPSSVB4120052T	12	24	75	12	0.5R	4
EPSSVB4160000T	16	35	100	16	-	4
EPSSVB4160102T	16	32	100	16	1R	4

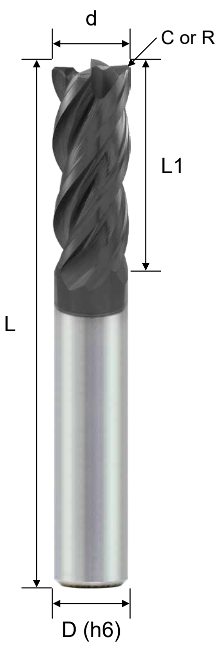
Cutting conditions：Page B260

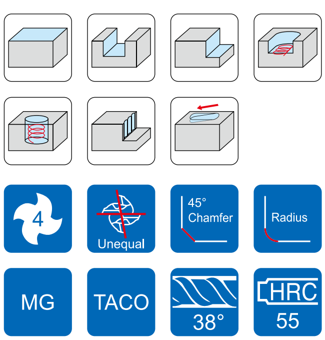
V470C - Square · Unequal Spacing · Standard · 4F 不等分割平銑刀・標準型・4 刃

- Unequal flute spacing for anti-vibration.
- 38° helix angle design for alloy steel and stainless steel slot and side milling.
- TACO coating (Al, Ti, N) provide superior wear resistance.

EPSSVC

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	C or R	Flutes (Z)
EPSSVC4410000T	1	3	50	4	-	4
EPSSVC4420000T	2	5	50	4	-	4
EPSSVC4430000T	3	8	50	4	-	4
EPSSVC4030000T	3	8	50	6	-	4
EPSSVC4440000T	4	10	50	4	-	4
EPSSVC4440052T	4	8	50	4	0.5R	4
EPSSVC4040000T	4	10	50	6	-	4
EPSSVC4050000T	5	13	50	6	-	4
EPSSVC4060000T	6	15	50	6	-	4
EPSSVC4060011T	6	15	50	6	0.10C	4
EPSSVC4060032T	6	12	50	6	0.3R	4
EPSSVC4060052T	6	12	50	6	0.5R	4
EPSSVC4060102T	6	12	50	6	1R	4
EPSSVC4080000T	8	20	60	8	-	4
EPSSVC4080011T	8	20	60	8	0.15C	4
EPSSVC4080052T	8	16	60	8	0.5R	4
EPSSVC4080102T	8	16	60	8	1R	4
EPSSVC4080152T	8	16	60	8	1.5R	4
EPSSVC4100000T	10	25	75	10	-	4
EPSSVC4100003T	10	30	75	10	-	4
EPSSVC4100011T	10	25	75	10	0.15C	4
EPSSVC4100052T	10	20	75	10	0.5R	4
EPSSVC4100102T	10	20	75	10	1R	4
EPSSVC4100202T	10	20	75	10	2R	4
EPSSVC4120000T	12	30	75	12	-	4
EPSSVC4120021T	12	30	75	12	0.20C	4
EPSSVC4120052T	12	24	75	12	0.5R	4
EPSSVC4120102T	12	24	75	12	1R	4
EPSSVC4120202T	12	24	75	12	2R	4
EPSSVC4140000T	14	30	75	14	-	4
EPSSVC4160000T	16	35	100	16	-	4
EPSSVC4160021T	16	35	100	16	0.25C	4
EPSSVC4160102T	16	32	100	16	1R	4
EPSSVC4160202T	16	32	100	16	2R	4
EPSSVC4160302T	16	32	100	16	3R	4
EPSSVC4200000T	20	45	100	20	-	4
EPSSVC4250000T	25	45	100	25	-	4

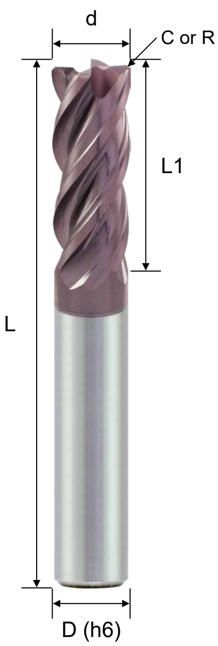
Cutting conditions：Page B260

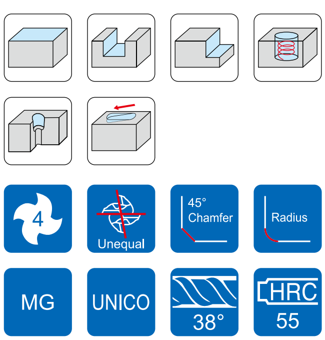
V470 - Square · Unequal Spacing · Inch · 4F 不等分割平銑刀・英吋・4 刃

- Unequal flute spacing for anti-vibration.
- High removal rate for steel and alloy steel machining.
- Low cutting force and burr prevention.
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance.

EP□□V

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d	.000 ~ -.002"

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	C or R	Flutes (Z)
INCH SIZE						
EPF2V40120210U	1/8	1/4	1 1/2	1/8	.010C	4
EPS2V40120200U	1/8	1/4	1 1/2	1/8	-	4
EPC2V40120215U	1/8	1/4	2 1/2	1/8	.015R	4
EPC4V40120515U	1/8	1/2	2	1/8	.015R	4
EPS4V40120500U	1/8	1/2	2	1/8	-	4
EPF4V40120510U	1/8	1/2	2	1/8	.010C	4
EPS9V40120500U	1/8	1/2	2 1/2	1/8	-	4
EPF2V40180310U	3/16	5/16	2 1/2	3/16	.010C	4
EPC2V40180315U	3/16	5/16	2 1/2	3/16	.015R	4
EPS7V40180300U	3/16	5/16	2 1/2	3/16	-	4
EPF3V40180610U	3/16	5/8	2 1/2	3/16	.010C	4
EPC8V40180615U	3/16	5/8	2 1/2	3/16	.015R	4
EPC8V40180630U	3/16	5/8	2 1/2	3/16	.030R	4
EPS8V40180600U	3/16	5/8	2 1/2	3/16	-	4
EPC2V40250330U	1/4	3/8	2	1/4	.030R	4
EPS2V40250300U	1/4	3/8	2	1/4	-	4
EPF2V40250315U	1/4	3/8	2	1/4	.015C	4
EPC3V40250715U	1/4	3/4	2 1/2	1/4	.015R	4
EPC3V40250730U	1/4	3/4	2 1/2	1/4	.030R	4
EPC3V40250760U	1/4	3/4	2 1/2	1/4	.060R	4
EPF3V40250715U	1/4	3/4	2 1/2	1/4	.015C	4
EPS3V40250700U	1/4	3/4	2 1/2	1/4	-	4
EPC4V40251015U	1/4	1	3	1/4	.015R	4
EPS4V40251000U	1/4	1	3	1/4	-	4
EPC5V40251215U	1/4	1 1/4	3	1/4	.015R	4
EPC5V40251230U	1/4	1 1/4	3	1/4	.030R	4
EPS5V40251200U	1/4	1 1/4	3	1/4	-	4

Cutting conditions：Page B263

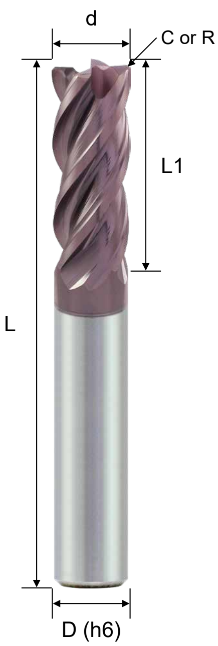
WINSTAR

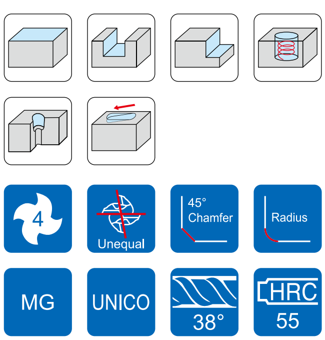
V470 - Square · Unequal Spacing · Inch · 4F　不等分割平銑刀・英吋・4 刃

- Unequal flute spacing for anti-vibration.
- High removal rate for steel and alloy steel machining.
- Low cutting force and burr prevention.
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance.

EP□□□V

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d	.000 ~ -.002"

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	C or R	Flutes (Z)
INCH SIZE						
EPC2V40310530U	5/16	1/2	2 1/2	5/16	.030R	4
EPF2V40310515U	5/16	1/2	2 1/2	5/16	.015C	4
EPS2V40310500U	5/16	1/2	2 1/2	5/16	-	4
EPC2V40310715U	5/16	3/4	2 1/2	5/16	.015R	4
EPC2V40310730U	5/16	3/4	2 1/2	5/16	.030R	4
EPC2V40310760U	5/16	3/4	2 1/2	5/16	.060R	4
EPF2V40310715U	5/16	3/4	2 1/2	5/16	.015C	4
EPS2V40310700U	5/16	3/4	2 1/2	5/16	-	4
EPC4V40311230U	5/16	1 1/4	3	5/16	.030R	4
EPS4V40311200U	5/16	1 1/4	3	5/16	-	4
EPC2V40370815U	3/8	7/8	2 1/2	3/8	.015R	4
EPC2V40370830U	3/8	7/8	2 1/2	3/8	.030R	4
EPC2V40370860U	3/8	7/8	2 1/2	3/8	.060R	4
EPC2V40370890U	3/8	7/8	2 1/2	3/8	.090R	4
EPF2V40370820U	3/8	7/8	2 1/2	3/8	.020C	4
EPS2V40370800U	3/8	7/8	2 1/2	3/8	-	4
EPC3V40371015U	3/8	1	3	3/8	.015R	4
EPC3V40371030U	3/8	1	3	3/8	.030R	4
EPC3V40371060U	3/8	1	3	3/8	.060R	4
EPS3V40371000U	3/8	1	3	3/8	-	4
EPC4V40371530U	3/8	1 1/2	4	3/8	.030R	4
EPC4V40371560U	3/8	1 1/2	4	3/8	.060R	4
EPS4V40371500U	3/8	1 1/2	4	3/8	-	4
EPC7V40372530U	3/8	2 1/2	4	3/8	.030R	4
EPC7V40372560U	3/8	2 1/2	4	3/8	.060R	4
EPF1V40430620U	7/16	5/8	2 3/4	7/16	.020C	4
EPS1V40430600U	7/16	5/8	2 3/4	7/16	-	4
EPF2V40430820U	7/16	7/8	2 3/4	7/16	.020C	4
EPS2V40430800U	7/16	7/8	2 3/4	7/16	-	4

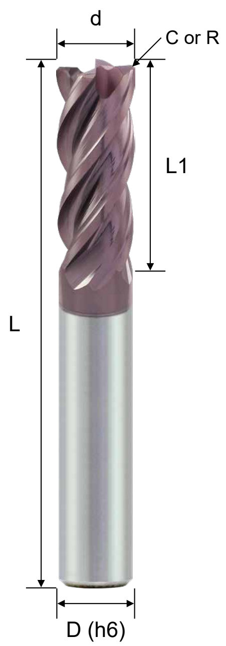
Cutting conditions：Page B263

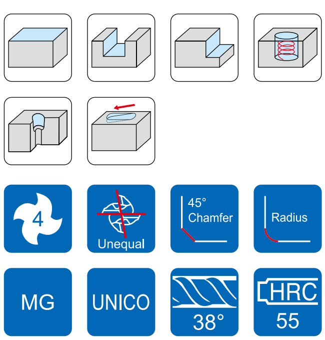
V470 - Square · Unequal Spacing · Inch · 4F　不等分割平銑刀・英吋・4 刃

- Unequal flute spacing for anti-vibration.
- High removal rate for steel and alloy steel machining.
- Low cutting force and burr prevention.
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance.

EP□□V

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d	.000 ~ -.002"

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	C or R	Flutes (Z)
INCH SIZE						
EPC2V40501030U	1/2	1	3	1/2	.030R	4
EPC2V40501060U	1/2	1	3	1/2	.060R	4
EPS2V40501000U	1/2	1	3	1/2	-	4
EPF2V40501020U	1/2	1	3	1/2	.020C	4
EPC3V40501215U	1/2	1 1/4	3	1/2	.015R	4
EPC3V40501230U	1/2	1 1/4	3	1/2	.030R	4
EPC3V40501260U	1/2	1 1/4	3	1/2	.060R	4
EPC3V40501290U	1/2	1 1/4	3	1/2	.090R	4
EPC3V405012C0U	1/2	1 1/4	3	1/2	.120R	4
EPF3V40501220U	1/2	1 1/4	3	1/2	.020C	4
EPS3V40501200U	1/2	1 1/4	3	1/2	-	4
EPC3V40501530U	1/2	1 1/2	4	1/2	.030R	4
EPC3V40501560U	1/2	1 1/2	4	1/2	.060R	4
EPF3V40501520U	1/2	1 1/2	4	1/2	.020C	4
EPS3V40501500U	1/2	1 1/2	4	1/2	-	4
EPC4V40502030U	1/2	2	4	1/2	.030R	4
EPC4V40502060U	1/2	2	4	1/2	.060R	4
EPS4V40502000U	1/2	2	4	1/2	-	4
EPC2V40621230U	5/8	1 1/4	3 1/2	5/8	.030R	4
EPC2V40621260U	5/8	1 1/4	3 1/2	5/8	.060R	4
EPC2V40621290U	5/8	1 1/4	3 1/2	5/8	.090R	4
EPC2V406212C0U	5/8	1 1/4	3 1/2	5/8	.120R	4
EPS2V40621200U	5/8	1 1/4	3 1/2	5/8	-	4
EPF2V40621220U	5/8	1 1/4	3 1/2	5/8	.020C	4
EPC2V40751530U	3/4	1 1/2	4	3/4	.030R	4
EPC2V40751560U	3/4	1 1/2	4	3/4	.060R	4
EPC2V40751590U	3/4	1 1/2	4	3/4	.090R	4
EPF2V40751520U	3/4	1 1/2	4	3/4	.020C	4
EPS2V40751500U	3/4	1 1/2	4	3/4	-	4
EPF2V41002020U	1	2	5	1	.020C	4
EPS2V41002000U	1	2	5	1	-	4
EPC2V41002230U	1	2 1/4	5	1	.030R	4
EPC2V41002260U	1	2 1/4	5	1	.060R	4
EPS2V41002200U	1	2 1/4	5	1	-	4
EPF2V41002220U	1	2 1/4	5	1	.020C	4

Cutting conditions：Page B263

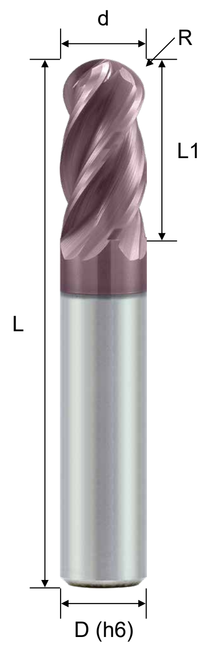
WINSTAR

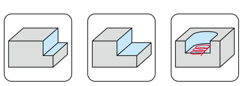
V470 - Ball Nose · Unequal Spacing · Inch · 2F / 4F　不等分割球型銑刀・英吋・2 刃 / 4 刃

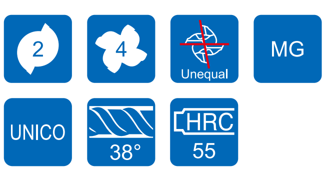
- Unequal flute spacing for anti-vibration.
- High removal rate for steel and alloy steel machining.
- UNICO coating (Al, Ti, Cr, N) provides superior wear resistance.

EPB⬚V

P	M	K	N	S	H
●	●	●		○	○







d Tolerance	
d	.000 ~ -.002"

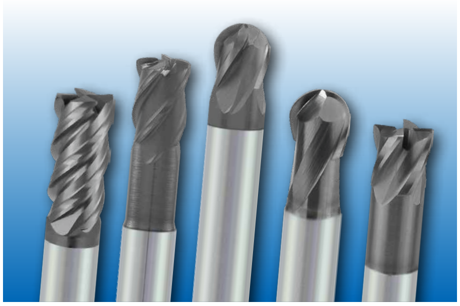
R Tolerance	
R	.000 ~ -.001"

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
INCH SIZE						
EPB4V20120500U	1/16	1/8	1/2	2	1/8	2
EPB3V20180600U	3/32	3/16	5/8	2 1/2	3/16	2
EPB3V20250700U	1/8	1/4	3/4	2 1/2	1/4	2
EPB2V20310700U	5/32	5/16	3/4	2 1/2	5/16	2
EPB2V20370800U	3/16	3/8	7/8	2 1/2	3/8	2
EPB2V20430800U	7/32	7/16	7/8	2 3/4	7/16	2
EPB2V20501000U	1/4	1/2	1	3	1/2	2
EPB2V20621200U	5/16	5/8	1 1/4	3 1/2	5/8	2
EPB4V40120500U	1/16	1/8	1/2	2	1/8	4
EPB3V40180600U	3/32	3/16	5/8	2 1/2	3/16	4
EPB3V40250700U	1/8	1/4	3/4	2 1/2	1/4	4
EPB2V40310700U	5/32	5/16	3/4	2 1/2	5/16	4
EPB2V40370800U	3/16	3/8	7/8	2 1/2	3/8	4
EPB2V40430800U	7/32	7/16	7/8	2 3/4	7/16	4
EPB2V40501000U	1/4	1/2	1	3	1/2	4
EPB2V40621200U	5/16	5/8	1 1/4	3 1/2	5/8	4

Cutting conditions：Page B264

For High Hardened Steel Series Introduction 高硬度鋼用銑刀系列介紹

H65X Series

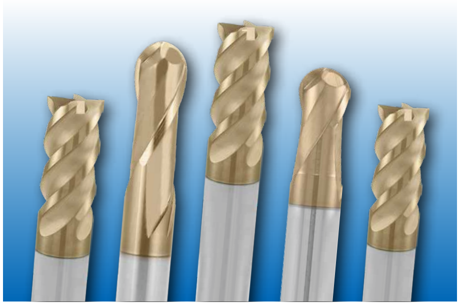


- For high hardened steel, HRC 40~65.
- High speed general cutting.
- High rigidity design.
- ANAX smooth coating.

- 適用於高硬度鋼 (HRC 40~65)
- 高速泛用加工
- 高剛性設計
- 含鉻平滑塗層

→ Page B092

H68X Series



- For high hardened steel, HRC 50~68.
- High precision cutting.
- Ball nose tolerance ±5μm(d<= 6) , ±7μm(d > 6).
- SNAX smooth coating.

- 適用於高硬度鋼 (HRC 50~68)
- 高速高精加工
- 球型 R 公差 ±5μm(d<= 6) , ±7μm(d > 6)
- 含矽平滑塗層

→ Page B132

H70X Series

- For high hardened steel, HRC 50~70.
- High feed finishing.
- Low helix, multiple flutes design.
- NACO coating, SNAX smooth coating .

- 適用於高硬度鋼 (HRC 50~70)
- 高進給側銑及端銑加工
- 低螺旋、多刃設計
- NACO 為含矽藍色塗層 , SNAX 為含矽古銅色平滑塗層

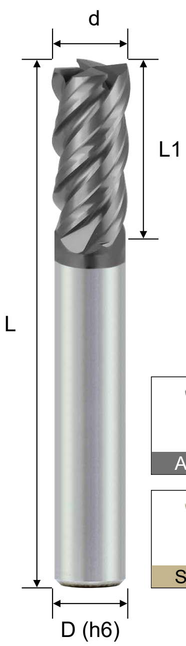
→ Page B139

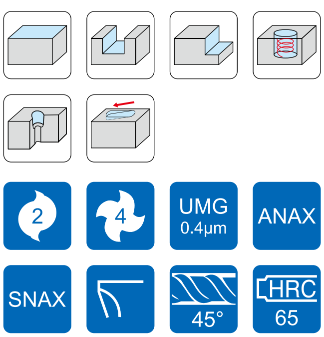
H65X - Square · High Helix · 2F / 4F 平銑刀・高導型・2 刃 / 4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- UMG Carbide with Incredible toughness and wear resistance at high speed.
- Good surface and long tool life.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHSSH

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHSSH240200A	0.2	0.4	50	4	2
EHSSH240300A	0.3	0.6	50	4	2
EHSSH240400A	0.4	0.8	50	4	2
EHSSH240500A	0.5	1.0	50	4	2
EHSSH240600A	0.6	1.5	50	4	2
EHSSH240700A	0.7	2.0	50	4	2
EHSSH240800A	0.8	2.0	50	4	2
EHSSH240900A	0.9	2.0	50	4	2
EHSSH441000A	1.0	3	50	4	4
EHSSH441500A	1.5	4	50	4	4
EHSSH442000A	2.0	5	50	4	4
EHSSH442500A	2.5	6	50	4	4
EHSSH433000A	3.0	8	50	3	4
EHSSH443000A	3.0	8	50	4	4
EHSSH444000A	4.0	10	50	4	4
EHSSH404000A	4.0	10	50	6	4
EHSSH405000A	5.0	13	50	6	4
EHSSH406000A	6.0	15	50	6	4
EHSSH408000A	8.0	20	60	8	4
EHSSH410000A	10.0	25	75	10	4
EHSSH412000A	12.0	30	75	12	4
EHSSH416000A	16.0	35	100	16	4
EHSSH420000A	20.0	45	100	20	4

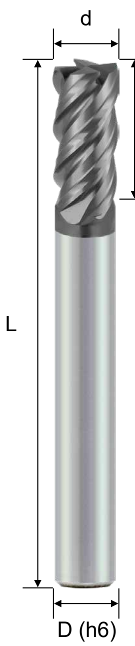
Cutting conditions：Page B240

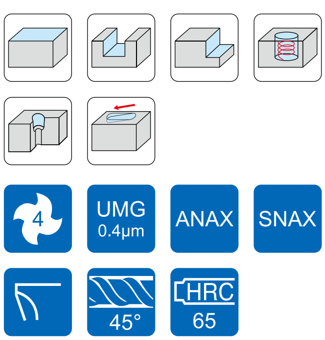
H65X - Square · High Helix · Long Shank · 4F　平銑刀・高導長柄型・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- UMG Carbide with Incredible toughness and wear resistance at high speeds.
- Good surface and long tool life.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHSLH

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHSLH443007A	3.0	8	75	4	4
EHSLH443010A	3.0	8	100	4	4
EHSLH444006A	4.0	10	60	4	4
EHSLH444007A	4.0	10	75	4	4
EHSLH444010A	4.0	10	100	4	4
EHSLH406006A	6.0	15	60	6	4
EHSLH406007A	6.0	15	75	6	4
EHSLH406010A	6.0	15	100	6	4
EHSLH408007A	8.0	20	75	8	4
EHSLH408010A	8.0	20	100	8	4
EHSLH408015A	8.0	20	150	8	4
EHSLH410010A	10.0	25	100	10	4
EHSLH410015A	10.0	25	150	10	4
EHSLH412010A	12.0	30	100	12	4
EHSLH412015A	12.0	30	150	12	4
EHSLH416015A	16.0	35	150	16	4
EHSLH420015A	20.0	45	150	20	4

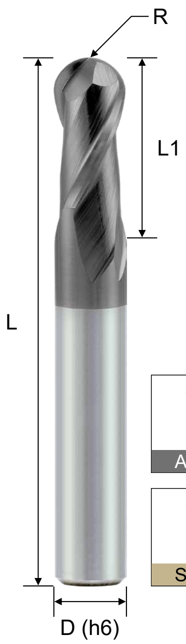
Cutting conditions：Page B240

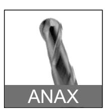
H65X - Ball Nose · Standard · 2F　　球型銑刀・標準型・2 刃

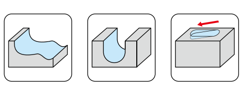
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Due to short cutting length provides an excellent face milling surface roughness of the work pieces.
- New tool geometry increases wear resistance and cutting force is decreased.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55..

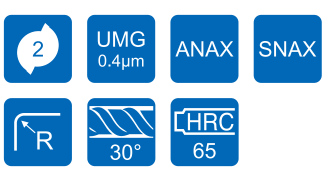
EHBSH

P	M	K	N	S	H
●	○	●		○	●









R	Tolerance
R ≤ 3	±0.010
R > 3	±0.015

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHBSH240200A	0.10R	0.2	0.4	50	4	2
EHBSH240300A	0.15R	0.3	0.6	50	4	2
EHBSH240400A	0.20R	0.4	0.8	50	4	2
EHBSH240500A	0.25R	0.5	1	50	4	2
EHBSH240600A	0.30R	0.6	1.2	50	4	2
EHBSH240700A	0.35R	0.7	1.4	50	4	2
EHBSH240800A	0.40R	0.8	1.6	50	4	2
EHBSH240900A	0.45R	0.9	1.8	50	4	2
EHBSH241000A	0.50R	1.0	2	50	4	2
EHBSH241500A	0.75R	1.5	3	50	4	2
EHBSH242000A	1.00R	2.0	4	50	4	2
EHBSH233000A	1.50R	3.0	6	50	3	2
EHBSH243000A	1.50R	3.0	6	50	4	2
EHBSH244000A	2.00R	4.0	8	50	4	2
EHBSH205000A	2.50R	5.0	10	50	6	2
EHBSH206000A	3.00R	6.0	12	50	6	2
EHBSH208000A	4.00R	8.0	16	60	8	2
EHBSH210000A	5.00R	10.0	20	75	10	2
EHBSH212000A	6.00R	12.0	24	75	12	2
EHBSH216000A	8.00R	16.0	32	100	16	2

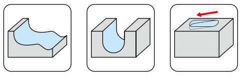
Cutting conditions：Page B241

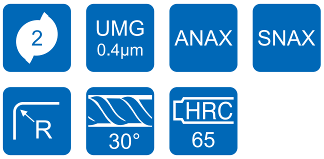
H65X - Ball Nose · Long Shank · 2F 球型銑刀・長柄型・2 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Due to short cutting length provides an excellent face milling surface roughness of the work pieces.
- New tool geometry increases wear resistance and cutting force is decreased.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55..

EHBLH

P	M	K	N	S	H
●	○	●		○	●





R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHBLH242007A	1.0R	2	4	75	4	2
EHBLH243007A	1.5R	3	6	75	4	2
EHBLH243010A	1.5R	3	6	100	4	2
EHBLH244006A	2.0R	4	8	60	4	2
EHBLH244007A	2.0R	4	8	75	4	2
EHBLH244010A	2.0R	4	8	100	4	2
EHBLH206006A	3.0R	6	12	60	6	2
EHBLH206007A	3.0R	6	12	75	6	2
EHBLH206010A	3.0R	6	12	100	6	2
EHBLH208007A	4.0R	8	16	75	8	2
EHBLH208010A	4.0R	8	16	100	8	2
EHBLH208015A	4.0R	8	16	150	8	2
EHBLH210010A	5.0R	10	20	100	10	2
EHBLH210015A	5.0R	10	20	150	10	2
EHBLH212010A	6.0R	12	24	100	12	2
EHBLH212015A	6.0R	12	24	150	12	2
EHBLH216015A	8.0R	16	32	150	16	2
EHBLH220015A	10.0R	20	40	150	20	2

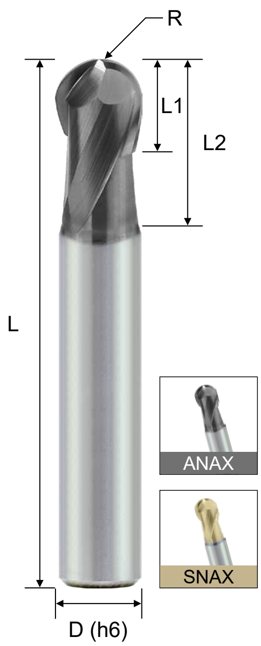
Cutting conditions：Page B241

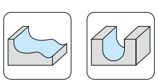
H65X - Ball Nose · Short Flute · 2F 球型銑刀・短刃型・2 刃

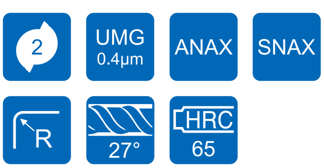
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Due to short cutting length provides an excellent face milling surface roughness of the work pieces.
- Short cutting length provides high resistance for high speed cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHBUH

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHBUH202000A	1.0R	2	2	4	50	6	2
EHBUH203000A	1.5R	3	3	6	50	6	2
EHBUH204000A	2.0R	4	4	8	50	6	2
EHBUH205000A	2.5R	5	5	10	50	6	2
EHBUH206000A	3.0R	6	6	12	50	6	2
EHBUH208000A	4.0R	8	8	16	60	8	2
EHBUH210000A	5.0R	10	10	20	75	10	2
EHBUH212000A	6.0R	12	12	24	75	12	2
EHBUH216000A	8.0R	16	16	32	100	16	2

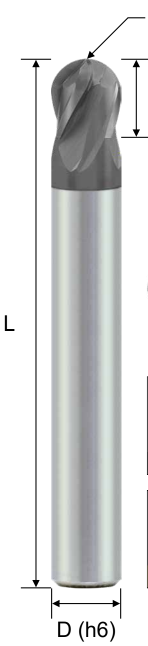
Cutting conditions：Page B242

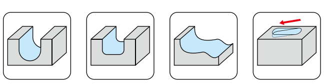
H65X - Ball Nose · Near Center Design · 3F / 4F 球型銑刀・刃近中心型・3 刃 / 4 刃

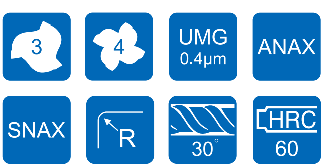
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- For high temperature alloy and high hardened steel machining.
- Reach to center and near to center flutes design, significantly improves the tool life and surface finish in profile milling.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHBHS

P	M	K	N	S	H
●	●	●		●	○



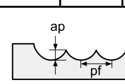




R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHBHS342000A	1R	2	2	50	4	3
EHBHS302000A	1R	2	2	50	6	3
EHBHS303000A	1.5R	3	3	50	6	3
EHBHS344000A	2R	4	4	50	4	3
EHBHS304000A	2R	4	4	50	6	3
EHBHS406000A	3R	6	6	50	6	4
EHBHS408000A	4R	8	8	60	8	4
EHBHS410000A	5R	10	10	75	10	4
EHBHS412000A	6R	12	12	75	12	4
EHBHS416000A	8R	16	16	100	16	4

Material	High temperature alloy			Hardened steel (HRC 40~55)			Hardened steel (HRC 50~60)			Hardened steel (HRC 60~65)		
Radius (R)	RPM	Feed	ap	RPM	Feed	ap	RPM	Feed	ap	RPM	Feed	ap
3R	15000	3400	0.25	21000	8400	0.25	16000	4800	0.2	8000	2300	0.09
4R	12000	2600	0.3	16000	6400	0.3	12000	3600	0.2	6000	1900	0.09
5R	9600	2200	0.5	13000	5200	0.5	10000	3200	0.2	4800	1500	0.1
6R	7200	1700	0.5	9000	3600	0.5	7000	2200	0.3	3600	1100	0.1
8R	5400	1300	0.7	6800	2700	0.7	5300	1700	0.4	2700	830	0.13



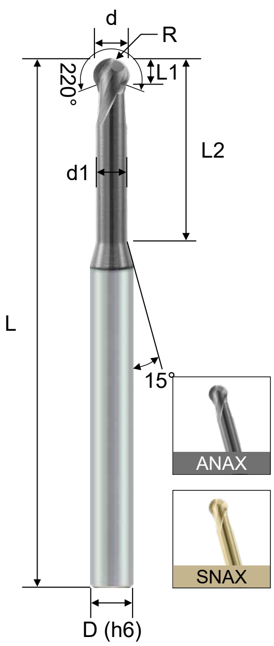
WINSTAR

H65X - Ball Nose · Spherical · 2F 球型銑刀 · 寬球型 · 2 刃

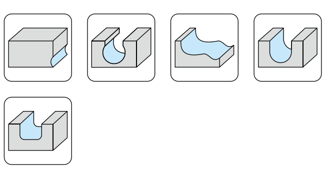
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Designed for undercutting & deburring applications.
- It provides an excellent surface finishing of vertical machining.
- Suitable for Steel, Alloy steel, Stainless steel, Cast iron, & Hardened steel.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

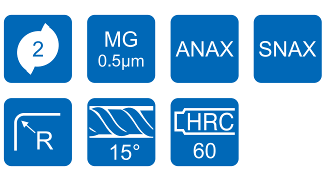
EHRRC

P	M	K	N	S	H
●	○	●		○	●



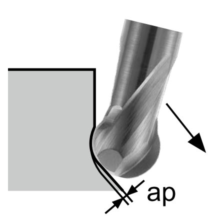
Order No. 訂購編碼	Radius (R)	Dia. (d)	ND (d1)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHRRC2020221A	1.0R	2	1.7	1.4	5	60	6	2
EHRRC2020222A	1.0R	2	1.7	1.4	10	60	6	2
EHRRC2030221A	1.5R	3	2.6	2.0	8	75	6	2
EHRRC2030222A	1.5R	3	2.6	2.0	15	75	6	2
EHRRC2040221A	2.0R	4	3.4	2.7	10	75	6	2
EHRRC2040222A	2.0R	4	3.4	2.7	20	75	6	2
EHRRC2050221A	2.5R	5	4.3	3.4	12	75	6	2
EHRRC2050222A	2.5R	5	4.3	3.4	25	75	6	2
EHRRC2060221A	3.0R	6	5.1	4.3	15	75	6	2
EHRRC2060222A	3.0R	6	5.1	4.3	30	75	6	2

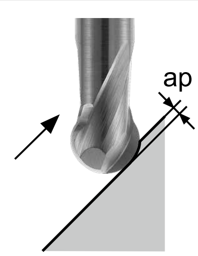




R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Material	Carbon Steel / Alloy Steel / Cast iron			Alloy Steel / Tool Steel / Pre-Hardened Steel (SCM, SKT, SKD)			Stainless Steel (SUS304, SUS316)			Hardened Steel		
Hardness	HRC < 30			HRC 30 ~ 45			-			HRC 45 ~ 60		
VC	220 ~ 300 m/min			150 ~ 220 m/min			70 ~ 150 m/min			130 ~ 150 m/min		
R (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)
1.0R	40,000	1,600	0.04	30,000	1,200	0.04	24,000	960	0.04	24,000	960	0.04
1.5R	32,000	1,920	0.06	23,000	1,380	0.06	16,000	960	0.06	16,000	960	0.06
2.0R	24,000	1,920	0.08	17,000	1,360	0.08	12,000	960	0.08	12,000	960	0.08
2.5R	19,200	1,920	0.10	14,000	1,400	0.10	9,600	960	0.10	9,600	960	0.10
3.0R	16,000	1,920	0.12	12,000	1,440	0.12	8,000	960	0.12	8,000	960	0.12



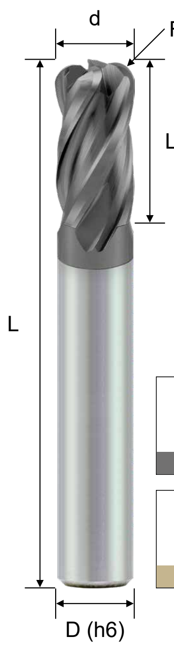


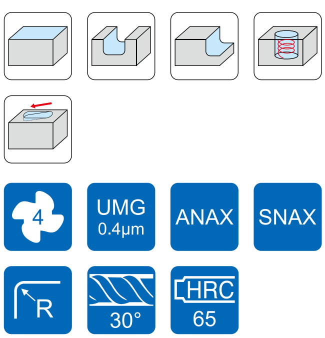
H65X - Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Long tool life and wear resistant due to its negative angle with corner radius design.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCSH

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHCSH441002A	1	0.2R	2	50	4	4
EHCSH441003A	1	0.3R	2	50	4	4
EHCSH441502A	1.5	0.2R	3	50	4	4
EHCSH441503A	1.5	0.3R	3	50	4	4
EHCSH442002A	2	0.2R	4	50	4	4
EHCSH442003A	2	0.3R	4	50	4	4
EHCSH442005A	2	0.5R	4	50	4	4
EHCSH433002A	3	0.2R	6	50	3	4
EHCSH443002A	3	0.2R	6	50	4	4
EHCSH433003A	3	0.3R	6	50	3	4
EHCSH443003A	3	0.3R	6	50	4	4
EHCSH433005A	3	0.5R	6	50	3	4
EHCSH443005A	3	0.5R	6	50	4	4
EHCSH433010A	3	1.0R	6	50	3	4
EHCSH443010A	3	1.0R	6	50	4	4
EHCSH444002A	4	0.2R	8	50	4	4
EHCSH444003A	4	0.3R	8	50	4	4
EHCSH444005A	4	0.5R	8	50	4	4
EHCSH444010A	4	1.0R	8	50	4	4
EHCSH404003A	4	0.3R	8	50	6	4
EHCSH404005A	4	0.5R	8	50	6	4
EHCSH404010A	4	1.0R	8	50	6	4
EHCSH405005A	5	0.5R	10	50	6	4
EHCSH405010A	5	1.0R	10	50	6	4
EHCSH406003A	6	0.3R	12	50	6	4
EHCSH406005A	6	0.5R	12	50	6	4
EHCSH406010A	6	1.0R	12	50	6	4
EHCSH408005A	8	0.5R	16	60	8	4
EHCSH408010A	8	1.0R	16	60	8	4
EHCSH408015A	8	1.5R	16	60	8	4
EHCSH410005A	10	0.5R	20	75	10	4
EHCSH410010A	10	1.0R	20	75	10	4
EHCSH410015A	10	1.5R	20	75	10	4
EHCSH410020A	10	2.0R	20	75	10	4
EHCSH412005A	12	0.5R	24	75	12	4
EHCSH412010A	12	1.0R	24	75	12	4
EHCSH412015A	12	1.5R	24	75	12	4
EHCSH412020A	12	2.0R	24	75	12	4

Cutting conditions：Page B243

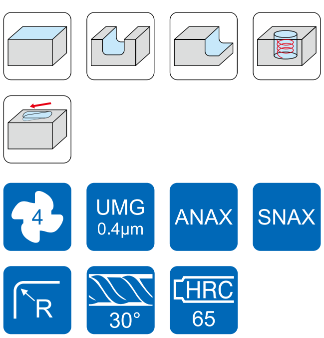
H65X - Corner Radius · Long Shank · 4F 圓鼻銑刀・長柄型・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Long tool life and wear resistant due to its negative angle with corner radius design.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCLH

P	M	K	N	S	H
●	○	●		○	●

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHCLH44400507A	4	0.5R	8	75	4	4
EHCLH44401007A	4	1.0R	8	75	4	4
EHCLH44400510A	4	0.5R	8	100	4	4
EHCLH44401010A	4	1.0R	8	100	4	4
EHCLH40600507A	6	0.5R	12	75	6	4
EHCLH40601007A	6	1.0R	12	75	6	4
EHCLH40600510A	6	0.5R	12	100	6	4
EHCLH40601010A	6	1.0R	12	100	6	4
EHCLH40800507A	8	0.5R	16	75	8	4
EHCLH40801007A	8	1.0R	16	75	8	4
EHCLH40800510A	8	0.5R	16	100	8	4
EHCLH40801010A	8	1.0R	16	100	8	4
EHCLH41000510A	10	0.5R	20	100	10	4
EHCLH41001010A	10	1.0R	20	100	10	4
EHCLH41000515A	10	0.5R	20	150	10	4
EHCLH41001015A	10	1.0R	20	150	10	4
EHCLH41200510A	12	0.5R	24	100	12	4
EHCLH41201010A	12	1.0R	24	100	12	4
EHCLH41200515A	12	0.5R	24	150	12	4
EHCLH41201015A	12	1.0R	24	150	12	4



Cutting conditions：Page B243

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

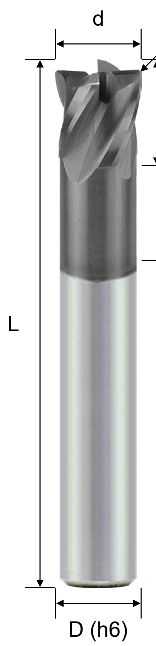
R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

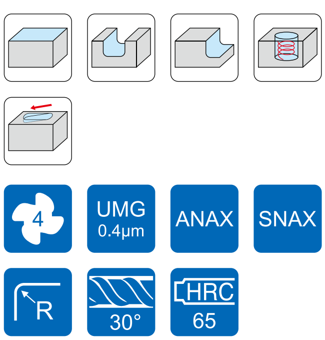
H65X - Corner Radius · Short Flute · 4F　圓鼻銑刀・短刃型・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Short cutting length with high rigidity is suitable for high speed cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCUH

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCUH403001A	3	0.1R	3	7.5	50	6	4
EHCUH403005A	3	0.5R	3	7.5	50	6	4
EHCUH404002A	4	0.2R	4	10.0	50	6	4
EHCUH404005A	4	0.5R	4	10.0	50	6	4
EHCUH405002A	5	0.2R	5	12.5	50	6	4
EHCUH405005A	5	0.5R	5	12.5	50	6	4
EHCUH406002A	6	0.2R	6	15.0	50	6	4
EHCUH406005A	6	0.5R	6	15.0	50	6	4
EHCUH406010A	6	1.0R	6	15.0	50	6	4
EHCUH408003A	8	0.3R	8	20.0	60	8	4
EHCUH408005A	8	0.5R	8	20.0	60	8	4
EHCUH408010A	8	1.0R	8	20.0	60	8	4
EHCUH408015A	8	1.5R	8	20.0	60	8	4
EHCUH410003A	10	0.3R	10	25.0	75	10	4
EHCUH410005A	10	0.5R	10	25.0	75	10	4
EHCUH410010A	10	1.0R	10	25.0	75	10	4
EHCUH410015A	10	1.5R	10	25.0	75	10	4
EHCUH410020A	10	2.0R	10	25.0	75	10	4
EHCUH412003A	12	0.3R	12	30.0	75	12	4
EHCUH412005A	12	0.5R	12	30.0	75	12	4
EHCUH412010A	12	1.0R	12	30.0	75	12	4
EHCUH412015A	12	1.5R	12	30.0	75	12	4
EHCUH412020A	12	2.0R	12	30.0	75	12	4

Cutting conditions：Page B244

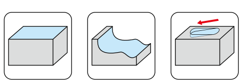
WINSTAR

H65X - Double Corner High Feed EndMill · 4F / 6F 圓鼻銑刀 · 高進給型 · 4 刃 / 6 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Duotec design and multi-flute geometry design.
- High feed and high metal removal rate in surface milling.
- UMG Carbide substrate possess high TRS and good wear resistance.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHWSA

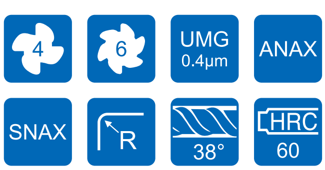
P	M	K	N	S	H
●	○	●		○	●

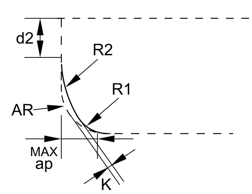


Order No. 訂購編碼	Dia. (d)	ND (d1)	(d2)	(ap)	(R1)	(R2)	Approx Radius (AR)	(K)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHWSA403101A	3.175(1/8")	-	0.4	0.18	0.3	2.0	0.64	0.08	3.175	-	63.5	6.35	4
EHWSA404701A	4.763(3/16")	-	0.6	0.30	0.5	3.0	0.815	0.17	4.763	-	63.5	6.35	4
EHWSA406001A	6	-	0.75	0.35	0.6	3.5	0.92	0.21	6	-	60	6	4
EHWSA406301A	6.35(1/4")	-	0.79	0.35	0.6	3.5	0.92	0.21	6.35	-	63.5	6.35	4
EHWSA408001A	8	-	1.6	0.40	0.8	4.5	1.16	0.22	8	-	75	8	4
EHWSA409501A	9.525(3/8")	-	1.9	0.55	1.0	5.5	1.47	0.28	9.525	-	76.2	9.52	4
EHWSA410001A	10	-	2.0	0.55	1.0	5.5	1.47	0.28	10	-	75	10	4
EHWSA412001A	12	-	2.4	0.70	1.2	6.5	1.77	0.34	12	-	75	12	4
EHWSA412701A	12.7(1/2")	-	2.5	0.70	1.2	6.5	1.77	0.34	12.7	-	76.2	12.7	4
EHWSA616001A	16	-	3.2	0.90	1.6	8.5	2.35	0.43	16	-	100	16	6

Order No. 訂購編碼	Dia. (d)	ND (d1)	(d2)	(ap)	(R1)	(R2)	Approx Radius (AR)	(K)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHWSA406000A	6	5.6	0.75	0.35	0.6	3.5	0.92	0.21	9	18	60	6	4
EHWSA608000A	8	7.6	1.6	0.40	0.8	4.5	1.16	0.22	12	24	75	8	6
EHWSA610000A	10	9.4	2.0	0.55	1.0	5.5	1.47	0.28	15	30	75	10	6
EHWSA612000A	12	11.4	2.4	0.70	1.2	6.5	1.77	0.34	18	36	75	12	6

Cutting conditions : Page B244





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

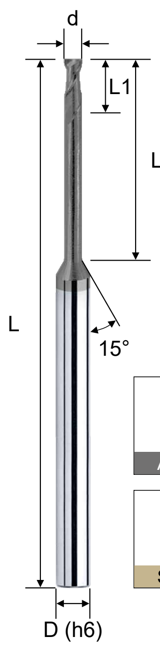
R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

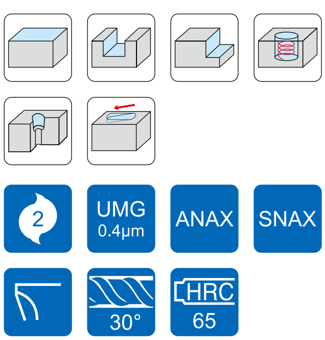
H65X - Long Neck · Square · 2F 長頸型・平銑刀・2 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Long neck design is suitable for Rib cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHSRC

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHSRC240201A	0.2	0.3	1	50	4	2
EHSRC240202A	0.2	0.3	2	50	4	2
EHSRC240301A	0.3	0.4	1	50	4	2
EHSRC240302A	0.3	0.4	2	50	4	2
EHSRC240303A	0.3	0.4	3	50	4	2
EHSRC240304A	0.3	0.4	4	50	4	2
EHSRC240305A	0.3	0.4	5	50	4	2
EHSRC240401A	0.4	0.5	1	50	4	2
EHSRC240402A	0.4	0.5	2	50	4	2
EHSRC240403A	0.4	0.5	3	50	4	2
EHSRC240404A	0.4	0.5	4	50	4	2
EHSRC240405A	0.4	0.5	5	50	4	2
EHSRC240406A	0.4	0.5	6	50	4	2
EHSRC240408A	0.4	0.5	8	50	4	2
EHSRC240410A	0.4	0.5	10	50	4	2
EHSRC240502A	0.5	0.6	2	50	4	2
EHSRC240503A	0.5	0.6	3	50	4	2
EHSRC240504A	0.5	0.6	4	50	4	2
EHSRC240505A	0.5	0.6	5	50	4	2
EHSRC240506A	0.5	0.6	6	50	4	2
EHSRC240508A	0.5	0.6	8	50	4	2
EHSRC240510A	0.5	0.6	10	50	4	2
EHSRC240512A	0.5	0.6	12	50	4	2
EHSRC240514A	0.5	0.6	14	50	4	2

Cutting conditions：Page B245

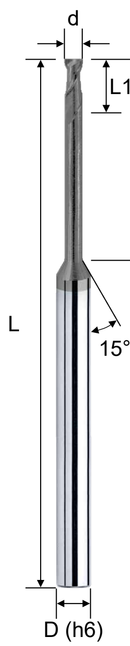
WINSTAR

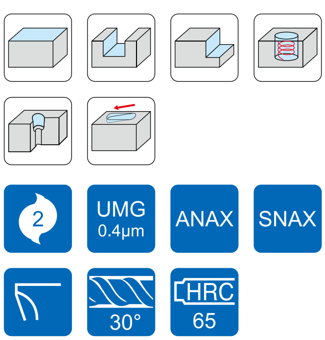
H65X - Long Neck · Square · 2F 長頸型・平銑刀・2 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Long neck design is suitable for Rib cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHSRC

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHSRC240602A	0.6	0.7	2	50	4	2
EHSRC240603A	0.6	0.7	3	50	4	2
EHSRC240604A	0.6	0.7	4	50	4	2
EHSRC240605A	0.6	0.7	5	50	4	2
EHSRC240606A	0.6	0.7	6	50	4	2
EHSRC240608A	0.6	0.7	8	50	4	2
EHSRC240610A	0.6	0.7	10	50	4	2
EHSRC240612A	0.6	0.7	12	50	4	2
EHSRC240614A	0.6	0.7	14	50	4	2
EHSRC240616A	0.6	0.7	16	50	4	2
EHSRC240702A	0.7	0.8	2	50	4	2
EHSRC240704A	0.7	0.8	4	50	4	2
EHSRC240706A	0.7	0.8	6	50	4	2
EHSRC240708A	0.7	0.8	8	50	4	2
EHSRC240710A	0.7	0.8	10	50	4	2
EHSRC240712A	0.7	0.8	12	50	4	2
EHSRC240802A	0.8	1.0	2	50	4	2
EHSRC240804A	0.8	1.0	4	50	4	2
EHSRC240806A	0.8	1.0	6	50	4	2
EHSRC240808A	0.8	1.0	8	50	4	2
EHSRC240810A	0.8	1.0	10	50	4	2
EHSRC240812A	0.8	1.0	12	50	4	2
EHSRC240814A	0.8	1.0	14	50	4	2
EHSRC240906A	0.9	1.1	6	50	4	2
EHSRC240908A	0.9	1.1	8	50	4	2
EHSRC240910A	0.9	1.1	10	50	4	2

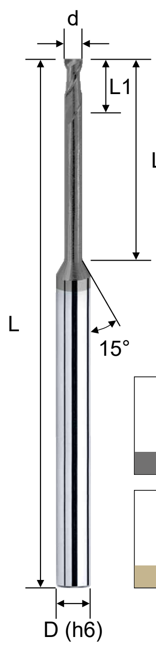
Cutting conditions：Page B245

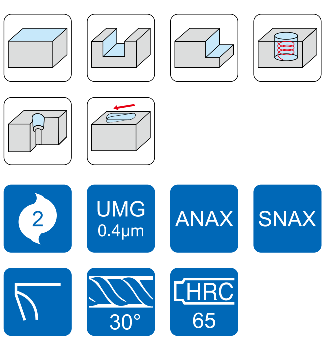
H65X - Long Neck · Square · 2F 長頸型．平銑刀．2 刃

• ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
• Long neck design is suitable for Rib cutting.
• The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHSRC

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHSRC241002A	1.0	1.2	2	50	4	2
EHSRC241003A	1.0	1.2	3	50	4	2
EHSRC241004A	1.0	1.2	4	50	4	2
EHSRC241005A	1.0	1.2	5	50	4	2
EHSRC241006A	1.0	1.2	6	50	4	2
EHSRC241008A	1.0	1.2	8	50	4	2
EHSRC241010A	1.0	1.2	10	50	4	2
EHSRC241012A	1.0	1.2	12	50	4	2
EHSRC241014A	1.0	1.2	14	50	4	2
EHSRC241016A	1.0	1.2	16	50	4	2
EHSRC241018A	1.0	1.2	18	50	4	2
EHSRC241020A	1.0	1.2	20	50	4	2
EHSRC241204A	1.2	1.5	4	50	4	2
EHSRC241206A	1.2	1.5	6	50	4	2
EHSRC241208A	1.2	1.5	8	50	4	2
EHSRC241210A	1.2	1.5	10	50	4	2
EHSRC241212A	1.2	1.5	12	50	4	2
EHSRC241216A	1.2	1.5	16	50	4	2
EHSRC241220A	1.2	1.5	20	50	4	2
EHSRC241406A	1.4	1.8	6	50	4	2
EHSRC241408A	1.4	1.8	8	50	4	2
EHSRC241410A	1.4	1.8	10	50	4	2
EHSRC241414A	1.4	1.8	14	50	4	2
EHSRC241416A	1.4	1.8	16	50	4	2
EHSRC241420A	1.4	1.8	20	50	4	2

Cutting conditions：Page B245

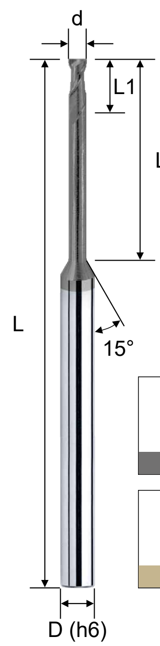
WINSTAR

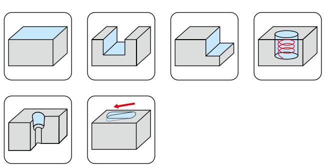
H65X - Long Neck · Square · 2F 長頸型・平銑刀・2 刃

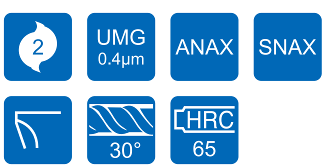
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Long neck design is suitable for Rib cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHSRC

P	M	K	N	S	H
●	○	●		○	●







d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHSRC241504A	1.5	1.8	4	50	4	2
EHSRC241506A	1.5	1.8	6	50	4	2
EHSRC241508A	1.5	1.8	8	50	4	2
EHSRC241510A	1.5	1.8	10	50	4	2
EHSRC241512A	1.5	1.8	12	50	4	2
EHSRC241514A	1.5	1.8	14	50	4	2
EHSRC241516A	1.5	1.8	16	50	4	2
EHSRC241518A	1.5	1.8	18	50	4	2
EHSRC241520A	1.5	1.8	20	50	4	2
EHSRC241610A	1.6	1.9	10	50	4	2
EHSRC241614A	1.6	1.9	14	50	4	2
EHSRC241618A	1.6	1.9	18	50	4	2
EHSRC241810A	1.8	2.0	10	50	4	2
EHSRC241814A	1.8	2.0	14	50	4	2
EHSRC241818A	1.8	2.0	18	50	4	2
EHSRC242004A	2.0	2.5	4	50	4	2
EHSRC242006A	2.0	2.5	6	50	4	2
EHSRC242008A	2.0	2.5	8	50	4	2
EHSRC242010A	2.0	2.5	10	50	4	2
EHSRC242012A	2.0	2.5	12	50	4	2
EHSRC242014A	2.0	2.5	14	50	4	2
EHSRC242016A	2.0	2.5	16	50	4	2
EHSRC242018A	2.0	2.5	18	50	4	2
EHSRC242020A	2.0	2.5	20	50	4	2
EHSRC242022A	2.0	2.5	22	60	4	2
EHSRC242025A	2.0	2.5	25	60	4	2
EHSRC242030A	2.0	2.5	30	75	4	2
EHSRC242035A	2.0	2.5	35	75	4	2

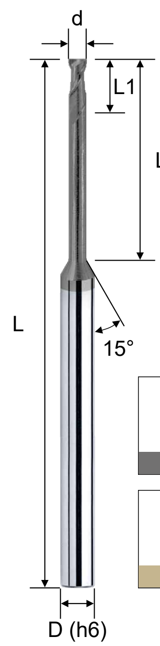
Cutting conditions：Page B245

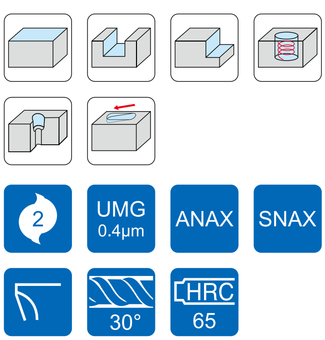
H65X - Long Neck · Square · 2F   長頸型・平銑刀・2 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Long neck design is suitable for Rib cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHSRC

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHSRC242508A	2.5	3.0	8	50	4	2
EHSRC242510A	2.5	3.0	10	50	4	2
EHSRC242512A	2.5	3.0	12	50	4	2
EHSRC242516A	2.5	3.0	16	50	4	2
EHSRC242520A	2.5	3.0	20	50	4	2
EHSRC242525A	2.5	3.0	25	60	4	2
EHSRC242530A	2.5	3.0	30	75	4	2
EHSRC242535A	2.5	3.0	35	75	4	2
EHSRC203006A	3.0	3.5	6	50	6	2
EHSRC203010A	3.0	3.5	10	50	6	2
EHSRC203012A	3.0	3.5	12	50	6	2
EHSRC203016A	3.0	3.5	16	50	6	2
EHSRC203020A	3.0	3.5	20	60	6	2
EHSRC203025A	3.0	3.5	25	60	6	2
EHSRC203030A	3.0	3.5	30	75	6	2
EHSRC203035A	3.0	3.5	35	75	6	2
EHSRC204008A	4.0	4.5	8	50	6	2
EHSRC204010A	4.0	4.5	10	50	6	2
EHSRC204012A	4.0	4.5	12	50	6	2
EHSRC204016A	4.0	4.5	16	50	6	2
EHSRC204020A	4.0	4.5	20	60	6	2
EHSRC204025A	4.0	4.5	25	60	6	2
EHSRC204030A	4.0	4.5	30	75	6	2
EHSRC204035A	4.0	4.5	35	75	6	2
EHSRC205016A	5.0	7.0	16	50	6	2
EHSRC205020A	5.0	7.0	20	60	6	2
EHSRC205025A	5.0	7.0	25	60	6	2
EHSRC205030A	5.0	7.0	30	75	6	2
EHSRC205035A	5.0	7.0	35	75	6	2

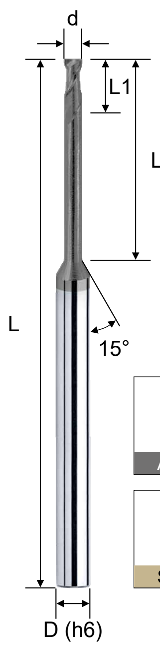
Cutting conditions : Page B245

H65X - Long Neck · Square · 2F 長頸型・平銑刀・2 刃

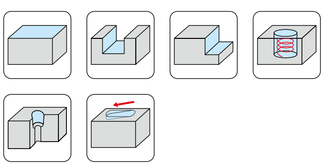
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Long neck design is suitable for Rib cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

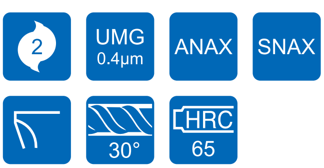
EHSRC

P	M	K	N	S	H
●	○	●		○	●



Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHSRC206020A	6.0	10.0	20	60	6	2
EHSRC206030A	6.0	10.0	30	75	6	2
EHSRC208020A	8.0	15.0	20	60	8	2
EHSRC208030A	8.0	15.0	30	75	8	2
EHSRC208040A	8.0	15.0	40	100	8	2
EHSRC210025A	10.0	20.0	25	75	10	2
EHSRC210035A	10.0	20.0	35	75	10	2
EHSRC210045A	10.0	20.0	45	100	10	2
EHSRC212030A	12.0	25.0	30	75	12	2
EHSRC212040A	12.0	25.0	40	100	12	2
EHSRC212050A	12.0	25.0	50	100	12	2





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Cutting conditions : Page B245

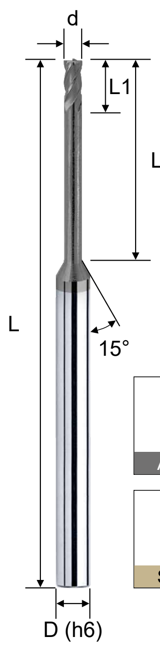
WINSTAR

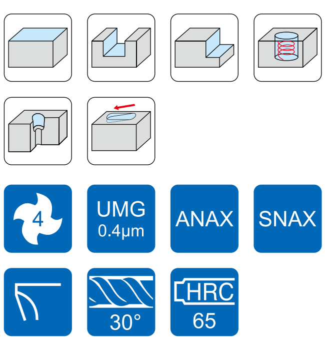
H65X - Long Neck · Square · 4F 長頸型・平銑刀・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Long neck design is suitable for Rib cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHSRC

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHSRC441003A	1.0	1.0	3	50	4	4
EHSRC441004A	1.0	1.0	4	50	4	4
EHSRC441006A	1.0	1.0	6	50	4	4
EHSRC441008A	1.0	1.0	8	50	4	4
EHSRC441010A	1.0	1.0	10	50	4	4
EHSRC441012A	1.0	1.0	12	50	4	4
EHSRC441016A	1.0	1.0	16	50	4	4
EHSRC441020A	1.0	1.0	20	50	4	4
EHSRC441025A	1.0	1.0	25	60	4	4
EHSRC401004A	1.0	1.0	4	50	6	4
EHSRC401006A	1.0	1.0	6	50	6	4
EHSRC401008A	1.0	1.0	8	50	6	4
EHSRC401010A	1.0	1.0	10	50	6	4
EHSRC401012A	1.0	1.0	12	50	6	4
EHSRC441506A	1.5	1.5	6	50	4	4
EHSRC441508A	1.5	1.5	8	50	4	4
EHSRC441510A	1.5	1.5	10	50	4	4
EHSRC441512A	1.5	1.5	12	50	4	4
EHSRC441516A	1.5	1.5	16	50	4	4
EHSRC441520A	1.5	1.5	20	50	4	4
EHSRC441525A	1.5	1.5	25	60	4	4
EHSRC401506A	1.5	1.5	6	50	6	4
EHSRC401508A	1.5	1.5	8	50	6	4
EHSRC401510A	1.5	1.5	10	50	6	4
EHSRC401512A	1.5	1.5	12	50	6	4

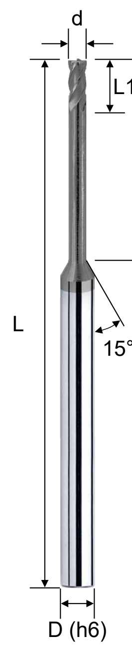
Cutting conditions : Page B248

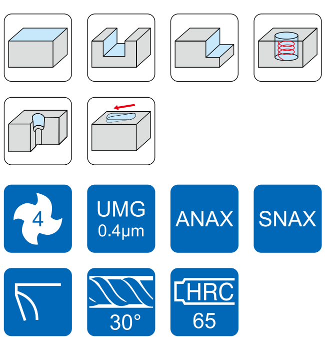
H65X - Long Neck · Square · 4F 長頸型・平銑刀・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Long neck design is suitable for Rib cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHSRC

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHSRC442006A	2.0	2.0	6	50	4	4
EHSRC442008A	2.0	2.0	8	50	4	4
EHSRC442010A	2.0	2.0	10	50	4	4
EHSRC442012A	2.0	2.0	12	50	4	4
EHSRC442016A	2.0	2.0	16	50	4	4
EHSRC442020A	2.0	2.0	20	50	4	4
EHSRC442025A	2.0	2.0	25	60	4	4
EHSRC442030A	2.0	2.0	30	75	4	4
EHSRC402006A	2.0	2.0	6	50	6	4
EHSRC402008A	2.0	2.0	8	50	6	4
EHSRC402010A	2.0	2.0	10	50	6	4
EHSRC402016A	2.0	2.0	16	50	6	4
EHSRC442510A	2.5	2.5	10	50	4	4
EHSRC442512A	2.5	2.5	12	50	4	4
EHSRC442516A	2.5	2.5	16	50	4	4
EHSRC442520A	2.5	2.5	20	50	4	4
EHSRC442525A	2.5	2.5	25	60	4	4
EHSRC442530A	2.5	2.5	30	75	4	4
EHSRC402506A	2.5	2.5	6	50	6	4
EHSRC402510A	2.5	2.5	10	50	6	4
EHSRC403010A	3.0	3.0	10	50	6	4
EHSRC403012A	3.0	3.0	12	50	6	4
EHSRC403016A	3.0	3.0	16	50	6	4
EHSRC403020A	3.0	3.0	20	60	6	4
EHSRC403025A	3.0	3.0	25	60	6	4
EHSRC403030A	3.0	3.0	30	75	6	4
EHSRC403035A	3.0	3.0	35	75	6	4

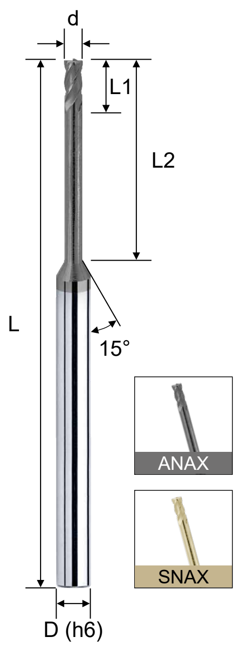
Cutting conditions：Page B248

H65X - Long Neck · Square · 4F 長頸型・平銑刀・4 刃

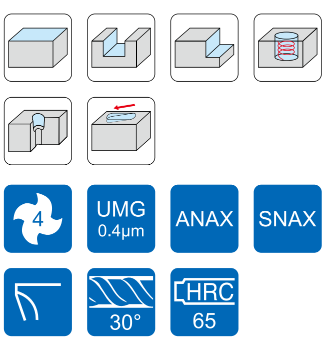
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Long neck design is suitable for Rib cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHSRC

P	M	K	N	S	H
●	○	●		○	●



Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHSRC404010A	4.0	4.0	10	50	6	4
EHSRC404012A	4.0	4.0	12	50	6	4
EHSRC404016A	4.0	4.0	16	50	6	4
EHSRC404020A	4.0	4.0	20	60	6	4
EHSRC404025A	4.0	4.0	25	60	6	4
EHSRC404030A	4.0	4.0	30	75	6	4
EHSRC405016A	5.0	5.0	16	50	6	4
EHSRC405020A	5.0	5.0	20	60	6	4
EHSRC405025A	5.0	5.0	25	60	6	4
EHSRC405030A	5.0	5.0	30	75	6	4
EHSRC406020A	6.0	6.0	20	60	6	4
EHSRC406030A	6.0	6.0	30	75	6	4
EHSRC408020A	8.0	15.0	20	60	8	4
EHSRC408030A	8.0	15.0	30	75	8	4
EHSRC408040A	8.0	15.0	40	100	8	4
EHSRC410025A	10.0	20.0	25	75	10	4
EHSRC410035A	10.0	20.0	35	100	10	4
EHSRC410045A	10.0	20.0	45	100	10	4
EHSRC412030A	12.0	25.0	30	75	12	4
EHSRC412040A	12.0	25.0	40	100	12	4
EHSRC412050A	12.0	25.0	50	100	12	4



d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

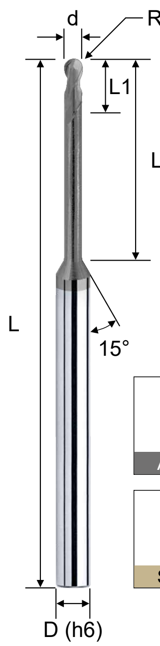
Cutting conditions : Page B248

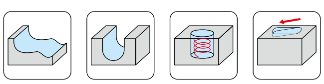
H65X - Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃

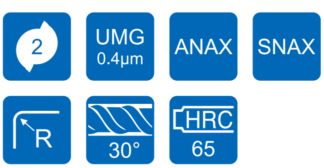
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Suitable for deep cutting due to the long neck design.
- Polish cutting edge provides stronger tip.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHBRC

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHBRC240301A	0.15R	0.3	0.3	1	50	4	2
EHBRC240302A	0.15R	0.3	0.3	2	50	4	2
EHBRC240303A	0.15R	0.3	0.3	3	50	4	2
EHBRC240401A	0.20R	0.4	0.4	1	50	4	2
EHBRC240402A	0.20R	0.4	0.4	2	50	4	2
EHBRC240403A	0.20R	0.4	0.4	3	50	4	2
EHBRC240404A	0.20R	0.4	0.4	4	50	4	2
EHBRC240405A	0.20R	0.4	0.4	5	50	4	2
EHBRC240406A	0.20R	0.4	0.4	6	50	4	2
EHBRC240408A	0.20R	0.4	0.4	8	50	4	2
EHBRC240501A	0.25R	0.5	0.5	1	50	4	2
EHBRC240502A	0.25R	0.5	0.5	2	50	4	2
EHBRC240503A	0.25R	0.5	0.5	3	50	4	2
EHBRC240504A	0.25R	0.5	0.5	4	50	4	2
EHBRC240505A	0.25R	0.5	0.5	5	50	4	2
EHBRC240506A	0.25R	0.5	0.5	6	50	4	2
EHBRC240508A	0.25R	0.5	0.5	8	50	4	2
EHBRC240510A	0.25R	0.5	0.5	10	50	4	2
EHBRC240601A	0.30R	0.6	0.6	1	50	4	2
EHBRC240602A	0.30R	0.6	0.6	2	50	4	2
EHBRC240603A	0.30R	0.6	0.6	3	50	4	2
EHBRC240604A	0.30R	0.6	0.6	4	50	4	2
EHBRC240605A	0.30R	0.6	0.6	5	50	4	2
EHBRC240606A	0.30R	0.6	0.6	6	50	4	2
EHBRC240608A	0.30R	0.6	0.6	8	50	4	2
EHBRC240610A	0.30R	0.6	0.6	10	50	4	2
EHBRC240612A	0.30R	0.6	0.6	12	50	4	2

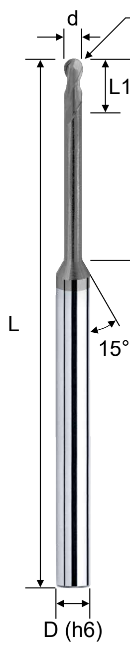
Cutting conditions：Page B249

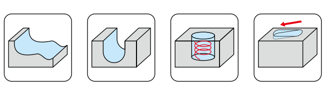
H65X - Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃

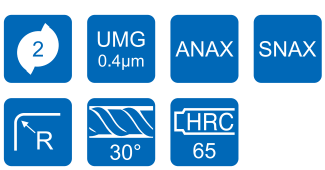
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Suitable for deep cutting due to the long neck design.
- Polish cutting edge provides stronger tip.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHBRC

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHBRC240702A	0.35R	0.7	0.7	2	50	4	2
EHBRC240704A	0.35R	0.7	0.7	4	50	4	2
EHBRC240708A	0.35R	0.7	0.7	8	50	4	2
EHBRC240710A	0.35R	0.7	0.7	10	50	4	2
EHBRC240712A	0.35R	0.7	0.7	12	50	4	2
EHBRC240802A	0.40R	0.8	0.8	2	50	4	2
EHBRC240804A	0.40R	0.8	0.8	4	50	4	2
EHBRC240806A	0.40R	0.8	0.8	6	50	4	2
EHBRC240808A	0.40R	0.8	0.8	8	50	4	2
EHBRC240810A	0.40R	0.8	0.8	10	50	4	2
EHBRC240812A	0.40R	0.8	0.8	12	50	4	2
EHBRC240904A	0.45R	0.9	0.9	4	50	4	2
EHBRC241002A	0.50R	1.0	1.0	2	50	4	2
EHBRC241003A	0.50R	1.0	1.0	3	50	4	2
EHBRC241004A	0.50R	1.0	1.0	4	50	4	2
EHBRC241005A	0.50R	1.0	1.0	5	50	4	2
EHBRC241006A	0.50R	1.0	1.0	6	50	4	2
EHBRC241008A	0.50R	1.0	1.0	8	50	4	2
EHBRC241010A	0.50R	1.0	1.0	10	50	4	2
EHBRC241012A	0.50R	1.0	1.0	12	50	4	2
EHBRC241014A	0.50R	1.0	1.0	14	50	4	2
EHBRC241016A	0.50R	1.0	1.0	16	50	4	2
EHBRC241018A	0.50R	1.0	1.0	18	50	4	2
EHBRC241020A	0.50R	1.0	1.0	20	50	4	2
EHBRC241022A	0.50R	1.0	1.0	22	60	4	2
EHBRC201004A	0.50R	1.0	1.0	4	50	6	2
EHBRC201006A	0.50R	1.0	1.0	6	50	6	2
EHBRC201008A	0.50R	1.0	1.0	8	50	6	2
EHBRC201010A	0.50R	1.0	1.0	10	50	6	2
EHBRC201012A	0.50R	1.0	1.0	12	50	6	2

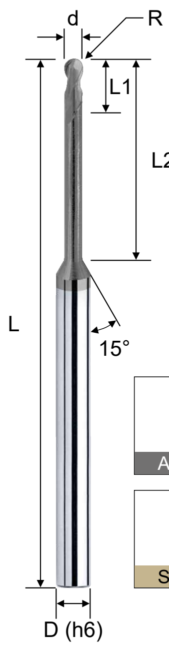
Cutting conditions : Page B249

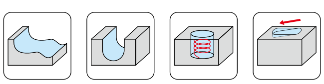
H65X - Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃

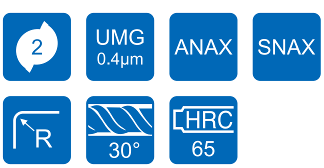
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Suitable for deep cutting due to the long neck design.
- Polish cutting edge provides stronger tip.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHBRC

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHBRC241204A	0.60R	1.2	1.2	4	50	4	2
EHBRC241206A	0.60R	1.2	1.2	6	50	4	2
EHBRC241208A	0.60R	1.2	1.2	8	50	4	2
EHBRC241210A	0.60R	1.2	1.2	10	50	4	2
EHBRC241212A	0.60R	1.2	1.2	12	50	4	2
EHBRC241216A	0.60R	1.2	1.2	16	50	4	2
EHBRC241220A	0.60R	1.2	1.2	20	50	4	2
EHBRC241224A	0.60R	1.2	1.2	24	60	4	2
EHBRC241406A	0.70R	1.4	1.4	6	50	4	2
EHBRC241408A	0.70R	1.4	1.4	8	50	4	2
EHBRC241412A	0.70R	1.4	1.4	12	50	4	2
EHBRC241416A	0.70R	1.4	1.4	16	50	4	2
EHBRC241503A	0.75R	1.5	1.5	3	50	4	2
EHBRC241504A	0.75R	1.5	1.5	4	50	4	2
EHBRC241506A	0.75R	1.5	1.5	6	50	4	2
EHBRC241508A	0.75R	1.5	1.5	8	50	4	2
EHBRC241510A	0.75R	1.5	1.5	10	50	4	2
EHBRC241512A	0.75R	1.5	1.5	12	50	4	2
EHBRC241514A	0.75R	1.5	1.5	14	50	4	2
EHBRC241516A	0.75R	1.5	1.5	16	50	4	2
EHBRC241518A	0.75R	1.5	1.5	18	50	4	2
EHBRC241520A	0.75R	1.5	1.5	20	50	4	2
EHBRC241522A	0.75R	1.5	1.5	22	60	4	2
EHBRC241525A	0.75R	1.5	1.5	25	60	4	2
EHBRC241530A	0.75R	1.5	1.5	30	75	4	2
EHBRC201506A	0.75R	1.5	1.5	6	50	6	2
EHBRC201508A	0.75R	1.5	1.5	8	50	6	2
EHBRC201510A	0.75R	1.5	1.5	10	50	6	2
EHBRC201512A	0.75R	1.5	1.5	12	50	6	2

Cutting conditions：Page B249

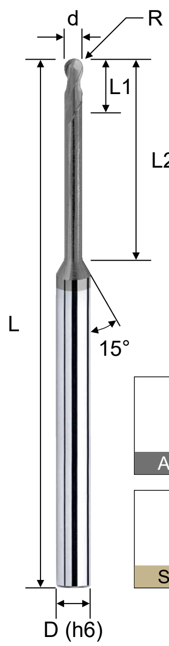
WINSTAR

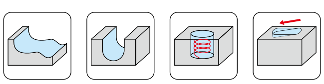
H65X - Long Neck · Ball Nose · 2F　長頸型・球型銑刀・2 刃

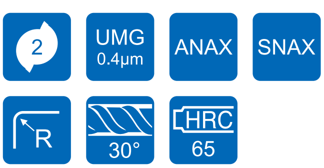
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Suitable for deep cutting due to the long neck design.
- Polish cutting edge provides stronger tip.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHBRC

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHBRC241606A	0.80R	1.6	1.6	6	50	4	2
EHBRC241608A	0.80R	1.6	1.6	8	50	4	2
EHBRC241612A	0.80R	1.6	1.6	12	50	4	2
EHBRC241616A	0.80R	1.6	1.6	16	50	4	2
EHBRC241620A	0.80R	1.6	1.6	20	50	4	2
EHBRC241806A	0.90R	1.8	1.8	6	50	4	2
EHBRC241808A	0.90R	1.8	1.8	8	50	4	2
EHBRC241812A	0.90R	1.8	1.8	12	50	4	2
EHBRC241816A	0.90R	1.8	1.8	16	50	4	2
EHBRC241820A	0.90R	1.8	1.8	20	50	4	2
EHBRC242004A	1.00R	2.0	2.0	4	50	4	2
EHBRC242006A	1.00R	2.0	2.0	6	50	4	2
EHBRC242008A	1.00R	2.0	2.0	8	50	4	2
EHBRC242010A	1.00R	2.0	2.0	10	50	4	2
EHBRC242012A	1.00R	2.0	2.0	12	50	4	2
EHBRC242014A	1.00R	2.0	2.0	14	50	4	2
EHBRC242016A	1.00R	2.0	2.0	16	50	4	2
EHBRC242018A	1.00R	2.0	2.0	18	50	4	2
EHBRC242020A	1.00R	2.0	2.0	20	50	4	2
EHBRC242022A	1.00R	2.0	2.0	22	60	4	2
EHBRC242025A	1.00R	2.0	2.0	25	60	4	2
EHBRC202006A	1.00R	2.0	2.0	6	50	6	2
EHBRC202008A	1.00R	2.0	2.0	8	50	6	2
EHBRC202010A	1.00R	2.0	2.0	10	50	6	2
EHBRC202016A	1.00R	2.0	2.0	16	50	6	2

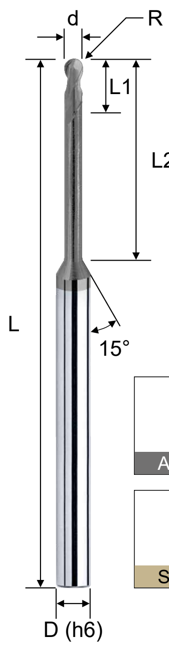
Cutting conditions：Page B249

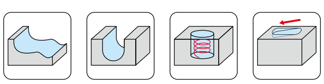
H65X - Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃

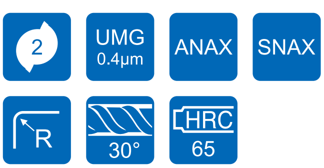
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Suitable for deep cutting due to the long neck design.
- Polish cutting edge provides stronger tip.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHBRC

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHBRC242508A	1.25R	2.5	2.5	8	50	4	2
EHBRC242510A	1.25R	2.5	2.5	10	50	4	2
EHBRC242516A	1.25R	2.5	2.5	16	50	4	2
EHBRC242520A	1.25R	2.5	2.5	20	60	4	2
EHBRC242525A	1.25R	2.5	2.5	25	60	4	2
EHBRC242530A	1.25R	2.5	2.5	30	75	4	2
EHBRC202506A	1.25R	2.5	2.5	6	50	6	2
EHBRC202510A	1.25R	2.5	2.5	10	50	6	2
EHBRC203006A	1.50R	3.0	3.0	6	50	6	2
EHBRC203008A	1.50R	3.0	3.0	8	50	6	2
EHBRC203010A	1.50R	3.0	3.0	10	50	6	2
EHBRC203012A	1.50R	3.0	3.0	12	50	6	2
EHBRC203016A	1.50R	3.0	3.0	16	60	6	2
EHBRC203020A	1.50R	3.0	3.0	20	60	6	2
EHBRC203025A	1.50R	3.0	3.0	25	60	6	2
EHBRC203030A	1.50R	3.0	3.0	30	75	6	2
EHBRC203035A	1.50R	3.0	3.0	35	75	6	2
EHBRC204008A	2.00R	4.0	4.0	8	50	6	2
EHBRC204010A	2.00R	4.0	4.0	10	50	6	2
EHBRC204012A	2.00R	4.0	4.0	12	50	6	2
EHBRC204016A	2.00R	4.0	4.0	16	60	6	2
EHBRC204020A	2.00R	4.0	4.0	20	60	6	2
EHBRC204025A	2.00R	4.0	4.0	25	60	6	2
EHBRC204030A	2.00R	4.0	4.0	30	75	6	2
EHBRC204035A	2.00R	4.0	4.0	35	75	6	2
EHBRC205015A	2.50R	5.0	5.0	15	60	6	2
EHBRC205020A	2.50R	5.0	5.0	20	60	6	2
EHBRC205025A	2.50R	5.0	5.0	25	60	6	2
EHBRC205030A	2.50R	5.0	5.0	30	75	6	2
EHBRC206015A	3.00R	6.0	10.0	15	50	6	2
EHBRC208025A	4.00R	8.0	12.0	25	60	8	2
EHBRC210030A	5.00R	10.0	16.0	30	75	10	2
EHBRC212030A	6.00R	12.0	18.0	30	75	12	2

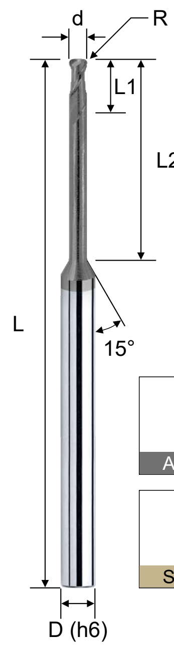
Cutting conditions：Page B249

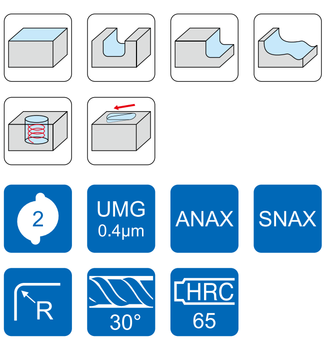
H65X - Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRC

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC24100104A	1.0	0.1R	1.0	4	50	4	2
EHCRC24100106A	1.0	0.1R	1.0	6	50	4	2
EHCRC24100108A	1.0	0.1R	1.0	8	50	4	2
EHCRC24100110A	1.0	0.1R	1.0	10	50	4	2
EHCRC24100112A	1.0	0.1R	1.0	12	50	4	2
EHCRC24100204A	1.0	0.2R	1.0	4	50	4	2
EHCRC24100206A	1.0	0.2R	1.0	6	50	4	2
EHCRC24100208A	1.0	0.2R	1.0	8	50	4	2
EHCRC24100210A	1.0	0.2R	1.0	10	50	4	2
EHCRC24100212A	1.0	0.2R	1.0	12	50	4	2
EHCRC24100304A	1.0	0.3R	1.0	4	50	4	2
EHCRC24100306A	1.0	0.3R	1.0	6	50	4	2
EHCRC24100308A	1.0	0.3R	1.0	8	50	4	2
EHCRC24100310A	1.0	0.3R	1.0	10	50	4	2
EHCRC24100312A	1.0	0.3R	1.0	12	50	4	2
EHCRC24120104A	1.2	0.1R	1.2	4	50	4	2
EHCRC24120106A	1.2	0.1R	1.2	6	50	4	2
EHCRC24120108A	1.2	0.1R	1.2	8	50	4	2
EHCRC24120110A	1.2	0.1R	1.2	10	50	4	2
EHCRC24120112A	1.2	0.1R	1.2	12	50	4	2
EHCRC24120204A	1.2	0.2R	1.2	4	50	4	2
EHCRC24120206A	1.2	0.2R	1.2	6	50	4	2
EHCRC24120208A	1.2	0.2R	1.2	8	50	4	2
EHCRC24120210A	1.2	0.2R	1.2	10	50	4	2
EHCRC24120212A	1.2	0.2R	1.2	12	50	4	2
EHCRC24120304A	1.2	0.3R	1.2	4	50	4	2
EHCRC24120306A	1.2	0.3R	1.2	6	50	4	2
EHCRC24120308A	1.2	0.3R	1.2	8	50	4	2
EHCRC24120310A	1.2	0.3R	1.2	10	50	4	2
EHCRC24120312A	1.2	0.3R	1.2	12	50	4	2

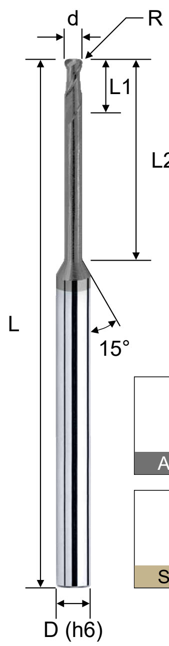
Cutting conditions：Page B250

H65X - Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃

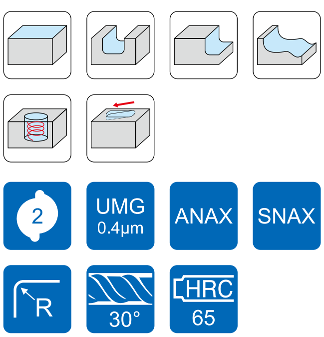
• ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
• Available in various effective cutting lengths.
• It is suitable for deep cutting.
• The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRC

P	M	K	N	S	H
●	○	●		○	●



Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC24150106A	1.5	0.1R	1.5	6	50	4	2
EHCRC24150108A	1.5	0.1R	1.5	8	50	4	2
EHCRC24150110A	1.5	0.1R	1.5	10	50	4	2
EHCRC24150112A	1.5	0.1R	1.5	12	50	4	2
EHCRC24150116A	1.5	0.1R	1.5	16	50	4	2
EHCRC24150206A	1.5	0.2R	1.5	6	50	4	2
EHCRC24150208A	1.5	0.2R	1.5	8	50	4	2
EHCRC24150210A	1.5	0.2R	1.5	10	50	4	2
EHCRC24150212A	1.5	0.2R	1.5	12	50	4	2
EHCRC24150216A	1.5	0.2R	1.5	16	50	4	2
EHCRC24150306A	1.5	0.3R	1.5	6	50	4	2
EHCRC24150308A	1.5	0.3R	1.5	8	50	4	2
EHCRC24150310A	1.5	0.3R	1.5	10	50	4	2
EHCRC24150312A	1.5	0.3R	1.5	12	50	4	2
EHCRC24150316A	1.5	0.3R	1.5	16	50	4	2
EHCRC24150506A	1.5	0.5R	1.5	6	50	4	2
EHCRC24150508A	1.5	0.5R	1.5	8	50	4	2
EHCRC24150510A	1.5	0.5R	1.5	10	50	4	2
EHCRC24150512A	1.5	0.5R	1.5	12	50	4	2
EHCRC24150516A	1.5	0.5R	1.5	16	50	4	2



Cutting conditions : Page B250

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

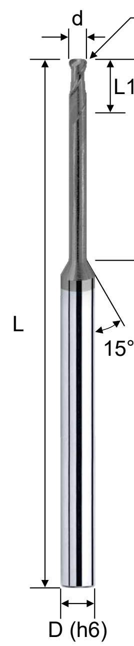
R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

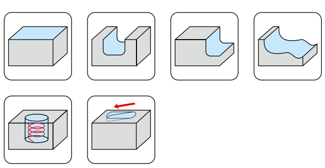
H65X - Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃

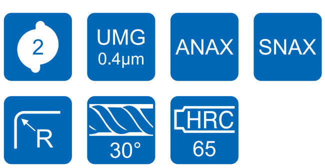
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRC

P	M	K	N	S	H
●	○	●		○	●







d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC24200106A	2.0	0.1R	2.0	6	50	4	2
EHCRC24200108A	2.0	0.1R	2.0	8	50	4	2
EHCRC24200110A	2.0	0.1R	2.0	10	50	4	2
EHCRC24200112A	2.0	0.1R	2.0	12	50	4	2
EHCRC24200116A	2.0	0.1R	2.0	16	50	4	2
EHCRC24200120A	2.0	0.1R	2.0	20	50	4	2
EHCRC24200125A	2.0	0.1R	2.0	25	60	4	2
EHCRC24200206A	2.0	0.2R	2.0	6	50	4	2
EHCRC24200208A	2.0	0.2R	2.0	8	50	4	2
EHCRC24200210A	2.0	0.2R	2.0	10	50	4	2
EHCRC24200212A	2.0	0.2R	2.0	12	50	4	2
EHCRC24200216A	2.0	0.2R	2.0	16	50	4	2
EHCRC24200220A	2.0	0.2R	2.0	20	50	4	2
EHCRC24200225A	2.0	0.2R	2.0	25	60	4	2
EHCRC24200306A	2.0	0.3R	2.0	6	50	4	2
EHCRC24200308A	2.0	0.3R	2.0	8	50	4	2
EHCRC24200310A	2.0	0.3R	2.0	10	50	4	2
EHCRC24200312A	2.0	0.3R	2.0	12	50	4	2
EHCRC24200316A	2.0	0.3R	2.0	16	50	4	2
EHCRC24200320A	2.0	0.3R	2.0	20	50	4	2
EHCRC24200325A	2.0	0.3R	2.0	25	60	4	2
EHCRC24200506A	2.0	0.5R	2.0	6	50	4	2
EHCRC24200508A	2.0	0.5R	2.0	8	50	4	2
EHCRC24200510A	2.0	0.5R	2.0	10	50	4	2
EHCRC24200512A	2.0	0.5R	2.0	12	50	4	2
EHCRC24200516A	2.0	0.5R	2.0	16	50	4	2
EHCRC24200520A	2.0	0.5R	2.0	20	50	4	2
EHCRC24200525A	2.0	0.5R	2.0	25	60	4	2
EHCRC20200510A	2.0	0.5R	2.0	10	50	6	2
EHCRC20200515A	2.0	0.5R	2.0	15	50	6	2

Cutting conditions：Page B250

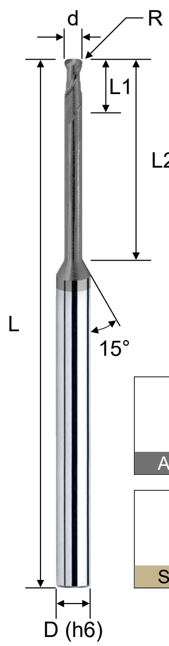
WINSTAR

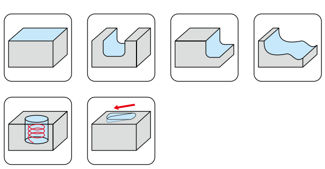
H65X - Long Neck · Corner Radius · 2F　長頸型・圓鼻銑刀・2 刃

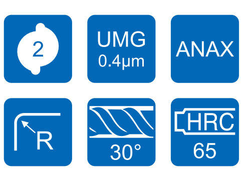
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRC

P	M	K	N	S	H
●	○	●		○	●







Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC24250110A	2.5	0.1R	2.5	10	50	4	2
EHCRC24250116A	2.5	0.1R	2.5	16	50	4	2
EHCRC24250120A	2.5	0.1R	2.5	20	50	4	2
EHCRC24250125A	2.5	0.1R	2.5	25	60	4	2
EHCRC24250210A	2.5	0.2R	2.5	10	50	4	2
EHCRC24250216A	2.5	0.2R	2.5	16	50	4	2
EHCRC24250220A	2.5	0.2R	2.5	20	50	4	2
EHCRC24250225A	2.5	0.2R	2.5	25	60	4	2
EHCRC24250310A	2.5	0.3R	2.5	10	50	4	2
EHCRC24250316A	2.5	0.3R	2.5	16	50	4	2
EHCRC24250320A	2.5	0.3R	2.5	20	50	4	2
EHCRC24250325A	2.5	0.3R	2.5	25	60	4	2
EHCRC24250510A	2.5	0.5R	2.5	10	50	4	2
EHCRC24250516A	2.5	0.5R	2.5	16	50	4	2
EHCRC24250520A	2.5	0.5R	2.5	20	50	4	2
EHCRC24250525A	2.5	0.5R	2.5	25	60	4	2

Cutting conditions：Page B250

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

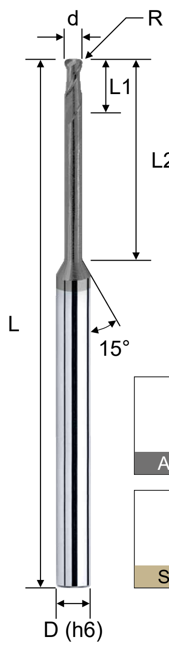
R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

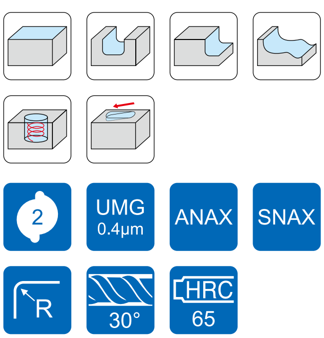
H65X - Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRC

P	M	K	N	S	H
●	○	●		○	●





Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC20300110A	3.0	0.1R	3.0	10	50	6	2
EHCRC20300116A	3.0	0.1R	3.0	16	60	6	2
EHCRC20300120A	3.0	0.1R	3.0	20	60	6	2
EHCRC20300125A	3.0	0.1R	3.0	25	60	6	2
EHCRC20300130A	3.0	0.1R	3.0	30	75	6	2
EHCRC20300135A	3.0	0.1R	3.0	35	75	6	2
EHCRC20300210A	3.0	0.2R	3.0	10	50	6	2
EHCRC20300216A	3.0	0.2R	3.0	16	60	6	2
EHCRC20300220A	3.0	0.2R	3.0	20	60	6	2
EHCRC20300225A	3.0	0.2R	3.0	25	60	6	2
EHCRC20300230A	3.0	0.2R	3.0	30	75	6	2
EHCRC20300235A	3.0	0.2R	3.0	35	75	6	2
EHCRC20300310A	3.0	0.3R	3.0	10	50	6	2
EHCRC20300316A	3.0	0.3R	3.0	16	60	6	2
EHCRC20300320A	3.0	0.3R	3.0	20	60	6	2
EHCRC20300325A	3.0	0.3R	3.0	25	60	6	2
EHCRC20300330A	3.0	0.3R	3.0	30	75	6	2
EHCRC20300335A	3.0	0.3R	3.0	35	75	6	2
EHCRC20300510A	3.0	0.5R	3.0	10	50	6	2
EHCRC20300516A	3.0	0.5R	3.0	16	60	6	2
EHCRC20300520A	3.0	0.5R	3.0	20	60	6	2
EHCRC20300525A	3.0	0.5R	3.0	25	60	6	2
EHCRC20300530A	3.0	0.5R	3.0	30	75	6	2
EHCRC20300535A	3.0	0.5R	3.0	35	75	6	2
EHCRC20301010A	3.0	1.0R	3.0	10	50	6	2
EHCRC20301016A	3.0	1.0R	3.0	16	60	6	2
EHCRC20301020A	3.0	1.0R	3.0	20	60	6	2
EHCRC20301025A	3.0	1.0R	3.0	25	60	6	2
EHCRC20301030A	3.0	1.0R	3.0	30	75	6	2
EHCRC20301035A	3.0	1.0R	3.0	35	75	6	2

Cutting conditions : Page B250

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

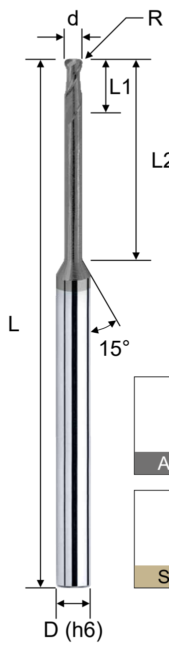
WINSTAR

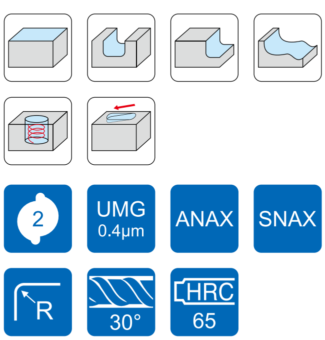
H65X - Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRC

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC20400113A	4.0	0.1R	4.0	13	50	6	2
EHCRC20400116A	4.0	0.1R	4.0	16	60	6	2
EHCRC20400120A	4.0	0.1R	4.0	20	60	6	2
EHCRC20400125A	4.0	0.1R	4.0	25	60	6	2
EHCRC20400130A	4.0	0.1R	4.0	30	75	6	2
EHCRC20400135A	4.0	0.1R	4.0	35	75	6	2
EHCRC20400213A	4.0	0.2R	4.0	13	50	6	2
EHCRC20400216A	4.0	0.2R	4.0	16	60	6	2
EHCRC20400220A	4.0	0.2R	4.0	20	60	6	2
EHCRC20400225A	4.0	0.2R	4.0	25	60	6	2
EHCRC20400230A	4.0	0.2R	4.0	30	75	6	2
EHCRC20400235A	4.0	0.2R	4.0	35	75	6	2
EHCRC20400313A	4.0	0.3R	4.0	13	50	6	2
EHCRC20400316A	4.0	0.3R	4.0	16	60	6	2
EHCRC20400320A	4.0	0.3R	4.0	20	60	6	2
EHCRC20400325A	4.0	0.3R	4.0	25	60	6	2
EHCRC20400330A	4.0	0.3R	4.0	30	75	6	2
EHCRC20400335A	4.0	0.3R	4.0	35	75	6	2
EHCRC20400513A	4.0	0.5R	4.0	13	50	6	2
EHCRC20400516A	4.0	0.5R	4.0	16	60	6	2
EHCRC20400520A	4.0	0.5R	4.0	20	60	6	2
EHCRC20400525A	4.0	0.5R	4.0	25	60	6	2
EHCRC20400530A	4.0	0.5R	4.0	30	75	6	2
EHCRC20400535A	4.0	0.5R	4.0	35	75	6	2
EHCRC20401013A	4.0	1.0R	4.0	13	50	6	2
EHCRC20401016A	4.0	1.0R	4.0	16	60	6	2
EHCRC20401020A	4.0	1.0R	4.0	20	60	6	2
EHCRC20401025A	4.0	1.0R	4.0	25	60	6	2
EHCRC20401030A	4.0	1.0R	4.0	30	75	6	2
EHCRC20401035A	4.0	1.0R	4.0	35	75	6	2

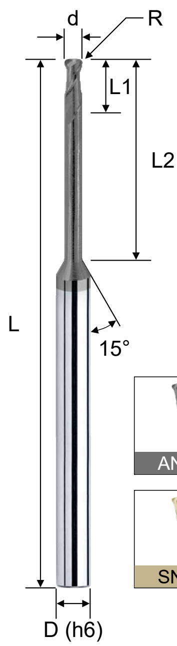
Cutting conditions：Page B250

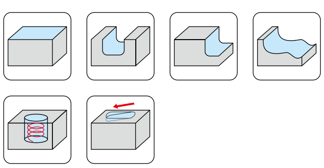
H65X - Long Neck · Corner Radius · 2F　長頸型・圓鼻銑刀・2 刃

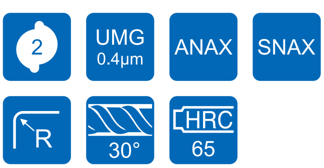
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRC

P	M	K	N	S	H
●	○	●		○	●







d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC20500116A	5.0	0.1R	5.0	16	60	6	2
EHCRC20500130A	5.0	0.1R	5.0	30	75	6	2
EHCRC20500216A	5.0	0.2R	5.0	16	60	6	2
EHCRC20500230A	5.0	0.2R	5.0	30	75	6	2
EHCRC20500316A	5.0	0.3R	5.0	16	60	6	2
EHCRC20500330A	5.0	0.3R	5.0	30	75	6	2
EHCRC20500516A	5.0	0.5R	5.0	16	60	6	2
EHCRC20500530A	5.0	0.5R	5.0	30	75	6	2
EHCRC20501016A	5.0	1.0R	5.0	16	60	6	2
EHCRC20501030A	5.0	1.0R	5.0	30	75	6	2
EHCRC20600120A	6.0	0.1R	7.0	20	60	6	2
EHCRC20600130A	6.0	0.1R	7.0	30	75	6	2
EHCRC20600220A	6.0	0.2R	7.0	20	60	6	2
EHCRC20600230A	6.0	0.2R	7.0	30	75	6	2
EHCRC20600320A	6.0	0.3R	7.0	20	60	6	2
EHCRC20600330A	6.0	0.3R	7.0	30	75	6	2
EHCRC20600520A	6.0	0.5R	7.0	20	60	6	2
EHCRC20600530A	6.0	0.5R	7.0	30	75	6	2
EHCRC20601020A	6.0	1.0R	7.0	20	60	6	2
EHCRC20601030A	6.0	1.0R	7.0	30	75	6	2
EHCRC20601520A	6.0	1.5R	7.0	20	60	6	2
EHCRC20601530A	6.0	1.5R	7.0	30	75	6	2
EHCRC20800522A	8.0	0.5R	9.0	22	60	8	2
EHCRC20801022A	8.0	1.0R	9.0	22	60	8	2
EHCRC20801522A	8.0	1.5R	9.0	22	60	8	2
EHCRC20802022A	8.0	2.0R	9.0	22	60	8	2
EHCRC21000524A	10.0	0.5R	11.0	24	75	10	2
EHCRC21001024A	10.0	1.0R	11.0	24	75	10	2
EHCRC21001524A	10.0	1.5R	11.0	24	75	10	2
EHCRC21002024A	10.0	2.0R	11.0	24	75	10	2
EHCRC21200526A	12.0	0.5R	13.0	26	75	12	2
EHCRC21201026A	12.0	1.0R	13.0	26	75	12	2
EHCRC21201526A	12.0	1.5R	13.0	26	75	12	2
EHCRC21202026A	12.0	2.0R	13.0	26	75	12	2

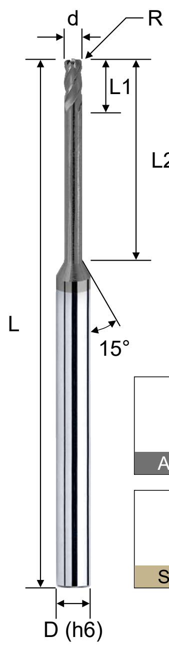
Cutting conditions：Page B250

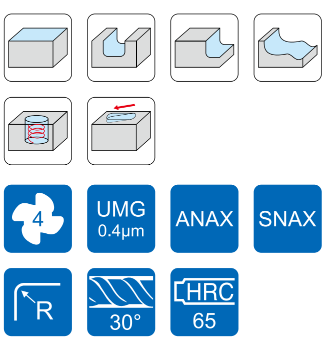
H65X - Long Neck · Corner Radius · 4F　　長頸型・圓鼻銑刀・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRC

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC44200106A	2.0	0.1R	2.0	6	50	4	4
EHCRC44200108A	2.0	0.1R	2.0	8	50	4	4
EHCRC44200110A	2.0	0.1R	2.0	10	50	4	4
EHCRC44200112A	2.0	0.1R	2.0	12	50	4	4
EHCRC44200116A	2.0	0.1R	2.0	16	50	4	4
EHCRC44200120A	2.0	0.1R	2.0	20	50	4	4
EHCRC44200125A	2.0	0.1R	2.0	25	60	4	4
EHCRC44200206A	2.0	0.2R	2.0	6	50	4	4
EHCRC44200208A	2.0	0.2R	2.0	8	50	4	4
EHCRC44200210A	2.0	0.2R	2.0	10	50	4	4
EHCRC44200212A	2.0	0.2R	2.0	12	50	4	4
EHCRC44200216A	2.0	0.2R	2.0	16	50	4	4
EHCRC44200220A	2.0	0.2R	2.0	20	50	4	4
EHCRC44200225A	2.0	0.2R	2.0	25	60	4	4
EHCRC44200306A	2.0	0.3R	2.0	6	50	4	4
EHCRC44200308A	2.0	0.3R	2.0	8	50	4	4
EHCRC44200310A	2.0	0.3R	2.0	10	50	4	4
EHCRC44200312A	2.0	0.3R	2.0	12	50	4	4
EHCRC44200316A	2.0	0.3R	2.0	16	50	4	4
EHCRC44200320A	2.0	0.3R	2.0	20	50	4	4
EHCRC44200325A	2.0	0.3R	2.0	25	60	4	4
EHCRC44200506A	2.0	0.5R	2.0	6	50	4	4
EHCRC44200508A	2.0	0.5R	2.0	8	50	4	4
EHCRC44200510A	2.0	0.5R	2.0	10	50	4	4
EHCRC44200512A	2.0	0.5R	2.0	12	50	4	4
EHCRC44200516A	2.0	0.5R	2.0	16	50	4	4
EHCRC44200520A	2.0	0.5R	2.0	20	50	4	4
EHCRC44200525A	2.0	0.5R	2.0	25	60	4	4
EHCRC40200510A	2.0	0.5R	2.0	10	50	6	4
EHCRC40200515A	2.0	0.5R	2.0	15	50	6	4

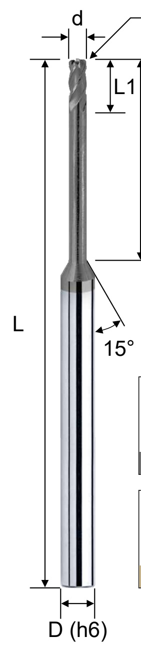
Cutting conditions：Page B251

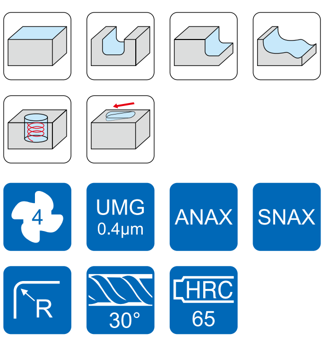
H65X - Long Neck · Corner Radius · 4F　長頸型・圓鼻銑刀・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRC

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC44250110A	2.5	0.1R	2.5	10	50	4	4
EHCRC44250116A	2.5	0.1R	2.5	16	50	4	4
EHCRC44250120A	2.5	0.1R	2.5	20	50	4	4
EHCRC44250125A	2.5	0.1R	2.5	25	60	4	4
EHCRC44250210A	2.5	0.2R	2.5	10	50	4	4
EHCRC44250216A	2.5	0.2R	2.5	16	50	4	4
EHCRC44250220A	2.5	0.2R	2.5	20	50	4	4
EHCRC44250225A	2.5	0.2R	2.5	25	60	4	4
EHCRC44250310A	2.5	0.3R	2.5	10	50	4	4
EHCRC44250316A	2.5	0.3R	2.5	16	50	4	4
EHCRC44250320A	2.5	0.3R	2.5	20	50	4	4
EHCRC44250325A	2.5	0.3R	2.5	25	60	4	4
EHCRC44250510A	2.5	0.5R	2.5	10	50	4	4
EHCRC44250516A	2.5	0.5R	2.5	16	50	4	4
EHCRC44250520A	2.5	0.5R	2.5	20	50	4	4
EHCRC44250525A	2.5	0.5R	2.5	25	60	4	4

Cutting conditions：Page B251

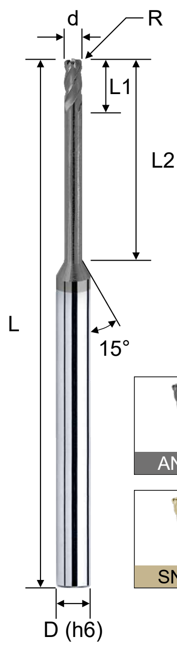
WINSTAR

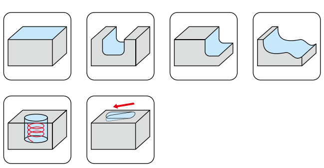
H65X - Long Neck · Corner Radius · 4F 長頸型・圓鼻銑刀・4 刃

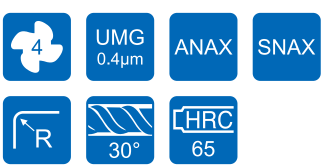
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRC

P	M	K	N	S	H
●	○	●		○	●







d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC40300110A	3.0	0.1R	3.0	10	50	6	4
EHCRC40300116A	3.0	0.1R	3.0	16	60	6	4
EHCRC40300120A	3.0	0.1R	3.0	20	60	6	4
EHCRC40300125A	3.0	0.1R	3.0	25	60	6	4
EHCRC40300130A	3.0	0.1R	3.0	30	75	6	4
EHCRC40300135A	3.0	0.1R	3.0	35	75	6	4
EHCRC40300210A	3.0	0.2R	3.0	10	50	6	4
EHCRC40300216A	3.0	0.2R	3.0	16	60	6	4
EHCRC40300220A	3.0	0.2R	3.0	20	60	6	4
EHCRC40300225A	3.0	0.2R	3.0	25	60	6	4
EHCRC40300230A	3.0	0.2R	3.0	30	75	6	4
EHCRC40300235A	3.0	0.2R	3.0	35	75	6	4
EHCRC40300310A	3.0	0.3R	3.0	10	50	6	4
EHCRC40300316A	3.0	0.3R	3.0	16	60	6	4
EHCRC40300320A	3.0	0.3R	3.0	20	60	6	4
EHCRC40300325A	3.0	0.3R	3.0	25	60	6	4
EHCRC40300330A	3.0	0.3R	3.0	30	75	6	4
EHCRC40300335A	3.0	0.3R	3.0	35	75	6	4
EHCRC40300510A	3.0	0.5R	3.0	10	50	6	4
EHCRC40300516A	3.0	0.5R	3.0	16	60	6	4
EHCRC40300520A	3.0	0.5R	3.0	20	60	6	4
EHCRC40300525A	3.0	0.5R	3.0	25	60	6	4
EHCRC40300530A	3.0	0.5R	3.0	30	75	6	4
EHCRC40300535A	3.0	0.5R	3.0	35	75	6	4
EHCRC40301010A	3.0	1.0R	3.0	10	50	6	4
EHCRC40301016A	3.0	1.0R	3.0	16	60	6	4
EHCRC40301020A	3.0	1.0R	3.0	20	60	6	4
EHCRC40301025A	3.0	1.0R	3.0	25	60	6	4
EHCRC40301030A	3.0	1.0R	3.0	30	75	6	4
EHCRC40301035A	3.0	1.0R	3.0	35	75	6	4

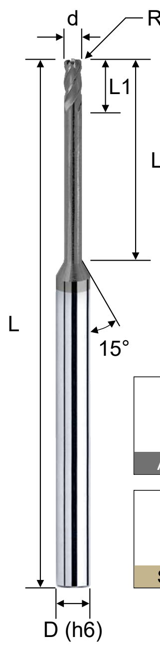
Cutting conditions : Page B251

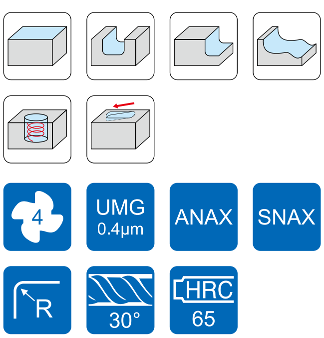
H65X - Long Neck · Corner Radius · 4F 長頸型・圓鼻銑刀・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRC

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC40400113A	4.0	0.1R	4.0	13	50	6	4
EHCRC40400116A	4.0	0.1R	4.0	16	60	6	4
EHCRC40400120A	4.0	0.1R	4.0	20	60	6	4
EHCRC40400125A	4.0	0.1R	4.0	25	60	6	4
EHCRC40400130A	4.0	0.1R	4.0	30	75	6	4
EHCRC40400135A	4.0	0.1R	4.0	35	75	6	4
EHCRC40400213A	4.0	0.2R	4.0	13	50	6	4
EHCRC40400216A	4.0	0.2R	4.0	16	60	6	4
EHCRC40400220A	4.0	0.2R	4.0	20	60	6	4
EHCRC40400225A	4.0	0.2R	4.0	25	60	6	4
EHCRC40400230A	4.0	0.2R	4.0	30	75	6	4
EHCRC40400235A	4.0	0.2R	4.0	35	75	6	4
EHCRC40400313A	4.0	0.3R	4.0	13	50	6	4
EHCRC40400316A	4.0	0.3R	4.0	16	60	6	4
EHCRC40400320A	4.0	0.3R	4.0	20	60	6	4
EHCRC40400325A	4.0	0.3R	4.0	25	60	6	4
EHCRC40400330A	4.0	0.3R	4.0	30	75	6	4
EHCRC40400335A	4.0	0.3R	4.0	35	75	6	4
EHCRC40400513A	4.0	0.5R	4.0	13	50	6	4
EHCRC40400516A	4.0	0.5R	4.0	16	60	6	4
EHCRC40400520A	4.0	0.5R	4.0	20	60	6	4
EHCRC40400525A	4.0	0.5R	4.0	25	60	6	4
EHCRC40400530A	4.0	0.5R	4.0	30	75	6	4
EHCRC40400535A	4.0	0.5R	4.0	35	75	6	4
EHCRC40401013A	4.0	1.0R	4.0	13	50	6	4
EHCRC40401016A	4.0	1.0R	4.0	16	60	6	4
EHCRC40401020A	4.0	1.0R	4.0	20	60	6	4
EHCRC40401025A	4.0	1.0R	4.0	25	60	6	4
EHCRC40401030A	4.0	1.0R	4.0	30	75	6	4
EHCRC40401035A	4.0	1.0R	4.0	35	75	6	4

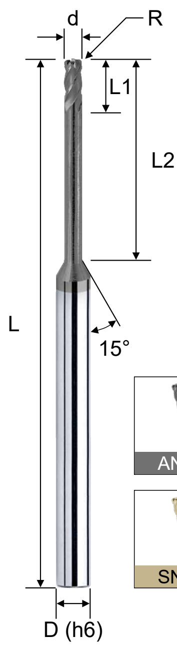
Cutting conditions：Page B251

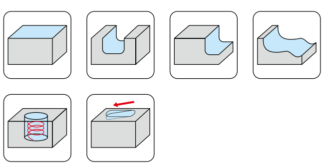
H65X - Long Neck · Corner Radius · 4F 長頸型・圓鼻銑刀・4 刃

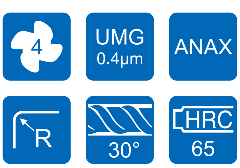
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRC

P	M	K	N	S	H
●	○	●		○	●







d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC40500116A	5.0	0.1R	5.0	16	60	6	4
EHCRC40500130A	5.0	0.1R	5.0	30	75	6	4
EHCRC40500216A	5.0	0.2R	5.0	16	60	6	4
EHCRC40500230A	5.0	0.2R	5.0	30	75	6	4
EHCRC40500316A	5.0	0.3R	5.0	16	60	6	4
EHCRC40500330A	5.0	0.3R	5.0	30	75	6	4
EHCRC40500516A	5.0	0.5R	5.0	16	60	6	4
EHCRC40500530A	5.0	0.5R	5.0	30	75	6	4
EHCRC40501016A	5.0	1.0R	5.0	16	60	6	4
EHCRC40501030A	5.0	1.0R	5.0	30	75	6	4
EHCRC40600120A	6.0	0.1R	7.0	20	60	6	4
EHCRC40600130A	6.0	0.1R	7.0	30	75	6	4
EHCRC40600220A	6.0	0.2R	7.0	20	60	6	4
EHCRC40600230A	6.0	0.2R	7.0	30	75	6	4
EHCRC40600320A	6.0	0.3R	7.0	20	60	6	4
EHCRC40600330A	6.0	0.3R	7.0	30	75	6	4
EHCRC40600520A	6.0	0.5R	7.0	20	60	6	4
EHCRC40600530A	6.0	0.5R	7.0	30	75	6	4
EHCRC40601020A	6.0	1.0R	7.0	20	60	6	4
EHCRC40601030A	6.0	1.0R	7.0	30	75	6	4
EHCRC40601520A	6.0	1.5R	7.0	20	60	6	4
EHCRC40601530A	6.0	1.5R	7.0	30	75	6	4
EHCRC40800522A	8.0	0.5R	9.0	22	60	8	4
EHCRC40801022A	8.0	1.0R	9.0	22	60	8	4
EHCRC40801522A	8.0	1.5R	9.0	22	60	8	4
EHCRC40802022A	8.0	2.0R	9.0	22	60	8	4
EHCRC41000524A	10.0	0.5R	11.0	24	75	10	4
EHCRC41001024A	10.0	1.0R	11.0	24	75	10	4
EHCRC41001524A	10.0	1.5R	11.0	24	75	10	4
EHCRC41002024A	10.0	2.0R	11.0	24	75	10	4
EHCRC41200526A	12.0	0.5R	13.0	26	75	12	4
EHCRC41201026A	12.0	1.0R	13.0	26	75	12	4
EHCRC41201526A	12.0	1.5R	13.0	26	75	12	4
EHCRC41202026A	12.0	2.0R	13.0	26	75	12	4

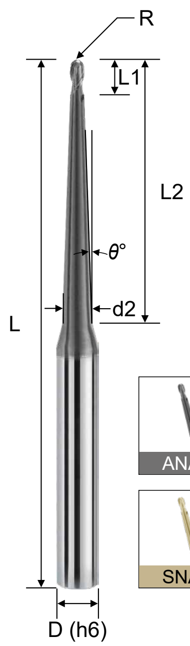
Cutting conditions：Page B251

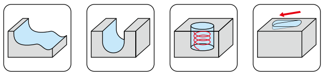
H65X - Taper Neck · Ball Nose · 2F 斜頸型・球型銑刀・2 刃

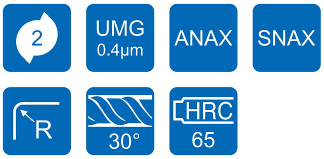
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- High strength of taper neck, can cut deep grooves without breaking.
- Suitable for cutting groves at high speed.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHBRT

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No. 訂購編碼	Radius (R)	Dia. (d)	θ°	CL (L1)	EFF-L (L2)	NL (d2)	OAL (L)	Shank (D)	Flutes (Z)
EHBRT201023AA	0.5R	1	1.5°	2	23	2.20	60	6	2
EHBRT202023AA	1.0R	2	1.5°	4	23	3.00	60	6	2
EHBRT2020423A	1.0R	2	3.0°	4	42	5.98	100	8	2
EHBRT203052AA	1.5R	3	1.5°	6	52	5.40	100	6	2
EHBRT2030473A	1.5R	3	3.0°	6	47	7.29	100	8	2
EHBRT204046AA	2.0R	4	1.5°	8	46	6.00	100	6	2
EHBRT2040383A	2.0R	4	3.0°	8	38	7.14	100	8	2
EHBRT2050283A	2.5R	5	3.0°	10	28	6.88	100	8	2
EHBRT2060383A	3.0R	6	3.0°	12	38	8.72	100	10	2
EHBRT2080383A	4.0R	8	3.0°	16	38	10.30	100	12	2
EHBRT2100573A	5.0R	10	3.0°	20	57	13.88	100	16	2
EHBRT2120383A	6.0R	12	3.0°	24	38	13.47	100	16	2

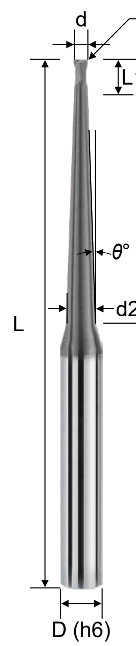
Cutting conditions：Page B242

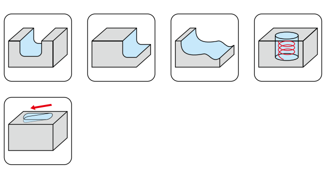
H65X - Taper Neck · Corner Radius · 2F　斜頸型・圓鼻銑刀・2 刃

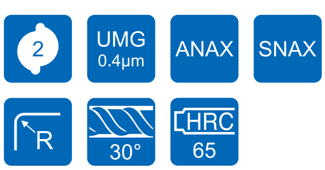
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Various tape angle makes it suitable for different applications.
- Small corner radius applied protect chipping of cutting edges, high strength of taper neck, can cut deep grooves without breaking.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

EHCRT

P	M	K	N	S	H
●	○	●		○	●







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

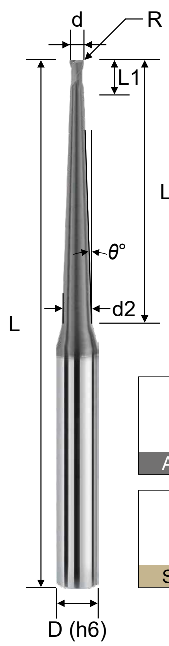
Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	θ°	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRT20100120HA	1.0	0.10R	0.5°	2.0	20	60	6	2
EHCRT201001201A	1.0	0.10R	1.0°	2.0	20	60	6	2
EHCRT20100120AA	1.0	0.10R	1.5°	2.0	20	60	6	2
EHCRT201201230HA2C	1.2	0.12R	0.5°	2.0	30	75	6	2
EHCRT2012012301A2C	1.2	0.12R	1.0°	2.0	30	75	6	2
EHCRT201201230AA2C	1.2	0.12R	1.5°	2.0	30	75	6	2
EHCRT201501530HA2C	1.5	0.15R	0.5°	2.0	30	75	6	2
EHCRT2015015301A2C	1.5	0.15R	1.0°	2.0	30	75	6	2
EHCRT201501530AA2C	1.5	0.15R	1.5°	2.0	30	75	6	2
EHCRT201801830HA2C	1.8	0.18R	0.5°	2.0	30	75	6	2
EHCRT2018018301A2C	1.8	0.18R	1.0°	2.0	30	75	6	2
EHCRT201801830AA2C	1.8	0.18R	1.5°	2.0	30	75	6	2
EHCRT20200225AA	2.0	0.20R	1.5°	3.0	25	75	6	2
EHCRT20200239AA	2.0	0.20R	1.5°	3.0	39	75	6	2
EHCRT20200525AA	2.0	0.50R	1.5°	3.0	25	75	6	2
EHCRT20200539AA	2.0	0.50R	1.5°	3.0	39	75	6	2
EHCRT20200550AA	2.0	0.50R	1.5°	3.0	50	100	6	2
EHCRT20200535HA4C	2.0	0.50R	0.5°	4.0	35	75	6	2
EHCRT202005351A4C	2.0	0.50R	1.0°	4.0	35	75	6	2
EHCRT20200535AA4C	2.0	0.50R	1.5°	4.0	35	75	6	2
EHCRT20250535HA5C	2.5	0.50R	0.5°	5.0	35	75	6	2
EHCRT202505351A5C	2.5	0.50R	1.0°	5.0	35	75	6	2
EHCRT20250535AA5C	2.5	0.50R	1.5°	5.0	35	75	6	2
EHCRT20251035HA5C	2.5	1.00R	0.5°	5.0	35	75	6	2
EHCRT202510351A5C	2.5	1.00R	1.0°	5.0	35	75	6	2
EHCRT20251035AA5C	2.5	1.00R	1.5°	5.0	35	75	6	2

H65X - Taper Neck · Corner Radius · 2F   斜頸型・圓鼻銑刀・2 刃

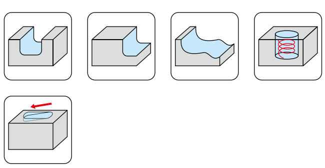
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance, for HRC < 55.
- Various tape angle makes it suitable for different applications.
- Small corner radius applied protect chipping of cutting edges, high strength of taper neck, can cut deep grooves without breaking.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N), for HRC ≥ 55.

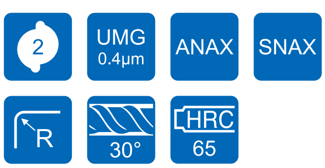
EHCRT

P	M	K	N	S	H
●	○	●		○	●



Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	θ°	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRT20300525AA	3.0	0.50R	1.5°	4.5	25	75	6	2
EHCRT20301025AA	3.0	1.00R	1.5°	4.5	25	75	6	2
EHCRT20301039AA	3.0	1.00R	1.5°	4.5	39	75	6	2
EHCRT20301050AA	3.0	1.00R	1.5°	4.5	50	100	6	2
EHCRT20300535HA5C	3.0	0.50R	0.5°	5.0	35	75	6	2
EHCRT203005351A5C	3.0	0.50R	1.0°	5.0	35	75	6	2
EHCRT20300535AA5C	3.0	0.50R	1.5°	5.0	35	75	6	2
EHCRT20301035HA5C	3.0	1.00R	0.5°	5.0	35	75	6	2
EHCRT203010351A5C	3.0	1.00R	1.0°	5.0	35	75	6	2
EHCRT20301035AA5C	3.0	1.00R	1.5°	5.0	35	75	6	2
EHCRT20350535HA	3.5	0.50R	0.5°	5.0	35	75	6	2
EHCRT203505351A	3.5	0.50R	1.0°	5.0	35	75	6	2
EHCRT20350535AA	3.5	0.50R	1.5°	5.0	35	75	6	2
EHCRT20351035HA	3.5	1.00R	0.5°	5.0	35	75	6	2
EHCRT203510351A	3.5	1.00R	1.0°	5.0	35	75	6	2
EHCRT20351035AA	3.5	1.00R	1.5°	5.0	35	75	6	2
EHCRT20400545HA	4.0	0.50R	0.5°	6.0	45	100	6	2
EHCRT204005451A	4.0	0.50R	1.0°	6.0	45	100	6	2
EHCRT20400525AA	4.0	0.50R	1.5°	6.0	25	75	6	2
EHCRT20400545AA	4.0	0.50R	1.5°	6.0	45	100	6	2
EHCRT20401045HA	4.0	1.00R	0.5°	6.0	45	100	6	2
EHCRT204010451A	4.0	1.00R	1.0°	6.0	45	100	6	2
EHCRT20401025AA	4.0	1.00R	1.5°	6.0	25	75	6	2
EHCRT20401045AA	4.0	1.00R	1.5°	6.0	45	100	6	2
EHCRT20501025AA	5.0	1.00R	1.5°	7.5	25	75	6	2
EHCRT20501050AA	5.0	1.00R	1.5°	7.5	50	100	8	2
EHCRT20601035AA	6.0	1.00R	1.5°	9.0	35	75	8	2
EHCRT20601050AA	6.0	1.00R	1.5°	9.0	50	100	10	2





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

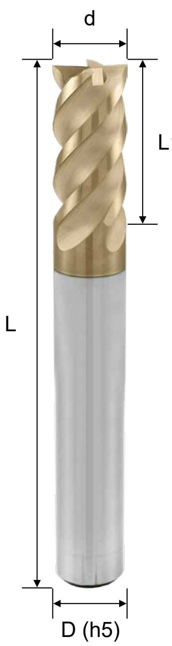
Solid Carbide Endmills

H68X - Square · High Precision · Standard · 4F 平銑刀・高精標準型・4 刃

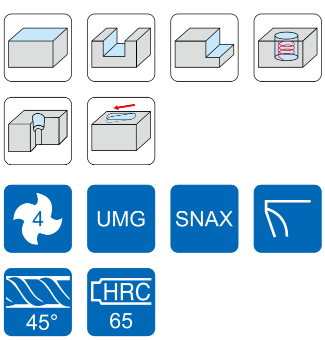
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- Special geometry design, suitable for high hardened working materials.

EHSSF

P	M	K	N	S	H
●	○	●		○	●



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHSSF441000S	1.0	3	50	4	4
EHSSF441500S	1.5	4	50	4	4
EHSSF442000S	2.0	5	50	4	4
EHSSF442500S	2.5	6	50	4	4
EHSSF403000S	3.0	8	50	6	4
EHSSF404000S	4.0	10	50	6	4
EHSSF405000S	5.0	13	50	6	4
EHSSF406000S	6.0	15	50	6	4
EHSSF408000S	8.0	20	60	8	4
EHSSF410000S	10.0	25	75	10	4
EHSSF412000S	12.0	30	75	12	4



d Tolerance	
d ≤ 6	0 ~ -0.01
d > 6	0 ~ -0.02

Cutting conditions : Page B252

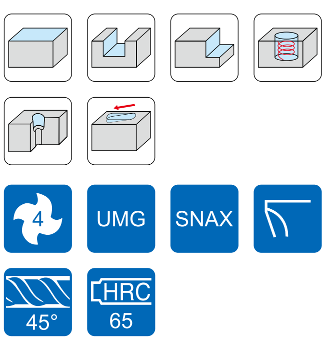
H68X - Square · High Precision · Long Shank · 4F　平銑刀・高精長柄型・4 刃

- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- Special geometry design, suitable for high hardened working materials.

EHSLF

P	M	K	N	S	H
●	○	●		○	●

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
Helix angle : 45°					
EHSLF404007S	4	10	75	6	4
EHSLF406007S	6	15	75	6	4
EHSLF406010S	6	15	100	6	4
EHSLF408007S	8	20	75	8	4
EHSLF408010S	8	20	100	8	4
EHSLF410010S	10	25	100	10	4
EHSLF412010S	12	30	100	12	4
Helix angle : 50°					
EHSMF606000S	6	15	50	6	6
EHSMF608000S	8	20	60	8	6
EHSMF610000S	10	25	75	10	6
EHSMF612000S	12	30	75	12	6
EHSMF816000S	16	40	100	16	8



d Tolerance	
d ≤ 6	0 ~ -0.02
d > 6	0 ~ -0.03

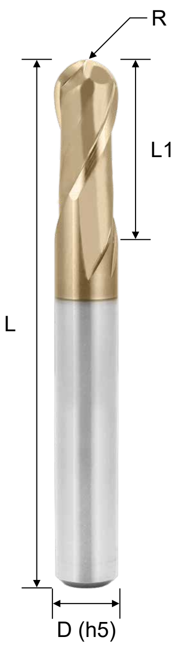
Cutting conditions : Page B252

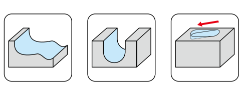
H68X - Ball Nose · High Precision · Standard · 2F 球型銑刀・高精標準型・2 刃

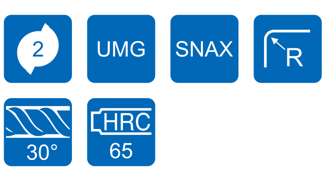
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- R tolerance ±5μm with high precision and high performance on Finishing working situation.
- Special geometry design, suitable for high hardened working materials.

EHBSF

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.005
R > 3	±0.007

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHBSF241000S	0.5R	1	2	50	4	2
EHBSF242000S	1.0R	2	4	50	4	2
EHBSF244000S	2.0R	4	8	50	4	2
EHBSF203000S	1.5R	3	6	50	6	2
EHBSF204000S	2.0R	4	8	50	6	2
EHBSF206000S	3.0R	6	12	50	6	2
EHBSF208000S	4.0R	8	16	60	8	2
EHBSF210000S	5.0R	10	20	75	10	2
EHBSF212000S	6.0R	12	24	75	12	2

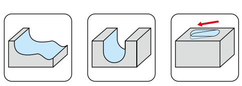
Cutting conditions : Page B253

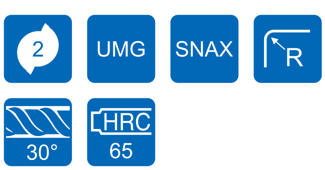
H68X - Ball Nose · High Precision · Long Shank · 2F 球型銑刀・高精長柄型・2 刃

- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- R tolerance ±5μm with high precision and high performance on Finishing working situation.
- Special geometry design, suitable for high hardened working materials.

EHBLF

P	M	K	N	S	H
●	○	●		○	●





R Tolerance	
R ≤ 3	±0.007
R > 3	±0.010

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHBLF204007S	2R	4	8	75	6	2
EHBLF206007S	3R	6	12	75	6	2
EHBLF206010S	3R	6	12	100	6	2
EHBLF208007S	4R	8	16	75	8	2
EHBLF208010S	4R	8	16	100	8	2
EHBLF210010S	5R	10	20	100	10	2
EHBLF212010S	6R	12	24	100	12	2

Cutting conditions：Page B253

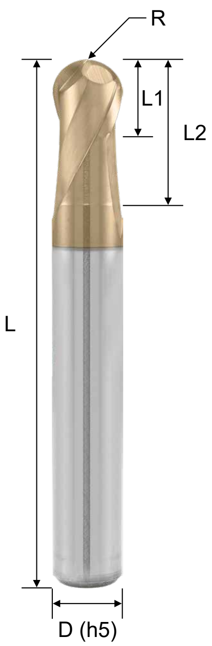
H68X - Ball Nose · High Precision · Short with Neck · 2F 球型銑刀・高精短刃型・2 刃

- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear and heat resistance.
- Special SR geometry design with wear resistance, good chip discharge and high rigidity.
- For hardened materials milling from HRC 40 to HRC 60.
- High-efficiency for roughing and high feed finishing.

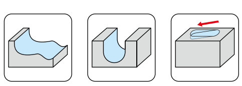
H680 Pro

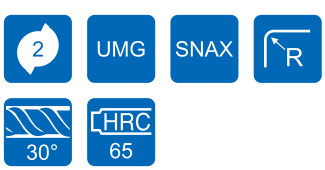
EHBUF

P	M	K	N	S	H
●	○	●		○	●



Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHBUF240200PS	0.10R	0.2	0.2	0.2	50	4	2
EHBUF240400PS	0.20R	0.4	0.4	0.4	50	4	2
EHBUF240600PS	0.30R	0.6	0.6	0.6	50	4	2
EHBUF240800PS	0.40R	0.8	0.8	0.8	50	4	2
EHBUF241000PS	0.50R	1.0	1.0	1.0	50	4	2
EHBUF241500PS	0.75R	1.5	1.5	1.5	50	4	2
EHBUF242000PS	1.00R	2.0	2.0	2.0	50	4	2
EHBUF202000PS	1.00R	2.0	2.0	2.0	50	6	2
EHBUF243000PS	1.50R	3.0	3.0	3.0	50	4	2
EHBUF203000PS	1.50R	3.0	3.0	3.0	50	6	2
EHBUF244000PS	2.00R	4.0	4.0	4.0	50	4	2
EHBUF204000PS	2.00R	4.0	4.0	4.0	50	6	2
EHBUF241001PS	0.50R	1.0	1.0	2	50	4	2
EHBUF241501PS	0.75R	1.5	1.5	3	50	4	2
EHBUF242001PS	1.00R	2.0	2.0	4	50	4	2
EHBUF243001PS	1.50R	3.0	3.0	6	50	4	2
EHBUF244001PS	2.00R	4.0	4.0	8	50	4	2
EHBUF206001PS	3.00R	6.0	6.0	12	50	6	2
EHBUF208001PS	4.00R	8.0	8.0	16	60	8	2
EHBUF210001PS	5.00R	10.0	10.0	20	75	10	2
EHBUF212001PS	6.00R	12.0	12.0	24	75	12	2





R Tolerance	
R ≤ 3	±0.005
R > 3	±0.007

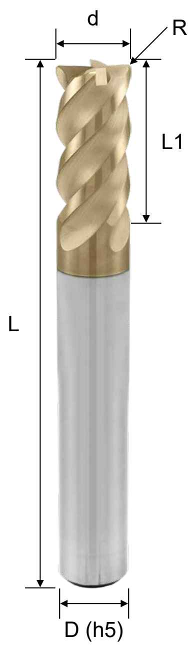
Cutting conditions：Page B253

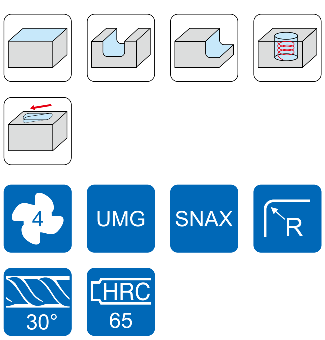
H68X - Corner Radius · High Precision · Standard · 4F 圓鼻銑刀 · 高精標準型 · 4 刃

- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- Special geometry design, suitable for high hardened working materials.

EHCSF

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 6	0 ~ -0.01
d > 6	0 ~ -0.02

R Tolerance	
R < 2	±0.010
R ≥ 2	±0.015

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHCSF441001S	1.0	0.1R	2	50	4	4
EHCSF441002S	1.0	0.2R	2	50	4	4
EHCSF441501S	1.5	0.1R	3	50	4	4
EHCSF441502S	1.5	0.2R	3	50	4	4
EHCSF442001S	2.0	0.1R	4	50	4	4
EHCSF442002S	2.0	0.2R	4	50	4	4
EHCSF442005S	2.0	0.5R	4	50	4	4
EHCSF443002S	3.0	0.2R	6	50	4	4
EHCSF443005S	3.0	0.5R	6	50	4	4
EHCSF403005S	3.0	0.5R	6	50	6	4
EHCSF444002S	4.0	0.2R	8	50	4	4
EHCSF444005S	4.0	0.5R	8	50	4	4
EHCSF404005S	4.0	0.5R	8	50	6	4
EHCSF404010S	4.0	1.0R	8	50	6	4
EHCSF406005S	6.0	0.5R	12	50	6	4
EHCSF406010S	6.0	1.0R	12	50	6	4
EHCSF406002S	6.0	0.2R	12	50	6	4
EHCSF406003S	6.0	0.3R	12	50	6	4
EHCSF408005S	8.0	0.5R	16	60	8	4
EHCSF408010S	8.0	1.0R	16	60	8	4
EHCSF410005S	10.0	0.5R	20	75	10	4
EHCSF410010S	10.0	1.0R	20	75	10	4
EHCSF412005S	12.0	0.5R	24	75	12	4
EHCSF412010S	12.0	1.0R	24	75	12	4

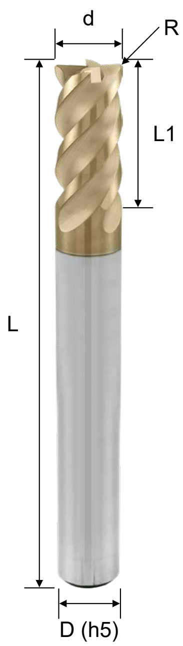
Cutting conditions : Page B252

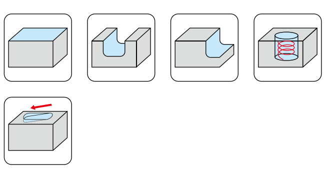
H68X - Corner Radius · High Precision · Long Shank · 4F 圓鼻銑刀・高精長柄型・4 刃

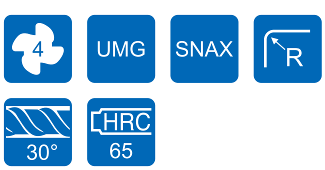
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- Special geometry design, suitable for high hardened working materials.

EHCLF

P	M	K	N	S	H
●	○	●		○	●







d Tolerance	
d ≤ 6	0 ~ -0.02
d > 6	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHCLF40400507S	4	0.5R	8	75	6	4
EHCLF40600507S	6	0.5R	12	75	6	4
EHCLF40600510S	6	0.5R	12	100	6	4
EHCLF40800507S	8	0.5R	16	75	8	4
EHCLF40800510S	8	0.5R	16	100	8	4
EHCLF41000510S	10	0.5R	20	100	10	4
EHCLF41200510S	12	0.5R	24	100	12	4

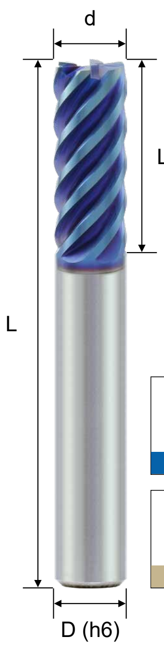
Cutting conditions : Page B252

H70X - Square · High Helix · 6F / 8F　　平銑刀・高導型・6 刃 / 8 刃

- Naco Blue provides a superior wear and heat resistance.
- Suitable for HRC 50 Hardened Steel, maximum up to HRC 65.
- Horsepower consumption will be decreased with greater shearing action.
- High Helix and 6 Flutes design gives a good finishing surface.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.

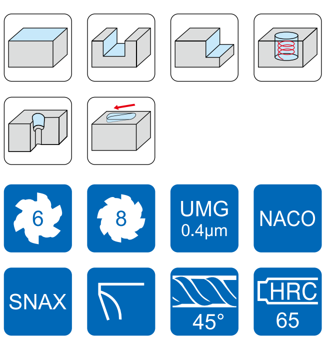
EHSSS

P	M	K	N	S	H
●	○	●		○	●




NACO


SNAX



d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHSSS606000N	6	15	50	6	6
EHSSS608000N	8	20	60	8	6
EHSSS610000N	10	25	75	10	6
EHSSS612000N	12	30	75	12	6
EHSSS816000S	16	40	100	16	8
EHSSS818000S	18	40	100	18	8
EHSSS820000S	20	45	100	20	8
EHSSS825000S	25	45	100	25	8

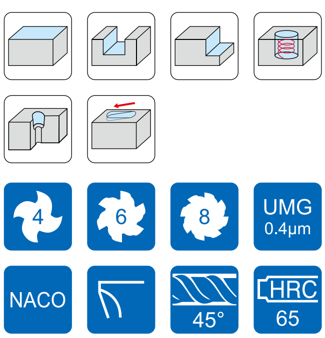
Cutting conditions：Page B253

H70X - Square · High Helix · Short Flute · 4F / 6F / 8F 平銑刀 · 高導短刃型 · 4 刃 / 6 刃 / 8 刃

- Naco Blue provides a superior wear and heat resistance.
- Suitable for HRC 50 Hardened Steel, maximum up to HRC 65.
- Greater shearing action results in increased speeds and feeds and faster stock removal.
- Prevents clogging of the flutes.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.

EHSUS

P	M	K	N	S	H
●	○	●		○	●



d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHSUS441000N	1	1.5	2.5	50	4	4
EHSUS442000N	2	3.0	5.0	50	4	4
EHSUS403000N	3	4.5	7.5	50	6	4
EHSUS404000N	4	6.0	10.0	50	6	4
EHSUS405000N	5	7.5	12.5	50	6	4
EHSUS606000N	6	9.0	15.0	50	6	6
EHSUS608000N	8	12.0	20.0	60	8	6
EHSUS610000N	10	15.0	25.0	75	10	6
EHSUS612000N	12	18.0	30.0	75	12	6
EHSUS816000S	16	24.0	40.0	100	16	8
EHSUS820000S	20	30.0	50.0	100	20	8
EHSSH441000N	1	3	-	50	4	4
EHSSH441500N	1.5	4	-	50	4	4
EHSSH442000N	2	5	-	50	4	4
EHSSH442500N	2.5	6	-	50	4	4
EHSSH443000N	3	8	-	50	4	4
EHSSH444000N	4	10	-	50	4	4

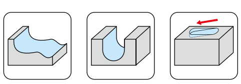
Cutting conditions : Page B254

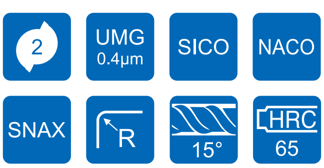
H70X - Ball Nose · Low Helix · Short Flute · 2F 球型銑刀・低導短刃型・2 刃

- Naco Blue provides a superior wear and heat resistance.
- Suitable for HRC 50 Hardened Steel, maximum up to HRC 65.
- Due to short cutting length it provides an excellent surface roughness of the work pieces.
- Low helix design is suitable for hardened steel cutting.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.

EHBUS

P	M	K	N	S	H
●	○	●		○	●





R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHBUS241000N	0.50R	1.0	1.0	2	50	4	2
EHBUS241500N	0.75R	1.5	1.5	3	50	4	2
EHBUS202000N	1.00R	2.0	2.0	4	50	6	2
EHBUS203000N	1.50R	3.0	3.0	6	50	6	2
EHBUS204000N	2.00R	4.0	4.0	8	50	6	2
EHBUS205000N	2.50R	5.0	5.0	10	50	6	2
EHBUS206000N	3.00R	6.0	6.0	12	50	6	2
EHBUS208000N	4.00R	8.0	8.0	16	60	8	2
EHBUS210000N	5.00R	10.0	10.0	20	75	10	2
EHBUS212000N	6.00R	12.0	12.0	24	75	12	2
EHBUS216000N	8.00R	16.0	16.0	32	100	16	2

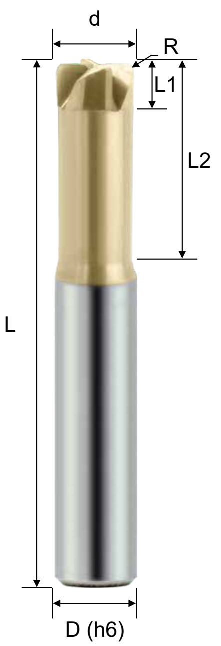
Cutting conditions：Page B254

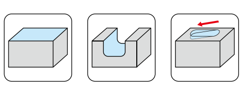
H70X - Corner Radius · High Feed · Short Flute · 4F 圓鼻銑刀・高進給直短刃型・4 刃

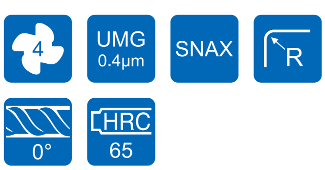
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear and heat resistance.
- Suitable for HRC 50 Hardened Steel, maximum up to HRC 65.
- Cutting edges are very strong and wear resistant.
- For High speed and high feed cutting.

EHCUK

P	M	K	N	S	H
●	○	●		○	●







d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	RADIUS (R)	Flute Length (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCUK40200506S	2	0.5R	1.0	6	50	6	4
EHCUK40300508S	3	0.5R	1.5	8	50	6	4
EHCUK40400512S	4	0.5R	2.0	12	60	6	4
EHCUK40400516S	4	0.5R	2.0	16	60	6	4
EHCUK40401012S	4	1.0R	2.0	12	60	6	4
EHCUK40401016S	4	1.0R	2.0	16	60	6	4
EHCUK40600512S	6	0.5R	3.0	12	60	6	4
EHCUK40600515S	6	0.5R	3.0	15	60	6	4
EHCUK40601015S	6	1.0R	3.0	15	60	6	4
EHCUK40601515S	6	1.5R	3.0	15	60	6	4
EHCUK40800520S	8	0.5R	4.0	20	60	8	4
EHCUK40801020S	8	1.0R	4.0	20	60	8	4
EHCUK41000525S	10	0.5R	5.0	25	75	10	4
EHCUK41001025S	10	1.0R	5.0	25	75	10	4
EHCUK41201030S	12	1.0R	6.0	30	75	12	4
EHCUK41202030S	12	2.0R	6.0	30	75	12	4

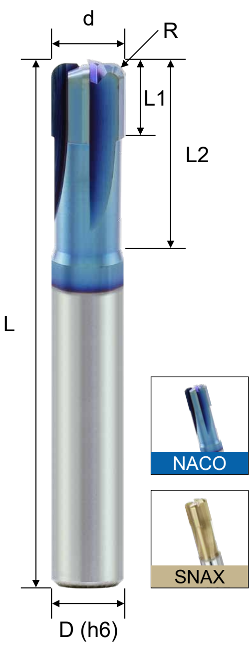
Cutting conditions：Page B255

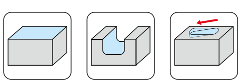
H70X - Corner Radius · High Feed · 4F 圓鼻銑刀・高進給直刃型・4 刃

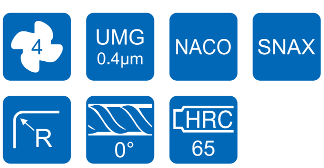
- Naco Blue provides a superior wear and heat resistance.
- Suitable for HRC 50 Hardened Steel, maximum up to HRC 65.
- Non-Helix Design.
- Cutting edges are very strong and wear resistant.
- The coating can change to SNAX smooth coating (Al, Ti, Si, Cr, N) is optional.

EHCUS

P	M	K	N	S	H
●	○	●		○	●







d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

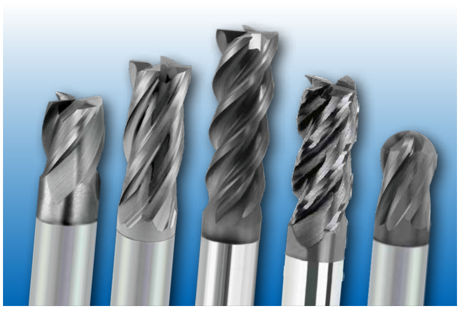
R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCUS441002N	1	0.20R	1	2.5	50	4	4
EHCUS442002N	2	0.25R	2	6.5	50	4	4
EHCUS403005N	3	0.50R	3	7.5	50	6	4
EHCUS404005N	4	0.50R	4	10.0	50	6	4
EHCUS404010N	4	1.00R	4	10.0	50	6	4
EHCUS405010N	5	1.00R	5	12.5	50	6	4
EHCUS406010N	6	1.00R	6	15.0	50	6	4
EHCUS406015N	6	1.50R	6	15.0	50	6	4
EHCUS408010N	8	1.00R	8	20.0	60	8	4
EHCUS408015N	8	1.50R	8	20.0	60	8	4
EHCUS408020N	8	2.00R	8	20.0	60	8	4
EHCUS410010N	10	1.00R	10	25.0	75	10	4
EHCUS410020N	10	2.00R	10	25.0	75	10	4
EHCUS412010N	12	1.00R	12	30.0	75	12	4
EHCUS412020N	12	2.00R	12	30.0	75	12	4
EHCUS412030N	12	3.00R	12	30.0	75	12	4

Cutting conditions : Page B255

For Exotic Material Series Introduction 不鏽鋼及高溫合金用銑刀系列介紹

M50X Series

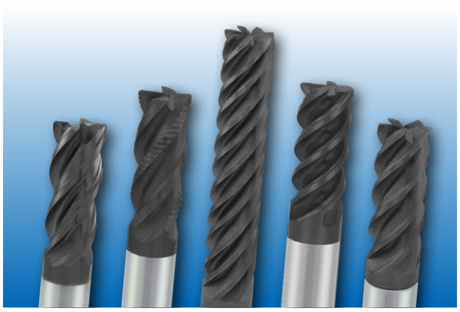


- For stainless steel & alloy steel.
- General cutting.
- High rigidity design.
- ANAX smooth coating.

- 適用於不鏽鋼及合金鋼
- 一般泛用加工
- 高剛性設計
- 含鉻平滑塗層

→ Page B145

V47X Series

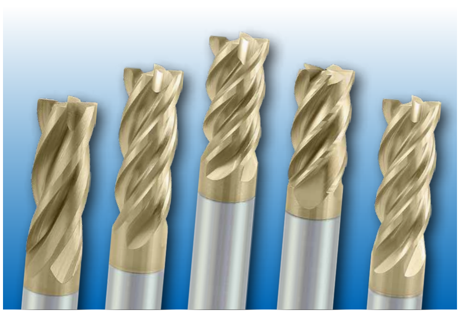


- For stainless steel, high temperature alloy & alloy steel.
- High efficiency cutting.
- Unequal flute spacing for anti-vibration.
- ANAX smooth coating.

- 適用於不鏽鋼，高溫合金及合金鋼
- 高效益、高去除率加工
- 抗震不等分割刃設計
- 含鉻平滑塗層

→ Page B156

V53X Series



- For stainless steel & high temperature alloy.
- High efficiency cutting.
- Unequal flute and variable helix for anti-vibration.
- SNAX smooth coating.

- 適用於不鏽鋼及高溫合金
- 高效益、高去除率加工
- 抗震不等分割刃與不等螺旋設計
- 含矽平滑塗層

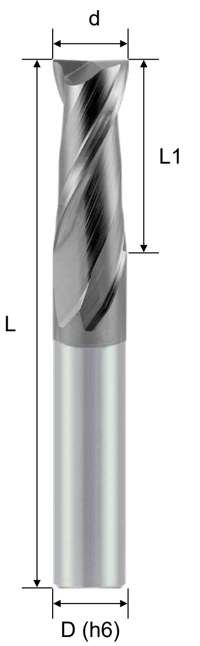
→ Page B167

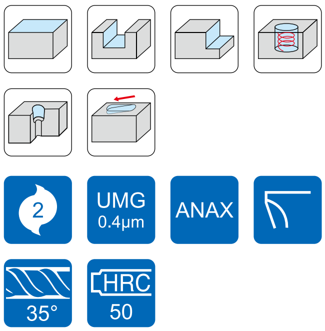
M50X - Square · Standard · 2F 平銑刀・標準型・2 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance.
- For Stainless Steel, Alloy Steel & Mold Steel... etc.
- Edge treatment and vibration reduction at high speed machining.

ESSSA

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESSSA240500A	0.5	1	50	4	2
ESSSA240800A	0.8	2	50	4	2
ESSSA241000A	1	3	50	4	2
ESSSA242000A	2	5	50	4	2
ESSSA243000A	3	8	50	4	2
ESSSA244000A	4	10	50	4	2
ESSSA204000A	4	10	50	6	2
ESSSA205000A	5	13	50	6	2
ESSSA206000A	6	15	50	6	2
ESSSA208000A	8	20	60	8	2
ESSSA210000A	10	25	75	10	2
ESSSA212000A	12	30	75	12	2
ESSSA214000A	14	30	75	14	2
ESSSA216000A	16	35	100	16	2

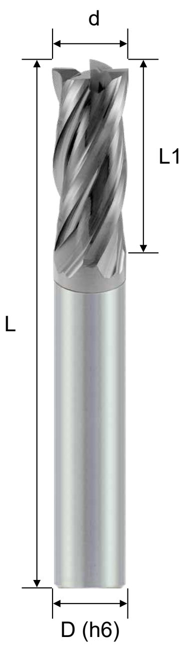
Cutting conditions：Page B256

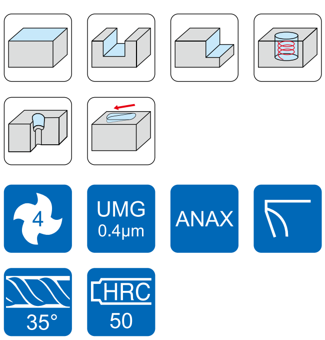
M50X - Square · Standard · 4F 平銑刀・標準型・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance.
- For Stainless Steel, Alloy Steel & Mold Steel... etc.
- Edge treatment and vibration reduction at high speed machining.

ESSSA

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESSSA441000A	1	3	50	4	4
ESSSA441500A	1.5	4	50	4	4
ESSSA442000A	2	5	50	4	4
ESSSA442500A	2.5	6	50	4	4
ESSSA443000A	3	8	50	4	4
ESSSA443500A	3.5	9	50	4	4
ESSSA444000A	4	10	50	4	4
ESSSA404000A	4	10	50	6	4
ESSSA405000A	5	13	50	6	4
ESSSA406000A	6	15	50	6	4
ESSSA408000A	8	20	60	8	4
ESSSA410000A	10	25	75	10	4
ESSSA412000A	12	30	75	12	4
ESSSA414000A	14	30	75	14	4
ESSSA416000A	16	35	100	16	4

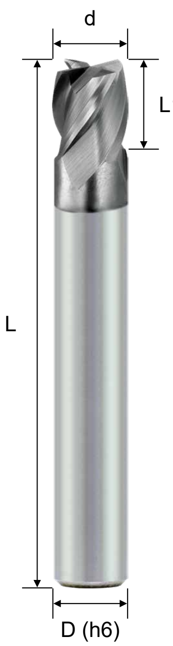
Cutting conditions：Page B256

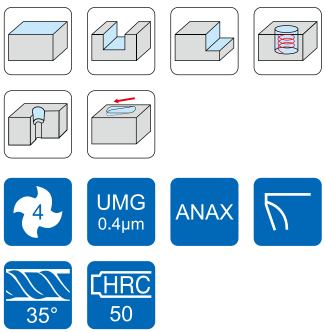
M50X - Square · Short Flute · 4F 平銑刀・短刃型・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance.
- For Stainless Steel, Alloy Steel & Mold Steel... etc.
- Edge treatment and vibration reduction at high speed machining.

ESSHA

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESSHA443000A	3	3	50	4	4
ESSHA444000A	4	4	50	4	4
ESSHA404000A	4	4	50	6	4
ESSHA405000A	5	5	50	6	4
ESSHA406000A	6	7	50	6	4
ESSHA408000A	8	9	60	8	4
ESSHA410000A	10	11	75	10	4
ESSHA412000A	12	13	75	12	4
ESSHA414000A	14	15	75	14	4
ESSHA416000A	16	17	100	16	4

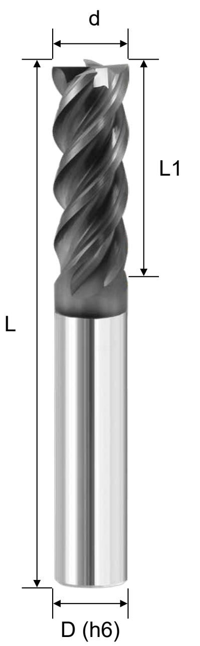
Cutting conditions : Page B256

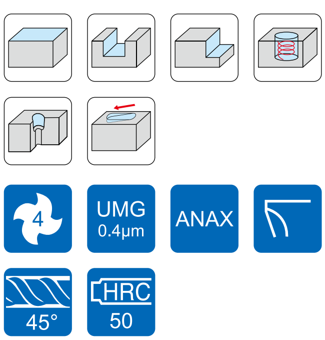
M50X - Square · High Helix · 4F 平銑刀・高導高效能 型・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance.
- U-flute design with high chips volume space and easy to remove chips.
- For Stainless Steel, Pre-Hardened steel, Alloy Steel & Mold Steel... etc.
- UMG carbide grade is suitable for cutting difficult materials.

ESSSB

P	M	K	N	S	H
●	●	●		●	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESSSB441000A	1	3	50	4	4
ESSSB442000A	2	5	50	4	4
ESSSB443000A	3	8	50	4	4
ESSSB444000A	4	10	50	4	4
ESSSB404000A	4	10	50	6	4
ESSSB405000A	5	13	50	6	4
ESSSB406000A	6	15	50	6	4
ESSSB408000A	8	20	60	8	4
ESSSB410000A	10	25	75	10	4
ESSSB412000A	12	30	75	12	4
ESSSB416000A	16	35	100	16	4

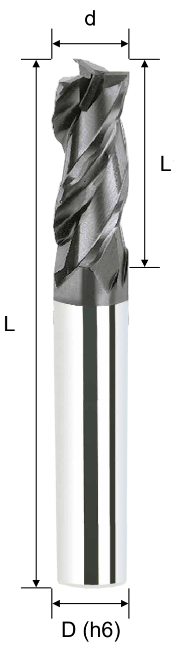
Cutting conditions : Page B257

M50X - Square · Wave Edge · 3F　平銑刀・波浪型・3 刃

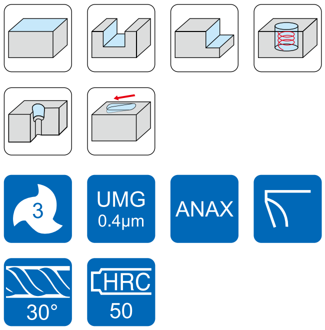
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance.
- For Stainless Steel, Pre-Hardened steel, Alloy Steel & Mold Steel... etc.
- Incredible toughness and vibration reduction at high speeds.
- UMG carbide grade is suitable for cutting difficult materials.
- Wave type increases the performance.

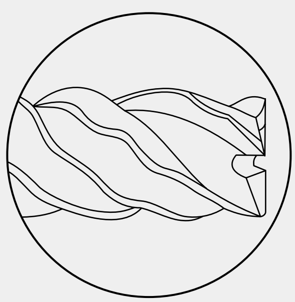
ESSSW

P	M	K	N	S	H
●	●	●		●	○



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESSSW306000A	6	15	50	6	3
ESSSW308000A	8	20	60	8	3
ESSSW310000A	10	25	75	10	3
ESSSW312000A	12	30	75	12	3
ESSSW316000A	16	40	100	16	3
ESSSW320000A	20	45	100	20	3





Cutting conditions：Page B257

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

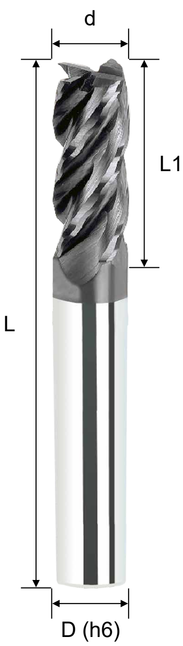
WINSTAR

M50X - Square · Wave Edge · 4F 平銑刀・波浪型・4 刃

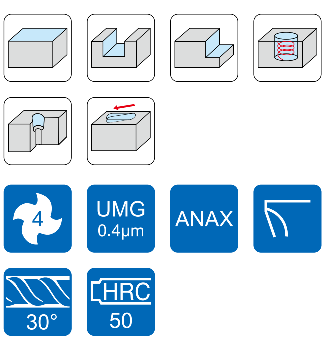
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance.
- For Stainless Steel, Pre-Hardened steel, Alloy Steel & Mold Steel... etc.
- Incredible toughness and vibration reduction at high speeds.
- UMG carbide grade is suitable for cutting difficult materials.
- Wave type increases the performance.

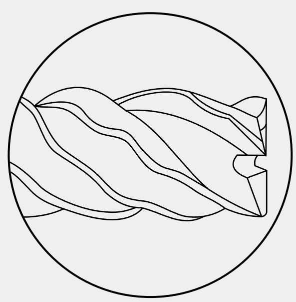
ESSSW

P	M	K	N	S	H
●	●	●		●	○



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESSSW406000A	6	15	50	6	4
ESSSW408000A	8	20	60	8	4
ESSSW410000A	10	25	75	10	4
ESSSW412000A	12	30	75	12	4
ESSSW416000A	16	40	100	16	4
ESSSW420000A	20	45	100	20	4





Cutting conditions : Page B257

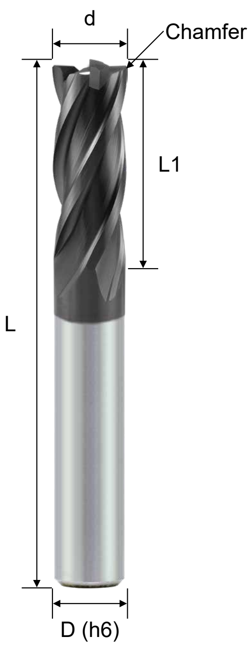
d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

M50X - Square · Chamfer · High Feed · 4F　平銑刀・高進給倒角型・4 刃

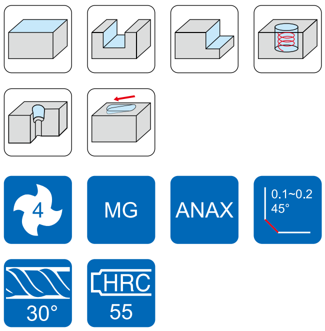
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance.
- Honing & chamfering at the cutting edge geometries for high feed milling.
- Outstanding results for HRC 30 to HRC 55 steel, such as Alloy steel,cast Iron ...etc.
- Achieve long tool life, perfect surfaces and considerable reduction of machining time.

ESSSU

P	M	K	N	S	H
●	●	●		●	○



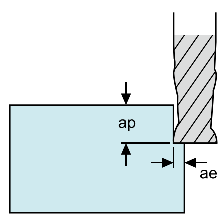
Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Chamfer	Flutes (Z)
ESSSU403000A	3	8	50	6	0.10	4
ESSSU404000A	4	10	50	6	0.10	4
ESSSU405000A	5	13	50	6	0.15	4
ESSSU406000A	6	15	50	6	0.15	4
ESSSU408000A	8	20	60	8	0.15	4
ESSSU410000A	10	25	75	10	0.20	4
ESSSU412000A	12	30	75	12	0.20	4
ESSSU416000A	16	35	100	16	0.20	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Feed recommend table

Dia (d) (mm)	fz (mm/z)
4	0.006 ~ 0.1
6	0.009 ~ 0.15
10	0.15 ~ 0.25



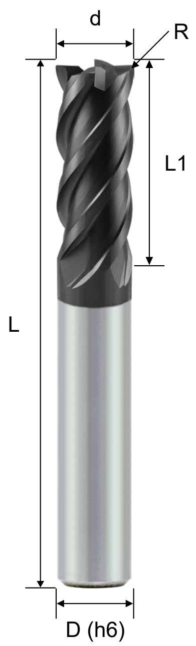
ap = 1.5d　ae = 0.1d

M50X - Square · Radius · High Feed · 4F 平銑刀・高進給圓角型・4 刃

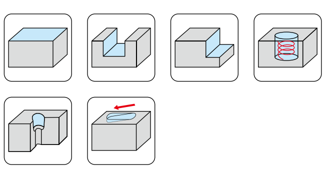
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance.
- With "Small positive" rake angle and small corner radius geometries for high feed cutting.
- Outstanding results and tool life for 2-D and 3-D machining of HRC 30 to HRC 55 steel, such as Alloy steel,cast Iron...etc.
- Achieve long tool life, perfect surfaces and considerable reduction of machining time.

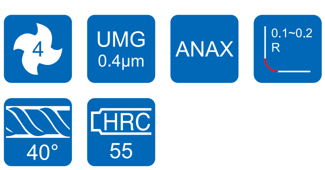
ESCSU

P	M	K	N	S	H
●	●	●		●	○



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	R	Flutes (Z)
ESCSU403000A	3	8	50	6	0.10	4
ESCSU404000A	4	10	50	6	0.10	4
ESCSU405000A	5	13	50	6	0.15	4
ESCSU406000A	6	15	50	6	0.15	4
ESCSU408000A	8	20	60	8	0.15	4
ESCSU410000A	10	25	75	10	0.20	4
ESCSU412000A	12	30	75	12	0.20	4
ESCSU416000A	16	35	100	16	0.20	4

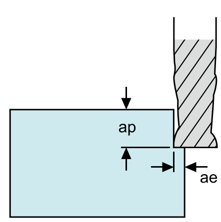




d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Feed recommend table

Dia (d) (mm)	fz (mm/z)
4	0.006 ~ 0.1
6	0.009 ~ 0.15
10	0.15 ~ 0.25



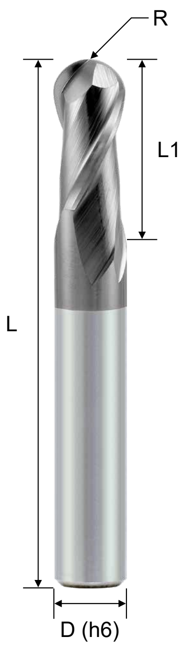
ap = 1.5d ae = 0.1d

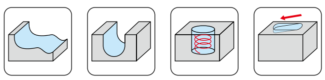
M50X - Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃

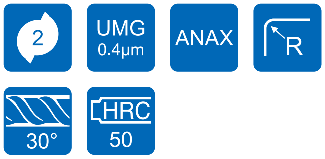
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance.
- For Stainless Steel, Alloy Steel & Mold Steel... etc.
- Edge treatment and vibration reduction at high speed machining, suitable for high performance profile milling.
- New ball nose geometry increases tool life and decreased cutting force.

ESBSA

P	M	K	N	S	H
●	●	●		●	○







R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESBSA240500A	0.25R	0.5	1	50	4	2
ESBSA241000A	0.5R	1	2	50	4	2
ESBSA241500A	0.75R	1.5	3	50	4	2
ESBSA242000A	1.0R	2	4	50	4	2
ESBSA242500A	1.25R	2.5	5	50	4	2
ESBSA243000A	1.5R	3	6	50	4	2
ESBSA244000A	2.0R	4	8	50	4	2
ESBSA204000A	2.0R	4	8	50	6	2
ESBSA205000A	2.5R	5	10	50	6	2
ESBSA206000A	3.0R	6	12	50	6	2
ESBSA208000A	4.0R	8	16	60	8	2
ESBSA210000A	5.0R	10	20	75	10	2
ESBSA212000A	6.0R	12	24	75	12	2
ESBSA216000A	8.0R	16	32	100	16	2

Cutting conditions ： Page B258

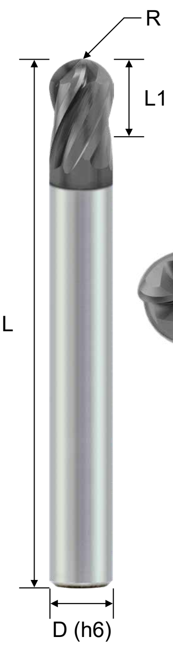
WINSTAR

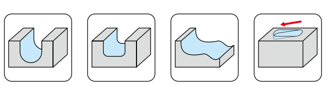
M50X - Ball Nose · Near Center Design · 3F / 4F 球型銑刀 · 刃近中心型 · 3 刃 / 4 刃

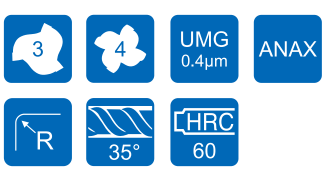
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance.
- For high temperature alloy and high hardened steel machining.
- Reach to center and near to center flutes design, significantly improves the tool life and surface finish in profile milling.

ESBHS

P	M	K	N	S	H
●	●	●		●	○







R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESBHS342000A	1R	2	2	50	4	3
ESBHS302000A	1R	2	2	50	6	3
ESBHS303000A	1.5R	3	3	50	6	3
ESBHS344000A	2R	4	4	50	4	3
ESBHS304000A	2R	4	4	50	6	3
ESBHS406000A	3R	6	6	50	6	4
ESBHS408000A	4R	8	8	60	8	4
ESBHS410000A	5R	10	10	75	10	4
ESBHS412000A	6R	12	12	75	12	4
ESBHS416000A	8R	16	16	100	16	4

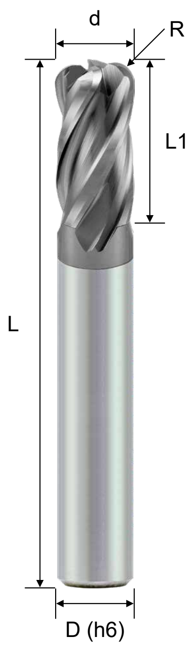
Cutting conditions：Page B258

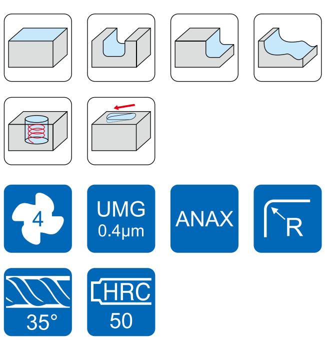
M50X - Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃

- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance.
- For Stainless Steel, Alloy Steel & Mold Steel... etc.
- Edge treatment and vibration reduction at high speed machining.
- Corner geometry and stronger design makes it suitable for cutting stainless steel.

ESCSA

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESCSA441002A	1	0.2R	2	50	4	4
ESCSA441502A	1.5	0.2R	3	50	4	4
ESCSA442002A	2	0.2R	4	50	4	4
ESCSA443002A	3	0.2R	6	50	4	4
ESCSA443003A	3	0.3R	6	50	4	4
ESCSA403003A	3	0.3R	6	50	6	4
ESCSA443005A	3	0.5R	6	50	4	4
ESCSA403005A	3	0.5R	6	50	6	4
ESCSA403010A	3	1.0R	6	50	6	4
ESCSA444002A	4	0.2R	8	50	4	4
ESCSA404003A	4	0.3R	8	50	6	4
ESCSA444005A	4	0.5R	8	50	4	4
ESCSA404005A	4	0.5R	8	50	6	4
ESCSA404010A	4	1.0R	8	50	6	4
ESCSA405003A	5	0.3R	10	50	6	4
ESCSA405005A	5	0.5R	10	50	6	4
ESCSA406003A	6	0.3R	12	50	6	4
ESCSA406005A	6	0.5R	12	50	6	4
ESCSA406010A	6	1.0R	12	50	6	4
ESCSA408005A	8	0.5R	16	60	8	4
ESCSA408010A	8	1.0R	16	60	8	4
ESCSA408015A	8	1.5R	16	60	8	4
ESCSA410005A	10	0.5R	20	75	10	4
ESCSA410010A	10	1.0R	20	75	10	4
ESCSA410015A	10	1.5R	20	75	10	4
ESCSA410020A	10	2.0R	20	75	10	4
ESCSA412005A	12	0.5R	24	75	12	4
ESCSA412010A	12	1.0R	24	75	12	4
ESCSA412015A	12	1.5R	24	75	12	4
ESCSA412020A	12	2.0R	24	75	12	4
ESCSA412030A	12	3.0R	24	75	12	4

Cutting conditions : Page B259

V47X - Tools selection 刀具選擇建議

Series 系列	Series Number 系列編碼		Helix Angle 螺旋角	Tool Type 刀具型式	Slot milling 開槽加工	Side roughing 側邊粗加工	Side finishing 側邊精加工	P	M	K	N	S	H
V47XC	EPSSVC	 4 Unequal ANAX Standard 標準型	38°	Square 平刀 Chamfer 倒C Radius 小R	✓	✓	✓	●	●	●		○	○
	EPSSVC	 5 Unequal ANAX Standard 標準型	38°	Square 平刀 Radius 小R	✓	✓	✓	○	●	○		●	○
	EPSUVC	 4 Unequal ANAX Necked 帶頸型	38°	Square 平刀 Radius 小R	✓	✓	✓	●	●	●		○	○
	EPSRVC	 4 Unequal ANAX Roughing/Finishing 粗精型	38°	Chamfer 倒C	✓	✓		●	●	●		○	○
V47XD	EPSSVD	 4 Unequal ANAX Standard 標準型	45°	Square 平刀 Chamfer 倒C Radius 小R		✓	✓	●	●	●		●	○
	EPSSVD	 5 Unequal ANAX Standard 標準型	43°	Square 平刀		✓	✓	●	●	●		●	●
	EPSSVD	 7 Unequal ANAX Standard 標準型	43°	Square 平刀 Chamfer 倒C			✓		●			●	●
	EPSCVD	 5 Unequal ANAX Long Flute 長刃型	43°	Square 平刀 Radius 小R			✓	●	●	●		●	●
	EPSCVD	 7 Unequal ANAX Long Flute 長刃型	43°	Square 平刀 Radius 小R			✓		●			●	●
V47XE	EPSSVE	 4 Unequal ANAX Standard 標準型	52°	Radius 小R			✓		●			●	●

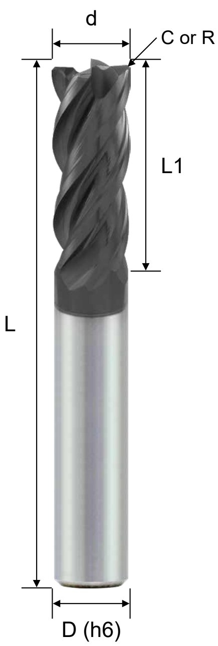
WINSTAR

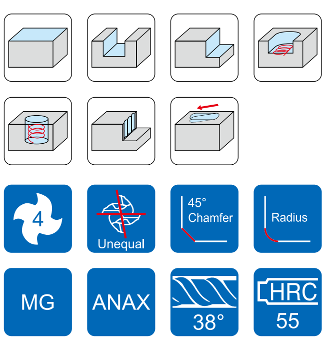
V47XC - Square · Unequal Spacing · Standard · 4F 不等分割平銑刀・標準型・4 刃

- Unequal flute spacing for anti-vibration.
- 38° helix angle design for alloy steel and stainless steel slot and side milling.
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance and extend tool life.

EPSSVC

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	C or R	Flutes (Z)
EPSSVC4410000A	1	3	50	4	-	4
EPSSVC4420000A	2	5	50	4	-	4
EPSSVC4430000A	3	8	50	4	-	4
EPSSVC4030000A	3	8	50	6	-	4
EPSSVC4440000A	4	10	50	4	-	4
EPSSVC4440052A	4	8	50	4	0.5R	4
EPSSVC4040000A	4	10	50	6	-	4
EPSSVC4050000A	5	13	50	6	-	4
EPSSVC4060000A	6	15	50	6	-	4
EPSSVC4060011A	6	15	50	6	0.10C	4
EPSSVC4060032A	6	12	50	6	0.3R	4
EPSSVC4060052A	6	12	50	6	0.5R	4
EPSSVC4060102A	6	12	50	6	1R	4
EPSSVC4080000A	8	20	60	8	-	4
EPSSVC4080011A	8	20	60	8	0.15C	4
EPSSVC4080052A	8	16	60	8	0.5R	4
EPSSVC4080102A	8	16	60	8	1R	4
EPSSVC4080152A	8	16	60	8	1.5R	4
EPSSVC4100000A	10	25	75	10	-	4
EPSSVC4100003A	10	30	75	10	-	4
EPSSVC4100011A	10	25	75	10	0.15C	4
EPSSVC4100052A	10	20	75	10	0.5R	4
EPSSVC4100102A	10	20	75	10	1R	4
EPSSVC4100202A	10	20	75	10	2R	4
EPSSVC4120000A	12	30	75	12	-	4
EPSSVC4120021A	12	30	75	12	0.20C	4
EPSSVC4120052A	12	24	75	12	0.5R	4
EPSSVC4120102A	12	24	75	12	1R	4
EPSSVC4120202A	12	24	75	12	2R	4
EPSSVC4140000A	14	30	75	14	-	4
EPSSVC4160000A	16	35	100	16	-	4
EPSSVC4160021A	16	35	100	16	0.25C	4
EPSSVC4160102A	16	32	100	16	1R	4
EPSSVC4160202A	16	32	100	16	2R	4
EPSSVC4160302A	16	32	100	16	3R	4
EPSSVC4200000A	20	45	100	20	-	4
EPSSVC4250000A	25	45	100	25	-	4

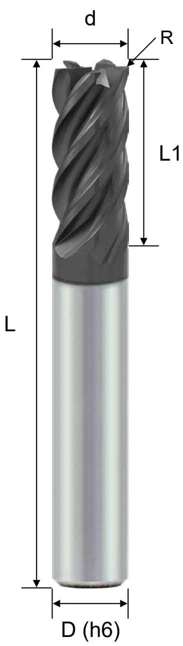
Cutting conditions：Page B260

V47XC - Square · Unequal Spacing · Standard · 5F 不等分割平銑刀 · 標準型 · 5 刃

- Unequal flute spacing for anti-vibration.
- 38° helix angle design for alloy steel and stainless steel side milling.
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance and extend tool life.

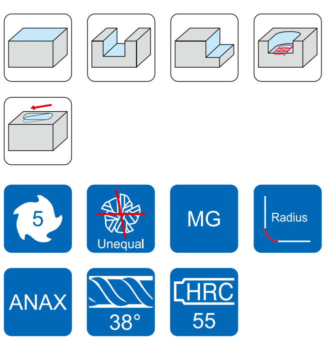
EPSSVC

P	M	K	N	S	H
○	●	○		●	○



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	R	Flutes (Z)
EPSSVC5060000A	6	15	50	6	-	5
EPSSVC5060032A	6	12	50	6	0.3R	5
EPSSVC5060052A	6	12	50	6	0.5R	5
EPSSVC5080000A	8	20	60	8	-	5
EPSSVC5080052A	8	16	60	8	0.5R	5
EPSSVC5080102A	8	16	60	8	1.0R	5
EPSSVC5100000A	10	25	75	10	-	5
EPSSVC5100052A	10	20	75	10	0.5R	5
EPSSVC5100102A	10	20	75	10	1.0R	5
EPSSVC5100202A	10	20	75	10	2.0R	5
EPSSVC5120000A	12	30	75	12	-	5
EPSSVC5120052A	12	24	75	12	0.5R	5
EPSSVC5120102A	12	24	75	12	1.0R	5
EPSSVC5120202A	12	24	75	12	2.0R	5
EPSSVC5160000A	16	35	100	16	-	5
EPSSVC5160102A	16	32	100	16	1.0R	5
EPSSVC5160202A	16	32	100	16	2.0R	5
EPSSVC5160302A	16	32	100	16	3.0R	5

Cutting conditions : Page B260



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

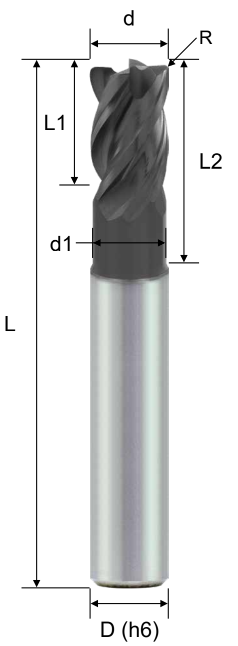
WINSTAR

V47XC - Square · Unequal Spacing · Necked · 4F 不等分割平銑刀・帶頸型・4 刃

- Unequal flute spacing for anti-vibration.
- 38° helix angle design for alloy steel and stainless steel slot and side milling.
- Necked design is able to increase feed rate.
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance and extend tool life.

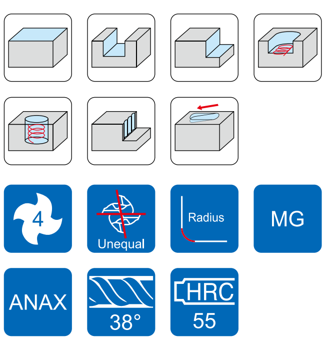
EPSUVC

P	M	K	N	S	H
●	●	●		○	○



Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	Neck Dia. (d1)	OAL (L)	Shank (D)	R	Flutes (Z)
EPSUVC4060000A	6	9	15	5.64	50	6	-	4
EPSUVC4060052A	6	9	15	5.64	50	6	0.50R	4
EPSUVC4080000A	8	12	20	7.52	60	8	-	4
EPSUVC4080052A	8	12	20	7.52	60	8	0.50R	4
EPSUVC4080102A	8	12	20	7.52	60	8	1.00R	4
EPSUVC4100000A	10	15	25	9.4	75	10	-	4
EPSUVC4100052A	10	15	25	9.4	75	10	0.50R	4
EPSUVC4100102A	10	15	25	9.4	75	10	1.00R	4
EPSUVC4100152A	10	15	25	9.4	75	10	1.50R	4
EPSUVC4120000A	12	18	30	11.28	75	12	-	4
EPSUVC4120102A	12	18	30	11.28	75	12	1.00R	4
EPSUVC4120202A	12	18	30	11.28	75	12	2.00R	4
EPSUVC4160000A	16	24	40	15.04	100	16	-	4
EPSUVC4160102A	16	24	40	15.04	100	16	1.00R	4
EPSUVC4160202A	16	24	40	15.04	100	16	2.00R	4
EPSUVC4160302A	16	24	40	15.04	100	16	3.00R	4

Cutting conditions：Page B261



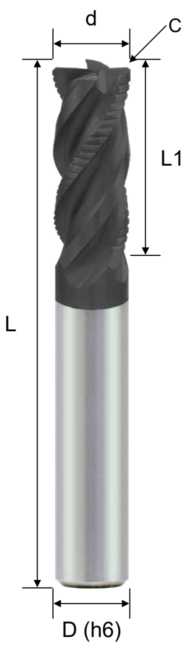
d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

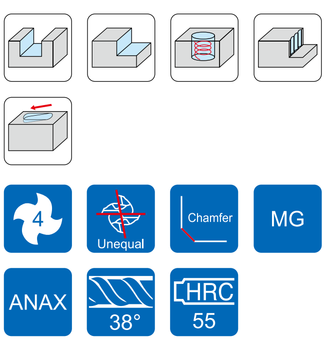
V47XC - Square · Unequal Spacing · Roughing & Finishing · 4F 不等分割平銑刀・粗精一體型・4 刃

- Unequal flute spacing for anti-vibration.
- 38° helix angle design for alloy steel and stainless steel slot milling and side roughing.
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance and extend tool life.

EPSRVC

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	C	Flutes (Z)
EPSRVC4060021A	6	15	50	6	0.25C	4
EPSRVC4080031A	8	20	60	8	0.30C	4
EPSRVC4100041A	10	25	75	10	0.40C	4
EPSRVC4120051A	12	30	75	12	0.50C	4
EPSRVC4160061A	16	35	100	16	0.60C	4

Cutting conditions：Page B261

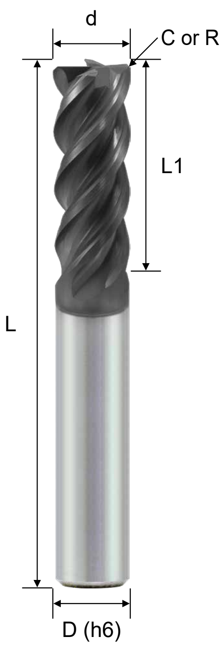
WINSTAR

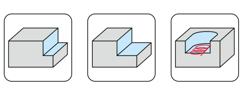
V47XD - Square · Unequal Spacing · Standard · 4F 不等分割平銑刀・標準型・4 刃

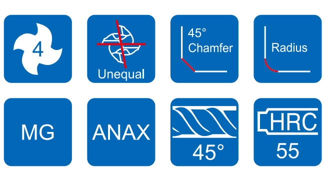
- Unequal flute spacing for anti-vibration.
- 45° helix angle design for alloy steel and stainless steel side milling.
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance and extend tool life.

EPSSVD

P	M	K	N	S	H
●	●	●		●	○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	C or R	Flutes (Z)
EPSSVD4440000A	4	10	50	4	-	4
EPSSVD4060000A	6	15	50	6	-	4
EPSSVD4060011A	6	15	50	6	0.10C	4
EPSSVD4060052A	6	12	50	6	0.5R	4
EPSSVD4060102A	6	12	50	6	1R	4
EPSSVD4080000A	8	20	60	8	-	4
EPSSVD4080011A	8	20	60	8	0.15C	4
EPSSVD4080052A	8	16	60	8	0.5R	4
EPSSVD4080102A	8	16	60	8	1R	4
EPSSVD4100000A	10	25	75	10	-	4
EPSSVD4100003A	10	30	75	10	-	4
EPSSVD4100011A	10	25	75	10	0.15C	4
EPSSVD4100052A	10	20	75	10	0.5R	4
EPSSVD4100102A	10	20	75	10	1R	4
EPSSVD4100202A	10	20	75	10	2R	4
EPSSVD4120000A	12	30	75	12	-	4
EPSSVD4120021A	12	30	75	12	0.20C	4
EPSSVD4120052A	12	24	75	12	0.5R	4
EPSSVD4120102A	12	24	75	12	1R	4
EPSSVD4120202A	12	24	75	12	2R	4
EPSSVD4160000A	16	35	100	16	-	4
EPSSVD4160021A	16	35	100	16	0.25C	4
EPSSVD4160102A	16	32	100	16	1R	4
EPSSVD4160202A	16	32	100	16	2R	4
EPSSVD4160302A	16	32	100	16	3R	4

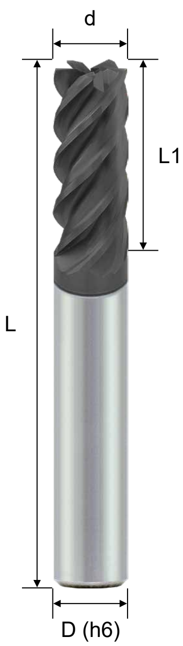
Cutting conditions：Page B262

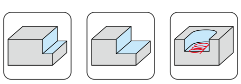
V47XD - Square · Unequal Spacing · Standard · 5F 不等分割平銑刀・標準型・5 刃

- Unequal flute spacing for anti-vibration.
- 43° helix angle design for high temperature alloy, stainless steel and alloy steel side milling.
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance and extend tool life.

EPSSVD

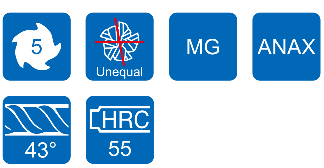
P	M	K	N	S	H
●	●	●		●	●





Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSVD5060000A	6	15	50	6	5
EPSSVD5080000A	8	20	60	8	5
EPSSVD5100000A	10	25	75	10	5
EPSSVD5120000A	12	30	75	12	5
EPSSVD5160000A	16	35	100	16	5

Cutting conditions：Page B262



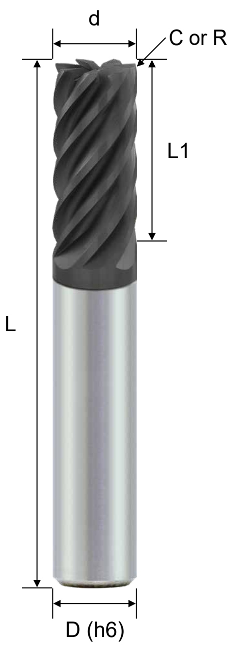
d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

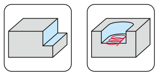
V47XD - Square · Unequal Spacing · Standard · 7F 不等分割平銑刀・標準型・7 刃

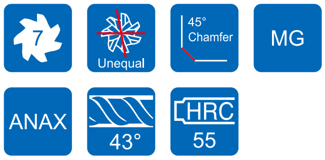
- Unequal flute spacing for anti-vibration.
- 43° helix angle design for high temperature alloy, stainless steel and alloy steel side milling.
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance and extend tool life.

EPSSVD

P	M	K	N	S	H
	●			●	●







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	C or R	Flutes (Z)
EPSSVD7100000A	10	25	75	10	-	7
EPSSVD7100051A	10	25	75	10	0.5C	7
EPSSVD7100052A	10	25	75	10	0.5R	
EPSSVD7120000A	12	30	75	12	-	7
EPSSVD7120051A	12	30	75	12	0.5C	7
EPSSVD7120052A	12	30	75	12	0.5R	
EPSSVD7160000A	16	35	100	16	-	7

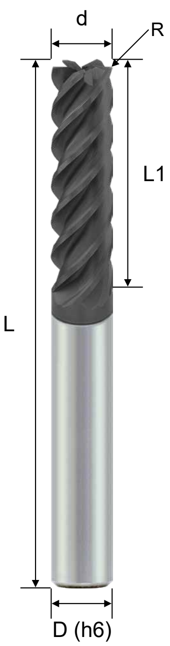
Cutting conditions：Page B262

V47XD - Square · Unequal Spacing · Long Flute · 5F 不等分割平銑刀・長刃型・5 刃

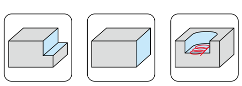
- Unequal flute spacing for anti-vibration.
- 43° helix angle design for high temperature alloy, stainless steel and alloy steel deep side milling.
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance and extend tool life.

EPSCVD

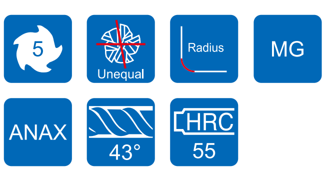
P	M	K	N	S	H
●	●	●		●	●



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	R	Flutes (Z)
EPSCVD5060000A	6	24	75	6	-	5
EPSCVD5060102A	6	24	75	6	1.0R	5
EPSCVD5080000A	8	32	75	8	-	5
EPSCVD5080102A	8	32	75	8	1.0R	5
EPSCVD5100000A	10	40	100	10	-	5
EPSCVD5120000A	12	48	100	12	-	5
EPSCVD5120202A	12	48	100	12	2.0R	5
EPSCVD5160000A	16	55	110	16	-	5



Cutting conditions : Page B262



d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

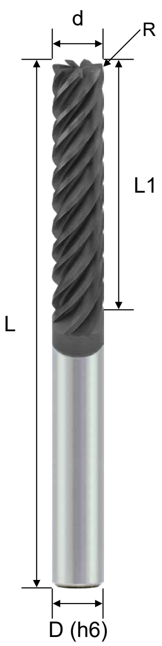
WINSTAR

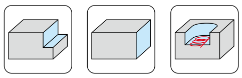
V47XD - Square · Unequal Spacing · Long Flute · 7F 不等分割平銑刀・長刃型・7 刃

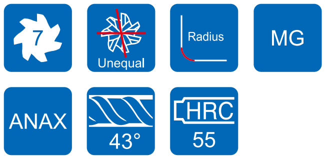
- Unequal flute spacing for anti-vibration.
- 43° helix angle design for high temperature alloy, stainless steel and alloy steel deep side milling.
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance and extend tool life.

EPSCVD

P	M	K	N	S	H
	●			●	●







d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	R	Flutes (Z)
EPSCVD7100000A	10	50	100	10	-	7
EPSCVD7100052A	10	50	100	10	0.5R	7
EPSCVD7120000A	12	60	110	12	-	7
EPSCVD7120052A	12	60	110	12	0.5R	7
EPSCVD7160000A	16	80	150	16	-	7
EPSCVD7160052A	16	80	150	16	0.5R	7

Cutting conditions：Page B262

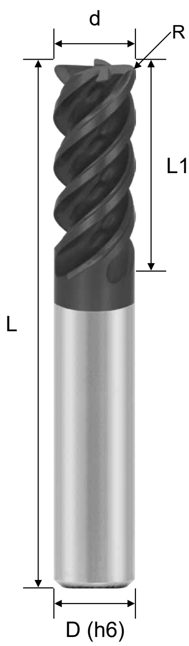
WINSTAR

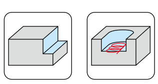
V47XE - Square · Unequal Spacing · Standard · 4F 不等分割平銑刀・標準型・4 刃

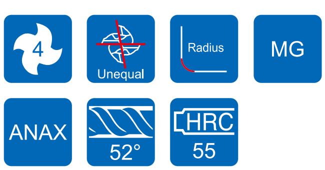
- Unequal flute spacing for anti-vibration.
- 52° helix angle design with low cutting force and outstanding side finishing for high temperature alloy, stainless steel and alloy steel.
- ANAX smooth coating (Al, Ti, Cr, N) provides a superior wear resistance and extend tool life.

EPSSVE

P	M	K	N	S	H
	●			●	●







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	R	Flutes (Z)
EPSSVE4080052A	8	16	60	8	0.5R	4
EPSSVE4100102A	10	20	75	10	1.0R	4
EPSSVE4120102A	12	24	75	12	1.0R	4
EPSSVE4160152A	16	32	100	16	1.5R	4

Cutting conditions：Page B263

V53X - Tools selection 刀具選擇建議

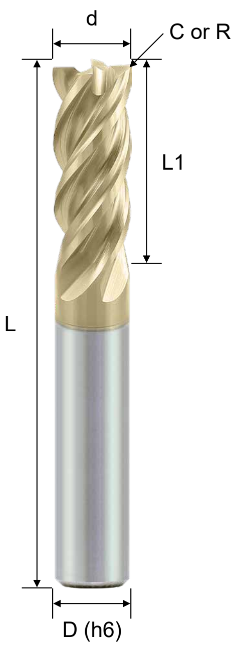
Series 系列	Series Number 系列編碼		Helix Angle 螺旋角	Tool Type 刀具型式	Slot milling 開槽加工	Side roughing 側邊粗加工	Side finishing 側邊精加工	P	M	K	N	S	H
V53XC	ESSSVC	 Standard 標準型	38°~41°	Square 平刀 Chamfer 倒 C Radius 小 R	✓	✓	✓	●	●	●		●	○
		 Standard 標準型	38°~42°	Square 平刀 Radius 小 R		✓	✓	○	●	○		●	○
V53XD	ESSSVD	 Standard 標準型	43°~46°	Square 平刀 Chamfer 倒 C Radius 小 R		✓	✓	●	●	●		●	○
V53XA	ESSSVA	 Standard 標準型	30°~32°	Chamfer 倒 C	✓			●	●	●		○	○
V53XB	ESSSVB	 Standard 標準型	35°~38°	Square 平刀 Chamfer 倒 C Radius 小 R	✓	✓	✓	●	●	●		○	○
	ESSUVB	 Necked 帶頸型	35°~38°	Radius 小 R	✓	✓	✓	●	●	●		●	○

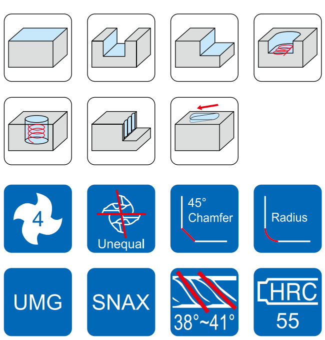
V53XC - Square · Variable Helix · Standard · 4F 不等螺旋平銑刀・標準型・4 刃

- Unequal flute spacing and variable helix design.
- High removal rate for P, M, K and S materials.
- Helix angle 38° ~ 41° is better for side milling.
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear resistance and extend tool life.

ESSSVC

P	M	K	N	S	H
●	●	●		●	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	C or R	Flutes (Z)
ESSSVC4410000S	1	3	50	4	-	4
ESSSVC4420000S	2	5	50	4	-	4
ESSSVC4430000S	3	8	50	4	-	4
ESSSVC4440000S	4	10	50	4	-	4
ESSSVC4040011S	4	10	50	6	0.10C	4
ESSSVC4040012S	4	10	50	6	0.10R	4
ESSSVC4050000S	5	13	50	6	-	4
ESSSVC4060000S	6	15	50	6	-	4
ESSSVC4060011S	6	15	50	6	0.15C	4
ESSSVC4060012S	6	15	50	6	0.15R	4
ESSSVC4060052S	6	12	50	6	0.50R	4
ESSSVC4070000S	7	18	60	8	-	4
ESSSVC4080000S	8	20	60	8	-	4
ESSSVC4080011S	8	20	60	8	0.15C	4
ESSSVC4080012S	8	20	60	8	0.15R	4
ESSSVC4080052S	8	16	60	8	0.50R	4
ESSSVC4080102S	8	16	60	8	1.00R	4
ESSSVC4090000S	9	22	75	10	-	4
ESSSVC4100000S	10	25	75	10	-	4
ESSSVC4100003S	10	30	75	10	-	4
ESSSVC4100021S	10	25	75	10	0.20C	4
ESSSVC4100022S	10	25	75	10	0.20R	4
ESSSVC4100052S	10	20	75	10	0.50R	4
ESSSVC4100102S	10	20	75	10	1.00R	4
ESSSVC4120000S	12	30	75	12	-	4
ESSSVC4120022S	12	30	75	12	0.20R	4
ESSSVC4120052S	12	30	75	12	0.50R	4
ESSSVC4120102S	12	24	75	12	1.00R	4
ESSSVC4120202S	12	24	75	12	2.00R	4
ESSSVC4140000S	14	30	75	14	-	4
ESSSVC4160000S	16	35	100	16	-	4
ESSSVC4200000S	20	45	100	20	-	4
ESSSVC4250000S	25	45	100	25	-	4

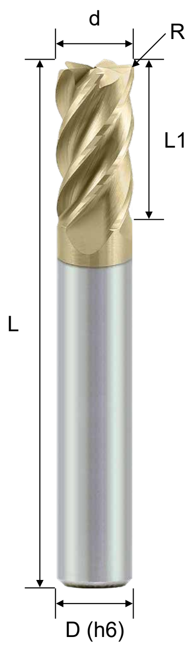
Cutting conditions：Page B265

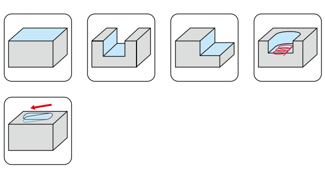
V53XC - Square · Variable Helix · Standard · 5F 不等螺旋平銑刀・標準型・5 刃

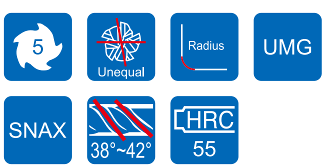
- Unequal flute spacing and variable helix design.
- High removal rate for M and S materials.
- Helix angle 38° ~ 42° is better for side milling.
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear resistance and extend tool life.

ESSSVC

P	M	K	N	S	H
○	●	○		●	○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	R	Flutes (Z)
ESSSVC5040022S	4	8	50	6	0.25R	5
ESSSVC5060000S	6	15	50	6	-	5
ESSSVC5060042S	6	12	50	6	0.40R	5
ESSSVC5080000S	8	20	60	8	-	5
ESSSVC5080012S	8	16	60	8	0.15R	5
ESSSVC5080052S	8	16	60	8	0.50R	5
ESSSVC5100000S	10	25	75	10	-	5
ESSSVC5100052S	10	20	75	10	0.50R	5
ESSSVC5100102S	10	20	75	10	1.00R	5
ESSSVC5120000S	12	30	75	12	-	5
ESSSVC5120052S	12	24	75	12	0.50R	5
ESSSVC5120072S	12	24	75	12	0.75R	5
ESSSVC5120102S	12	24	75	12	1.00R	5
ESSSVC5120202S	12	24	75	12	2.00R	5
ESSSVC5160000S	16	35	100	16	-	5
ESSSVC5160072S	16	32	100	16	0.75R	5
ESSSVC5160102S	16	32	100	16	1.00R	5
ESSSVC5160202S	16	32	100	16	2.00R	5
ESSSVC5160302S	16	32	100	16	3.00R	5

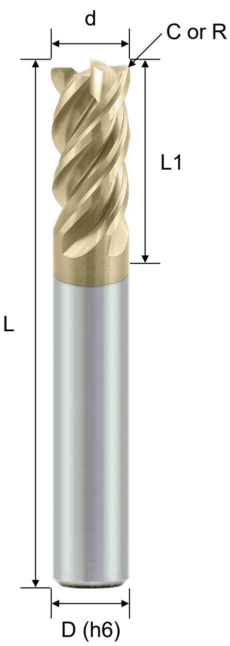
Cutting conditions : Page B265

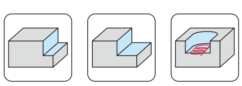
V53XD - Square · Variable Helix · Standard · 4F 不等螺旋平銑刀・標準型・4 刃

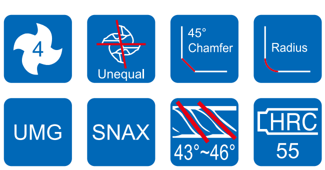
- Unequal flute spacing and variable helix design.
- High removal rate for P, M, K and S materials.
- Helix angle 43° ~ 46° is better for trochoidal milling.
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear resistance and extend tool life.

ESSSVD

P	M	K	N	S	H
●	●	●		●	○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	C or R	Flutes (Z)
ESSSVD4040000S	4	8	50	6	-	4
ESSSVD4040011S	4	8	50	6	0.10C	4
ESSSVD4040032S	4	8	50	6	0.30R	4
ESSSVD4060000S	6	12	50	6	-	4
ESSSVD4060011S	6	12	50	6	0.15C	4
ESSSVD4060052S	6	12	50	6	0.50R	4
ESSSVD4080000S	8	16	60	8	-	4
ESSSVD4080011S	8	16	60	8	0.15C	4
ESSSVD4080052S	8	16	60	8	0.50R	4
ESSSVD4100000S	10	20	75	10	-	4
ESSSVD4100003S	10	30	75	10	-	4
ESSSVD4100021S	10	20	75	10	0.20C	4
ESSSVD4100052S	10	20	75	10	0.50R	4
ESSSVD4120000S	12	24	75	12	-	4
ESSSVD4120021S	12	24	75	12	0.20C	4
ESSSVD4120052S	12	24	75	12	0.50R	4

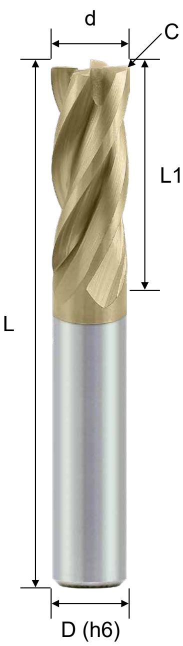
Cutting conditions：Page B265

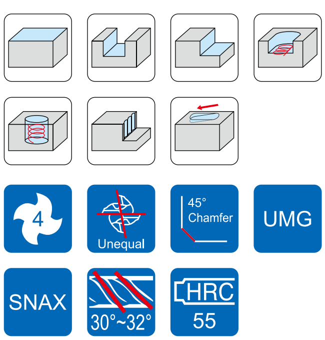
V53XA - Square · Variable Helix · Standard · 4F 不等螺旋平銑刀・標準型・4 刃

- Unequal flute spacing and variable helix design.
- High removal rate for P, M, K and S materials.
- Helix angle 30° ~ 32° is better for slotting.
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear resistance and extend tool life.

ESSSVA

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	C	Flutes (Z)
ESSSVA4060011S	6	15	50	6	0.10C	4
ESSSVA4080011S	8	20	60	8	0.15C	4
ESSSVA4100021S	10	25	75	10	0.20C	4
ESSSVA4120021S	12	30	75	12	0.20C	4
ESSSVA4160031S	16	35	100	16	0.32C	4

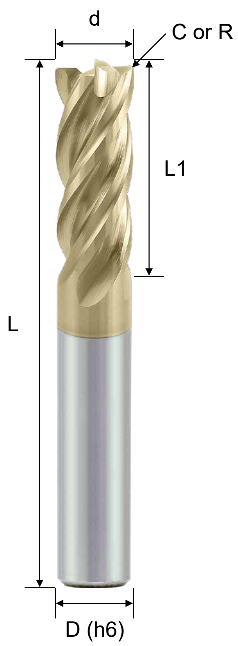
Cutting conditions：Page B266

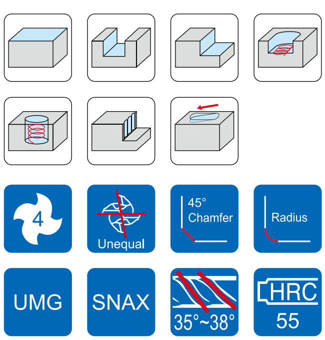
V53XB - Square · Variable Helix · Standard · 4F 不等螺旋平銑刀．標準型．4 刃

- Unequal flute spacing and variable helix design.
- High removal rate for P, M, K and S materials.
- Helix angle 35° ~ 38° for general purpose milling.
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear resistance and extend tool life.

ESSSVB

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	C or R	Flutes (Z)
ESSSVB4040000S	4	10	50	6	-	4
ESSSVB4040011S	4	10	50	6	0.10C	4
ESSSVB4040022S	4	8	50	6	0.20R	4
ESSSVB4040032S	4	8	50	6	0.30R	4
ESSSVB4040052S	4	8	50	6	0.50R	4
ESSSVB4060000S	6	13	50	6	-	4
ESSSVB4060011S	6	13	50	6	0.15C	4
ESSSVB4060022S	6	12	50	6	0.20R	4
ESSSVB4060052S	6	12	50	6	0.50R	4
ESSSVB4080000S	8	20	60	8	-	4
ESSSVB4080011S	8	20	60	8	0.15C	4
ESSSVB4080022S	8	16	60	8	0.20R	4
ESSSVB4080052S	8	16	60	8	0.50R	4
ESSSVB4100000S	10	25	75	10	-	4
ESSSVB4100021S	10	25	75	10	0.20C	4
ESSSVB4100032S	10	20	75	10	0.30R	4
ESSSVB4100052S	10	20	75	10	0.50R	4
ESSSVB4120000S	12	30	75	12	-	4
ESSSVB4120021S	12	30	75	12	0.20C	4
ESSSVB4120032S	12	24	75	12	0.30R	4
ESSSVB4120052S	12	24	75	12	0.50R	4
ESSSVB4120102S	12	24	75	12	1.00R	4
ESSSVB4120302S	12	24	75	12	3.00R	4
ESSSVB4160000S	16	35	100	16	-	4
ESSSVB4160031S	16	35	100	16	0.32C	4
ESSSVB4160102S	16	32	100	16	1.00R	4
ESSSVB4160302S	16	32	100	16	3.00R	4
ESSSVB4180000S	18	45	100	20	-	4
ESSSVB4200000S	20	45	100	20	-	4

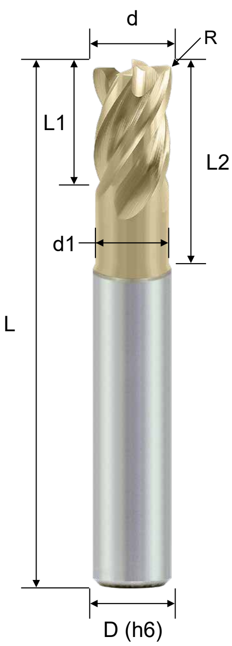
Cutting conditions：Page B266

V53XB - Square · Variable Helix · Necked · 4F 不等螺旋平銑刀・帶頸型・4 刃

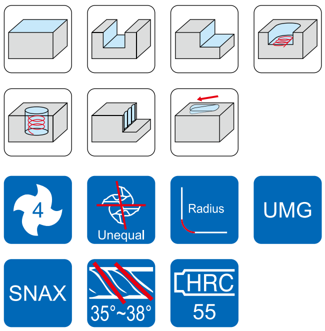
- Unequal flute spacing and variable helix design.
- High removal rate for P, M, K and S materials.
- Helix angle 35° ~ 38° for general purpose milling.
- Necked design is able to increase feed rate.
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear resistance and extend tool life.

ESSUVB

P	M	K	N	S	H
●	●	●		●	○



Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	Neck Dia. (d1)	OAL (L)	Shank (D)	R	Flutes (Z)
ESSUVB4080052S	8	12	20	7.52	60	8	0.50R	4
ESSUVB4080102S	8	12	20	7.52	60	8	1.00R	4
ESSUVB4100052S	10	15	25	9.4	75	10	0.50R	4
ESSUVB4100102S	10	15	25	9.4	75	10	1.00R	4
ESSUVB4100152S	10	15	25	9.4	75	10	1.50R	4
ESSUVB4120102S	12	18	30	11.28	75	12	1.00R	4
ESSUVB4120202S	12	18	30	11.28	75	12	2.00R	4

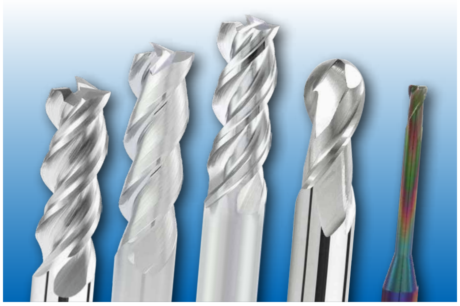


d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Cutting conditions：Page B267

For Non-Ferrous Material Series Introduction 非鐵金屬用銑刀系列介紹

A100 Series

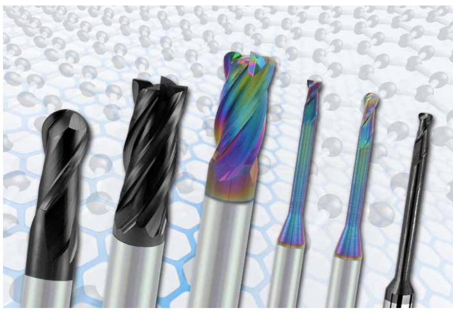


- For aluminum, copper, plastic.
- High speed cutting.
- Excellent chip evacuation design.
- NDLC coating is available.

- 適用鋁，銅及塑料
- 高速加工
- 深溝槽易排屑設計
- 彩鑽塗層可供選擇

→ Page B175

A200 Series

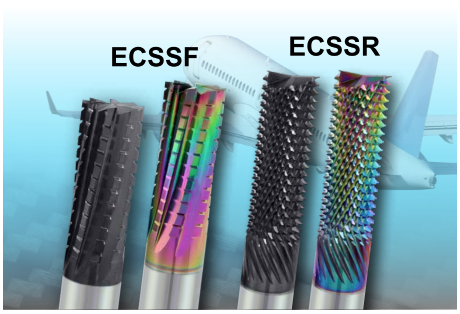


- For graphite.
- General cutting.
- Provide think Diamond coating.
- Provide NDLC coating.

- 適用於石墨
- 一般泛用加工
- 提供高耐磨的鑽石塗層
- 提供較經濟的彩鑽塗層

→ Page B193

A300 Series



- For CFRP & GFRP composite material.
- ECSSF for finish machining.
- ECSSR for rough machining.
- Provide Diamond or NDLC coating.

- 適用於 CFRP & GFRP 複合材料
- ECSSF 適合精加工
- ECSSR 適合粗加工
- 提供鑽石或彩鑽塗層

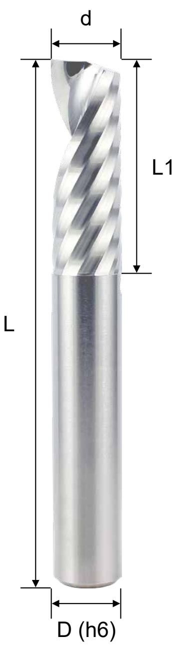
→ Page B199

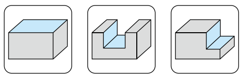
A100 - Square · Standard · 1F 平銑刀・標準型・1 刃

- 30° helix design for general milling.
- Single flute endmill has large chip evacuation.
- Sharp and polishing cutting edge produces an excellent surface finish.
- Suitable for aluminum, copper and plastic material.

ENSSC

P	M	K	N	S	H
			●		





Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSC141000	1	3	50	4	1
ENSSC142000	2	6	50	4	1
ENSSC143000	3	9	50	4	1
ENSSC144000	4	12	50	4	1
ENSSC104000	4	12	50	6	1
ENSSC105000	5	13	50	6	1
ENSSC106000	6	15	50	6	1
ENSSC108000	8	20	60	8	1
ENSSC110000	10	30	75	10	1
ENSSC112000	12	30	75	12	1

Cutting conditions : Page B267

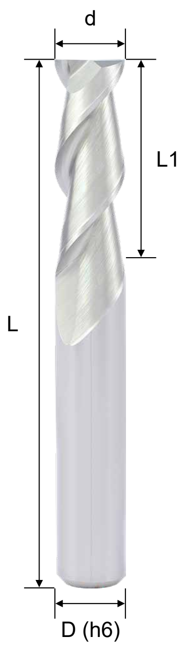
d Tolerance	
d ≤ 10	0 ~ -0.03
d > 10	0 ~ -0.04

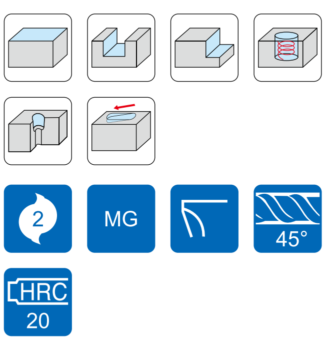
A100 - Square · Standard · 2F　平銑刀・標準型・2 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20).
- High Helix offers excellent and stable finished surfaces in high speed.
- Great chip evacuation and flute polishing increase cutting surface and feed rate.

ENSSS

P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSS241000	1	3	50	4	2
ENSSS242000	2	6	50	4	2
ENSSS233000	3	9	50	3	2
ENSSS243000	3	9	50	4	2
ENSSS244000	4	12	50	4	2
ENSSS204000	4	12	50	6	2
ENSSS205000	5	15	50	6	2
ENSSS206000	6	15	50	6	2
ENSSS208000	8	20	60	8	2
ENSSS210000	10	30	75	10	2
ENSSS212000	12	30	75	12	2
ENSSS216000	16	40	100	16	2
ENSSS220000	20	45	100	20	2

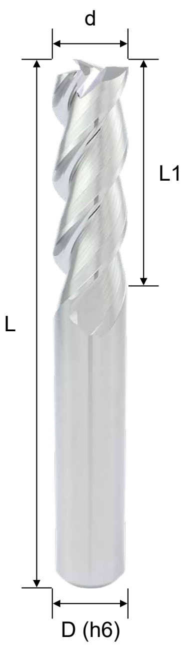
Cutting conditions：Page B268

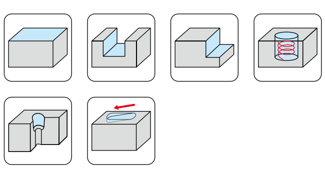
A100 - Square · Standard · 3F 平銑刀・標準型・3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- High Helix offers excellent and stable finished surfaces in high speed.
- Great chip evacuation and flute polishing get good cutting surface and high feed rate.

ENSSS

P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSS342000	2	6	50	4	3
ENSSS333000	3	9	50	3	3
ENSSS343000	3	9	50	4	3
ENSSS344000	4	12	50	4	3
ENSSS304000	4	12	50	6	3
ENSSS305000	5	15	50	6	3
ENSSS306000	6	15	50	6	3
ENSSS308000	8	20	60	8	3
ENSSS310000	10	30	75	10	3
ENSSS312000	12	30	75	12	3
ENSSS316000	16	40	100	16	3
ENSSS320000	20	45	100	20	3

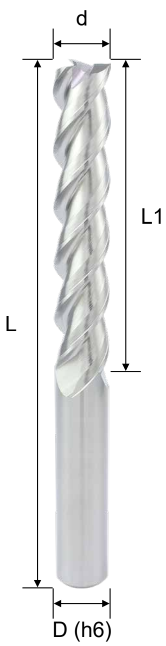
Cutting conditions：Page B268

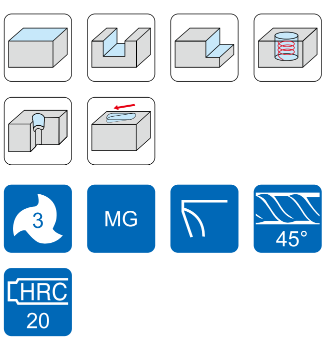
A100 - Square · Long Flute · 3F 平銑刀・長刃型・3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- High Helix offers excellent and stable finished surfaces in high speed.
- Great chip evacuation and flute polishing get good cutting surface and high feed rate.

ENSCS

P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSCS303000	3	15	60	6	3
ENSCS304000	4	20	60	6	3
ENSCS305000	5	25	60	6	3
ENSCS306000	6	30	75	6	3
ENSCS308000	8	45	100	8	3
ENSCS310000	10	55	100	10	3
ENSCS312000	12	55	100	12	3
ENSCS316000	16	75	150	16	3
ENSCS320000	20	90	150	20	3

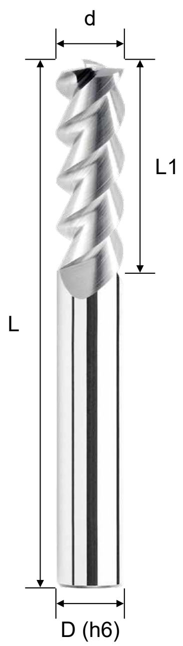
Cutting conditions : Page B268

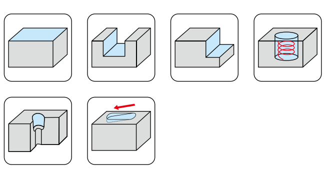
A100 - Square · High Helix · 3F   平銑刀・高導型・3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20).
- 55° degree Helix offers excellent and stable finished surfaces in high speed side milling.
- Flute polishing gives a very good cutting surface and high feed rate.

ENSSH

P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSH304000	4	12	50	6	3
ENSSH305000	5	15	50	6	3
ENSSH306000	6	15	50	6	3
ENSSH308000	8	20	60	8	3
ENSSH310000	10	30	75	10	3
ENSSH312000	12	30	75	12	3
ENSSH316000	16	40	100	16	3

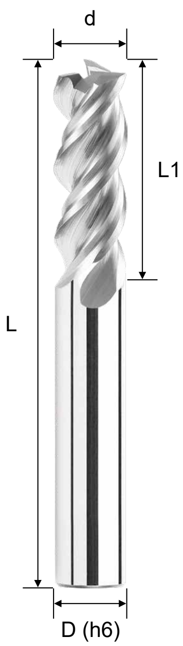
Cutting conditions : Page B268

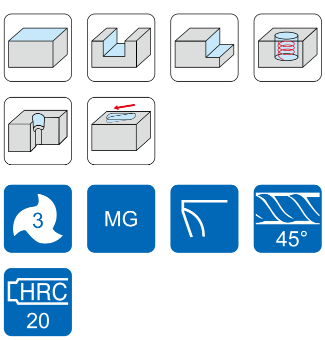
A100 - Square · High Performance(for side milling) · 3F 平銑刀・高導型・3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20).
- U-flute design with high chips volume space and easy to remove chips.
- Excellent for high feed rough milling.
- Also suitable for surface finish in high speed milling.

ENSSB

P	M	K	N	S	H
			●		





Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSB343000	3	9	50	4	3
ENSSB344000	4	12	50	4	3
ENSSB304000	4	12	50	6	3
ENSSB305000	5	15	50	6	3
ENSSB306000	6	15	50	6	3
ENSSB308000	8	20	60	8	3
ENSSB310000	10	30	75	10	3
ENSSB312000	12	30	75	12	3
ENSSB316000	16	40	100	16	3
ENSSB320000	20	45	100	20	3

Cutting conditions：Page B268

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

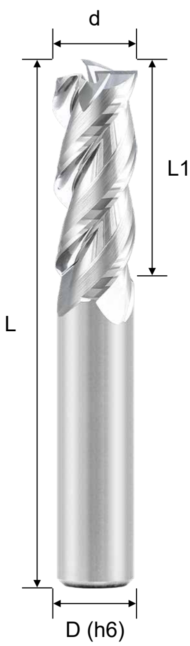
WINSTAR

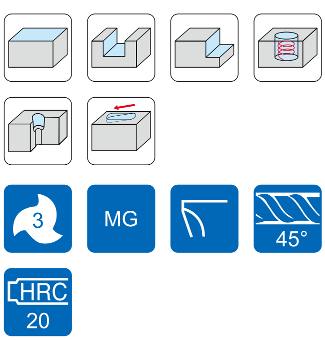
A100 - Square · AL Finishing · 3F　平銑刀・AL 高光鏡面型・3 刃

- Mirror-like flute surface design.
- For finishing cutting of aluminum alloys.
- Medium to high speed cutting.

ENSSF

P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSF301000	1	3	50	6	3
ENSSF302000	2	6	50	6	3
ENSSF303000	3	11	60	6	3
ENSSF304000	4	13	60	6	3
ENSSF305000	5	17	60	6	3
ENSSF306000	6	17	60	6	3
ENSSF308000	8	22	75	8	3
ENSSF310000	10	27	75	10	3
ENSSF312000	12	32	75	12	3

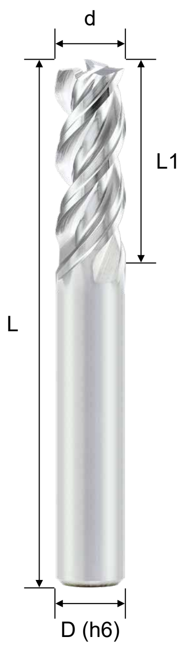
Cutting conditions：Page B268

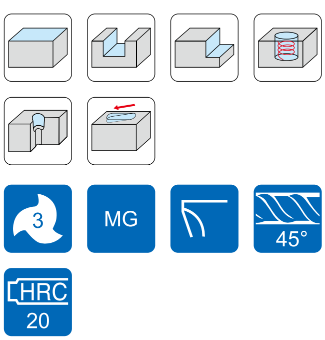
A100 - Square · AL-U Finishing · 3F 平銑刀・AL-U 高光鏡面型・3 刃

- U-flute and Mirror-like flute surface design.
- For medium to finishing cutting of aluminum alloys.
- High speed cutting.
- Is better for Aluminum alloy with Si ≥ 8%.

ENSSP

P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSP303000	3	9	50	6	3
ENSSP304000	4	12	50	6	3
ENSSP305000	5	15	50	6	3
ENSSP306000	6	15	50	6	3
ENSSP307000	7	18	60	8	3
ENSSP308000	8	20	60	8	3
ENSSP309000	9	23	75	10	3
ENSSP310000	10	30	75	10	3
ENSSP312000	12	30	75	12	3
ENSSP316000	16	40	100	16	3
ENSSP318000	18	40	100	20	3
ENSSP320000	20	45	100	20	3
ENSSP325000	25	45	100	25	3

Cutting conditions：Page B269

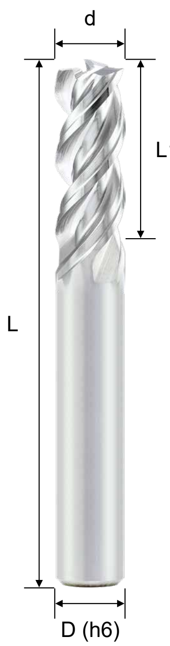
A100 - Square · Variable Spacing · 3F

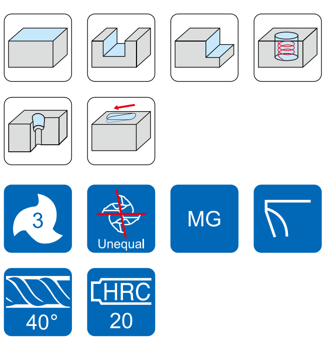
不等分割平銑刀 - 標準型・3 刃

- Unequal flute spacing, good for high performance machining.
- No chattering surface due to anti-vibration design.
- Polished and U flute designs provide excellent chip evacuation.
- Good for semi-fininshing and roughing of aluminum parts(5052/6061/7075).

ENSSV

P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSV303000	3	9	50	6	3
ENSSV304000	4	12	50	6	3
ENSSV305000	5	15	50	6	3
ENSSV306000	6	18	50	6	3
ENSSV308000	8	24	60	8	3
ENSSV310000	10	30	75	10	3
ENSSV312000	12	35	75	12	3
ENSSV316000	16	40	100	16	3
INCH Size					
ENS2V30120500	1/8	1/2	2	1/8	3
ENS2V30250300	1/4	3/8	2	1/4	3
ENS2V30310500	5/16	1/2	2	5/16	3
ENS2V30370600	3/8	5/8	3	3/8	3
ENS3V30371000	3/8	1	3	3/8	3
ENS2V30501000	1/2	1	3	1/2	3
ENS3V30621600	5/8	1 5/8	3 1/2	5/8	3

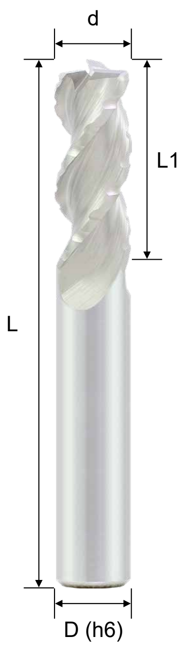
Cutting conditions：Page B269

A100 - Square · Roughing · 3F 平銑刀・粗銑型・3 刃

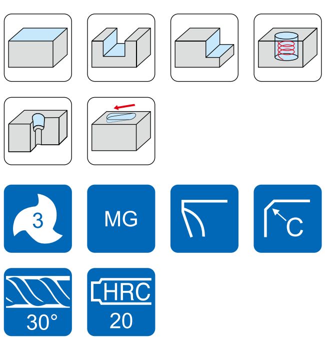
- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- Suitable for rough and high remove rate cutting environment.
- Chamfering design provides a stronger cutting edge.
- Middle coarse pitch provides hi performance and avoids tip fracture.
-

ENSSR

P	M	K	N	S	H
			●		



Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSR306000	6	15	50	6	3
ENSSR308000	8	20	60	8	3
ENSSR310000	10	25	75	10	3
ENSSR312000	12	30	75	12	3
ENSSR316000	16	40	100	16	3
ENSSR320000	20	45	100	20	3



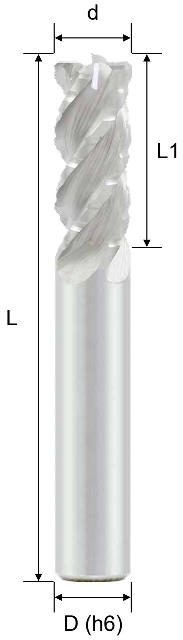
d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

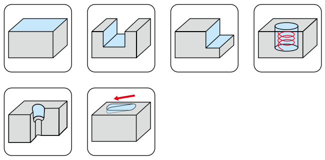
A100 - Square · Roughing · 4F 平銑刀・粗銑型・4 刃

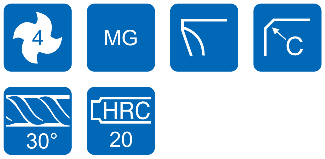
- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- Suitable for rough and high remove rate cutting environment.
- Chamfering design provides a stronger cutting edge.
- Middle coarse pitch provides hi performance and avoids tip fracture.
-

ENSSR

P	M	K	N	S	H
			●		







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

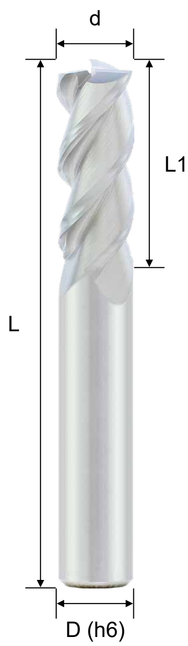
Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSR406000	6	15	50	6	4
ENSSR408000	8	20	60	8	4
ENSSR410000	10	25	75	10	4
ENSSR412000	12	30	75	12	4
ENSSR416000	16	40	100	16	4
ENSSR420000	20	45	100	20	4

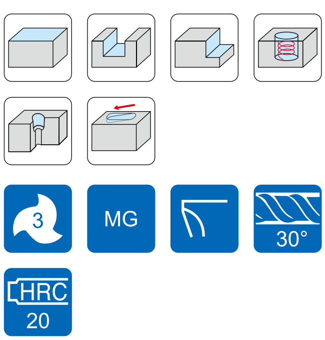
A100 - Square · Wave Edge · 3F 平銑刀・波浪型・3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- Incredible toughness and vibration reduction at high speeds.
- Wave type increases the performance.

ENSSW

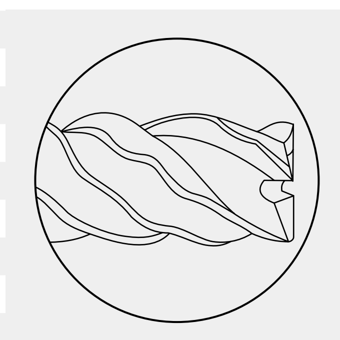
P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSW306000	6	15	50	6	3
ENSSW308000	8	20	60	8	3
ENSSW310000	10	30	75	10	3
ENSSW312000	12	30	75	12	3



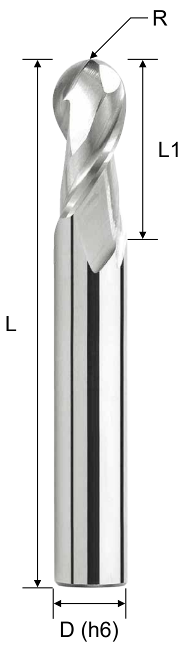
WINSTAR

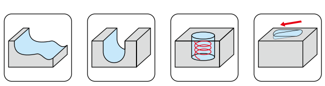
A100 - Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20).
- Great chip evacuation.
- Due to polish surface grinding of cutting it provides an excellent surface.
- New tool geometry increases wear resistance and cutting force is decreased.

ENBSA

P	M	K	N	S	H
			●		





R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENBSA241000	0.5R	1	2	50	4	2
ENBSA242000	1.0R	2	4	50	4	2
ENBSA243000	1.5R	3	6	50	4	2
ENBSA244000	2.0R	4	8	50	4	2
ENBSA204000	2.0R	4	8	50	6	2
ENBSA205000	2.5R	5	10	50	6	2
ENBSA206000	3.0R	6	12	50	6	2
ENBSA208000	4.0R	8	16	60	8	2
ENBSA210000	5.0R	10	20	75	10	2
ENBSA212000	6.0R	12	24	75	12	2
ENBSA216000	8.0R	16	32	100	16	2

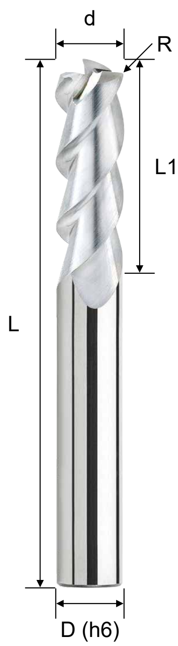
Cutting conditions：Page B270

A100 - Corner Radius · Standard · 3F 圓鼻銑刀 · 標準型 · 3 刃

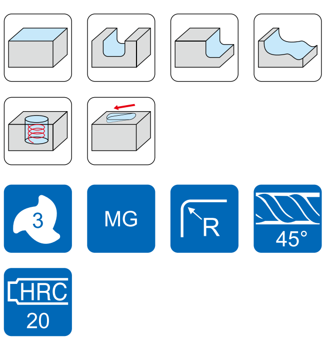
- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- High Helix offers excellent and stable finished surfaces in high speed.
- Great chip evacuation and flute polishing get good cutting surface and high feed rate.

ENCSS

P	M	K	N	S	H
			●		



Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENCSS343005	3	0.5R	9	50	4	3
ENCSS344005	4	0.5R	12	50	4	3
ENCSS306005	6	0.5R	15	50	6	3
ENCSS308005	8	0.5R	20	60	8	3
ENCSS308010	8	1.0R	20	60	8	3
ENCSS310005	10	0.5R	30	75	10	3
ENCSS310010	10	1.0R	30	75	10	3
ENCSS312010	12	1.0R	30	75	12	3
ENCSS312015	12	1.5R	30	75	12	3
ENCSS316010	16	1.0R	40	100	16	3
ENCSS316020	16	2.0R	40	100	16	3



Cutting conditions：Page B268

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

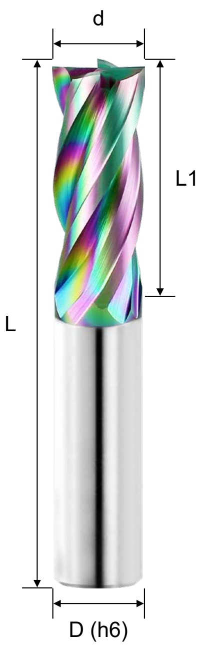
R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

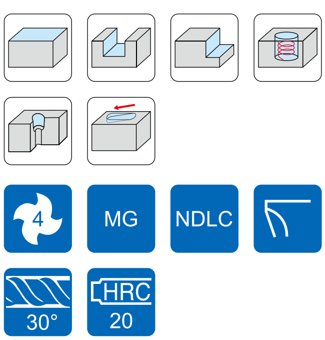
A100 - Square · Standard · 4F (for CU & AL) 平銑刀・標準型・4 刃

- Suitable for copper alloy, copper electrodes, aluminum processing special.
- Sharp cutting edge and flute polished.
- Multiple processing efficiency, coefficient of friction <0.1μm.
- Large positive rake angle and deep flute design, improves cutting efficiency.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

ENSSC

P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

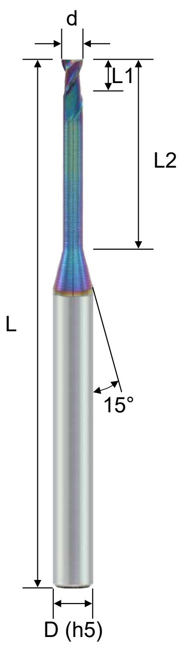
Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSC405000L	5	13	50	6	4
ENSSC406000L	6	15	50	6	4
ENSSC408000L	8	20	60	8	4
ENSSC410000L	10	25	75	10	4
ENSSC412000L	12	30	75	12	4

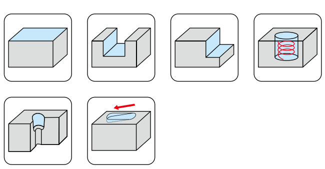
A100 - Long Neck · Square · 2F (for CU & AL) 長頸型・平銑刀・2 刃

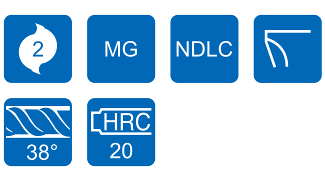
- Suitable for copper alloy, copper electrodes, aluminum processing special.
- Sharp cutting edge and flute polished.
- Available in various cut lengths.
- Suitable for deep cutting application.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

ENSRC

P	M	K	N	S	H
			●		







d Tolerance	
d	0 ~ -0.015

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
ENSRC240501L	0.5	1	1.5	50	4	2
ENSRC240502L	0.5	1	2	50	4	2
ENSRC240503L	0.5	1	3	50	4	2
ENSRC240504L	0.5	1	4	50	4	2
ENSRC240506L	0.5	1	6	50	4	2
ENSRC241003L	1	2	3	50	4	2
ENSRC241004L	1	2	4	50	4	2
ENSRC241005L	1	2	5	50	4	2
ENSRC241006L	1	2	6	50	4	2
ENSRC241008L	1	2	8	50	4	2
ENSRC241010L	1	2	10	50	4	2
ENSRC241012L	1	2	12	50	4	2
ENSRC242006L	2	4	6	50	4	2
ENSRC242008L	2	4	8	50	4	2
ENSRC242010L	2	4	10	50	4	2
ENSRC242012L	2	4	12	50	4	2
ENSRC242014L	2	4	14	50	4	2
ENSRC242016L	2	4	16	50	4	2
ENSRC242020L	2	4	20	50	4	2
ENSRC243010L	3	6	10	50	4	2
ENSRC243016L	3	6	16	50	4	2
ENSRC243020L	3	6	20	50	4	2
ENSRC244016L	4	8	16	50	4	2
ENSRC244020L	4	8	20	50	4	2

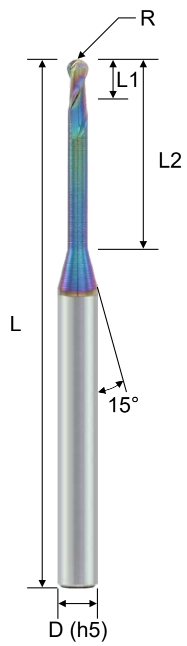
Cutting conditions : Page B271

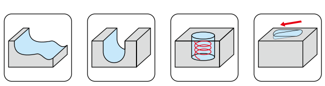
A100 - Long Neck · Ball Nose · 2F (for CU & AL) 長頸型・球型銑刀・2 刃

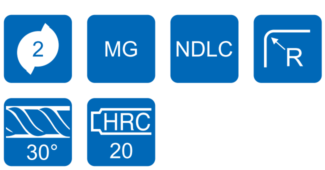
- Suitable for copper alloy, copper electrodes, aluminum processing special.
- Sharp cutting edge and flute polished.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

ENBRC

P	M	K	N	S	H
			●		







R Tolerance	
R	±0.01

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
ENBRC240502L	0.25R	0.5	0.35	2	50	4	2
ENBRC240503L	0.25R	0.5	0.35	3	50	4	2
ENBRC240504L	0.25R	0.5	0.35	4	50	4	2
ENBRC240505L	0.25R	0.5	0.35	5	50	4	2
ENBRC241003L	0.5R	1	0.75	3	50	4	2
ENBRC241004L	0.5R	1	0.75	4	50	4	2
ENBRC241005L	0.5R	1	0.75	5	50	4	2
ENBRC241006L	0.5R	1	0.75	6	50	4	2
ENBRC241008L	0.5R	1	0.75	8	50	4	2
ENBRC241010L	0.5R	1	0.75	10	50	4	2
ENBRC241012L	0.5R	1	0.75	12	50	4	2
ENBRC242004L	1.0R	2	1.5	4	50	4	2
ENBRC242006L	1.0R	2	1.5	6	50	4	2
ENBRC242008L	1.0R	2	1.5	8	50	4	2
ENBRC242010L	1.0R	2	1.5	10	50	4	2
ENBRC242012L	1.0R	2	1.5	12	50	4	2
ENBRC242016L	1.0R	2	1.5	16	50	4	2
ENBRC242020L	1.0R	2	1.5	20	50	4	2
ENBRC243008L	1.5R	3	2.5	8	50	4	2
ENBRC243010L	1.5R	3	2.5	10	50	4	2
ENBRC243016L	1.5R	3	2.5	16	50	4	2
ENBRC243020L	1.5R	3	2.5	20	50	4	2
ENBRC244012L	2.0R	4	3	12	50	4	2
ENBRC244016L	2.0R	4	3	16	50	4	2
ENBRC244020L	2.0R	4	3	20	50	4	2

Cutting conditions：Page B272

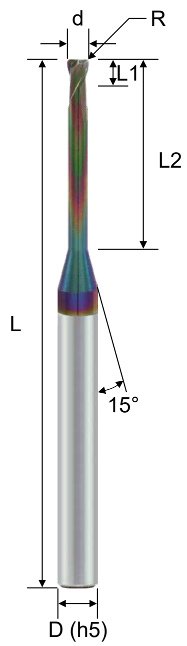
WINSTAR

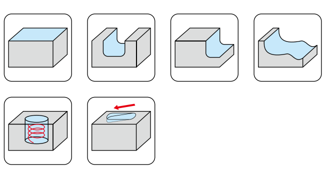
A100 - Long Neck · Corner Radius · 2F (for CU & AL) 長頸型・圓鼻銑刀・2 刃

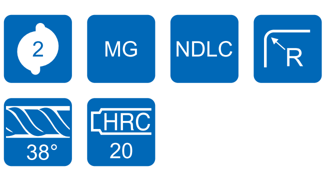
- Suitable for copper alloy, copper electrodes, aluminum processing special.
- Sharp cutting edge and flute polished.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

ENCRC

P	M	K	N	S	H
			●		







d Tolerance	
d	0 ~ -0.015

R Tolerance	
R	±0.0015

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
ENCRC24050102L	0.5	0.1R	1	2	50	4	2
ENCRC24050103L	0.5	0.1R	1	3	50	4	2
ENCRC24050104L	0.5	0.1R	1	4	50	4	2
ENCRC24050105L	0.5	0.1R	1	5	50	4	2
ENCRC24100103L	1	0.1R	2	3	50	4	2
ENCRC24100104L	1	0.1R	2	4	50	4	2
ENCRC24100105L	1	0.1R	2	5	50	4	2
ENCRC24100106L	1	0.1R	2	6	50	4	2
ENCRC24100108L	1	0.1R	2	8	50	4	2
ENCRC24100110L	1	0.1R	2	10	50	4	2
ENCRC24100203L	1	0.2R	2	3	50	4	2
ENCRC24100204L	1	0.2R	2	4	50	4	2
ENCRC24100205L	1	0.2R	2	5	50	4	2
ENCRC24100206L	1	0.2R	2	6	50	4	2
ENCRC24100208L	1	0.2R	2	8	50	4	2
ENCRC24100210L	1	0.2R	2	10	50	4	2
ENCRC24200105L	2	0.1R	4	5	50	4	2
ENCRC24200108L	2	0.1R	4	8	50	4	2
ENCRC24200110L	2	0.1R	4	10	50	4	2
ENCRC24200115L	2	0.1R	4	15	50	4	2
ENCRC24200120L	2	0.1R	4	20	50	4	2
ENCRC24200305L	2	0.3R	4	5	50	4	2
ENCRC24200308L	2	0.3R	4	8	50	4	2
ENCRC24200310L	2	0.3R	4	10	50	4	2
ENCRC24200315L	2	0.3R	4	15	50	4	2
ENCRC24200320L	2	0.3R	4	20	50	4	2
ENCRC24300212L	3	0.2R	6	12	50	4	2
ENCRC24300215L	3	0.2R	6	15	50	4	2
ENCRC24300220L	3	0.2R	6	20	50	4	2
ENCRC24300512L	3	0.5R	6	12	50	4	2
ENCRC24300515L	3	0.5R	6	15	50	4	2
ENCRC24300520L	3	0.5R	6	20	50	4	2
ENCRC24400216L	4	0.2R	8	16	50	4	2
ENCRC24400220L	4	0.2R	8	20	50	4	2
ENCRC24400516L	4	0.5R	8	16	50	4	2
ENCRC24400520L	4	0.5R	8	20	50	4	2

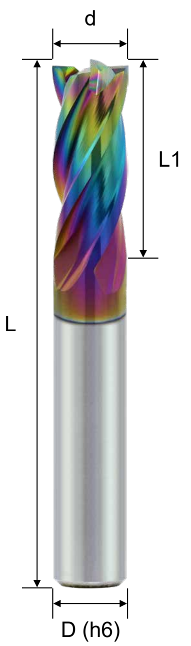
Cutting conditions：Page B273

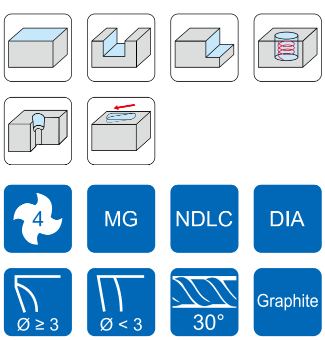
A200 - Square · Standard · 4F 平銑刀・標準型・4 刃

- Suitable for Graphite.
- Strong geometry design has excellent cutting ability of cutting edges.
- High precision cutting for side milling.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.

EGSSC

P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EGSSC443000L	3	8	50	4	4
EGSSC444000L	4	10	50	4	4
EGSSC404000L	4	10	50	6	4
EGSSC405000L	5	13	50	6	4
EGSSC406000L	6	15	50	6	4
EGSSC408000L	8	20	60	8	4
EGSSC410000L	10	25	75	10	4
EGSSC412000L	12	30	75	12	4

Cutting conditions：Page B274

* L NDLC Nano DLC coating   D DIA Diamond Coating

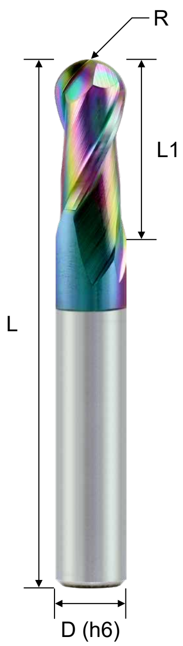
WINSTAR

A200 - Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃

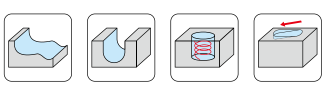
• Suitable for Graphite.
• New tool geometry increases wear resistance and cutting force is decreased.
• Suitable for high speed profile surface milling.
• NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.
• DIA - Diamond coating provides exceptional wear resistance and good tool life.

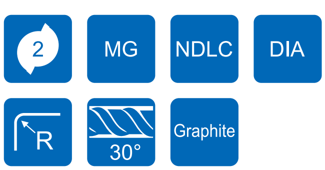
EGBSC

P	M	K	N	S	H
			●		



Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EGBSC240200L	0.10R	0.2	0.4	50	4	2
EGBSC240300L	0.15R	0.3	0.6	50	4	2
EGBSC240400L	0.20R	0.4	0.8	50	4	2
EGBSC240500L	0.25R	0.5	1.0	50	4	2
EGBSC240600L	0.30R	0.6	1.2	50	4	2
EGBSC240700L	0.35R	0.7	1.4	50	4	2
EGBSC240800L	0.40R	0.8	1.6	50	4	2
EGBSC240900L	0.45R	0.9	1.8	50	4	2
EGBSC241000L	0.50R	1.0	2.0	50	4	2
EGBSC241500L	0.75R	1.5	3.0	50	4	2
EGBSC242000L	1.00R	2.0	4.0	50	4	2
EGBSC243000L	1.50R	3.0	6.0	50	4	2
EGBSC244000L	2.00R	4.0	8.0	50	4	2
EGBSC204000L	2.00R	4.0	8.0	50	6	2
EGBSC205000L	2.50R	5.0	10.0	50	6	2
EGBSC206000L	3.00R	6.0	12.0	50	6	2
EGBSC208000L	4.00R	8.0	16.0	60	8	2
EGBSC210000L	5.00R	10.0	20.0	75	10	2
EGBSC212000L	6.00R	12.0	24.0	75	12	2





R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Cutting conditions : Page B274

* L NDLC Nano DLC coating   D DIA Diamond Coating

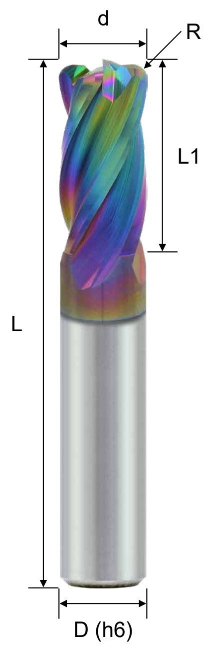
WINSTAR

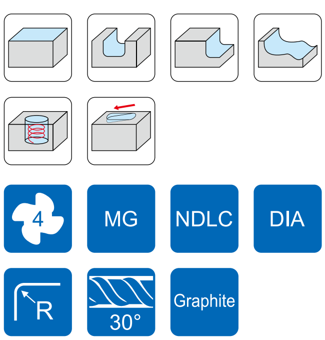
A200 - Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃

- Suitable for Graphite.
- Corner radius with multiple design increases the finish milling surface.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.

EGCSC

P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EGCSC443003L	3	0.3R	6	50	4	4
EGCSC443005L	3	0.5R	6	50	4	4
EGCSC443010L	3	1.0R	6	50	4	4
EGCSC403003L	3	0.3R	6	50	6	4
EGCSC403005L	3	0.5R	6	50	6	4
EGCSC403010L	3	1.0R	6	50	6	4
EGCSC444003L	4	0.3R	8	50	4	4
EGCSC444005L	4	0.5R	8	50	4	4
EGCSC444010L	4	1.0R	8	50	4	4
EGCSC404003L	4	0.3R	8	50	6	4
EGCSC404005L	4	0.5R	8	50	6	4
EGCSC404010L	4	1.0R	8	50	6	4
EGCSC405005L	5	0.5R	10	50	6	4
EGCSC405010L	5	1.0R	10	50	6	4
EGCSC406003L	6	0.3R	12	50	6	4
EGCSC406005L	6	0.5R	12	50	6	4
EGCSC406010L	6	1.0R	12	50	6	4
EGCSC408005L	8	0.5R	16	60	8	4
EGCSC408010L	8	1.0R	16	60	8	4
EGCSC408015L	8	1.5R	16	60	8	4
EGCSC410005L	10	0.5R	20	75	10	4
EGCSC410010L	10	1.0R	20	75	10	4
EGCSC410015L	10	1.5R	20	75	10	4
EGCSC410020L	10	2.0R	20	75	10	4
EGCSC412005L	12	0.5R	24	75	12	4
EGCSC412010L	12	1.0R	24	75	12	4
EGCSC412015L	12	1.5R	24	75	12	4
EGCSC412020L	12	2.0R	24	75	12	4
EGCSC412030L	12	3.0R	24	75	12	4

Cutting conditions : Page B274

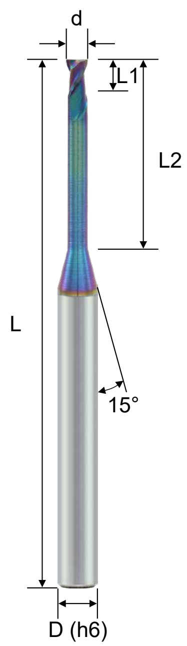
* L NDLC Nano DLC coating   D DIA Diamond Coating

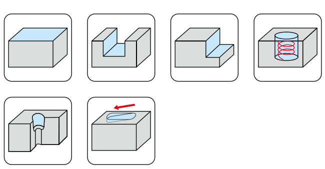
A200 - Long Neck · Square · 2F 長頸型・平銑刀・2 刃

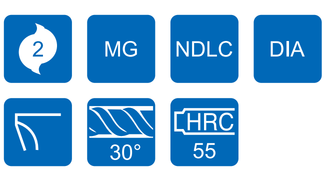
- Suitable for Graphite.
- Available in various effective length.
- Suitable for deep cutting application.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.

EGSRC

P	M	K	N	S	H
			●		







d	Tolerance
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EGSRC240504L	0.5	0.6	4	50	4	2
EGSRC240506L	0.5	0.6	6	50	4	2
EGSRC240508L	0.5	0.6	8	50	4	2
EGSRC241006L	1.0	1.2	6	50	4	2
EGSRC241008L	1.0	1.2	8	50	4	2
EGSRC241012L	1.0	1.2	12	50	4	2
EGSRC241016L	1.0	1.2	16	50	4	2
EGSRC241020L	1.0	1.2	20	50	4	2
EGSRC241508L	1.5	1.8	8	50	4	2
EGSRC241512L	1.5	1.8	12	50	4	2
EGSRC241516L	1.5	1.8	16	50	4	2
EGSRC241520L	1.5	1.8	20	50	4	2
EGSRC242010L	2.0	2.5	10	50	4	2
EGSRC242016L	2.0	2.5	16	50	4	2
EGSRC242020L	2.0	2.5	20	50	4	2
EGSRC242025L	2.0	2.5	25	60	4	2
EGSRC203012L	3.0	3.5	12	50	6	2
EGSRC203020L	3.0	3.5	20	60	6	2
EGSRC203025L	3.0	3.5	25	60	6	2
EGSRC203030L	3.0	3.5	30	75	6	2
EGSRC204016L	4.0	4.5	16	50	6	2
EGSRC204020L	4.0	4.5	20	60	6	2
EGSRC204025L	4.0	4.5	25	60	6	2
EGSRC204030L	4.0	4.5	30	75	6	2
EGSRC204035L	4.0	4.5	35	75	6	2
EGSRC205020L	5.0	7.0	20	60	6	2
EGSRC205025L	5.0	7.0	25	60	6	2
EGSRC205030L	5.0	7.0	30	75	6	2
EGSRC205035L	5.0	7.0	35	75	6	2
EGSRC206020L	6.0	10.0	20	60	6	2
EGSRC206030L	6.0	10.0	30	75	6	2

Cutting conditions : Page B274

* L NDLC Nano DLC coating D DIA Diamond Coating

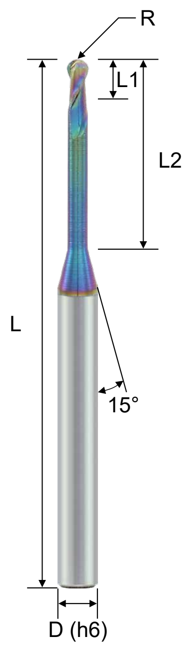
WINSTAR

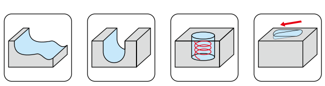
A200 - Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃

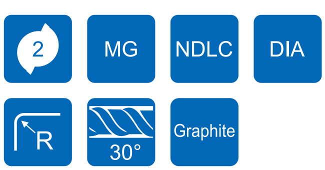
- Suitable for Graphite.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.

EGBRC

P	M	K	N	S	H
			●		







R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EGBRC240504L	0.25R	0.5	0.5	4	50	4	2
EGBRC240506L	0.25R	0.5	0.5	6	50	4	2
EGBRC240508L	0.25R	0.5	0.5	8	50	4	2
EGBRC241006L	0.50R	1.0	1.0	6	50	4	2
EGBRC241008L	0.50R	1.0	1.0	8	50	4	2
EGBRC241012L	0.50R	1.0	1.0	12	50	4	2
EGBRC241016L	0.50R	1.0	1.0	16	50	4	2
EGBRC241020L	0.50R	1.0	1.0	20	50	4	2
EGBRC241508L	0.75R	1.5	1.5	8	50	4	2
EGBRC241512L	0.75R	1.5	1.5	12	50	4	2
EGBRC241516L	0.75R	1.5	1.5	16	50	4	2
EGBRC241520L	0.75R	1.5	1.5	20	50	4	2
EGBRC242010L	1.00R	2.0	2.0	10	50	4	2
EGBRC242016L	1.00R	2.0	2.0	16	50	4	2
EGBRC242020L	1.00R	2.0	2.0	20	50	4	2
EGBRC242025L	1.00R	2.0	2.0	25	60	4	2
EGBRC203012L	1.50R	3.0	3.0	12	50	6	2
EGBRC203016L	1.50R	3.0	3.0	16	60	6	2
EGBRC203020L	1.50R	3.0	3.0	20	60	6	2
EGBRC203025L	1.50R	3.0	3.0	25	60	6	2
EGBRC203030L	1.50R	3.0	3.0	30	75	6	2
EGBRC204016L	2.00R	4.0	4.0	16	60	6	2
EGBRC204020L	2.00R	4.0	4.0	20	60	6	2
EGBRC204025L	2.00R	4.0	4.0	25	60	6	2
EGBRC204030L	2.00R	4.0	4.0	30	75	6	2
EGBRC205020L	2.50R	5.0	5.0	20	60	6	2
EGBRC205025L	2.50R	5.0	5.0	25	60	6	2
EGBRC205030L	2.50R	5.0	5.0	30	75	6	2
EGBRC206020L	3.00R	6.0	10.0	20	60	6	2
EGBRC206030L	3.00R	6.0	10.0	30	75	6	2

Cutting conditions : Page B274

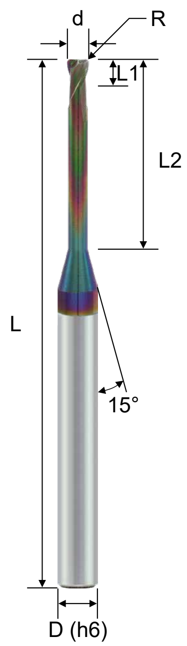
* L NDLC Nano DLC coating D DIA Diamond Coating

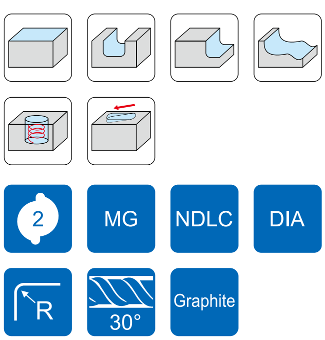
A200 - Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃

- Suitable for Graphite.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.

EGCRC

P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EGCRC24100106L	1	0.1R	1	6	50	4	2
EGCRC24100108L	1	0.1R	1	8	50	4	2
EGCRC24100110L	1	0.1R	1	10	50	4	2
EGCRC24100112L	1	0.1R	1	12	50	4	2
EGCRC24200210L	2	0.2R	2	10	50	4	2
EGCRC24200216L	2	0.2R	2	16	50	4	2
EGCRC24200220L	2	0.2R	2	20	50	4	2
EGCRC24200225L	2	0.2R	2	25	60	4	2
EGCRC24200510L	2	0.5R	2	10	50	4	2
EGCRC24200516L	2	0.5R	2	16	50	4	2
EGCRC24200520L	2	0.5R	2	20	50	4	2
EGCRC24200525L	2	0.5R	2	25	60	4	2
EGCRC20300210L	3	0.2R	3	10	50	6	2
EGCRC20300220L	3	0.2R	3	20	60	6	2
EGCRC20300230L	3	0.2R	3	30	75	6	2
EGCRC20300510L	3	0.5R	3	10	50	6	2
EGCRC20300520L	3	0.5R	3	20	60	6	2
EGCRC20300530L	3	0.5R	3	30	75	6	2
EGCRC20400516L	4	0.5R	4	16	60	6	2
EGCRC20400525L	4	0.5R	4	25	60	6	2
EGCRC20400535L	4	0.5R	4	35	75	6	2
EGCRC20401016L	4	1.0R	4	16	60	6	2
EGCRC20401025L	4	1.0R	4	25	60	6	2
EGCRC20401035L	4	1.0R	4	35	75	6	2
EGCRC20500520L	5	0.5R	5	20	60	6	2
EGCRC20500530L	5	0.5R	5	30	75	6	2
EGCRC20600520L	6	0.5R	7	20	60	6	2
EGCRC20600530L	6	0.5R	7	30	75	6	2
EGCRC20601020L	6	1.0R	7	20	60	6	2
EGCRC20601030L	6	1.0R	7	30	75	6	2

Cutting conditions : Page B274

* L NDLC Nano DLC coating　D DIA Diamond Coating

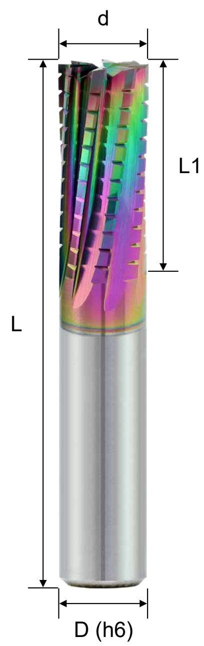
A300 - Square · Finishing · 6F / 8F

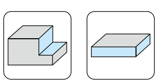
平銑刀 - 精銑用．6 刃 / 8 刃

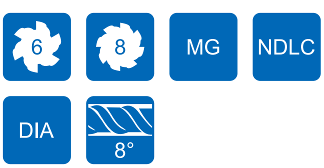
- For CFRP/GFRP multi-purpose finish milling.
- Multi flutes and fine nick geometry design.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.

ECSSF

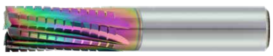
P	M	K	N	S	H
			●		







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
 NDLC Nano DLC coating					
ECSSF606000L	6	15	60	6	6
ECSSF608000L	8	20	75	8	6
ECSSF810000L	10	25	75	10	8
ECSSF812000L	12	30	100	12	8
 DIA Diamond Coating					
ECSSF606000D	6	15	60	6	6
ECSSF608000D	8	20	75	8	6
ECSSF810000D	10	25	75	10	8
ECSSF812000D	12	30	100	12	8

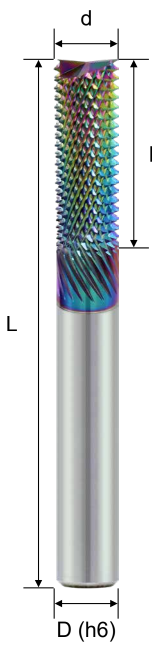
Cutting conditions：Page B275

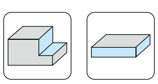
A300 - Square · Roughing · 8~17F 平銑刀 - 粗銑用・8~17 刃

- For CFRP/GFRP rough milling.
- Right helix and left helix design.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.

ECSSR

P	M	K	N	S	H
			●		





MG | NDLC | DIA | ±25°

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
 NDLC Nano DLC coating					
ECSSR804000L	4	12	60	6	8
ECSSR106000L	6	18	60	6	11
ECSSR408000L	8	24	60	8	14
ECSSR610000L	10	30	75	10	16
ECSSR712000L	12	36	100	12	17
 DIA Diamond Coating					
ECSSR804000D	4	12	60	6	8
ECSSR106000D	6	18	60	6	11
ECSSR408000D	8	24	60	8	14
ECSSR610000D	10	30	75	10	16
ECSSR712000D	12	36	100	12	17

Cutting conditions : Page B275

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

For Special Series Introduction 特殊銑刀系列介紹

S910 Series

Modular Endmills for Deep Milling

・ISO M thread, diameter 10~32mm.
・Carbide adapters max. lengths 300mm.
・More economical & flexible deep cutting solution.
・ANAX smooth coating.

模組化銑刀 , 適用深加工

・ISO M 牙設計，提供 10~32mm 外徑
・鎢鋼抗震刀桿長度最大為 300mm
・更經濟與彈性的深加工解決方案
・含矽平滑塗層

→ Page B202

S920 Series

Thread Endmills for Threading

・Provide ISO M and UN thread mills.
・A thread mills is suitable for cuttingvarious sizes of diameter.
・Large diameter thread can be machined with low power machine.
・ANAX smooth coating.

銑牙刀 , 適用銑牙加工

・提供 ISO M 牙及 UN 牙銑牙刀
・單一銑牙刀可加工不同的外徑尺寸牙紋
・抗震不等分割刃與不等螺旋設計
・含矽平滑塗層

→ Page B206

S930 Series

Barrel Endmills for Profiling

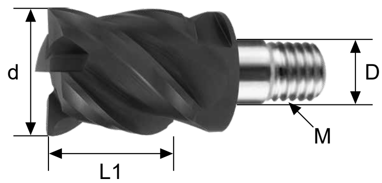
・High performance profile cutting for 5-axis machine.
・Provide larger axial depth of cut, improve machining efficiency.
・Optimal surface finish and tool life.
・ANAX smooth coating.

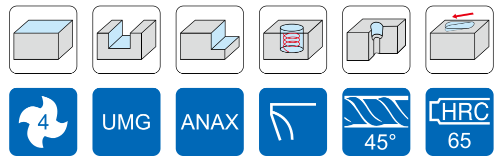
酒桶銑刀 , 適用曲面加工

・高效能 5 軸輪廓加工銑刀
・提供更大的軸向切削深度，提高加工效率
・更佳的表面光潔度和刀具壽命
・含鉻平滑塗層

→ Page B212

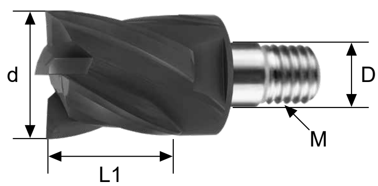
EHSWH Square Solid Head (for hardened steel) 全鎢鋼平銑刀頭 (高硬鋼用)

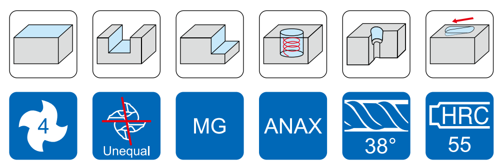




Order No. 訂購編碼	Dia. (d)	CL (L1)	ND (D)	M (M)	Flutes (Z)
EHSWH410000A	10	10	6.5	M6	4
EHSWH412000A	12	12	6.5	M6	4
EHSWH416000A	16	16	8.5	M8	4
EHSWH420000A	20	20	10.5	M10	4

EPSWV Square Solid Head, Unequal spacing (for Exotic) 全鎢鋼平銑刀頭 , 不等分割 (難切削材用)

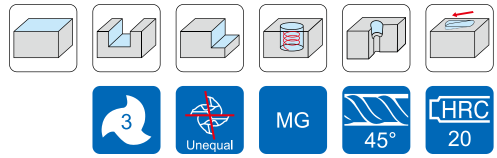




Order No. 訂購編碼	Dia. (d)	CL (L1)	ND (D)	M (M)	Flutes (Z)
EPSWV410000A	10	10	6.5	M6	4
EPSWV412000A	12	12	6.5	M6	4
EPSWV416000A	16	16	8.5	M8	4
EPSWV420000A	20	20	10.5	M10	4

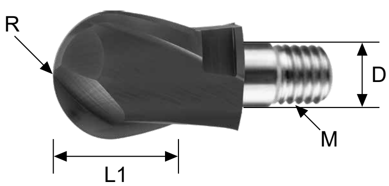
※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

ENSWV Square Solid Head, Unequal spacing (for non-ferrous) 全鎢鋼平銑刀頭 , 不等分割 (非鐵金屬用)



Order No. 訂購編碼	Dia. (d)	CL (L1)	ND (D)	M (M)	Flutes (Z)
ENSWV310000	10	10	6.5	M6	3
ENSWV312000	12	12	6.5	M6	3
ENSWV316000	16	16	8.5	M8	3
ENSWV320000	20	20	10.5	M10	3

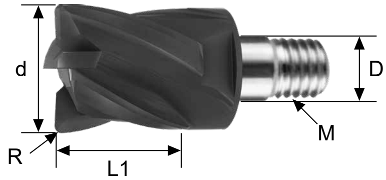
EHBWH Ball Nose Solid Head (for hardened steel) 全鎢鋼球形銑刀頭 (高硬鋼用)

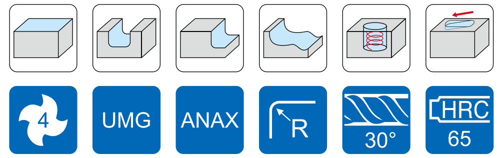


Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	ND (D)	M (M)	Flutes (Z)
EHBWH210000A	5R	10	10	6.5	M6	2
EHBWH212000A	6R	12	12	6.5	M6	2
EHBWH216000A	8R	16	16	8.5	M8	2
EHBWH220000A	10R	20	20	10.5	M10	2

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

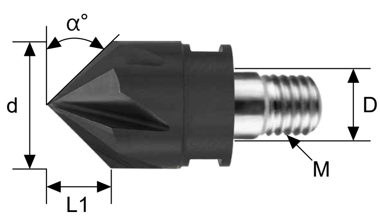
EHCWH Corner Radius Solid Head (for hardened steel) 全鎢鋼圓鼻銑刀頭 (高硬鋼用)

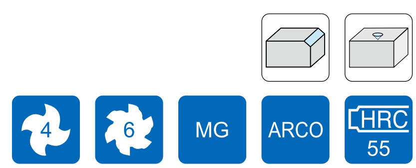




Order No. 訂購編碼	Dia. (d)	Radius (R)	CL (L1)	ND (D)	M (M)	Flutes (Z)
EHCWH410005A	10	0.5R	10	6.5	M6	4
EHCWH410010A	10	1.0R	10	6.5	M6	4
EHCWH412005A	12	0.5R	12	6.5	M6	4
EHCWH412010A	12	1.0R	12	6.5	M6	4
EHCWH412020A	12	2.0R	12	6.5	M6	4
EHCWH412030A	12	3.0R	12	6.5	M6	4
EHCWH416010A	16	1.0R	16	8.5	M8	4
EHCWH416020A	16	2.0R	16	8.5	M8	4
EHCWH416030A	16	3.0R	16	8.5	M8	4
EHCWH420010A	20	1.0R	20	10.5	M10	4
EHCWH420020A	20	2.0R	20	10.5	M10	4
EHCWH420030A	20	3.0R	20	10.5	M10	4

EHFWH Chamfer Solid Head (for universal) 全鎢鋼倒角刀頭 (泛用)





Order No. 訂購編碼	Dia. (d)	CL (L1)	α°	ND (D)	M (M)	Flutes (Z)
EHFWH410090A	10	5	45°	6.5	M6	4
EHFWH412090A	12	6	45°	6.5	M6	4
EHFWH610090A	10	5	45°	6.5	M6	6
EHFWH612090A	12	6	45°	6.5	M6	6
EHFWH616090A	16	8	45°	8.5	M8	6

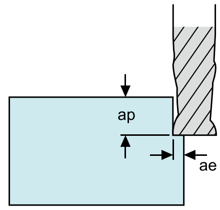
※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

Recommended Cutting Conditions 建議切削數據

EHSWH4, EHCWH4 (Square Head - 4F, Corner Radius Head - 4F)

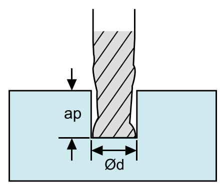
Shoulder Milling L/D ≤ 3 (Reference L/D ratio table, reduce vc, fz and ae value)

Material	**Pre-Hardened Steels** NAK80 CENA1				**Hardened Steels** SKD61,SKD11				**Hardened Steels** SKD11,SKH51			
Hardness	HRC 35~45				HRC 40~55				HRC 55~65			
VC	90 ~ 150(m/min)				80 ~ 120 (m/min)				70 ~ 100 (m/min)			
Dia	RPM	fz (mm/tooth)	ap (mm)	ae (mm)	RPM	fz (mm/tooth)	ap (mm)	ae (mm)	RPM	fz (mm/tooth)	ap (mm)	ae (mm)
10mm	3820	0.05	8.0	2.0	3190	0.05	8.0	1.5	2390	0.05	8.0	1.0
12mm	3190	0.05	9.6	2.4	2650	0.05	9.6	1.8	2000	0.05	9.6	1.2
16mm	2390	0.06	12.8	3.2	2000	0.06	12.8	2.4	1500	0.06	12.8	1.6
20mm	1910	0.06	16.0	4.0	1600	0.06	16.0	3.0	1190	0.06	16.0	2.0



Slot Milling L/D ≤ 3 (Reference L/D ratio table, reduce vc and fz value)

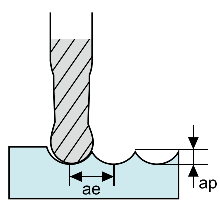
Material	**Pre-Hardened Steels** NAK80 CENA1			**Hardened Steels** SKD61,SKD11			**Hardened Steels** SKD11,SKH51		
Hardness	HRC 35~45			HRC 40~55			HRC 55~65		
VC	60 ~ 100(m/min)			50 ~ 90 (m/min)			40 ~ 80 (m/min)		
Dia	RPM	fz (mm/tooth)	ap (mm)	RPM	fz (mm/tooth)	ap (mm)	RPM	fz (mm/tooth)	ap (mm)
10mm	2550	0.02	4.0	2390	0.02	4.0	1900	0.02	4.0
12mm	2120	0.02	4.8	2000	0.02	4.8	1590	0.02	4.8
16mm	1590	0.03	6.4	1490	0.03	6.4	1190	0.03	6.4
20mm	1275	0.03	8.0	1190	0.03	8.0	950	0.03	8.0



EHBWH2 (Ball Nose Head - 2F)

L/D ≤ 3 (Reference L/D ratio table, reduce vc and fz value)

Material	**Pre-Hardened Steels** NAK80 CENA1				**Hardened Steels** SKD61,SKD11				**Hardened Steels** SKD11,SKH51			
Hardness	HRC 35~45				HRC 40~55				HRC 55~65			
VC	100 ~ 190(m/min)				90 ~ 160 (m/min)				70 ~ 140 (m/min)			
Dia	RPM	fz (mm/tooth)	ap (mm)	ae (mm)	RPM	fz (mm/tooth)	ap (mm)	ae (mm)	RPM	fz (mm/tooth)	ap (mm)	ae (mm)
10mm	4620	0.1	0.7	2	3980	0.05	0.4	1.5	3345	0.02	0.2	1.0
12mm	3850	0.1	0.84	2.4	3320	0.05	0.5	1.8	2790	0.02	0.2	1.2
16mm	2885	0.15	1.12	3.2	2485	0.075	0.64	2.4	2090	0.03	0.3	1.6
20mm	2300	0.2	1.4	4.0	2000	0.1	0.8	3.0	1670	0.04	0.4	2.0



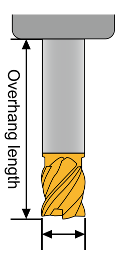
How to set cutting conditions on different overhang length

如何設置不同懸伸長度的切削參數

The recommended cutting condition is depended by the L/D factor.

L/D ratio table :

L/D	VC (m/min)	fz (mm/t)	ae (mm)
2 ~ 3	100%	100%	100%
4 ~ 5	70%	80%	50%
6 ~ 7	50%	70%	30%
8 ~ 9	40%	60%	20%

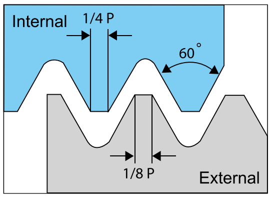


EX :
Tool : Ød=12mm Square Head
Overhang length : 50mm
L/D : 50/12 = 4.16
Material HRC : 35 ~ 45
Application : Shoulder Milling

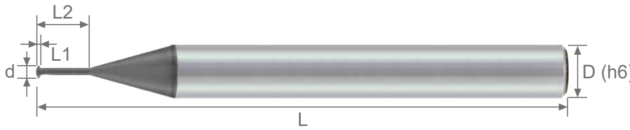
Cutting condition is recommended as :
*Vc = 120*70% = 84 m/min*
*fz = 0.05*80% = 0.04 mm/t*
ap = 9.6 mm
*max ae = 2.4*50% = 1.2 mm*

S920 - Thread mill · 3F / 4F / 5F (ISO Metric) 銑牙刀・3 刃 / 4 刃 / 5 刃 (ISO 牙)

ETSNM Series (ISO Metric)

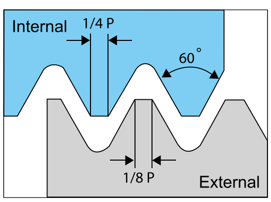


Tolerance class : 6H

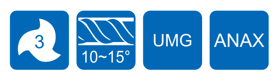


Order No. 訂購編碼	Size	Pitch	No. of Threads	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (z)
ETSNM30072025A	M1	0.25	1	0.72	0.25	2.75	42	4	3
ETSNM30091025A	M1.2	0.25	1	0.91	0.25	3.25	42	4	3
ETSNM30105030A	M1.4	0.30	1	1.05	0.30	3.80	42	4	3
ETSNM30120035A	M1.6	0.35	1	1.20	0.35	4.35	42	4	3
ETSNM30130035A	M1.7~M1.8	0.35	1	1.30	0.35	4.85	42	4	3
ETSNM30152040A	M2	0.40	1	1.52	0.40	6	42	4	3
ETSNM30240050A	M3	0.50	1	2.40	0.50	9	42	4	3
ETSNM30315070A	M4	0.70	1	3.15	0.70	12	50	4	3
ETSNM40480100A	M6	1.00	1	4.80	1.00	18	60	6	4
ETSNM40590125A	M8	1.25	1	5.90	1.25	25	75	6	4
ETSNM50820150A	M10	1.50	1	8.20	1.50	32	75	10	5
ETSNM50990175A	M12	1.75	1	9.90	1.75	38	75	10	5

ETTNM Series (ISO Metric)



Tolerance class : 6H

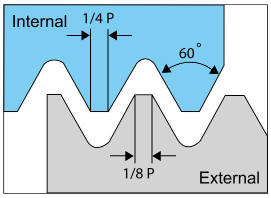


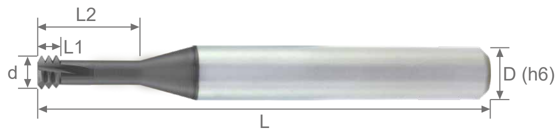
Order No. 訂購編碼	Size	Pitch	No. of Threads	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (z)
ETTNM30150040A	M2	0.40	3	1.5	1.20	4.4	50	6	3
ETTNM30190045A	M2.5	0.45	3	1.9	1.35	5.6	50	6	3
ETTNM30240050A	M3	0.50	3	2.4	1.50	6.5	50	6	3
ETTNM30310070A	M4	0.70	3	3.1	2.10	8.7	50	6	3
ETTNM30400080A	M5	0.80	3	4.0	2.40	10.8	50	6	3
ETTNM30480100A	M6	1.00	3	4.8	3.00	12.5	50	6	3
ETTNM30650125A	M8	1.25	3	6.5	3.75	16.6	60	8	3
ETTNM30820150A	M10	1.50	3	8.2	4.50	20.8	75	10	3
ETTNM30990175A	M12	1.75	3	9.9	5.25	25.0	75	10	3
ETTNM31190200A	M16	2.00	3	11.9	6.00	33.0	75	12	3
ETTNM31590250A	M20	2.50	3	15.9	7.50	41.3	100	16	3

＊ Customized specification available.

S920 - Thread mill · 3F / 4F (American UN) 銑牙刀・3 刃 / 4 刃 (UN 牙)

ETTNU Series *(American UN)*





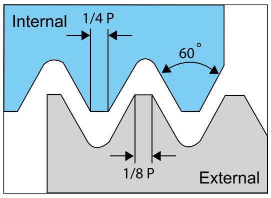
Tolerance class : 2B

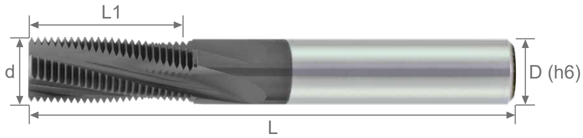
Order No. 訂購編碼	TPI	Thread		No. of Threads	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (z)
		UNC	UNF							
ETTNU30331036A	36		8-36UNF	3	3.31	2.12	8.8	50	4	3
ETTNU30257032A	32	6-32UNC		3	2.57	2.38	7.3	50	4	3
ETTNU30322032A	32	8-32UNC	10-32UNF	3	3.22	2.38	10.1	60	6	3
ETTNU30520028A	28		1/4-28UNF	3	5.2	2.72	14	60	6	3
ETTNU30355024A	24	10-24UNC		3	3.55	3.18	10.4	60	6	3
ETTNU30665024A	24		5/16-24UNF	3	6.65	3.18	16.7	60	8	3
ETTNU30485020A	20	1/4-20UNC	7/16-20UNF	3	4.85	3.81	13.7	60	6	3
ETTNU30795020A	20		7/16-20UNF	3	7.95	3.81	24	60	8	3
ETTNU30595018A	18	5/16-18UNC		3	5.95	4.23	16.5	60	6	3
ETTNU30690016A	16	3/8-16UNC		3	6.9	4.76	21	60	8	3
ETTNU30795014A	14	7/16-14UNC		3	7.95	5.44	23.5	60	8	3
ETTNU30930013A	13	1/2-13UNC		3	9.3	5.86	27	80	10	3
ETTNU30995012A	12	9/16-12UNC		3	9.95	6.35	29	80	10	3
ETTNU31150011A	11	5/8-11UNC		3	11.5	6.93	33	80	12	3
ETTNU41440010A	10	3/4-10UNC		3	14.4	7.62	42	110	16	4

＊ Customized specification available.

S920 - Thread mill · 3F / 4F 銑牙刀・3 刃 / 4 刃 (ISO 牙)

ETMNM Series *(ISO Metric)*



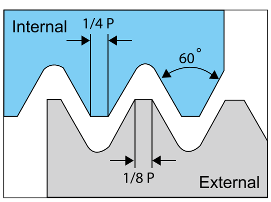


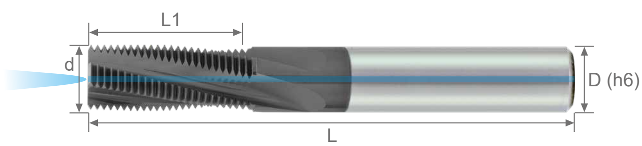
Tolerance class : 6H

Order No. 訂購編碼	Size	Pitch	No. of Threads	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (z)
ETMNM30390100A	M6	1.00	12	3.90	12.00	50	6	3
ETMNM30390075A		0.75	16	3.90	12.00	50	6	3
ETMNM30580125A	M8	1.25	13	5.80	16.25	60	6	3
ETMNM30590100A		1.00	16	5.90	16.00	60	6	3
ETMNM30770150A	M10	1.50	14	7.70	21.00	60	8	3
ETMNM30770125A		1.25	16	7.70	20.00	60	8	3
ETMNM30790100A		1.00	20	7.90	20.00	60	8	3
ETMNM40870175A	M12	1.75	14	8.70	24.50	75	10	4
ETMNM40940150A		1.50	16	9.40	24.00	75	10	4
ETMNM40990100A		1.00	24	9.90	24.00	75	10	4
ETMNM40990200A	M14	2.00	14	9.90	28.00	75	10	4
ETMNM41120150A		1.50	19	11.20	28.50	75	12	4
ETMNM41190200A	M16	2.00	16	11.90	32.00	100	12	4
ETMNM41190150A		1.50	22	11.90	33.00	100	12	4

＊ Customized specification available.

ETMCM Series *(ISO Metric)*





(with internal coolant)

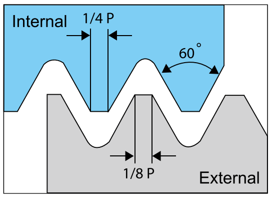
Tolerance class : 6H

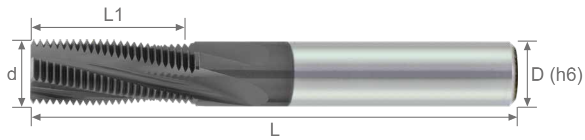
Order No. 訂購編碼	Size	Pitch	No. of Threads	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (z)
ETMCM30390100A	M6	1.00	12	3.90	12.00	50	6	3
ETMCM30390075A		0.75	16	3.90	12.00	50	6	3
ETMCM30580125A	M8	1.25	13	5.80	16.25	60	6	3
ETMCM30590100A		1.00	16	5.90	16.00	60	6	3
ETMCM30770150A	M10	1.50	14	7.70	21.00	60	8	3
ETMCM30770125A		1.25	16	7.70	20.00	60	8	3
ETMCM30790100A		1.00	20	7.90	20.00	60	8	3
ETMCM40870175A	M12	1.75	14	8.70	24.50	75	10	4
ETMCM40940150A		1.50	16	9.40	24.00	75	10	4
ETMCM40990100A		1.00	24	9.90	24.00	75	10	4
ETMCM40990200A	M14	2.00	14	9.90	28.00	75	10	4
ETMCM41120150A		1.50	19	11.20	28.50	75	12	4
ETMCM41190200A	M16	2.00	16	11.90	32.00	100	12	4
ETMCM41190150A		1.50	22	11.90	33.00	100	12	4

＊ Customized specification available.

S920 - Thread mill · 3F / 4F (American UN) 銑牙刀・3 刃 / 4 刃 (UN 牙)

ETMNU Series *(American UN)*





Tolerance class : 2A/2B

Order No. 訂購編碼	TPI	Thread			No. of Threads	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (z)
		UNC	UNF	UNEF						
ETMNU30300036A	36		No.8		12	3.0	8.5	50	4	3
ETMNU30330032A	32		No.10	No.12-3/8"	14	3.3	11.1	50	4	3
ETMNU30380028A	28		No.12, 1/4"	7/16", 1/2"	13	3.8	11.8	50	4	3
ETMNU30460028A	28		1/4"	7/16, 1/2"	14	4.6	12.7	60	6	3
ETMNU40920028A	28			7/16", 1/2"	25	9.2	22.7	75	10	4
ETMNU30290024A	24	No.10	5/16", 3/8"	9/16"-11/16"	10	2.9	10.6	50	4	3
ETMNU30350024A	24	No.12	5/16", 3/8"	9/16"-11/16"	11	3.5	11.6	50	4	3
ETMNU30570024A	24		5/16", 3/8"	9/16"-11/16"	15	5.7	15.9	60	6	3
ETMNU30740024A	24		3/8"	9/16"-11/16"	18	7.4	19.1	60	8	3
ETMNU41190024A	24			9/16"-11/16"	27	11.9	28.6	100	12	4
ETMNU30390020A	20	1/4"	7/16", 1/2"	3/4"-1"	10	3.9	12.7	50	4	3
ETMNU40850020A	20		7/16", 1/2"	3/4"-1"	18	8.5	22.9	75	10	4
ETMNU40990020A	20		1/2"	3/4"-1"	20	9.9	25.4	75	10	4
ETMNU51590020A	20			3/4"-1"	30	15.9	38.1	100	16	5
ETMNU30520018A	18	5/16"	9/16", 5/8"	11/16"-1 11/16"	12	5.2	16.9	60	6	3
ETMNU41130018A	18		9/16", 5/8"	11/16"-1 11/16"	21	11.3	29.6	100	12	4
ETMNU41190018A	18		5/8"	11/16"-1 11/16"	23	11.9	32.5	100	12	4
ETMNU30670016A	16	3/8"	3/4"		12	6.7	19.1	60	8	3
ETMNU41590016A	16		3/4"		24	15.9	38.1	100	16	4
ETMNU40760014A	14	7/16"	7/8"		13	7.6	23.6	60	8	4
ETMNU41870014A	14		7/8"		24	18.7	44.4	100	20	4
ETMNU40890013A	13	1/2"			13	8.9	25.4	75	10	4
ETMNU41030012A	12	9/16"	1"-1 1/2"		14	10.3	29.6	100	12	4
ETMNU51990012A	12		1"-1 1/2"		24	19.9	50.8	100	20	5
ETMNU41100011A	11	5/8"			14	11.0	32.3	100	12	4
ETMNU51350010A	10	3/4"			15	13.5	38.1	100	16	5
ETMNU41520009A	9	7/8"			16	15.2	45.2	100	16	4
ETMNU41700008A	8	1"			16	17.0	50.8	100	20	4

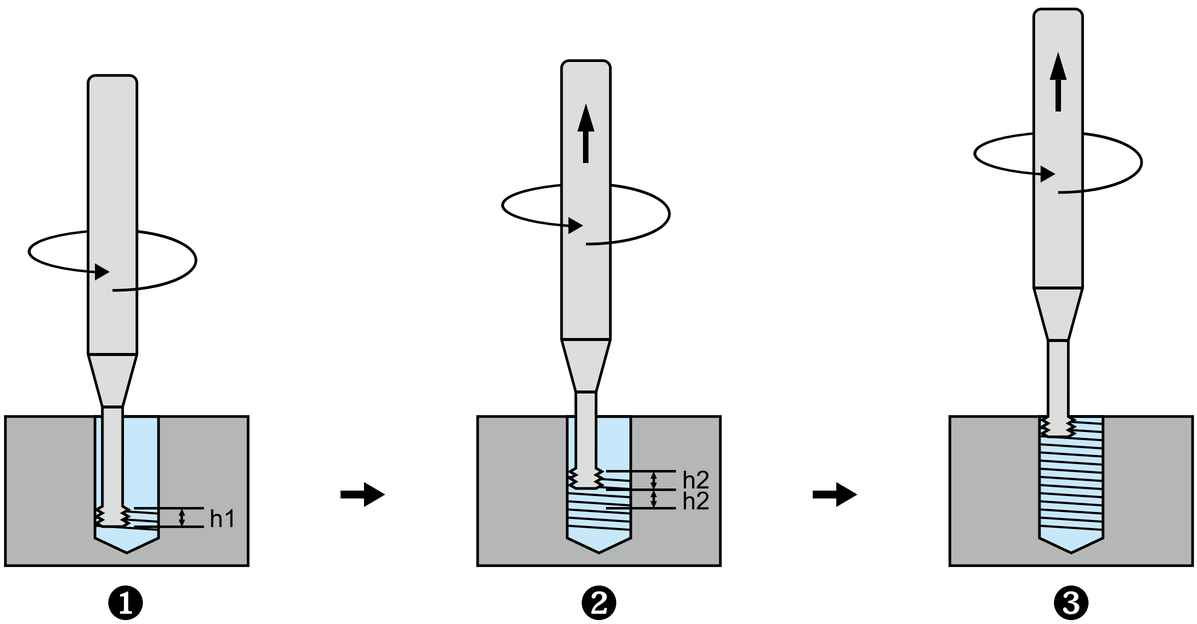
＊ Customized specification available.

Recommended Cutting Conditions

Work Material	for ETTNM		for ETMNM	
	Vc (m/min)	Feed (mm/t)	Vc (m/min)	Feed (mm/t)
Carbon Steel / Alloy Steel	60 ~ 90	0.02 ~ 0.08	50 ~ 70	0.02 ~ 0.07
Stainless Steel	60 ~ 90	0.02 ~ 0.08	50 ~ 70	0.02 ~ 0.07
Cast Iron	50 ~ 100	0.03 ~ 0.10	50 ~ 100	0.03 ~ 0.10
Aluminum Alloy	50 ~ 100	0.02 ~ 0.06	50 ~ 70	0.03 ~ 0.10
High Temperature Alloy	20 ~ 60	0.01 ~ 0.03	20 ~ 60	0.01 ~ 0.03
Hardened Steel	30 ~ 60	0.01 ~ 0.03	25 ~ 50	0.01 ~ 0.05

※ To choose uncoated tool for aluminum materials machining.

ETTNM Cutting method



❶ Machine h1 distance at the bottom of the hole and move the tool to the center of the hole. (h1 = 3 Pitch)

❷ Machine h2 distance while moving in Z axial direction.

❸ Repeat operation ❷ to finish the hole.

Remark

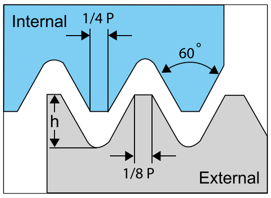
h2 value set :

1. for Machining General materials, h2 = 3 Pitch.
2. for Machining Heat resistant alloys or High hardness material, h2 = 1 Pitch.

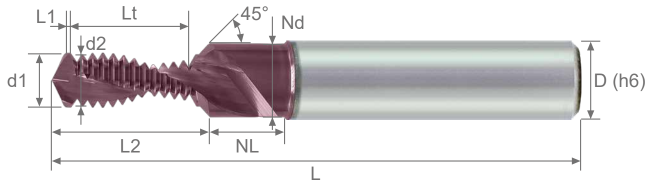
WINSTAR

S920 - Drll/Thread mill · 2F 銑牙刀 - 鑽孔 & 螺紋銑削 · 2 刃

ETDNM Series *(ISO Metric)*



Tolerance class : 6g / 6H



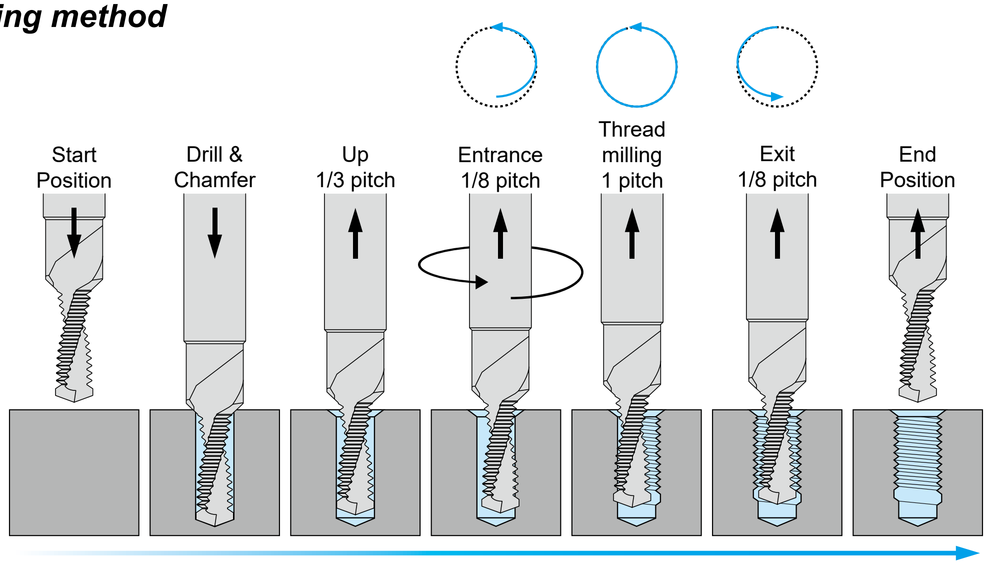
Order No. 訂購編碼	Size (Coarse)	Pitch	No. of Threads	d1	d2	Lt	L1	L2	Nd	NL	L	D	h	Coating
ETDNM20420080U	M5	0.80	12	4.2	4.00	9.60	0.8	11.9	5.7	6.1	55	6	0.46	●
ETDNM20050100U	M6	1.00	11	5.0	4.85	11.00	1.0	13.7	6.6	9.5	60	8	0.58	●
ETDNM20680125U	M8	1.25	11	6.8	6.45	13.75	1.3	17.1	9.0	16.8	75	10	0.72	●
ETDNM20850150U	M10	1.50	12	8.5	8.08	18.00	1.5	22.1	11.0	11.6	80	12	0.87	●
ETDNM20420080	M5	0.80	12	4.2	4.00	9.60	0.8	11.9	5.7	6.1	55	6	0.46	
ETDNM20050100	M6	1.00	11	5.0	4.85	11.00	1.0	13.7	6.6	9.5	60	8	0.58	
ETDNM20680125	M8	1.25	11	6.8	6.45	13.75	1.3	17.1	9.0	16.8	75	10	0.72	
ETDNM20850150	M10	1.50	12	8.5	8.08	18.00	1.5	22.1	11.0	11.6	80	12	0.87	

∗ Maximum chamfering depth = (Nd - d1) × 0.5

Recommended Cutting Conditions

	Work Material	HB	Strength (N-mm)	Vc (m/min)	Drilling f (mm/rev)		Thread milling fz (mm)	
					≤ 6mm	≤ 12mm	≤ 6mm	≤ 12mm
K	Grey Cast Iron	≤150	≤500	55 ~ 85	0.07 ~ 0.105	0.105 ~ 0.154	0.014 ~ 0.035	0.035 ~ 0.07
K	Grey Cast Iron (Heat Treated)	150 ~ 300	500 ~ 1000	55 ~ 85	0.07 ~ 0.105	0.105 ~ 0.154	0.014 ~ 0.035	0.035 ~ 0.07
N	Short Chips, Brass, Bronze	≤200	≤700	70 ~ 280	0.07 ~ 0.210	0.042 ~ 0.070	0.021 ~ 0.042	0.042 ~ 0.07
N	Aluminium, Cast Alloy (Si<10%)	≤180	≤600	70 ~ 280	0.07 ~ 0.175	0.175 ~ 0.210	0.021 ~ 0.042	0.042 ~ 0.07
N	Aluminium, Cast Alloy (Si≥10%)	≤180	≤600	70 ~ 280	0.07 ~ 0.175	0.175 ~ 0.210	0.021 ~ 0.042	0.042 ~ 0.07
N	Thermoplastics	-	-	40 ~ 80	0.07 ~ 0.175	0.175 ~ 0.210	0.021 ~ 0.042	0.042 ~ 0.07

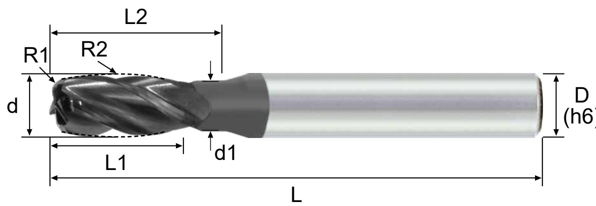
Operating method



S930 Barrel Endmills - Barrel Shape · 4F 酒桶銑刀 - 酒桶形 · 4 刃

EBASB Series

- For alloy steel, stainless steel, and high temperature alloy milling.
- 適用於合金鋼，不鏽鋼以及高溫合金加工



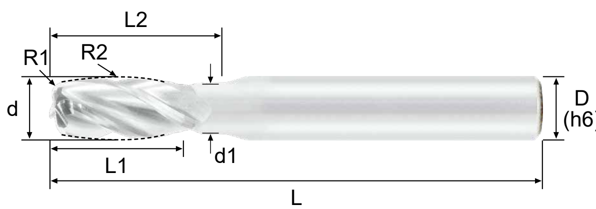
30° ANAX

P	M	K	N	S	H
●	●	○		●	○

Order No. 訂購編碼	d	R1	R2	L1	L2	d1	L	D	Flute
EBASB41010600A	10	1R	60R	21.5	30	8	75	10	4
EBASB41210700A	12	1R	70R	23	36	10	75	12	4

EBNSB Series

- For aluminum alloy milling.
- 適用於鋁合金加工



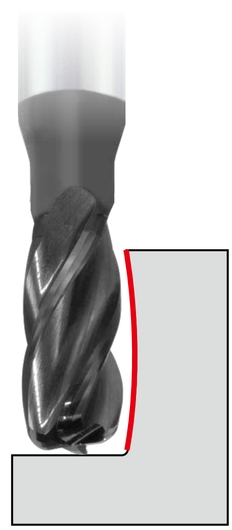
40°

P	M	K	N	S	H
			●		

Order No. 訂購編碼	d	R1	R2	L1	L2	d1	L	D	Flute
EBNSB41010600	10	1R	60R	21.5	30	8	75	10	4
EBNSB41210700	12	1R	70R	23	36	10	75	12	4

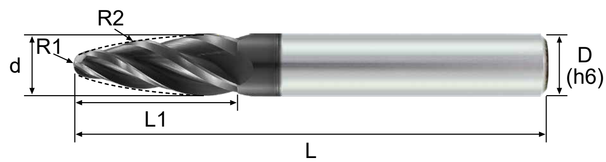
Barrel shape has a continuous double radii along the length of cut and a reduced neck, suitable for side profile milling.

酒桶形酒桶銑刀沿著刃長具有 2 個 R 角和頸部，適用側邊曲面成形加工



EBASO Series

- For alloy steel, stainless steel, and high temperature alloy milling.
- 適用於合金鋼，不鏽鋼以及高溫合金加工



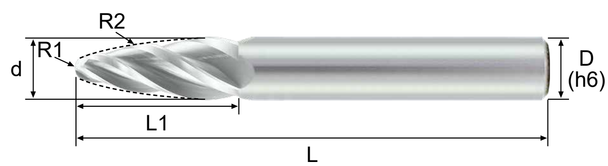
30° ANAX

P	M	K	N	S	H
●	●	○		●	○

Order No. 訂購編碼	d	R1	R2	L1	L	D	Flute
EBASO30610950A	6	1R	95R	22	60	6	3
EBASO30810900A	8	1R	90R	25	75	8	3
EBASO41020850A	10	2R	85R	26	75	10	4
EBASO41220800A	12	2R	80R	28	75	12	4

EBNSO Series

- For aluminum alloy milling.
- 適用於鋁合金加工



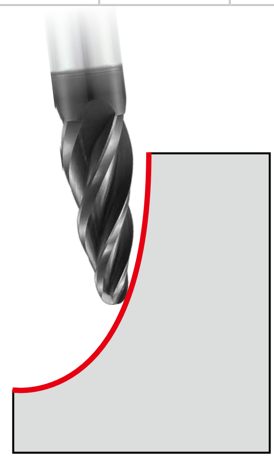
40°

P	M	K	N	S	H
			●		

Order No. 訂購編碼	d	R1	R2	L1	L	D	Flute
EBNSO30610950	6	1R	95R	22	60	6	3
EBNSO30810900	8	1R	90R	25	75	8	3
EBNSO41020850	10	2R	85R	26	75	10	4
EBNSO41220800	12	2R	80R	28	75	12	4

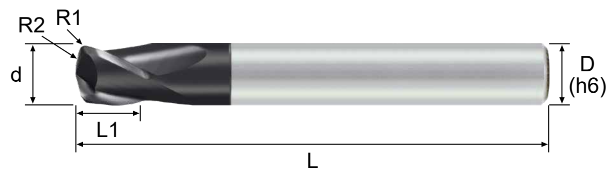
Oval shape has a side cutting geometry with a continuous radius ending at the cutting diameter, suitable for bevel face profile milling.

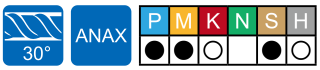
橢圓形酒桶銑刀具有側邊加工幾何設計，適用斜面成形加工



EBASL Series

- For alloy steel, stainless steel, and high temperature alloy milling.
- 適用於合金鋼，不鏽鋼以及高溫合金加工

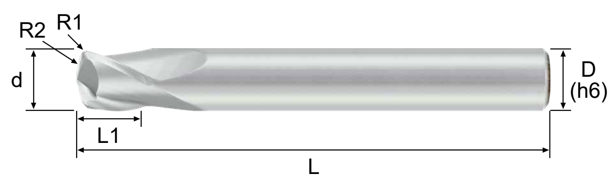


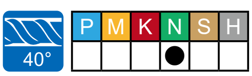


Order No. 訂購編碼	d	R1	R2	L1	L	D	Flute
EBASL30605100A	6	0.50R	10R	6	60	6	3
EBASL30807150A	8	0.75R	15R	8	75	8	3
EBASL31010200A	10	1.00R	20R	10	75	10	3
EBASL31212250A	12	1.25R	25R	12	75	12	3

EBNSL Series

- For aluminum alloy milling.
- 適用於鋁合金加工

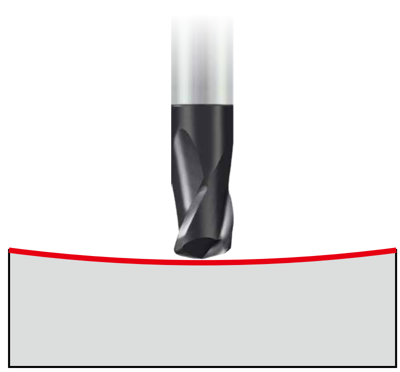




Order No. 訂購編碼	d	R1	R2	L1	L	D	Flute
EBNSL30605100	6	0.50R	10R	6	60	6	3
EBNSL30807150	8	0.75R	15R	8	75	8	3
EBNSL31010200	10	1.00R	20R	10	75	10	3
EBNSL31212250	12	1.25R	25R	12	75	12	3

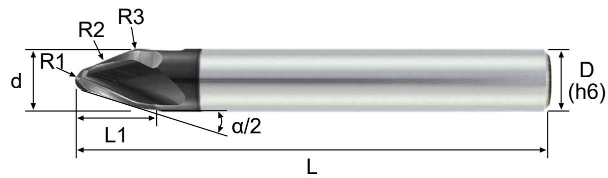
Lens shape has a convex face cutting geometry, for contoured floor milling.

透鏡形酒桶銑刀具有凸面切削幾何形狀，可用於輪廓地板加工



EBAST Series

· For alloy steel, stainless steel, and high temperature alloy milling.
· 適用於合金鋼，不鏽鋼以及高溫合金加工

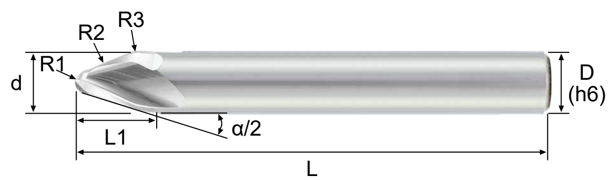


P	M	K	N	S	H
●	●	○		●	○

Order No. 訂購編碼	α/2	d	R1	R2	R3	L1	L	D	Flute
EBAST30610251A	17.5°	6	1.0R	250R	3.0R	9.5	60	6	3
EBAST30815252A	20°	8	1.5R	250R	4.0R	10.5	75	8	3
EBAST31020252A	20°	10	2.0R	250R	5.0R	12.5	75	10	3
EBAST31230252A	20°	12	3.0R	250R	6.0R	13.5	75	12	3

EBNST Series

· For aluminum alloy milling.
· 適用於鋁合金加工

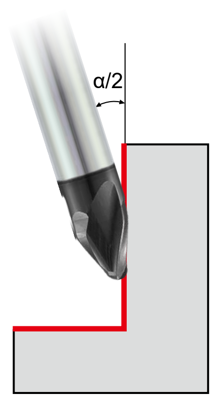


P	M	K	N	S	H
			●		

Order No. 訂購編碼	α/2	d	R1	R2	R3	L1	L	D	Flute
EBNST30610251	17.5°	6	1.0R	250R	3.0R	9.5	60	6	3
EBNST30815252	20°	8	1.5R	250R	4.0R	10.5	75	8	3
EBNST31020252	20°	10	2.0R	250R	5.0R	12.5	75	10	3
EBNST31230252	20°	12	3.0R	250R	6.0R	13.5	75	12	3

ST Taper shape has α/2 < 45° geometry design for steep walls milling.

圓錐形酒桶銑刀具有 α/2 < 45° 的端部幾何設計，適用於陡壁加工

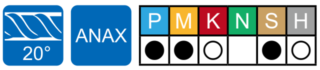


Solid Carbide Endmills

S930 Barrel Endmills - HT Taper Shape · 2F 酒桶銑刀 - HT 短錐形 · 2 刃

EBAHT Series

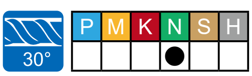
- For alloy steel, stainless steel, and high temperature alloy milling.
- 適用於合金鋼 , 不鏽鋼以及高溫合金加工

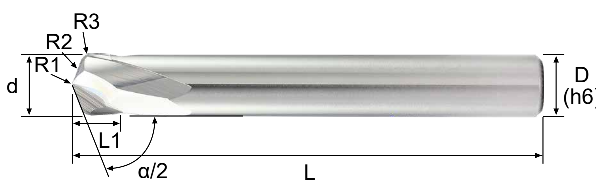


Order No. 訂購編碼	**α/2**	**d**	**R1**	**R2**	**R3**	**L1**	**L**	**D**	**Flute**
EBAHT21010206A	60°	10	1.0R	200R	1.5R	6.0	75	10	2

EBNHT Series

- For aluminum alloy milling.
- 適用於鋁合金加工

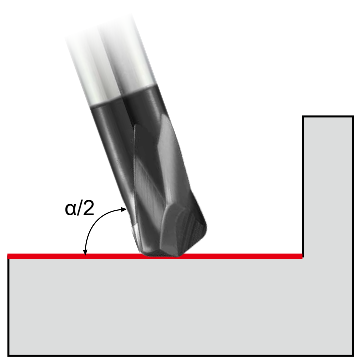




Order No. 訂購編碼	**α/2**	**d**	**R1**	**R2**	**R3**	**L1**	**L**	**D**	**Flute**
EBNHT21010206	60°	10	1.0R	200R	1.5R	6.0	75	10	2

HT Taper shape has α/2 > 45° end cutting geometry design for workpiece floors milling.

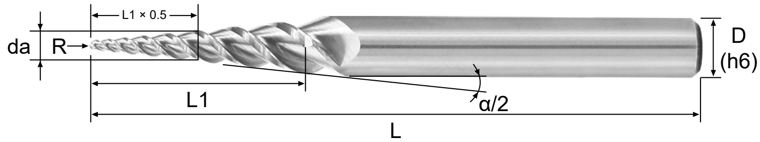
短錐形酒桶銑刀具有 α/2 > 45° 的端部幾何設計，適用於工件底板加工



EBNFT Series

· For aluminum alloy milling.

· 適用於鋁合金加工



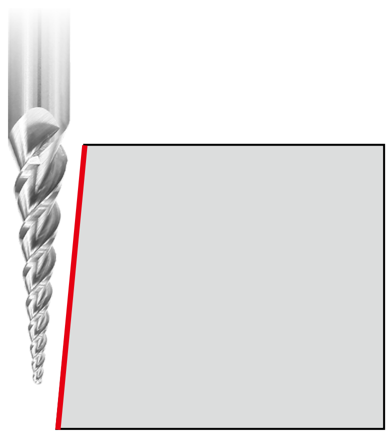
P	M	K	N	S	H
			●		

Order No. 訂購編碼	R	α/2	L1	L	da	D	Flute
EBNFT30605006	0.5R	6°	20	60	3.00	6	3
EBNFT30610006	1.0R	6°	19	60	3.80	6	3
EBNFT30605008	0.5R	8°	18	60	3.40	6	3
EBNFT30610008	1.0R	8°	15	60	3.85	6	3

※ The da value is average diameter at 0.5*L1

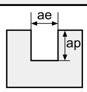
FT Taper shape has long cutting length design, for deep cavity milling.

斜度球形銑刀具有較長的切削刃設計，可用於深腔加工

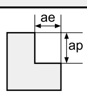


Recommended Cutting Conditions 建議切削參數

G550 Seires EPSSC2
G450 Seires EPSSA2

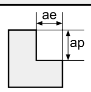
Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	380	10000	300	8386	251	5095	152	8386	251
4mm	9550	382	7560	302	6290	251	3820	152	6290	251
6mm	6370	445	5040	352	4200	294	2548	178	4200	294
8mm	4770	333	3780	264	3140	220	1910	133	3140	220
10mm	3820	230	3020	181	2515	150	1528	92	2515	150
12mm	3180	190	2520	151	2100	126	1274	76	2100	126
 ae ap	ap = 0.5d ae = 1d		ap = 0.3d ae = 1d		ap = 0.5d ae = 1d		ap = 0.5d ae = 1d		ap = 0.5d ae = 1d	

G550 Seires EPSSC3, EPSSC4, EPSPC4
G450 Seires EPSSA3, EPSSA4, EPSHA4

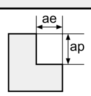
Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	8386	503
4mm	9550	764	7560	604	6290	503	3820	305	6290	503
6mm	6370	890	5040	705	4200	588	2548	356	4200	588
8mm	4770	668	3780	529	3140	440	1910	267	3140	440
10mm	3820	458	3020	362	2515	301	1528	183	2515	301
12mm	3180	380	2520	302	2100	252	1274	152	2100	252
 ae ap	ap = 1d ae = 0.05d									

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPSSH4, EPSSH6

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	7430	743
4mm	9550	764	7560	604	6290	503	3820	305	5570	577
6mm	6370	890	5040	705	4200	588	2548	356	3720	595
8mm	4770	668	3780	529	3140	440	1910	267	2780	556
10mm	3820	458	3020	362	2515	301	1528	183	2230	535
12mm	3180	380	2520	302	2100	252	1274	152	1860	484
	ap = 1.5d ae = 0.05d									

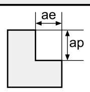
G550 Seires EPSCC4, EPSCH4

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	96 m/min		76 m/min		63 m/min		38 m/min		63 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	10160	610	8000	480	6708	402	4076	244	6708	402
4mm	7640	610	6048	483	5032	402	3056	244	5032	402
6mm	5096	712	4032	564	3360	470	2038	285	3360	470
8mm	3816	534	3024	423	2512	352	1528	214	2512	352
10mm	3056	366	2416	290	2012	240	1222	146	2012	240
12mm	2544	304	2016	242	1680	202	1016	122	1680	202
	ap = 1d ae = 0.05d									

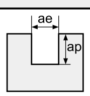
1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

Recommended Cutting Conditions 建議切削參數

G550 Seires EPSCH6

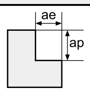
Material	**CARBON STEEL / CAST IRON**		**ALLOY STEEL** SCM, SKT, SKD		**PREHARDENED STEEL** NAK80 CENA1		**HARDENED STEEL** SKD61, SKD11		**STAINLESS STEEL** SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	96 m/min		76 m/min		63 m/min		38 m/min		63 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	10160	610	8000	480	67010	402	4076	244	5944	594
4mm	7640	611	6048	483	5032	402	3056	244	4456	462
6mm	5096	712	4032	564	3360	470	2040	285	2976	476
8mm	3816	534	3024	423	2512	352	1528	214	2224	445
10mm	3056	366	2416	290	2012	241	1220	146	1784	428
12mm	2544	304	2016	242	1680	202	1020	122	1488	387
	ap = 1.5d ae = 0.05d									

G550 Seires EPSLC2

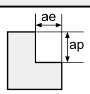
Material	**CARBON STEEL / CAST IRON**		**ALLOY STEEL** SCM, SKT, SKD		**PREHARDENED STEEL** NAK80 CENA1		**HARDENED STEEL** SKD61, SKD11		**STAINLESS STEEL** SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	102 m/min		80 m/min		67 m/min		40 m/min		67 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	10800	323	8500	255	7128	213	4330	130	7128	213
4mm	8118	324	4626	256	5346	213	3247	130	5346	213
6mm	5414	378	4284	300	3570	250	2165	151	3570	250
8mm	4054	283	3210	224	2670	187	1624	113	2670	187
10mm	3248	195	2568	154	2138	127	1298	78	2138	127
12mm	2700	160	2142	128	1785	107	1082	65	1785	107
	ap = 0.5d ae = 1d		ap = 0.3d ae = 1d		ap = 0.05d ae = 1d		ap = 0.05d ae = 1d		ap = 0.05d ae = 1d	

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPSLC4
G450 Seires EPSLA4

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	102 m/min		80 m/min		67 m/min		40 m/min		67 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	10800	647	8500	510	7128	427	4330	260	7128	427
4mm	8118	649	4626	513	5346	427	3247	260	5346	427
6mm	5414	756	4284	600	3570	500	2165	302	3570	500
8mm	4054	568	3210	450	2670	340	1624	226	2670	340
10mm	3248	389	2568	307	2138	255	1298	155	2138	255
12mm	2700	323	2142	256	1785	214	1082	129	1785	214
	ap = 1d ae = 0.05d									

G550 Seires EPSRR4

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	68 m/min		54 m/min		45 m/min		27 m/min		54 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
6mm	3600	430	2880	295	2340	200	1440	85	2880	295
8mm	2700	430	2160	295	1800	200	1080	85	2160	295
10mm	2160	430	1710	295	1440	200	860	85	1710	295
12mm	1800	430	1440	295	1200	200	720	85	1440	295
	ap = 1d ae = 0.1d		ap = 1d ae = 0.1d		ap = 1d ae = 0.1d		ap = 1d ae = 0.2d		ap = 1d ae = 0.1d	

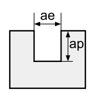
1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

Recommended Cutting Conditions 建議切削參數

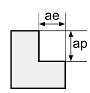
G550 Seires EPSHC2, EPSHC4

Working Material	Cutting Application	ae (mm)	ap (mm)	Vc (m/min)	fz (mm/z) 1mm	2mm	3mm	4mm	5mm	6mm
Carbon steel (S45C, S50C)	Slot milling	1×d	≤ 0.5×d	50 ~ 90	0.007	0.013	0.018	0.024	0.030	0.036
	Side milling	≤ 0.3×d	≤ 0.3×d	55 ~ 100	0.007	0.013	0.018	0.024	0.030	0.036
Alloy steel & Tool steel (SCM, SKT, SKD)	Slot milling	1×d	≤ 0.5×d	40 ~ 70	0.006	0.012	0.017	0.022	0.028	0.033
	Side milling	≤ 0.3×d	≤ 0.3×d	40 ~ 80	0.006	0.012	0.017	0.022	0.028	0.033
Stainless steel (SUS304, SUS316)	Slot milling	1×d	≤ 0.5×d	30 ~ 40	0.006	0.011	0.015	0.020	0.025	0.030
	Side milling	≤ 0.3×d	≤ 0.3×d	40 ~ 60	0.006	0.011	0.015	0.020	0.025	0.030
Hardened steel & High temperature alloy	Slot milling	1×d	≤ 0.5×d	20 ~ 40	0.005	0.010	0.014	0.018	0.023	0.027
	Side milling	≤ 0.3×d	≤ 0.3×d	30 ~ 55	0.005	0.010	0.014	0.018	0.023	0.027

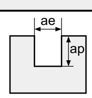
Slot milling



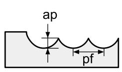
Side milling



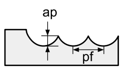
G550 Seires EPSST2

WORKING MATERIAL	ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		HARDENED STEEL		STAINLESS STEEL		CAST IRON	
CODE	45C,S50C,SCM		SCM,SKT,SKD		SCM,SKT,SKD		SKT, SKD		SUS 304		FC / FCD	
HARDNESS	HRC < 20		HRC 20~30		HRC 30~40		HRC 45~45		–		–	
Vc	88 m/min		71 m/min		59 m/min		35 m/min		71 m/min		103 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	26,000	190	22,230	140	18,720	100	10,400	40	22,230	165	32,760	240
2mm	14,040	235	11,232	160	9,360	110	5,616	45	11,232	185	16,380	270
3mm	9,828	270	7,488	175	6,084	120	3,900	55	7,488	205	11,232	310
4mm	7,020	260	5,616	175	4,680	120	2,808	50	5,616	205	8,424	310
5mm	5,850	270	4,446	175	3,744	120	2,340	55	4,446	205	6,552	300
6mm	4,680	260	3,744	175	3,042	120	1,872	50	3,744	205	5,616	310
8mm	3,510	260	2,808	175	2,340	120	1,404	50	2,808	205	4,212	310
10mm	2,808	260	2,223	175	1,872	120	1,131	50	2,223	205	3,276	300
			ap ≤ 0.05d d < 3	ae 1d	ap 0.1d d ≥ 3	ae 1d			ap ≤ 0.25d d < 3	ae 1d	ap 0.5d d ≥ 3	ae 1d

G550 Seires EPBSC2
G450 Seires EPBSA2

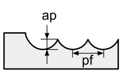
Material	**CARBON STEEL / CAST IRON**		**ALLOY STEEL / TOOL STEEL** SCM, SKT, SKD		**PREHARDENED STEEL** NAK80 CENA1		**HARDENED STEEL** SKD61, SKD11		**STAINLESS STEEL** SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	37470	936	29660	740	24660	616	14990	374	24660	616
2R	18730	1120	14830	890	12330	740	7490	450	12330	740
3R	12490	936	9890	740	8220	616	4995	374	8220	616
4R	9366	750	7415	593	6170	494	3750	300	6170	494
5R	7490	636	5930	504	4930	420	3000	255	4930	420
6R	6244	560	4940	444	4110	370	2500	225	4110	370
	ap = 0.07d pf = 0.1d									

G550 Seires EPBSC4

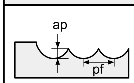
Material	**CARBON STEEL / CAST IRON**		**ALLOY STEEL / TOOL STEEL** SCM, SKT, SKD		**PREHARDENED STEEL** NAK80 CENA1		**HARDENED STEEL** SKD61, SKD11		**STAINLESS STEEL** SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Radius	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	37470	936	29660	740	24660	616	14990	374	24660	616
2R	18730	1120	14830	890	12330	740	7490	450	12330	740
3R	12490	936	9890	740	8220	616	4995	374	8220	616
4R	9366	750	7415	593	6170	494	3750	300	6170	494
5R	7490	636	5930	504	4930	420	3000	255	4930	420
6R	6244	560	4940	444	4110	370	2500	225	4110	370
	ap = 0.07d pf = 0.1d									

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPBLC2

Material	**CARBON STEEL / CAST IRON**		**ALLOY STEEL / TOOL STEEL** SCM, SKT, SKD		**PREHARDENED STEEL** NAK80 CENA1		**HARDENED STEEL** SKD61, SKD11		**STAINLESS STEEL** SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	102 m/min		80 m/min		67 m/min		40 m/min		67 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	31850	796	25210	629	20960	524	12740	318	20960	524
2R	15920	952	12606	757	10480	629	6370	383	10480	629
3R	10620	796	8400	629	6990	524	4245.8	318	6990	524
4R	7960	638	6300	504	5244.5	420	3187.5	255	5244.5	420
5R	6370	540	5040	428	4190	357	2550	217	4190	357
6R	5308	476	4200	377	3495	315	2125	191	3495	315
	ap = 0.07d pf = 0.1d									

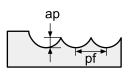
G550 Seires EPBLC4

Material	**CARBON STEEL / CAST IRON**		**ALLOY STEEL / TOOL STEEL** SCM, SKT, SKD		**PREHARDENED STEEL** NAK80 CENA1		**HARDENED STEEL** SKD61, SKD11		**STAINLESS STEEL** SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	102 m/min		80 m/min		67 m/min		40 m/min		67 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	31850	796	25210	629	20960	524	12740	318	20960	524
2R	15920	952	12606	757	10480	629	6370	383	10480	629
3R	10620	796	8400	629	6990	524	4246	318	6990	524
4R	7960	638	6300	504	5245	420	3188	255	5245	420
5R	6370	540	5040	428	4190	357	2550	217	4190	357
6R	5308	476	4200	377	3495	315	2125	191	3495	315
	ap = 0.07d pf = 0.1d									

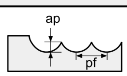
1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPBHC2

Working Material	pf (mm)	ap (mm)	Vc (m/min)	fz (mm/z)					
				1mm	2mm	3mm	4mm	5mm	6mm
Carbon steel (S45C, S50C)	≤ 0.3×d	≤ 0.1×d	80 ~ 135	0.007	0.013	0.018	0.024	0.030	0.036
Alloy steel & Tool steel (SCM, SKT, SKD)	≤ 0.3×d	≤ 0.1×d	55 ~ 100	0.006	0.012	0.017	0.022	0.028	0.033
Stainless steel (SUS304, SUS316)	≤ 0.3×d	≤ 0.1×d	50 ~ 70	0.006	0.011	0.015	0.020	0.025	0.030
Hardened steel & High temperature alloy	≤ 0.3×d	≤ 0.1×d	40 ~ 70	0.005	0.010	0.014	0.018	0.023	0.027

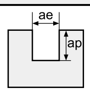


G550 Seires EPBST2, EPBRT2

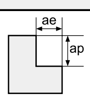
WORKING MATERIAL	ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		HARDENED STEEL		STAINLESS STEEL		CAST IRON	
CODE	45C,S50C,SCM		SCM,SKT,SKD		SCM,SKT,SKD		SKT, SKD		SUS 304		FC / FCD	
HARDNESS	HRC < 20		HRC 20~30		HRC 30~40		HRC 45~45		–		–	
Vc	94 m/min		71 m/min		34 m/min		38 m/min		71 m/min		94 m/min	
RADIUS (R)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
1.0R	26,676	700	21,060	470	15,210	280	10,660	140	21,060	555	29,718	780
2.0R	14,976	875	11,232	560	8,190	335	5,980	175	11,232	655	14,976	875
3.0R	9,828	860	7,488	560	4,914	300	3,926	170	7,488	655	9,828	860
	ap = 0.05d pf = 0.1d											

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPCSC2

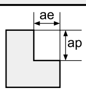
Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	380	10000	300	8386	251	5095	152	8386	251
4mm	9550	382	7560	302	6290	251	3820	152	6290	251
6mm	6370	445	5040	352	4200	294	2548	178	4200	294
8mm	4770	333	3780	264	3140	220	1910	133	3140	220
10mm	3820	230	3020	181	2515	150	1528	92	2515	150
12mm	3180	190	2520	151	2100	126	1274	76	2100	126
	ap = 0.5d ae = 1d		ap = 0.3d ae = 1d		ap = 0.05d ae = 1d		ap = 0.05d ae = 1d		ap = 0.05d ae = 1d	

G550 Seires EPCSC4
G450 Seires EPCSA4

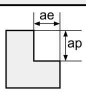
Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	8386	503
4mm	9550	764	7560	604	6290	503	3820	305	6290	503
6mm	6370	890	5040	705	4200	588	2548	356	4200	588
8mm	4770	668	3780	529	3140	440	1910	267	3140	440
10mm	3820	458	3020	362	2515	301	1528	183	2515	301
12mm	3180	380	2520	302	2100	252	1274	152	2100	252
	ap = 1d ae = 0.05d									

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPCSH4

Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	8386	503
4mm	9550	764	7560	604	6290	503	3820	305	6290	503
6mm	6370	890	5040	705	4200	588	2548	356	4200	588
8mm	4770	668	3780	529	3140	440	1910	267	3140	440
10mm	3820	458	3020	362	2515	301	1528	183	2515	301
12mm	3180	380	2520	302	2100	252	1274	152	2100	252
	ap = 1d ae = 0.05d									

G550 Seires EPCLC4

Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	102 m/min		80 m/min		67 m/min		40 m/min		67 m/min	
Dia	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	10800	647	8500	510	7128	427	4330	260	7128	427
4mm	8118	649	4626	513	5346	427	3247	260	5346	427
6mm	5414	756	4284	600	3570	500	2165	302	3570	500
8mm	4054	568	3210	450	2670	340	1624	226	2670	340
10mm	3248	389	2568	307	2138	255	1298	155	2138	255
12mm	2700	323	2142	256	1785	214	1082	129	1785	214
	ap = 1d ae = 0.05d									

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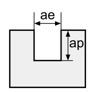
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

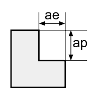
G550 Seires EPCHC2, EPCHC4

Working Material	Cutting Application	ae (mm)	ap (mm)	Vc (m/min)	fz (mm/z)					
					1mm	2mm	3mm	4mm	5mm	6mm
Carbon steel (S45C, S50C)	Slot milling	1×d	≤ 0.5×d	50 ~ 90	0.007	0.013	0.018	0.024	0.030	0.036
	Side milling	≤ 0.3×d	≤ 0.3×d	55 ~ 100	0.007	0.013	0.018	0.024	0.030	0.036
Alloy steel & Tool steel (SCM, SKT, SKD)	Slot milling	1×d	≤ 0.5×d	40 ~ 70	0.006	0.012	0.017	0.022	0.028	0.033
	Side milling	≤ 0.3×d	≤ 0.3×d	40 ~ 80	0.006	0.012	0.017	0.022	0.028	0.033
Stainless steel (SUS304, SUS316)	Slot milling	1×d	≤ 0.5×d	30 ~ 40	0.006	0.011	0.015	0.020	0.025	0.030
	Side milling	≤ 0.3×d	≤ 0.3×d	40 ~ 60	0.006	0.011	0.015	0.020	0.025	0.030
Hardened steel & High temperature alloy	Slot milling	1×d	≤ 0.5×d	20 ~ 40	0.005	0.010	0.014	0.018	0.023	0.027
	Side milling	≤ 0.3×d	≤ 0.3×d	30 ~ 55	0.005	0.010	0.014	0.018	0.023	0.027

Slot milling



Side milling



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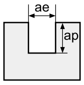
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPSRC2

Material		Carbon Steels/Cast iron/Alloy Steels S50C/FC250/SCM/NAK		
Hardness		HRC 35~45		
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)
0.2mm	1	40000	400	0.001
	2	40000	200	0.005
0.3mm	1	40000	650	0.007
	2	40000	550	0.004
	3	40000	500	0.002
	4	30000	200	0.001
0.4mm	2	40000	800	0.007
	4	40000	800	0.003
	6	28000	350	0.001
	8	20000	200	0.001
	10	17000	150	0.001
0.5mm	4	40000	850	0.003
	6	40000	700	0.003
	8	30000	500	0.002
	12	20000	300	0.001
	14	14000	150	0.001
0.6mm	4	40000	950	0.010
	8	35000	500	0.004
	10	25000	450	0.003
	12	20000	300	0.002
	16	12000	150	0.001
0.7mm	4	40000	950	0.015
	8	30000	700	0.005
	12	9000	200	0.002
0.8mm	4	40000	1100	0.015
	8	40000	1000	0.010
	12	25000	400	0.030
	14	20000	300	0.020
0.9mm	6	40000	1300	0.020
	8	38000	1200	0.010
	10	35000	1000	0.010



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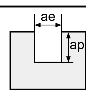
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPSRC2

Material		Carbon Steels/Cast iron/Alloy Steels S50C/FC250/SCM/NAK		
Hardness		HRC 35~45		
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)
1.0mm	6	40000	1600	0.040
	8	40000	1600	0.030
	10	38000	1300	0.025
	12	30000	1000	0.02
	16	23000	600	0.010
	20	15000	400	0.005
1.2mm	6	40000	1900	0.060
	10	35000	1500	0.040
	16	15000	500	0.020
	20	6500	150	0.01
1.4mm	6	40000	1900	0.060
	10	35000	1500	0.040
	16	15000	500	0.02
	20	6500	150	0.01
1.5mm	6	40000	2400	0.1
	10	30000	1800	0.05
	12	28000	1300	0.04
	16	20000	800	0.02
	20	15000	600	0.02
1.6mm	10	30000	1800	0.07
	14	25000	1500	0.05
	18	20000	1000	0.04
1.8mm	10	30000	1800	0.07
	14	25000	1500	0.05
	18	20000	1000	0.04
2.0mm	6	40000	2400	0.18
	10	30000	1800	0.1
	12	25000	1500	0.08
	16	20000	1000	0.06
	20	12000	800	0.05
	25	9000	600	0.04
	30	8000	500	0.04
	35	6500	300	0.02



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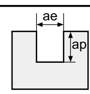
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

Recommended Cutting Conditions 建議切削參數

G550 Seires EPSRC2

Material		**Carbon Steels/Cast iron/Alloy Steels** S50C/FC250/SCM/NAK		
Hardness		HRC 35~45		
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)
2.5mm	8	25000	2500	0.2
	12	20000	2000	0.15
	16	18000	1700	0.1
	20	12000	1000	0.08
	25	10000	700	0.07
	30	9000	600	0.06
	35	8500	500	0.05
3.0mm	8	20000	2000	0.3
	12	20000	1500	0.18
	16	15000	1400	0.15
	20	10000	800	0.1
	25	8000	600	0.08
	30	7000	450	0.06
	35	6000	300	0.05
4.0mm	10	20000	3200	0.3
	16	13000	2500	0.25
	20	11000	2200	0.22
	25	8000	1500	0.15
	30	6400	1200	0.12
	35	5000	700	0.08
5.0mm	16	12000	2500	0.35
	20	10000	1200	0.3
	25	8000	1000	0.25
	30	6000	900	0.2
	35	5100	750	0.15
6.0mm	20	10000	2000	0.4
	30	6000	1200	0.3
8.0mm	20	3200	910	0.18
	30	3000	800	0.15
	40	2600	600	0.12
10.0mm	25	2900	890	0.20
	35	2500	700	0.16
	45	2200	580	0.14
12.0mm	30	2500	710	0.22
	40	2300	500	0.18
	50	1900	420	0.16



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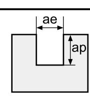
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPSRC4

Material		Carbon Steels/Cast iron/Alloy Steels S50C/FC250/SCM/NAK		
Hardness		HRC 35~45		
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)
1.0mm	4	40000	3000	0.040
	8	36000	2400	0.030
	10	30000	1500	0.025
	12	20000	1000	0.020
	16	10000	500	0.005
1.5mm	6	40000	3200	0.060
	10	35000	2500	0.050
	12	32000	2400	0.050
	16	16000	1100	0.030
	20	10000	600	0.010
	25	9000	500	0.009
2.0mm	6	40000	4000	0.100
	10	35000	3500	0.080
	12	32000	3200	0.070
	16	24000	2400	0.050
	20	12000	1200	0.030
	25	10000	800	0.020
	30	5000	500	0.010
2.5mm	10	32000	4000	0.200
	12	28000	2500	0.120
	16	23000	1800	0.100
	20	20000	1500	0.060
	25	9000	1100	0.040
	30	2500	300	0.005
3.0mm	10	25000	3600	0.400
	12	23000	3000	0.300
	16	18000	2500	0.200
	20	15000	2000	0.150
	25	12000	1700	0.100
	30	7000	800	0.050
	35	5000	300	0.030



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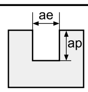
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPSRC4

Material		**Carbon Steels/Cast iron/Alloy Steels** S50C/FC250/SCM/NAK		
Hardness		HRC 35~45		
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)
4mm	10	20000	3200	1.200
	12	18000	3000	1.000
	16	15000	2500	1.000
	20	12000	2000	0.500
	25	10000	1800	0.400
	30	8000	1300	0.200
5mm	20	12000	2300	1.000
	25	9500	1800	0.500
	30	6400	1200	0.200
6mm	20	11000	2200	1.200
	30	8000	1600	0.600
8mm	20	8000	1600	1.000
	30	4000	800	0.500
	40	4000	800	0.500
10mm	25	6400	1300	1.000
	35	3200	640	0.600
	45	3200	640	0.600
12mm	30	6000	1200	2.000
	40	3200	640	0.600
	50	3200	640	0.600



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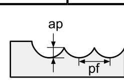
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPBRC2

Material		PREHARDENED STEELS NAK80 CENA1				HARDENED STEELS SKD61,SKD11				Copper			
Hardness		HRC 35~45				HRC 40~55				–			
Radius (R)	EFF-L	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)
0.15R	1.5	48000	480	0.010	0.010	41000	370	0.009	0.010	54000	640	0.014	0.015
	2	43000	370	0.008	0.008	37000	270	0.008	0.008	49000	530	0.011	0.011
	3	38000	320	0.007	0.006	32000	240	0.006	0.006	43000	460	0.009	0.010
	4	28000	200	0.003	0.004	24000	160	0.003	0.004	37000	300	0.004	0.006
	5	26000	125	0.001	0.003	18000	110	0.002	0.003	31000	200	0.002	0.004
0.2R	2	48000	590	0.018	0.024	37000	400	0.015	0.020	54000	790	0.022	0.036
	4	38000	400	0.009	0.012	30000	270	0.009	0.012	50000	640	0.012	0.018
	6	29000	260	0.005	0.006	26000	200	0.004	0.006	37000	360	0.006	0.010
	8	27000	170	0.003	0.003	23000	150	0.002	0.003	27000	200	0.003	0.006
0.25R	2	42000	750	0.022	0.036	32000	500	0.018	0.036	57000	1250	0.028	0.054
	4	38000	580	0.017	0.024	31000	400	0.014	0.024	55000	1010	0.021	0.036
	6	28000	400	0.008	0.012	27000	330	0.005	0.012	36000	610	0.009	0.018
	10	28000	400	0.008	0.012	27000	330	0.005	0.012	36000	460	0.009	0.018
0.3R	2	37000	770	0.027	0.144	37000	770	0.027	0.096	57000	1540	0.034	0.144
	4	35000	600	0.020	0.108	35000	600	0.020	0.072	54000	1130	0.026	0.108
	6	28000	460	0.016	0.072	28000	460	0.016	0.048	46000	960	0.019	0.072
	8	24000	400	0.009	0.054	24000	400	0.009	0.036	30000	570	0.010	0.054
	10	24000	330	0.006	0.036	24000	330	0.006	0.024	30000	490	0.007	0.036
	12	24000	330	0.006	0.036	24000	330	0.006	0.024	30000	490	0.007	0.036
0.35R	4	33000	600	0.035	0.042	26500	410	0.029	0.096	54500	1500	0.045	0.063
	8	12215	420	0.020	0.048	22500	355	0.012	0.048	32000	800	0.019	0.072
	10	22500	380	0.014	0.042	21500	330	0.011	0.042	26500	540	0.017	0.063
	12	21500	380	0.012	0.032	21500	320	0.010	0.042	23000	420	0.017	0.063
0.4R	4	31000	600	0.050	0.012	27000	440	0.041	0.120	55000	1860	0.063	0.018
	8	21000	430	0.021	0.060	22000	390	0.018	0.060	34000	1040	0.027	0.090
	12	19000	430	0.018	0.040	20000	350	0.016	0.060	16000	350	0.027	0.090
	16	16000	430	0.013	0.018	20000	310	0.014	0.060	7600	115	0.027	0.090
0.45R	4	32000	685	0.054	0.130	24500	460	0.043	0.180	50500	1900	0.067	0.190
0.5R	4	32000	770	0.057	0.240	22000	480	0.045	0.240	46000	2000	0.071	0.360
	6	26000	760	0.055	0.120	17600	480	0.009	0.120	39000	1500	0.071	0.180
	8	26000	760	0.034	0.120	17600	480	0.027	0.120	39000	1500	0.043	0.180
	12	17600	530	0.024	0.060	16500	420	0.018	0.060	18700	660	0.027	0.090
	16	15400	440	0.018	0.060	14300	360	0.014	0.060	18700	640	0.022	0.090
	22	14300	360	0.013	0.036	13200	300	0.009	0.036	18700	540	0.017	0.054



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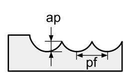
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

WINSTAR

Recommended Cutting Conditions 建議切削參數

G550 Seires EPBRC2

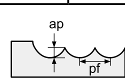
Material		PREHARDENED STEELS NAK80 CENA1				HARDENED STEELS SKD61,SKD11				Copper			
Hardness		HRC 35~45				HRC 40~55				–			
Radius	EFF-L	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)
0.6R	6	26000	770	0.068	0.240	18200	480	0.054	0.240	38000	2000	0.085	0.360
	10	16400	530	0.027	0.120	15100	420	0.022	0.120	24000	1080	0.036	0.180
	12	15300	530	0.027	0.120	14100	420	0.022	0.120	24000	1080	0.036	0.180
	16	13100	460	0.019	0.096	11900	380	0.016	0.096	15400	580	0.024	0.144
	20	12100	380	0.013	0.060	11000	320	0.009	0.096	15400	580	0.017	0.090
	24	11100	320	0.009	0.040	9800	290	0.070	0.040	15400	580	0.010	0.060
0.7R	6	17600	680	0.076	0.180	13600	440	0.063	0.180	28000	1470	0.099	0.270
	8	17600	680	0.079	0.180	13600	440	0.063	0.180	28000	1470	0.099	0.270
	12	13800	530	0.033	0.180	13600	420	0.027	0.180	19800	1080	0.042	0.270
	16	13100	480	0.027	0.120	11900	390	0.021	0.120	13200	620	0.033	0.180
0.75R	4	21000	1060	0.137	0.216	14800	660	0.110	0.216	30000	2200	0.171	0.324
	8	16300	700	0.084	0.180	12100	450	0.069	0.180	26000	1500	0.106	0.270
	12	16300	700	0.084	0.180	12100	450	0.069	0.180	26000	1500	0.106	0.270
	16	12400	480	0.027	0.120	11600	390	0.022	0.120	12100	620	0.036	0.180
	20	12400	480	0.016	0.060	11600	390	0.012	0.060	12100	620	0.019	0.090
	25	12400	440	0.016	0.060	11000	390	0.012	0.060	11000	500	0.019	0.090
	30	10900	400	0.016	0.060	11000	390	0.012	0.060	10700	450	0.019	0.090
0.8R	8	18900	940	0.126	0.216	13800	580	0.102	0.216	26000	1970	0.157	0.324
	12	15100	700	0.09	0.120	11500	440	0.072	0.120	25000	1490	0.112	0.180
	16	12300	530	0.036	0.096	11400	440	0.030	0.096	17600	110	0.046	0.144
	20	11500	480	0.030	0.060	10900	400	0.024	0.060	11000	630	0.036	0.090
0.9R	6	18400	1200	0.185	0.320	18400	738	0.150	0.320	32000	2600	0.230	0.021
	12	13800	700	0.094	0.180	10300	440	0.077	0.180	21000	1480	0.120	0.270
	16	10800	530	0.039	0.120	9900	420	0.031	0.120	15400	1080	0.048	0.180
	20	10200	480	0.031	0.060	9700	400	0.025	0.060	10500	630	0.039	0.090
1.0R	6	18500	1260	0.185	0.360	13200	960	0.150	0.360	22000	2140	0.232	0.540
	10	18500	1120	0.147	0.240	13200	870	0.120	0.240	22000	1920	0.185	0.360
	12	16000	990	0.133	0.240	11700	780	0.107	0.240	18700	1470	0.166	0.360
	16	16000	990	0.118	0.240	11700	780	0.090	0.240	18700	1470	0.148	0.360
	18	14700	580	0.074	0.120	11600	580	0.061	0.120	14300	1070	0.093	0.180
	20	14700	580	0.074	0.120	11600	580	0.061	0.120	14300	1070	0.093	0.180
	25	10600	450	0.058	0.120	10200	450	0.045	0.120	9500	630	0.074	0.180



1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPBRC2

Material		**PREHARDENED STEELS** NAK80 CENA1				**HARDENED STEELS** SKD61,SKD11				**Copper**			
Hardness		HRC 35~45				HRC 40~55				–			
Radius	EFF-L	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)
1.25R	8	14500	1400	0.185	0.240	9700	1080	0.150	0.240	18400	2400	0.232	0.360
	10	14500	1400	0.185	0.240	9700	1080	0.150	0.240	18400	2400	0.232	0.360
	16	13500	1230	0.166	0.240	8400	980	0.135	0.240	16100	1810	0.208	0.360
	20	10200	950	0.093	0.120	8400	980	0.074	0.120	11500	1330	0.116	0.180
	25	8400	540	0.074	0.120	8400	560	0.061	0.120	6900	770	0.093	0.180
	30	8400	540	0.033	0.060	8400	560	0.026	0.060	6900	770	0.040	0.090
1.5R	8	12900	1680	0.222	0.360	9200	1300	0.180	0.360	15000	2890	0.278	0.540
	12	12900	1510	0.222	0.360	9200	1170	0.180	0.360	15000	2600	0.278	0.540
	16	11300	1330	0.166	0.360	8100	1040	0.135	0.360	12700	1970	0.029	0.504
	20	11300	1330	0.166	0.360	8100	1040	0.135	0.360	12700	1970	0.029	0.504
	25	8800	1040	0.111	0.180	8100	1040	0.090	0.180	10100	1450	0.139	0.270
	30	8800	780	0.111	0.180	8100	780	0.090	0.180	10100	1450	0.139	0.270
	35	7900	62	0.055	0.180	7500	650	0.045	0.180	6600	840	0.073	0.270
2.0R	8	9700	1560	0.297	0.600	6800	1210	0.241	0.600	11500	2710	0.370	0.900
	12	9700	1560	0.297	0.600	6800	1210	0.241	0.600	11500	2710	0.390	0.900
	16	9700	1560	0.297	0.600	6800	1210	0.241	0.600	11500	2710	0.390	0.900
	20	9700	1560	0.297	0.600	6800	1210	0.241	0.600	11500	2710	0.390	0.900
	25	8400	1250	0.223	0.360	6000	980	0.180	0.36	10300	1850	0.279	0.540
	30	8400	1250	0.223	0.360	6000	980	0.180	0.361	10300	1850	0.279	0.540
	35	6600	950	0.148	0.360	6000	700	0.120	0.360	7500	1360	0.185	0.540
2.5R	15	7800	1350	0.324	0.800	5600	1050	0.252	0.800	9600	2590	0.406	0.900
	20	7800	1240	0.324	0.600	5600	950	0.252	0.600	9600	2100	0.406	0.900
	25	7800	1240	0.324	0.600	5600	950	0.252	0.600	9600	2100	0.406	0.900
	30	7800	760	0.243	0.600	4800	600	0.197	0.600	8200	1320	0.305	0.900
3.0R	15	7400	1670	0.443	1.200	5200	1300	0.360	1.200	8000	2530	0.555	1.800
4.0R	25	7200	1200	0.5	1.000	5200	920	0.350	1.000	9000	2400	0.600	1.500
5.0R	30	6800	720	0.23	0.600	4600	570	0.190	0.570	7800	1300	0.300	0.900
6.0R	30	6350	684	0.210	0.570	4370	541.5	0.181	0.550	7410	1235	0.285	0.855



1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPCRC2

Material	CARBON STEEL / ALLOY STEEL SCM, SNCM, S45		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1	
Hardness	~HRC 35		HRC 35~45		HRC 45~55	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1.0mm	33100	280	21600	120	13200	70
1.2mm	30000	300	18000	125	12000	70
1.5mm	26400	300	16200	130	10200	70
2.0mm	21600	310	13800	140	8640	80
2.5mm	18000	320	11400	150	7320	80
3.0mm	15900	330	10300	160	6300	80
4.0mm	12800	400	8200	200	5150	95
5.0mm	11000	500	7000	240	4560	120
6.0mm	9500	600	6000	300	3930	140
8.0mm	7200	640	4550	300	3020	140
10.0mm	6000	640	4000	300	2420	140
12.0mm	5000	500	3340	270	2000	120

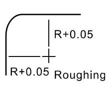
G550 Seires EPCRC4

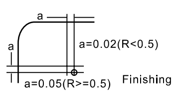
Material	CARBON STEEL / ALLOY STEEL SCM, SNCM, S45		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1	
Hardness	~HRC 35		HRC 35~45		HRC 45~55	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
2mm	21600	380	13800	280	8640	150
2.5mm	18000	390	11400	300	7320	150
3mm	15900	400	10300	310	6300	150
4mm	12800	500	8200	360	5150	160
5mm	11000	510	7000	430	4560	200
6mm	9500	510	6000	430	3930	200
8mm	7200	550	4550	430	3020	200
10mm	6000	550	4000	430	2420	200
12mm	5000	430	3340	380	2000	160

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPISA2, EPISA4

WORKING MATERIAL	CARBON STEEL			ALLOY STEEL / TOOL STEEL			HARDENED STEEL		
CODE	S50C			SCM, SKD			SKT, SKD		
HARDNESS	HRC < 20			HRC 30 ~ 40			HRC 40~50		
Vc	30~40 m/min			20~30 m/min			15~25 m/min		
DIAMETER (d)	R.P.M	ROUGHING FEED (mm/min)	FINISHING FEED (mm/min)	R.P.M	ROUGHING FEED (mm/min)	FINISHING FEED (mm/min)	R.P.M	ROUGHING FEED (mm/min)	FINISHING FEED (mm/min)
0.50R	8,800	50	80	6,400	40	55	5,100	30	50
0.75R	7,200	50	80	5,100	40	55	4,100	30	50
1.00R	5,000	50	80	3,500	40	55	3,400	30	50
1.25R	4,300	50	80	3,100	40	55	2,900	30	50
1.50R	3,000	50	80	2,200	40	55	2,600	30	50
2.00R	2,600	50	80	1,900	40	55	2,200	30	50
2.50R	2,200	50	80	1,800	40	55	2,000	30	50
3.00R	2,000	50	80	1,600	40	55	1,700	30	50
4.00R	1,500	50	80	1,200	40	55	1,300	30	50
5.00R	1,300	50	80	960	40	55	1,000	30	50
6.00R	1,200	50	80	880	40	55	900	30	50



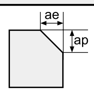


· Divide the cutting depth into several time paths.
· Use cutting fluid.

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

G550 Seires EPFSA4, EPFSA5, EPFSA6

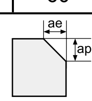
Material	Carbon Steel / Alloy Steel / Cast iron					Alloy Steel / Tool Steel / Pre-Hardened Steel (SCM, SKT, SKD)					Stainless Steel (SUS304, SUS316)					Hardened Steel				
Hardness	HRC < 30					HRC 30 ~ 40					–					HRC 40 ~ 55				
Vc	80 ~ 230 m/min					60 ~ 180 m/min					45 ~ 140 m/min					25 ~ 30 m/min				
Dia. (d)	fz (mm)	α = 60°		α = 90°		fz (mm)	α = 60°		α = 90°		fz (mm)	α = 60°		α = 90°		fz (mm)	α = 60°		α = 90°	
		ap (mm)	ae (mm)	ap (mm)	ae (mm)		ap (mm)	ae (mm)	ap (mm)	ae (mm)		ap (mm)	ae (mm)	ap (mm)	ae (mm)		ap (mm)	ae (mm)	ap (mm)	ae (mm)
4mm	0.04	0.30	0.2	0.2	0.2	0.04	0.30	0.2	0.2	0.2	0.04	0.30	0.2	0.2	0.2	0.04	0.30	0.2	0.2	0.2
6mm	0.04	0.45	0.3	0.3	0.3	0.04	0.45	0.3	0.3	0.3	0.04	0.45	0.3	0.3	0.3	0.04	0.45	0.3	0.3	0.3
8mm	0.05	0.60	0.4	0.4	0.4	0.05	0.60	0.4	0.4	0.4	0.05	0.60	0.4	0.4	0.4	0.05	0.60	0.4	0.4	0.4
10mm	0.06	0.75	0.5	0.5	0.5	0.06	0.75	0.5	0.5	0.5	0.06	0.75	0.5	0.5	0.5	0.06	0.75	0.5	0.5	0.5
12mm	0.07	0.90	0.6	0.6	0.6	0.07	0.90	0.6	0.6	0.6	0.07	0.90	0.6	0.6	0.6	0.07	0.90	0.6	0.6	0.6



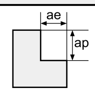
※ Effective Cutter Diameter = (d + d1)/2
For machining on two sides, Feed rate reduce 20~30%.
For vertical plunging, Feed rate reduce 30~40%.

G550 Seires EPFSC2

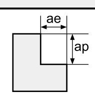
Working Material	Normal Steel (S45C)			Alloy Steel / Tool Steel (SCM, SKT, SKD)			Stainless Steel (SUS304)			Aluminum Alloy		
Hardness	HRC < 20			HRC < 30~40			–			-		
Vc	60 m/min			50 m/min			40 m/min			100 m/min		
Dia. (d)	RPM	Feed (mm/min)		RPM	Feed (mm/min)		RPM	Feed (mm/min)		RPM	Feed (mm/min)	
		Vertical	Horizontal		Vertical	Horizontal		Vertical	Horizontal		Vertical	Horizontal
3 mm	6400	25	50	5300	20	40	4200	20	40	10600	40	80
4 mm	4800	25	55	4000	20	45	3200	20	45	8000	40	85
6 mm	3200	25	60	2650	20	50	2100	20	50	5300	40	90
8 mm	2400	25	65	2000	20	55	1600	20	55	4000	40	110
10 mm	1900	25	70	1600	20	60	1300	20	60	3200	40	110
12 mm	1600	25	70	1350	20	60	1050	20	60	2700	40	120



H65X Seires EHSSH2, EHSSH4

Material	**PREHARDENED STEELS** NAK80 CENA1		**HARDENED STEELS** SKD61,SKD11		**Hardened Steel** SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	145 m/min		125 m/min		105 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	15390	1415	13270	1220	11150	1025
4mm	11550	1386	9950	1194	8360	1003
6mm	7700	1232	6630	1060	5570	891
8mm	5770	923	4980	796	4180	668
10mm	4620	924	3980	796	3345	669
12mm	3850	770	3320	664	2790	558
	ap = 1d ae = 0.05d					

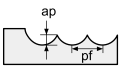
H65X Seires EHSLH4

Material	**PREHARDENED STEELS** NAK80 CENA1		**HARDENED STEELS** SKD61,SKD11		**Hardened Steel** SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	123 m/min		106 m/min		89 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	13080	1200	11280	1038	9480	871
4mm	9820	1178	8460	1015	7100	852
6mm	6545	1050	5635	900	4740	757
8mm	4905	785	4235	676	3555	568
10mm	3927	785	3385	676	2845	568
12mm	3270	655	2820	564	2370	474
	ap = 1d ae = 0.05d					

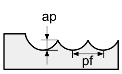
1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

Recommended Cutting Conditions 建議切削參數

H65X Seires EHBSH2

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	145 m/min		125 m/min		105 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	45270	1130	39030	975	32780	820
2R	22636	1358	19500	1170	16400	984
3R	15090	1130	13000	975	10930	820
4R	11320	905	9750	780	8195	655
5R	9055	770	7800	663	6555	557
6R	7545	680	6500	585	5460	491
 ap pf	ap = 0.07d pf = 0.1d					

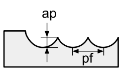
H65X Seires EHBLH2

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	145 m/min		125 m/min		105 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	36200	904	31200	780	26200	656
2R	18100	1086	15600	930	13120	787
3R	12050	904	10400	780	8750	656
4R	9050	724	7800	624	6550	524
5R	7250	616	6250	530	5250	446
6R	6036	544	5200	468	4370	393
 ap pf	ap = 0.07d pf = 0.1d					

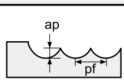
1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

Recommended Cutting Conditions 建議切削參數

H65X Seires EHBUH2

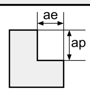
Material	**PREHARDENED STEELS** NAK80 CENA1		**HARDENED STEELS** SKD61,SKD11		**Hardened Steel** SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	145 m/min		125 m/min		105 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	45270	1130	39030	975	32780	820
2R	22636	1358	19500	1170	16400	984
3R	15090	1130	13000	975	10930	820
4R	11320	905	9750	780	8195	655
5R	9055	770	7800	663	6555	557
6R	7545	680	6500	585	5460	491
	ap = 0.07d pf = 0.1d					

H65X Seires EHBRT2

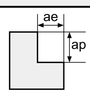
WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	SKT, SKD		SKT, SKD		SKT, SKD	
HARDNESS	HRC 35~45		HRC 45~55		HRC 55~60	
Vc	260 m/min		195 m/min		130 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1.0R	41,600	1,920	31,200	1,440	20,800	960
2.0R	20,800	1,920	15,600	1,440	10,335	955
3.0R	13,650	1,890	10,335	1,430	6,890	955
4.0R	10,335	1,910	7,735	1,430	5,200	960
5.0R	8,255	1,905	6,240	1,440	4,160	960
6.0R	6,890	1,910	5,200	1,440	3,445	955
8.0R	5,200	1,920	3,900	1,440	2,600	960
10.0R	4,160	1,920	3,120	1,440	2,080	960
	ap = 0.05d pf = 0.1d					

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

H65X Seires EHCSH4

Material	**PREHARDENED STEELS** NAK80 CENA1		**HARDENED STEELS** SKD61,SKD11		**Hardened Steel** SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	145 m/min		125 m/min		105 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	15390	1415	13270	1220	11150	1025
4mm	11550	1386	9950	1194	8360	1003
6mm	7700	1232	6630	1060	5570	891
8mm	5770	923	4980	796	4180	668
10mm	4620	924	3980	796	3345	669
12mm	3850	770	3320	664	2790	558
 ae ap	ap = 1d ae = 0.05d					

H65X Seires EHCLH4

Material	**PREHARDENED STEELS** NAK80 CENA1		**HARDENED STEELS** SKD61,SKD11		**Hardened Steel** SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	123 m/min		106 m/min		89 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	13080	1200	11280	1038	9480	871
4mm	9820	1178	8460	1015	7100	852
6mm	6545	1050	5635	900	4740	757
8mm	4905	785	4235	676	3555	568
10mm	3927	785	3385	676	2845	568
12mm	3270	655	2820	564	2370	474
 ae ap	ap = 1d ae = 0.05d					

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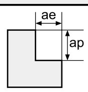
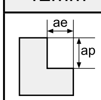
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

H65X Seires EHCUH4

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	123 m/min		106 m/min		89 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	15390	1415	13270	1220	11150	1025
4mm	11550	1386	9950	1194	8360	1003
6mm	7700	1232	6630	1060	5570	891
8mm	5770	923	4980	796	4180	668
10mm	4620	924	3980	796	3345	669
12mm	3850	770	3320	664	2790	558
	ap = 1d ae = 0.05d					

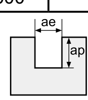
H65X Seires EHWSA4, EHWSA6

Working Material	Carbon / Alloy steel (< HRC 30)		Carbon / Alloy steel (HRC 35~45)		Stainless steel / Hardened steel (HRC 40~55)		High temperature alloy / Hardened steel (HRC 55~62)	
Vc	150 m/min		135 m/min		120 m/min		80 m/min	
Diameter (d)	RPM	fz (mm/z)	RPM	fz (mm/z)	RPM	fz (mm/z)	RPM	fz (mm/z)
6mm	8000	0.35	7200	0.35	6400	0.35	4300	0.35
8mm	6000	0.35	5400	0.35	4800	0.35	3200	0.35
10mm	4800	0.40	4300	0.40	3800	0.40	2600	0.40
12mm	4000	0.45	3600	0.45	3200	0.45	2100	0.45
	d ≤ 6: ap 0.04d, ae 0.5d d > 6: ap 0.04d, ae 0.6d							

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

H65X Seires EHSRC2

Material		PREHARDENED STEELS NAK80 CENA1			HARDENED STEELS SKD61,SKD11			Hardened Steel SKD11,SKH51			
Hardness		HRC 35~45			HRC 40~55			HRC 55~65			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
0.2mm	0.5	56000	270	0.003	44800	180	0.002	15000	10	0.001	0.160
	1	50900	230	0.004	40800	160	0.003	-	-	-	
	1.5	48200	200	0.002	38500	140	0.002	-	-	-	
0.3mm	1.5	50800	360	0.005	42700	260	0.004	14600	13	0.003	0.057
	3	31900	190	0.001	25500	130	0.001	14600	10	0.001	0.004
	5	20400	80	0.001	16300	60	0.001	-	-	-	-
0.4mm	1	48100	470	0.008	38500	320	0.005	14300	17	0.003	0.054
	5	30100	240	0.002	24100	160	0.001	14300	14	0.001	0.003
	10	24600	150	0.001	19700	100	0.001	14300	11	0.001	0.001
0.5mm	3	32200	370	0.008	25700	260	0.006	14000	19	0.004	0.016
	5	27200	290	0.006	21700	200	0.004	14000	17	0.003	0.008
	8	21600	190	0.001	17400	130	0.001	14000	14	0.001	0.002
	10	19600	150	0.001	15600	100	0.001	14000	12	0.001	0.001
	14	16300	70	0.001	13000	50	0.001	-	-	-	-
0.6mm	3	33500	500	0.013	26800	340	0.009	12000	22	0.005	0.114
	6	23000	290	0.005	18400	200	0.003	12000	19	0.002	0.008
	8	20000	230	0.003	16000	160	0.002	12000	17	0.001	0.003
	10	17900	180	0.002	14300	130	0.001	12000	15	0.001	0.002
	12	16400	150	0.001	13100	100	0.001	12000	13	0.001	0.001
	16	13500	70	0.001	10800	50	0.001	-	-	-	-
0.7mm	4	25800	440	0.012	20600	290	0.009	10000	22	0.006	0.047
	6	21200	330	0.007	16900	230	0.005	10000	20	0.003	0.014
	8	18400	260	0.004	14700	190	0.003	10000	18	0.002	0.006
	10	16500	220	0.003	13200	160	0.002	10000	16	0.001	0.003
0.8mm	4	24100	480	0.019	19300	330	0.013	8000	20	0.010	0.080
	8	17200	300	0.006	13800	200	0.004	8000	16	0.003	0.010
	12	14100	200	0.003	11300	140	0.002	8000	12	0.001	0.003
	14	12300	150	0.001	9800	100	0.001	-	-	-	
0.9mm	6	18500	420	0.013	14800	290	0.010	7200	18	0.007	0.038
	8	16100	330	0.008	12900	230	0.006	7200	16	0.004	0.016
	10	14500	270	0.005	11600	190	0.004	7200	14	0.002	0.008



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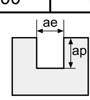
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

H65X Seires EHSRC2

Material		**PREHARDENED STEELS** NAK80 CENA1			**HARDENED STEELS** SKD61,SKD11			**Hardened Steel** SKD11,SKH51			
Hardness		HRC 35~45			HRC 40~55			HRC 55~65			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
1.0mm	5	19600	510	0.022	15700	360	0.016	6500	15	0.009	0.013
	10	13800	300	0.007	11000	210	0.005	6500	12	0.003	0.013
	12	12600	250	0.005	10100	170	0.003	6500	11	0.002	0.007
	14	11700	210	0.003	9400	150	0.002	650	10	0.001	0.005
	16	11000	180	0.003	8800	130	0.002	-	-	-	-
	20	9800	130	0.002	7900	90	0.001	-	-	-	-
1.2mm	6	16100	490	0.026	12800	340	0.019	9600	22	0.011	0.120
	12	11400	290	0.008	9100	200	0.005	-	-	-	-
	16	9800	220	0.004	7900	150	0.003	-	-	-	-
	20	8800	170	0.003	7000	120	0.002	-	-	-	-
1.4mm	8	12900	440	0.025	10300	310	0.018	9600	18	0.010	0.094
	10	11500	380	0.017	9200	260	0.012	-	-	-	0.048
	16	9100	250	0.007	7300	180	0.005	-	-	-	0.012
	20	7800	180	0.004	6200	120	0.003	-	-	-	0.005
1.5mm	8	12500	460	0.029	10000	320	0.020	9600	25	0.012	0.124
	12	10200	340	0.016	8200	240	0.011	-	-	-	-
	14	9500	300	0.012	7600	210	0.008	-	-	-	-
	16	8900	270	0.009	7100	190	0.007	-	-	-	-
	20	7900	220	0.006	6300	150	0.004	-	-	-	-
1.6mm	10	10800	410	0.025	8600	280	0.018	9600	15	0.010	0.082
	14	9100	320	0.014	7300	220	0.010	-	-	-	-
	18	8000	260	0.009	6400	180	0.006	-	-	-	-
2.0mm	6	12500	650	0.045	10000	450	0.032	9600	211	0.019	0.926
	10	9700	470	0.031	7800	330	0.022	9600	45	0.013	0.200
	12	8900	420	0.026	7100	290	0.019	9600	56	0.011	0.116
	14	8200	370	0.022	6600	260	0.016	9600	16	0.009	0.073
	20	6900	280	0.013	5500	190	0.009	-	-	-	-
	25	6200	230	0.008	4900	160	0.006	-	-	-	-
	30	5600	180	0.005	4500	130	0.004	-	-	-	-
2.5mm	8	9600	670	0.054	7700	460	0.039	9600	227	0.023	0.954
	12	7900	520	0.042	6300	360	0.030	9600	67	0.018	0.283
	16	6800	430	0.031	5500	290	0.022	9600	28	0.013	0.119
	20	6100	360	0.023	4900	250	0.017	9600	14	0.010	0.061
	25	5500	300	0.015	4400	210	0.011	-	-	-	-
	30	5000	250	0.010	4000	170	0.007	-	-	-	-
	35	4800	190	0.007	3800	140	0.005	-	-	-	-



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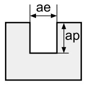
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

Recommended Cutting Conditions 建議切削參數

H65X Seires EHSRC2

Material		PREHARDENED STEELS NAK80 CENA1			HARDENED STEELS SKD61,SKD11			Hardened Steel SKD11,SKH51			
Hardness		HRC 35~45			HRC 40~55			HRC 55~65			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
3.0mm	6	8000	700	0.072	6400	480	0.052	8000	435	0.031	1.978
	10	7200	620	0.064	5800	430	0.046	8000	222	0.027	1.013
	16	5900	470	0.045	4700	320	0.032	8000	54	0.019	0.247
	20	5300	400	0.035	4300	280	0.025	8000	27	0.015	0.127
	25	4800	340	0.025	3900	230	0.018	8000	14	0.010	0.065
	30	4500	290	0.018	3600	200	0.013	8000	10	0.007	0.038
	35	4200	250	0.013	3300	170	0.009	-	-	-	-
4.0mm	8	6800	770	0.093	5300	500	0.070	6000	450	0.050	1.990
	12	5100	600	0.078	4100	410	0.056	6000	388	0.033	1.852
	16	4400	510	0.065	3600	350	0.046	6000	164	0.027	0.781
	20	4000	440	0.054	3200	300	0.038	6000	84	0.022	0.400
	25	3600	380	0.042	2900	260	0.030	6000	43	0.018	0.205
	30	3300	330	0.033	2600	230	0.024	6000	24	0.014	0.119
	35	3100	290	0.026	2500	200	0.019	6000	15	0.011	0.075
5.0mm	16	3500	520	0.089	2800	360	0.064	4800	457	0.038	1.907
	20	3100	440	0.085	2500	310	0.061	4800	234	0.036	0.977
	25	2800	390	0.077	2200	270	0.055	4800	120	0.033	0.500
	30	2500	340	0.066	2000	230	0.047	4800	69	0.028	0.289
	35	2300	300	0.054	1900	210	0.038	4800	43	0.022	0.182
6.0mm	20	2600	470	0.088	2100	330	0.063	4000	607	0.037	2.025
	30	2000	340	0.077	1600	240	0.055	4000	180	0.033	0.600
8.0mm	20	2300	450	0.130	1700	330	0.090	3400	580	0.050	1.600
	40	1500	250	0.800	1100	160	0.060	3400	84	0.035	0.200
10.0mm	25	2100	430	0.130	1500	310	0.080	3200	540	0.050	1.760
	45	1300	220	0.700	900	150	0.050	3200	76	0.030	0.240
12.0mm	30	2000	400	0.140	1400	280	0.080	3000	540	0.050	1.840
	50	1500	200	0.800	800	140	0.050	3000	72	0.030	0.280



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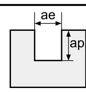
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

H65X Seires EHSRC4

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	38000	1050	25500	710	20500	430
2mm	26000	1250	17500	840	14500	520
3mm	17300	1250	11500	840	9500	520
4mm	13200	1300	8800	880	7200	540
5mm	12500	1500	8300	1000	6400	580
6mm	10350	1400	6900	950	5300	560
8mm	7800	1350	5200	900	4000	520
10mm	6450	1260	4100	840	3200	480
12mm	5250	1260	3500	840	2650	480



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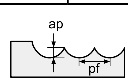
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

H65X Seires EHBRC2

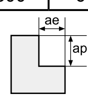
Material		PREHARDENED STEELS NAK80 CENA1				HARDENED STEELS SKD61,SKD11				Hardened Steel SKD11,SKH51			
Hardness		HRC 35~45				HRC 40~55				HRC 55~65			
Radius (R)	EFF-L	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)
0.15R	1	45000	552	0.010	0.010	38000	420	0.090	0.010	38000	348	0.007	0.009
	3	40800	360	0.006	0.007	33600	264	0.005	0.005	33600	216	0.004	0.005
0.2R	1	54000	768	0.016	0.022	39600	516	0.013	0.022	39600	432	0.011	0.021
	3	44400	480	0.010	0.010	32400	312	0.009	0.010	32400	264	0.008	0.010
	5	30000	372	0.008	0.010	26400	288	0.006	0.010	26400	228	0.004	0.005
0.25R	5	34800	552	0.008	0.008	31200	444	0.007	0.010	31200	216	0.006	0.009
	10	28800	456	0.007	0.010	28800	372	0.005	0.010	27600	216	0.005	0.009
0.3R	1	39600	960	0.022	0.091	27600	600	0.019	0.091	26400	516	0.014	0.091
	5	28800	504	0.012	0.043	26400	396	0.008	0.042	26400	336	0.007	0.040
	10	24000	360	0.005	0.020	22800	312	0.004	0.020	22800	240	0.003	0.018
0.4R	2	34800	816	0.045	0.100	27600	552	0.038	0.100	26400	456	0.030	0.010
	6	28800	636	0.028	0.068	21600	420	0.020	0.068	21600	348	0.015	0.065
	10	2040	468	0.020	0.050	19200	408	0.015	0.050	16800	336	0.010	0.050
0.5R	5	33600	900	0.052	0.220	21600	540	0.040	0.220	18000	540	0.008	0.014
	10	16320	600	0.020	0.056	15000	456	0.014	0.056	13680	312	0.008	0.050
	16	13680	480	0.016	0.056	12360	384	0.012	0.056	11520	252	0.005	0.030
0.75R	10	14760	782	0.080	0.170	9720	480	0.062	0.170	9720	456	0.050	0.160
	18	12120	504	0.022	0.110	9600	432	0.020	0.110	9600	408	0.012	0.110
	30	9840	456	0.012	0.050	9480	420	0.010	0.050	9480	396	0.010	0.050
1.0R	4	21000	1392	0.180	0.350	14640	1080	0.140	0.350	14640	900	0.120	0.350
	10	21000	1224	0.140	0.230	14640	972	0.110	0.230	14640	792	0.090	0.230
	20	15960	600	0.060	0.110	12720	600	0.055	0.110	12720	492	0.035	0.110
1.5R	6	14400	1824	0.200	0.340	9840	1320	0.160	0.320	6480	732	0.160	0.320
	10	14400	1824	0.200	0.340	9840	1320	0.160	0.320	6480	732	0.160	0.300
	20	12360	1476	0.145	0.320	8520	1128	0.120	0.310	5760	660	0.080	0.300
	30	9360	816	0.100	0.150	8520	816	0.080	0.150	5760	384	0.070	0.300
2.0R	8	10440	1752	0.290	0.550	7200	1332	0.220	0.500	7200	1056	0.150	0.500
	20	10440	1752	0.290	0.550	7200	1332	0.220	0.500	7200	1056	0.150	0.500
	30	8880	1380	0.200	0.320	6600	1056	0.150	0.300	6600	816	0.130	0.300
	35	7200	1056	0.132	0.320	6600	1056	0.100	0.300	6600	816	0.090	0.300
2.5R	15	8400	1500	0.300	0.700	6000	1140	0.220	0.700	6000	900	0.200	0.650
	25	8400	1380	0.300	0.550	6000	1080	0.220	0.550	6000	816	0.200	0.500
3.0R	15	8160	1764	0.420	0.800	5760	1320	0.300	0.800	4440	864	0.300	0.800
4.0R	25	7200	1176	0.350	0.750	4920	912	0.180	0.600	4560	732	0.200	0.630
5.0R	30	5880	1128	0.370	0.900	4800	852	0.200	0.670	4200	708	0.200	0.650
6.0R	30	4800	984	0.420	0.900	4320	828	0.250	0.600	3600	600	0.250	0.600



1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

H65X Seires EHCRC2

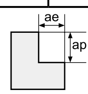
Material		**PREHARDENED STEELS** NAK80 CENA1				**HARDENED STEELS** SKD61,SKD11				**Hardened Steel** SKD11,SKH51			
Hardness		HRC 35~45				HRC 40~55				HRC 55~65			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
1.0mm	4	13800	805	0.029	0.264	11730	655	0.034	0.264	8280	78	0.017	0.264
	10	8625	311	0.011	0.123	7475	264	0.013	0.123	5290	31	0.006	0.123
1.2mm	6	9200	575	0.018	0.088	8165	483	0.215	0.088	6095	59	0.011	0.088
	12	6670	368	0.007	0.070	5980	299	0.008	0.070	4370	37	0.004	0.070
1.5mm	4	12880	1070	0.044	0.440	11730	920	0.059	0.440	8970	121	0.032	0.440
	10	8280	736	0.031	0.282	7590	633	0.041	0.282	5865	83	0.022	0.282
	16	5865	403	0.005	0.106	5405	345	0.006	0.106	4141	45	0.003	0.106
2.0mm	6	12535	1001	0.042	0.792	11730	909	0.095	0.792	9430	130	0.035	0.792
	12	9200	805	0.030	0.440	8280	725	0.043	0.440	6785	105	0.025	0.440
	20	6900	633	0.017	0.194	6440	564	0.023	0.194	5175	82	0.014	0.194
	25	5865	541	0.005	0.132	5405	495	0.005	0.132	4255	68	0.002	0.132
2.5mm	10	10350	1001	0.051	0.528	9775	943	0.073	0.528	8165	151	0.047	0.528
	25	6210	437	0.011	0.176	5865	414	0.016	0.176	4830	65	0.010	0.176
3.0mm	10	10350	1127	0.103	0.616	9775	874	0.103	0.655	8740	196	0.073	0.655
	20	8165	863	0.071	0.567	7705	667	0.071	0.567	6900	147	0.043	0.567
	30	6900	702	0.049	0.371	6325	541	0.049	0.371	5865	115	0.028	0.362
4.0mm	13	8740	1058	0.081	1.124	7360	920	0.117	1.124	6210	210	0.083	1.124
	20	6785	978	0.053	0.880	5750	840	0.078	0.880	4830	194	0.057	0.880
	30	5750	748	0.028	0.671	4715	656	0.041	0.671	4025	149	0.030	0.708
5.0mm	16	7705	1702	0.106	1.346	5520	1139	0.150	1.346	4600	342	0.110	1.346
	30	5290	817	0.053	1.035	3795	541	0.075	1.035	3220	164	0.055	1.035
6.0mm	20	5980	1219	0.476	1.356	3565	1035	0.186	1.356	3105	393	0.145	1.356
	30	4600	909	0.410	1.304	2645	759	0.164	1.304	2300	304	0.123	1.304
8.0mm	22	5520	1081	0.419	1.518	3220	909	0.164	1.518	2760	346	0.128	1.518
10.0mm	24	4485	920	0.356	1.645	2760	771	0.139	1.645	2300	294	0.108	1.645
12.0mm	26	3795	771	0.299	2.024	2300	644	0.117	2.024	1955	247	0.091	2.024



1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

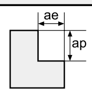
H65X Seires EHCRC4

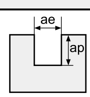
Material		PREHARDENED STEELS NAK80 CENA1				Hardened Steel SKD11,SKH51			
Hardness		HRC 35~45				HRC 55~65			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
2.0mm	6	12650	1265	0.063	0.633	11730	1173	0.059	0.713
	12	8970	1012	0.045	0.396	8280	943	0.043	0.396
2.5mm	10	10580	1380	0.065	0.528	9775	1150	0.065	0.528
	20	7590	1150	0.047	0.640	7360	655	0.030	0.220
3.0mm	10	11040	2070	0.094	0.684	10235	2070	0.059	0.684
	20	8165	1495	0.057	0.567	7705	1495	0.035	0.567
4.0mm	13	9085	1576	0.105	1.150	7590	1530	0.082	1.150
	20	7130	1380	0.069	0.920	59801	1288	0.054	0.920
	30	6325	1104	0.043	0.745	5290	1058	0.033	0.745
6.0mm	20	5635	1691	0.176	2.305	3335	978	0.176	1.281
	30	2875	782	0.098	1.320	1610	460	0.098	0.733
8.0mm	22	4600	1840	0.212	2.921	2760	782	0.212	1.518
10.0mm	24	3680	2013	0.242	3.140	2185	621	0.253	1.645
12.0mm	26	2875	2070	0.265	3.105	1725	495	0.276	1.714



1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

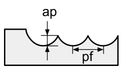
H68X Seires EHSSF4, EHSLF4, EHCSF4, EHCLF4

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKD11,SKH51			
HARDNESS	HRC 35~45				HRC 45~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	110 m/min		80 m/min		100 m/min		70 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	35000	630	25500	460	32000	600	22000	360
2mm	17500	830	12700	510	16000	750	11200	440
3mm	12000	1000	8500	550	11000	800	7400	460
4mm	8700	1000	6350	600	8000	850	5600	500
6mm	5830	1100	4200	750	5300	900	3750	560
8mm	4380	1100	3200	800	4000	1000	2800	600
10mm	3500	1100	2500	750	3200	900	2200	580
12mm	2900	1100	2150	700	2750	850	2000	550
	ap = 1.5d ae = 0.05d		ap = 1.5d ap = 0.07d		ap = 1.5d ae = 0.02d		ap = 1.5d ae = 0.05d	

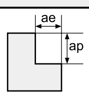
WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1		HARDENED STEEL SKD61,SKD11,SKH51	
HARDNESS	HRC 35~45		HRC 45~60	
Vc	70 m/min		40 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	7690	460	3990	200
4mm	5800	580	3000	240
5mm	4640	670	2430	300
6mm	3770	610	1950	330
8mm	2900	580	1500	300
10mm	2320	550	1200	270
12mm	1890	520	1020	240
	ap = 0.5d ae = 1d		ap = 0.2d ae = 1d	

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

H68X Seires EHBSF2, EHBLF2, EHBUF2

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKT4				HARDENED STEEL SKD11,SKH51			
HARDNESS	HRC 35~45				HRC 45~55				HRC 55~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	50~95 m/min		25~70 m/min		40~95 m/min		20~70 m/min		30~95 m/min		20~50 m/min	
RADIUS (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
0.5R	50000	4000	36000	1600	50000	3200	36000	1280	50000	2000	25000	1000
1R	32000	3000	20000	1500	32000	2560	20000	1280	32000	2000	15000	1000
2R	22000	2850	13000	1500	20000	2500	10000	1280	16000	1920	9500	960
3R	16000	2800	8500	1400	13000	2200	6800	1160	11000	1760	6500	960
4R	12000	2400	6400	1200	10000	1840	5200	960	8000	1400	4800	840
5R	10000	2000	5000	1060	8000	1600	4000	820	6400	1200	3800	720
6R	8000	1600	4200	920	6600	1400	3500	730	5300	1060	3200	640
	ap = 0.05~0.1d pf = 0.02d		ap = 0.05~0.1d pf = 0.02d		ap = 0.05~0.1d pf = 0.02d		ap = 0.05~0.1d pf = 0.02d		ap = 0.05~0.1d pf = 0.15d		ap = 0.05~0.1d pf = 0.15d	

H70X Seires EHSSS6, EHSSS8

WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	SKT, SKD		SKT, SKD		SKT, SKD	
HARDNESS	HRC 45~55		HRC 55~60		HRC 60~70	
Vc	129 m/min		98 m/min		65 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
6mm	6,890	1,900	5,200	1,000	3,445	505
8mm	5,200	1,900	3,900	1,000	2,600	505
10mm	4,160	1,900	3,120	1,000	2,080	505
12mm	3,445	1,900	2,600	1,000	1,755	505
14mm	2,925	1,800	2,210	1,000	1,430	505
16mm	2,535	1,700	2,015	930	1,294	505
18mm	2,275	1,600	1,885	895	1,151	505
20mm	2,015	1,500	1,495	845	1,040	505
25mm	1,625	1,500	1,242	915	826	505
	ap = 1.5d ae = 0.05d		ap = 1.5d ae = 0.03d		ap = 1d ae = 0.02d	

1.Use as highly rigid and accurate machine as possible.
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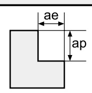
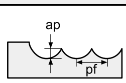
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

H70X Seires EHSUS4, EHSUS6, EHSUS8

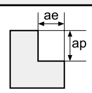
WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	SKT, SKD		SKT, SKD		SKT, SKD	
HARDNESS	HRC 45~55		HRC 55~60		HRC 60~70	
Vc	208 m/min		195 m/min		129 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
6mm	11,050	2,450	10,335	2,000	6,890	1,210
8mm	8,255	2,440	7,735	1,995	5,200	1,215
10mm	6,630	2,450	6,110	1,970	4,160	1,215
12mm	5,525	2,450	5,135	1,985	3,445	1,210
14mm	4,680	2,420	4,420	1,995	2,925	1,200
16mm	4,095	2,420	3,900	2,000	2,535	1,285
18mm	3,640	2,420	3,445	2,000	2,275	1,200
20mm	3,250	2,400	3,055	1,970	2,015	1,180
25mm	2,600	2,400	2,470	1,990	1,625	1,190
	ap = 1.5d ae = 0.05d		ap = 1.5d ae = 0.03d		ap = 1d ae = 0.02d	

H70X Seires EHBUS2

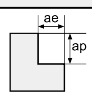
WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	SKT, SKD		SKT, SKD		SKT, SKD	
HARDNESS	HRC 45~55		HRC 55~60		HRC 60~70	
Vc	86~129 m/min		77~116 m/min		42~63 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
0.5R	41,600	960	39,000	850	33,150	500
1.0R	40,950	1,900	37,050	1,880	20,150	600
1.5R	27,300	2,080	24,700	1,880	13,650	625
2.0R	20,150	2,050	18,200	1,850	10,335	630
2.5R	16,250	2,060	14,300	1,815	8,255	630
3.0R	13,650	2,080	12,350	1,880	6,890	630
4.0R	10,335	1,550	9,295	1,400	5,135	470
5.0R	8,255	1,250	7,410	1,100	4,095	375
6.0R	6,890	1,050	6,175	950	3,445	315
8.0R	5,135	790	4,745	710	2,535	230
	ap = 0.02d pf = 0.1d					

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

H70X Seires EHCUK4

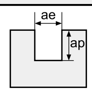
WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
HARDNESS	HRC 40~50		HRC 50~55		HRC 55~60	
Vc	90~130 m/min		55~78 m/min		36~52 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
2mm	20,700	5,750	12,420	3,450	8,280	2,310
3mm	13,800	6,050	8,280	3,640	5,520	2,420
4mm	10,350	7,030	6,210	4,220	4,140	2,810
6mm	6,900	6,900	4,140	4,140	2,760	2,760
8mm	5,200	6,850	3,105	4,090	2,070	2,730
10mm	4,150	6,600	2,500	3,970	1,650	2,640
12mm	3,450	6,900	2,070	4,140	1,380	2,760
 ae ap	ae / ap R ≦ 1: 0.2 x R / 0.025d R > 1: 0.4mm / 0.025d			ae / ap R ≦ 1: 0.1 x R / 0.025d R > 1: 0.2mm / 0.025d		

H70X Seires EHCUS4

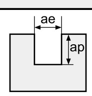
WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	SKT, SKD		SKT, SKD		SKT, SKD	
HARDNESS	HRC 45~55		HRC 55~60		HRC 60~70	
Vc	65 M/min		39 M/min		26 M/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	20,670	2,150	12,350	980	8,281	500
2mm	10,335	2,145	6,175	980	4,134	500
3mm	6,890	2,150	4,160	990	2,756	500
4mm	5,200	2,160	3,120	990	2,067	500
6mm	4,350	2,150	2,600	990	1,750	500
8mm	3,260	2,160	1,950	990	1,310	500
10mm	2,600	2,160	1,560	980	1,050	500
12mm	2,175	2,190	1,300	980	875	500
 ae ap	ae / ap R ≦ 2: 0.2 x R / 0.05d R > 2: 0.4mm / 0.05d			ae / ap R ≦ 2: 0.1 x R / 0.05d R > 2: 0.2mm / 0.05d		

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

M50X Seires ESSSA2

WORKING MATERIAL	STAINLESS 304		Moderately Difficults SUS		STAINLESS 316 L		TITANIUM (ALLOYS)		SOFT STEEL		SG CAST IRON		High Temperature Alloys	
Vc	72~90 m/min		56~70 m/min		48~60 m/min		40~56 m/min		120~160 m/min		96~120 m/min		20~25 M/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
4mm	7,452	458	4,459	286	3,822	183	3,185	122	9,554	764	7,643	611	1,592	56
5mm	4,586	440	3,567	286	3,057	245	2,548	122	7,643	734	6,115	587	1,274	45
6mm	3,822	489	2,972	333	2,548	245	2,123	136	6,369	815	5,096	652	1,062	58
8mm	2,866	458	2,229	321	1,911	245	1,592	153	4,777	917	3,822	734	796	69
10mm	2,293	440	1,783	286	1,529	220	1,274	124	3,822	734	3,057	587	637	55
12mm	1,911	398	1,486	262	1,274	204	1,062	136	3,185	714	2,548	570	531	65
14mm	1,638	351	1,274	232	1,092	185	910	126	2,730	637	2,184	510	455	65
16mm	1,433	321	1,115	214	955	168	796	114	2,389	574	1,911	458	398	62
 ae ap	ap = 0.2 ae = 1													

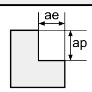
M50X Seires ESSSA4, ESSHA4

WORKING MATERIAL	STAINLESS 304		Moderately Difficults SUS		STAINLESS 316 L		TITANIUM (ALLOYS)		SOFT STEEL		SG CAST IRON		High Temperature Alloys	
Vc	72~90 m/min		56~70 m/min		48~60 m/min		40~56 m/min		120~160 m/min		96~120 m/min		20~25 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
4mm	5,732	458	4,459	286	3,822	183	3,185	122	9,554	764	7,643	611	1,592	56
5mm	4,586	440	3,567	286	3,057	245	2,548	122	7,643	734	6,115	587	1,274	45
6mm	3,822	489	2,972	333	2,548	245	2,123	136	6,369	815	5,096	652	1,062	58
8mm	2,866	458	2,229	321	1,911	245	1,592	153	4,777	917	3,822	734	796	69
10mm	2,293	440	1,783	286	1,529	220	1,274	124	3,822	734	3,057	587	637	55
12mm	1,911	398	1,486	262	1,274	204	1,062	136	3,185	714	2,548	570	531	65
14mm	1,638	351	1,274	232	1,092	185	910	126	2,730	637	2,184	510	455	65
16mm	1,433	321	1,115	214	955	168	796	114	2,389	574	1,911	458	398	62
 ae ap	ap = 0.2 ae = 1													

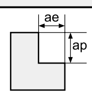
1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

Recommended Cutting Conditions 建議切削參數

M50X Seires ESSSB4
G450 Seires EPSSB4

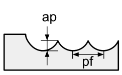
WORKING MATERIAL	Carbon steel (S45C)		Alloy Steel (SKD)		Stainless steel (SUS304, SUS316)	
Vc	130 m/min		90 m/min		80 m/min	
Diameter (d)	RPM	fz (mm/z)	RPM	fz (mm/z)	RPM	fz (mm/z)
4mm	10350	0.020	7170	0.020	6370	0.020
6mm	6900	0.025	4780	0.025	4250	0.025
8mm	5180	0.035	3580	0.035	3190	0.035
10mm	4140	0.045	2870	0.040	2550	0.040
12mm	3450	0.055	2390	0.050	2120	0.050
16mm	2590	0.072	1790	0.064	1590	0.064
 ae ap	ap = 1d ae = 0.1d					

M50X Seires ESSSW3, ESSSW4

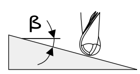
WORKING MATERIAL	ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		HARDENED STEEL		STAINLESS STEEL		CAST IRON	
CODE	45C,S50C,SCM		SCM,SKT,SKD		SCM,SKT,SKD		SKT, SKD		SUS 304		FC / FCD	
HARDNESS	HRC < 20		HRC 20 ~ 30		HRC 30 ~ 40		HRC 45~45		–		–	
Vc	88 m/min		71 m/min		59 m/min		35 m/min		71 m/min		103 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	26,000	190	22,230	140	18,720	100	10,400	40	22,230	165	32,760	240
2mm	14,040	235	11,232	160	9,360	110	5,616	45	11,232	185	16,380	270
3mm	9,828	270	7,488	175	6,084	120	3,900	55	7,488	205	11,232	310
4mm	7,020	260	5,616	175	4,680	120	2,808	50	5,616	205	8,424	310
5mm	5,850	270	4,446	175	3,744	120	2,340	55	4,446	205	6,552	300
6mm	4,680	260	3,744	175	3,042	120	1,872	50	3,744	205	5,616	310
8mm	3,510	260	2,808	175	2,340	120	1,404	50	2,808	205	4,212	310
10mm	2,808	260	2,223	175	1,872	120	1,131	50	2,223	205	3,276	300
12mm	2,340	260	1,872	175	1,560	120	936	50	1,872	205	2,808	310
14mm	2,340	300	1,768	195	1,482	135	936	60	1,768	230	2,600	335
16mm	2,028	300	2,730	345	1,300	135	819	60	2,730	400	2,340	345
18mm	2,028	305	1,378	175	1,144	120	819	60	1,378	205	2,080	310
20mm	1,560	260	1,248	175	1,040	120	624	50	1,248	205	1,820	300
 ae ap	ap = 1d ae = 0.2d											

M50X Seires ESBSA2

WORKING MATERIAL	ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		HARDENED STEEL		STAINLESS STEEL		CAST IRON	
CODE	45C,S50C,SCM		SCM,SKT,SKD		SCM,SKT,SKD		SKT, SKD		SUS 304		FC / FCD	
HARDNESS	HRC < 20		HRC 20 ~ 30		HRC 30 ~ 40		HRC 45~55		–		–	
Vc	94 mmin		71 m/min		44 m/min		38 m/min		71 m/min		94 m/min	
RADIUS (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
0.5R	46,800	545	42,120	420	28,080	230	18,720	110	42,120	490	58,500	685
1.0R	26,676	700	21,060	470	15,210	280	10,660	140	21,060	555	29,718	780
2.0R	14,976	875	11,232	560	8,190	335	5,980	175	11,232	655	14,976	875
3.0R	9,828	860	7,488	560	4,914	300	3,926	170	7,488	655	9,828	860
4.0R	7,488	875	5,616	560	3,744	305	2,990	175	5,616	655	7,488	875
5.0R	5,967	870	4,446	550	2,808	285	2,379	175	4,446	650	5,967	870
6.0R	4,914	860	3,744	560	2,340	285	1,976	175	3,744	655	4,914	860
8.0R	4,160	970	3,120	620	2,028	330	1,664	195	3,120	730	4,160	970
10.0R	3,380	890	2,496	560	1,690	310	1,352	175	2,496	655	3,380	890



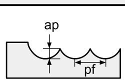
ap = 0.02d
pf = 0.05d



When β is less than 15° milling speed and feed speed in the table can be increased 1.0-1.2 times.

M50X Seires ESBHS4

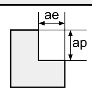
Work Material	High temperature alloy (Nickel Titanium)		Hardened steel (HRC 40 ~55) (SKD11, SKD61)		Hardened steel (HRC 50~60) (SKD11, SUS420)		Hardened steel (HRC 60~65) (SKS, SKH)	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3R	15000	3400	21000	8400	16000	4800	8000	2300
4R	12000	2600	16000	6400	12000	3600	6000	1900
5R	9600	2200	13000	5200	10000	3200	4800	1500
6R	7200	1700	9000	3600	7000	2200	3600	1100
8R	5400	1300	6800	2700	5300	1700	2700	830



ap = 0.04d
pf ≤ 0.2R

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

M50X Seires ESCSA4

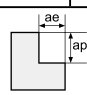
WORKING MATERIAL	ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		HARDENED STEEL		STAINLESS STEEL		CAST IRON	
CODE	45C,S50C,SCM		SCM,SKT,SKD		SCM,SKT,SKD		SKT, SKD		SUS 304		FC / FCD	
HARDNESS	HRC < 20		HRC 20 ~ 30		HRC 30 ~ 40		HRC 45~45		–		–	
Vc	88 m/min		71 m/min		59 m/min		35 m/min		71 m/min		103 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	9,828	455	7,098	295	6,084	195	3,900	90	7,488	345	11,232	520
4mm	7,020	430	5,616	295	4,680	200	2,808	85	5,616	345	8,424	520
5mm	5,850	450	4,446	290	3,744	200	2,340	90	4,446	345	6,552	505
6mm	4,680	430	3,744	295	3,042	195	1,872	85	3,744	345	5,616	520
8mm	3,510	430	2,808	295	2,340	200	1,404	85	2,808	345	4,212	520
10mm	2,808	430	2,223	290	1,872	200	1,131	85	2,223	340	3,276	505
12mm	2,340	430	1,872	295	1,560	200	936	85	1,872	345	2,808	520
	ap = 1d ae = 0.02d											

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

Recommended Cutting Conditions 建議切削參數

V470 Seires EPSSVB4, EPSSVC4

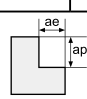
Working Material	Cutting Application	ae×d	ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 225	0.030	0.036	0.048	0.06	0.072	0.096
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	90 ~ 180	0.026	0.032	0.043	0.056	0.067	0.089
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 130	0.018	0.024	0.036	0.042	0.048	0.067
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.018	0.024	0.030	0.036	0.042	0.058



d = tool diameter

V47X Seires EPSSVC4, EPSSVC5

Working Material	Cutting Application	ae×d	ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	130 ~ 225	0.035	0.042	0.056	0.070	0.084	0.112
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	90 ~ 180	0.031	0.038	0.050	0.066	0.078	0.104
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 2.0	80 ~ 130	0.021	0.028	0.042	0.049	0.056	0.078
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 2.0	65 ~ 100	0.021	0.028	0.035	0.042	0.049	0.067

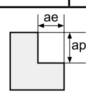


d = tool diameter

※If the machine not stable, please reduce the feed about 20%. 若機床條件較不穩定，請將進給率調降 20%

V47X Seires EPSUVC4

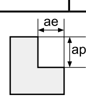
Working Material	Cutting Application	ae×d	ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.030	0.036	0.048	0.060	0.072	0.096
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	130 ~ 225	0.042	0.050	0.067	0.084	0.101	0.134
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.026	0.032	0.043	0.056	0.067	0.089
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	90 ~ 180	0.037	0.046	0.060	0.079	0.094	0.125
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.018	0.024	0.036	0.042	0.048	0.067
	Side milling	0.1 ~ 0.2	0.7 ~ 1.2	80 ~ 130	0.025	0.034	0.050	0.059	0.067	0.094
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.018	0.024	0.030	0.036	0.042	0.058
	Side milling	0.05 ~ 0.1	0.7 ~ 1.2	65 ~ 100	0.025	0.034	0.042	0.050	0.059	0.080



d = tool diameter

V47X Seires EPSRVC4

Working Material	Cutting Application	ae×d	ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.4	0.7 ~ 1.5	130 ~ 225	0.035	0.042	0.056	0.070	0.084	0.112
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.4	0.7 ~ 1.5	90 ~ 180	0.031	0.038	0.050	0.066	0.078	0.104
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 130	0.021	0.028	0.042	0.049	0.056	0.078
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.021	0.028	0.035	0.042	0.049	0.067

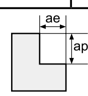


d = tool diameter

※If the machine not stable, please reduce the feed about 20%.　若機床條件較不穩定，請將進給率調降 20%

V47X Seires EPSSVD4, EPSSVD5, EPSSVD7

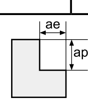
Working Material	Cutting Application	ae×d	ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C，S55C)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.035	0.042	0.056	0.070	0.084	0.112
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	120 ~ 180	0.039	0.046	0.062	0.077	0.092	0.123
Alloy steel / Tool steel (SK, SCM, SKD)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.031	0.038	0.050	0.066	0.078	0.104
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	100 ~ 150	0.034	0.042	0.055	0.073	0.086	0.114
Stainless steel (SUS304, SUS316)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.021	0.028	0.042	0.049	0.056	0.078
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	85 ~ 130	0.023	0.031	0.046	0.054	0.062	0.086
Superalloy	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.021	0.028	0.035	0.042	0.049	0.067
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.023	0.031	0.039	0.046	0.054	0.074



d = tool diameter

V47X Seires EPSCVD5, EPSCVD7

Working Material	Cutting Application	ae×d	ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C，S55C)	Side milling	0.1 ~ 0.3	0.7 ~ 3.0	80 ~ 125	0.028	0.034	0.045	0.056	0.067	0.090
	Side finishing	0.05 ~ 0.3	0.7 ~ 2.5	120 ~ 180	0.031	0.037	0.050	0.062	0.074	0.098
Alloy steel / Tool steel (SK, SCM, SKD)	Side milling	0.1 ~ 0.3	0.7 ~ 3.0	70 ~ 105	0.025	0.030	0.040	0.053	0.062	0.083
	Side finishing	0.05 ~ 0.3	0.7 ~ 2.5	100 ~ 150	0.027	0.034	0.044	0.058	0.069	0.091
Stainless steel (SUS304, SUS316)	Side milling	0.1 ~ 0.3	0.7 ~ 2.5	60 ~ 90	0.017	0.022	0.034	0.039	0.045	0.062
	Side finishing	0.05 ~ 0.3	0.7 ~ 2.0	85 ~ 130	0.018	0.025	0.037	0.043	0.050	0.069
Superalloy	Side milling	0.1 ~ 0.3	0.7 ~ 2.5	45 ~ 70	0.017	0.022	0.028	0.034	0.039	0.054
	Side finishing	0.05 ~ 0.3	0.7 ~ 2.0	65 ~ 100	0.018	0.025	0.031	0.037	0.043	0.059

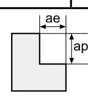


d = tool diameter

※If the machine not stable, please reduce the feed about 20%.　若機床條件較不穩定，請將進給率調降 20%

V47X Seires EPSSVE4

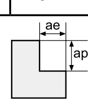
Working Material	Cutting Application	ae×d	ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C，S55C)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.035	0.042	0.056	0.070	0.084	0.112
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	120 ~ 180	0.039	0.046	0.062	0.077	0.092	0.123
Alloy steel / Tool steel (SK, SCM, SKD)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.031	0.038	0.050	0.066	0.078	0.104
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	100 ~ 150	0.034	0.042	0.055	0.073	0.086	0.114
Stainless steel (SUS304, SUS316)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.021	0.028	0.042	0.049	0.056	0.078
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	85 ~ 130	0.023	0.031	0.046	0.054	0.062	0.086
Superalloy	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.021	0.028	0.035	0.042	0.049	0.067
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.023	0.031	0.039	0.046	0.054	0.074



d = tool diameter

V470 Inch Seires EP□□V4

Working Material	Cutting Application	ae×d	ap×d	SFM	fz (inch/z)				
					1/8	1/4	5/16	3/8	1/2
Carbon steel (S45C, S55C)	Slot milling	1	0.5 ~ 1.0	260 ~ 475	.0008	.0012	.0016	.0019	.0025
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	295 ~ 525	.0009	.0015	.0020	.0023	.0031
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.5	425 ~ 740	.0006	.0010	.0014	.0017	.0023
Alloy steel (SK, SCM)	Slot milling	1	0.5 ~ 1.0	230 ~ 430	.0007	.0011	.0015	.0018	.0024
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	260 ~ 475	.0008	.0014	.0019	.0022	.0030
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.5	310 ~ 590	.0005	.0009	.0013	.0016	.0022
Tool Steel (SKD)	Slot milling	1	0.5 ~ 1.0	215 ~ 360	.0006	.0010	.0014	.0017	.0023
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	230 ~ 430	.0009	.0015	.0018	.0021	.0029
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.5	295 ~ 525	.0006	.0010	.0014	.0015	.0021
Stainless steel (SUS304, SUS316)	Slot milling	1	0.5 ~ 1.0	165 ~ 215	.0005	.0008	.0012	.0013	.0017
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	215 ~ 330	.0006	.0010	.0014	.0017	.0023
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.5	260 ~ 360	.0006	.0010	.0014	.0015	.0021
Hardened steel (HRC ≤ 45)	Slot milling	1	0.5 ~ 1.0	100 ~ 200	.0005	.0008	.0010	.0011	.0015
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	165 ~ 300	.0005	.0008	.0012	.0013	.0017
	Side finishing	0.1~ 0.3	0.7 ~ 1.5	215 ~ 395	.0006	.0010	.0014	.0015	.0021



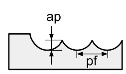
d = tool diameter

※If the machine not stable, please reduce the feed about 20%. 若機床條件較不穩定，請將進給率調降 20%

Recommended Cutting Conditions 建議切削參數

V470 Inch Seires EPB□V2, EPB□V4

Working Material	Cutting Application	pf×d	ap×d	SFM	fz (inch/z)				
					1/8	1/4	5/16	3/8	1/2
Carbon steel (S45C, S55C)	Slot milling	0.5	0.5 ~ 1.0	260 ~ 475	.0008	.0012	.0016	.0019	.0025
	Side roughing	0.3 ~ 0.6	0.6 ~ 1.0	295 ~ 525	.0009	.0015	.0020	.0023	.0031
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.0	425 ~ 740	.0006	.0010	.0014	.0017	.0023
Alloy steel (SK, SCM)	Slot milling	0.5	0.5 ~ 1.0	230 ~ 430	.0007	.0011	.0015	.0018	.0024
	Side roughing	0.3 ~ 0.6	0.6 ~ 1.0	260 ~ 475	.0008	.0014	.0019	.0022	.0030
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.0	310 ~ 590	.0005	.0009	.0013	.0016	.0022
Tool Steel (SKD)	Slot milling	0.5	0.5 ~ 1.0	215 ~ 360	.0006	.0010	.0014	.0017	.0023
	Side roughing	0.3 ~ 0.6	0.6 ~ 1.0	230 ~ 430	.0009	.0015	.0018	.0021	.0029
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.0	295 ~ 525	.0006	.0010	.0014	.0015	.0021
Stainless steel (SUS304, SUS316)	Slot milling	0.4 ~ 0.5	0.3 ~ 1.0	165 ~ 215	.0005	.0008	.0012	.0013	.0017
	Side roughing	0.3 ~ 0.6	0.5 ~ 1.0	215 ~ 330	.0006	.0010	.0014	.0017	.0023
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.0	260 ~ 360	.0006	.0010	.0014	.0015	.0021
Superalloy & Hardened steel	Slot milling	0.4 ~ 0.5	0.3 ~ 0.5	100 ~ 200	.0005	.0008	.0010	.0011	.0015
	Side roughing	0.3 ~ 0.6	0.5 ~ 1.0	165 ~ 300	.0005	.0008	.0012	.0013	.0017
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.0	215 ~ 395	.0006	.0010	.0014	.0015	.0021

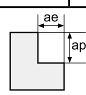


d = tool diameter

※If the machine not stable, please reduce the feed about 20%.　若機床條件較不穩定，請將進給率調降 20%

V53X Seires ESSSVC4, ESSSVC5

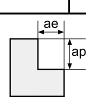
Working Material	Cutting Application	ae×d	ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.029	0.035	0.046	0.058	0.069	0.092
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 280	0.040	0.048	0.064	0.081	0.097	0.129
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.025	0.031	0.041	0.054	0.064	0.085
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	110 ~ 220	0.036	0.044	0.058	0.076	0.090	0.120
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.017	0.023	0.035	0.040	0.046	0.064
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 140	0.024	0.032	0.048	0.056	0.064	0.090
Superalloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.017	0.023	0.029	0.035	0.040	0.055
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.024	0.032	0.040	0.048	0.056	0.077



d = tool diameter

V53X Seires ESSSVD4

Working Material	Cutting Application	ae×d	ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C，S55C)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.040	0.048	0.064	0.081	0.097	0.129
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	120 ~ 180	0.045	0.053	0.071	0.089	0.106	0.141
Alloy steel / Tool steel (SK, SCM, SKD)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.036	0.044	0.058	0.076	0.090	0.120
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	100 ~ 150	0.039	0.048	0.063	0.084	0.099	0.131
Stainless steel (SUS304, SUS316)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.024	0.032	0.048	0.056	0.064	0.090
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	85 ~ 130	0.026	0.036	0.053	0.062	0.071	0.099
Superalloy	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.024	0.032	0.040	0.048	0.056	0.077
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.026	0.036	0.045	0.053	0.062	0.085



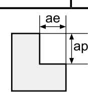
d = tool diameter

※If the machine not stable, please reduce the feed about 20%. 若機床條件較不穩定，請將進給率調降 20%
If using trochoidal milling, please refer to the side milling cutting data. 若使用擺線加工，請參考側銑切削數據

Recommended Cutting Conditions 建議切削參數

V53X Seires ESSSVA4

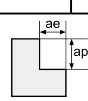
Working Material	Cutting Application	ae×d	ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.029	0.035	0.046	0.058	0.069	0.092
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 280	0.035	0.041	0.055	0.069	0.083	0.110
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.025	0.031	0.041	0.054	0.064	0.085
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	110 ~ 220	0.030	0.037	0.049	0.064	0.077	0.102
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.017	0.023	0.035	0.040	0.046	0.064
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 140	0.021	0.028	0.041	0.048	0.055	0.077
Superalloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.017	0.023	0.029	0.035	0.040	0.055
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.021	0.028	0.035	0.041	0.048	0.067



d = tool diameter

V53X Seires ESSSVB4

Working Material	Cutting Application	ae×d	ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.029	0.035	0.046	0.058	0.069	0.092
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 280	0.040	0.048	0.064	0.081	0.097	0.129
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.025	0.031	0.041	0.054	0.064	0.085
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	110 ~ 220	0.036	0.044	0.058	0.076	0.090	0.120
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.017	0.023	0.035	0.040	0.046	0.064
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 140	0.024	0.032	0.048	0.056	0.064	0.090
Superalloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.017	0.023	0.029	0.035	0.040	0.055
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.024	0.032	0.040	0.048	0.056	0.077

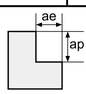


d = tool diameter

※If the machine not stable, please reduce the feed about 20%. 若機床條件較不穩定，請將進給率調降 20%
If using trochoidal milling, please refer to the side milling cutting data. 若使用擺線加工，請參考側銑切削數據

V53X Seires ESSUVB4

Working Material	Cutting Application	ae×d	ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.035	0.041	0.055	0.069	0.083	0.110
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	130 ~ 280	0.048	0.058	0.077	0.097	0.116	0.154
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.030	0.037	0.049	0.064	0.077	0.102
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	110 ~ 220	0.043	0.053	0.069	0.091	0.108	0.144
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.021	0.028	0.041	0.048	0.055	0.077
	Side milling	0.1 ~ 0.2	0.7 ~ 1.2	80 ~ 140	0.029	0.039	0.058	0.068	0.077	0.108
Superalloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.021	0.028	0.035	0.041	0.048	0.067
	Side milling	0.05 ~ 0.1	0.7 ~ 1.2	65 ~ 100	0.029	0.039	0.048	0.058	0.068	0.092

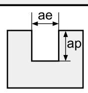


d = tool diameter

※If the machine not stable, please reduce the feed about 20%. 若機床條件較不穩定，請將進給率調降 20%
If using trochoidal milling, please refer to the side milling cutting data. 若使用擺線加工，請參考側銑切削數據

A100 Seires ENSSC1

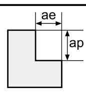
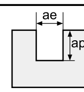
Material	**Aluminum**		
Vc	150 ~ 250 m/min		
Dia. (d)	RPM	Feed (mm/min)	fz (mm/tooth)
4	15000	5000	0.33
6	10000	5000	0.50
8	8400	4000	0.48
10	6700	4000	0.60
12	5000	4000	0.80



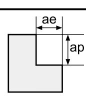
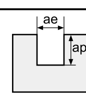
ap = 0.5d
ae = 1d

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

A100 Seires ENSSS2, ENSSS3, ENSCS3, ENSSH3, ENSSF3, ENCSS3

Material	**Aluminum Alloy**			
Vc	55 ~ 225 m/min		45 ~ 185 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1	17800	590	17800	470
2	17800	620	17800	500
3	15000	650	15000	520
4	13000	685	13000	550
5	12000	720	12000	580
6	10000	760	10000	610
8	8500	840	8500	670
10	7000	920	7000	740
12	6000	1010	6000	810
	 ap = 1 ~ 2d ae = 0.05 ~ 0.15d		 ap = 0.2~0.5d ae = 1d	

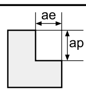
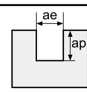
A100 Seires ENSSB3

Material	**Aluminum Alloy**			
Vc	200 ~ 400 m/min		150 ~ 300 m/min	
Dia. (d)	RPM	fz (mm/z)	RPM	fz (mm/z)
4	23870	0.0200	17900	0.030
5	10900	0.0250	14320	0.040
6	15910	0.0350	11930	0.057
8	11930	0.0450	8950	0.075
10	9550	0.0570	7160	0.096
12	7960	0.0670	5970	0.110
16	5970	0.0880	4480	0.145
20	4770	0.1200	3580	0.180
	 ap ≤ 1.5d ae ≤ 0.3d		 ap ≤ 1d ae = 1d	

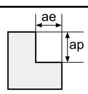
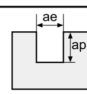
1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

Recommended Cutting Conditions 建議切削參數

A100 Seires ENSSP3

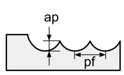
Material	**Aluminum Alloy**			
Vc	150 ~ 350 m/min		120 ~ 300 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
6	16000	1280	13000	880
8	12000	1520	9500	960
10	9500	1520	7600	960
12	8000	1520	6400	960
16	6000	1520	4800	960
	 ap = 1 ~ 2d ae = 0.05 ~ 0.15d		 ap = 0.2d ae = 1d	

A100 Seires ENSSV3

Material	**Aluminum alloy (AL5052 / 6061 / 7075)**			
Vc	200 ~ 400 m/min		150 ~ 300 m/min	
Dia. (d)	RPM	fz (mm/z)	RPM	fz (mm/z)
3	31820	0.02	23870	0.01
4	23870	0.03	17900	0.02
5	19090	0.03	14320	0.02
6	15910	0.05	11930	0.03
8	11930	0.07	8950	0.04
10	9550	0.09	7160	0.06
12	7960	0.11	5970	0.08
16	5970	0.15	4480	0.10
	 ap = 1.5d ae = 0.1 ~ 0.5d		 ap = 0.5 ~ 1d ae = 1d	
※When machining Aluminum alloy with Si ≥ 8% , reduce RPM 30% and Feed 30%.				

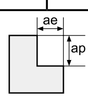
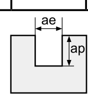
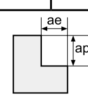
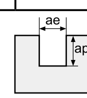
1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

A100 Seires ENBSA2

WORKING MATERIAL	ALLUMINUM ALLOY	
CODE	A5052	
Vc	327 m/min	
Dia. (d)	RPM	Feed (mm/min)
2mm	50,700	2,000
3mm	33,800	2,000
4mm	26,000	2,000
5mm	20,800	2,000
6mm	16,900	2,000
8mm	13,000	2,000
10mm	10,400	2,000
12mm	7,800	2,000
16mm	6,500	2,000
	ap = 0.1d pf = 0.1d	

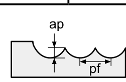
1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

A100 Seires ENSRC2

Material		Copper							Copper Tungsten (W70%-Cu30%)						
Application		Side Milling				Slotting			Side Milling				Slotting		
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)
0.5	1.5	40000	900	0.5	0.025	40000	800	0.070	30000	650	0.3	0.02	30000	550	0.05
	2	38000	800	0.5	0.02	35000	700	0.055	28000	550	0.3	0.016	26000	450	0.04
	3	35000	700	0.5	0.015	32000	600	0.040	26000	500	0.3	0.012	25000	400	0.03
	4	28000	550	0.5	0.008	26000	500	0.030	24000	400	0.3	0.005	22000	300	0.02
	6	18000	350	0.5	0.005	18000	300	0.015	15000	220	0.3	0.003	15000	180	0.01
1	3	24000	2200	1	0.06	24000	2000	0.22	20000	1600	0.8	0.04	20000	1400	0.16
	4	24000	2000	1	0.05	22000	1800	0.20	20000	1400	0.8	0.035	18000	1100	0.14
	5	22000	1700	1	0.04	20000	1500	0.16	18000	1200	0.8	0.028	16000	950	0.12
	6	20000	1500	1	0.03	18000	1200	0.14	16000	1000	0.8	0.02	14000	800	0.10
	8	16000	1200	1	0.025	15000	1000	0.10	14000	800	0.8	0.018	12000	650	0.08
	10	14000	1000	1	0.02	12000	800	0.07	12000	650	0.8	0.014	11000	550	0.05
	12	10000	700	1	0.01	10000	650	0.05	9000	450	0.8	0.007	8000	400	0.035
2	6	18000	2500	2	0.10	16000	2200	0.45	14000	1800	1.5	0.08	12000	1500	0.30
	8	16000	2200	2	0.09	14000	1900	0.40	12000	1500	1.5	0.07	12000	1400	0.28
	10	14000	1900	2	0.08	12000	1600	0.35	10000	1200	1.5	0.06	10000	1000	0.24
	12	12000	1600	2	0.07	11000	1400	0.28	10000	1100	1.5	0.05	9000	900	0.20
	14	11000	1400	2	0.06	10000	1200	0.24	9000	950	1.5	0.04	8000	800	0.16
	16	10000	1200	2	0.045	9000	1000	0.18	8000	800	1.5	0.03	7000	650	0.12
	20	9000	1000	2	0.03	8000	850	0.12	7000	700	1.5	0.02	6000	550	0.08
3	10	16000	2400	3	0.12	14000	2000	0.7	12000	1800	2.4	0.08	11000	1500	0.5
	16	14000	2100	3	0.10	12000	1600	0.6	11000	1600	2.4	0.07	9000	1100	0.4
	20	11000	1500	3	0.07	10000	1200	0.4	9000	1100	2.4	0.05	8000	900	0.3
	25	10000	1300	3	0.05	9000	1000	0.2	8000	900	2.4	0.03	7000	700	0.15
4	16	12000	2400	4	0.20	10000	2000	0.9	9000	1600	3	0.15	8000	1400	0.7
	20	10000	2000	4	0.15	8000	1600	0.7	8000	1400	3	0.10	6000	1000	0.5
	25	9000	1700	4	0.10	8000	1500	0.5	7000	1200	3	0.07	6000	1000	0.3
															

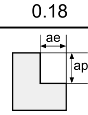
A100 Seires ENBRC2

Material		Copper				Copper Tungsten (W70%-Cu30%)			
Radius (R)	EFF-L	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)
0.25R	2	40000	800	0.08	0.15	30000	500	0.08	0.15
	3	35000	600	0.06	0.1	27000	400	0.06	0.08
	4	30000	400	0.04	0.08	22000	200	0.025	0.05
	5	25000	300	0.02	0.04	18000	150	0.01	0.02
0.5R	3	40000	2800	0.25	0.4	30000	2000	0.25	0.4
	4	40000	2400	0.2	0.4	30000	1600	0.2	0.4
	5	35000	2000	0.16	0.3	27000	1400	0.12	0.25
	6	30000	1600	0.14	0.3	25000	1000	0.1	0.25
	8	25000	1000	0.12	0.2	18000	500	0.06	0.1
	10	20000	800	0.08	0.15	16000	300	0.03	0.05
	12	16000	600	0.06	0.1	12000	200	0.015	0.04
1.0R	4	30000	4000	0.45	0.8	22000	2400	0.45	0.8
	6	27000	3000	0.45	0.8	20000	1800	0.45	0.8
	8	25000	2400	0.4	0.8	18000	1600	0.4	0.8
	10	22000	2000	0.3	0.6	16000	1400	0.25	0.5
	12	16000	1400	0.3	0.6	12000	900	0.25	0.5
	16	12000	1000	0.25	0.5	9000	500	0.12	0.25
	20	10000	800	0.15	0.3	8000	350	0.06	0.1
	25	8000	600	0.08	0.15	6000	200	0.03	0.05
1.5R	8	22000	3800	0.8	1.95	18000	2800	0.7	1.3
	10	20000	3400	0.7	1.5	16000	2400	0.6	1.2
	16	18000	3000	0.6	1.0	14000	2000	0.6	1.2
	20	16000	2400	0.5	0.8	12000	1400	0.4	0.6
	25	12000	1800	0.4	0.6	10000	900	0.2	0.3
	30	8000	1200	0.2	0.4	6000	500	0.08	0.15
2.0R	12	16000	4000	1.0	1.6	12000	2800	0.8	1.6
	16	16000	3400	0.8	1.6	12000	2400	0.8	1.6
	20	14000	3000	0.8	1.6	10000	2000	0.8	1.6
	25	14000	3000	0.6	1.2	10000	2000	0.5	1.0
	30	12000	2400	0.5	1.0	7000	1200	0.3	0.5
	40	8000	1200	0.4	0.8	5000	500	0.15	0.3

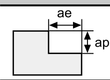
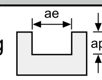
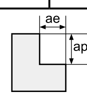
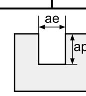


A100 Seires ENCRC2

Material			Copper				Copper Tungsten (W70%-Cu30%)			
Dia. (d)	Radius (R)	EFF-L	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
0.5	0.1R	2	40000	800	0.06	0.25	36000	720	0.054	0.23
		3	35000	640	0.05	0.25	32000	580	0.045	0.23
		4	30000	480	0.036	0.25	27000	420	0.032	0.23
		5	25000	400	0.024	0.25	23000	360	0.022	0.23
1	0.1R	3	25000	2400	0.06	0.6	23000	2200	0.054	0.55
		4	25000	2200	0.055	0.6	23000	2000	0.05	0.55
		5	22000	2000	0.05	0.6	20000	1800	0.045	0.55
		6	20000	1800	0.045	0.6	18000	1600	0.04	0.55
		8	16000	1400	0.04	0.6	14000	1200	0.036	0.55
		10	12000	1000	0.03	0.6	11000	900	0.027	0.55
	0.2R	3	25000	2400	0.12	0.6	23000	2200	0.11	0.55
		4	25000	2200	0.11	0.6	23000	2000	0.10	0.55
		5	22000	2000	0.10	0.6	20000	1800	0.09	0.55
		6	20000	1800	0.09	0.6	18000	1600	0.08	0.55
		8	16000	1400	0.08	0.6	14000	1200	0.07	0.55
		10	12000	1000	0.06	0.6	11000	900	0.054	0.55
2	0.1R	5	16000	3000	0.06	1.2	14000	2700	0.054	1.1
		8	14000	2600	0.06	1.2	13000	2400	0.054	1.1
		10	12000	2000	0.06	1.2	11000	1800	0.054	1.1
		15	10000	1600	0.05	1.2	9000	1400	0.045	1.1
		20	8000	1200	0.04	1.2	7000	1100	0.036	1.1
	0.3R	5	16000	3000	0.18	1.2	14000	2700	0.16	1.1
		8	14000	2600	0.18	1.2	13000	2400	0.16	1.1
		10	12000	2000	0.18	1.2	11000	1800	0.16	1.1
		15	10000	1600	0.14	1.2	9000	1400	0.13	1.1
		20	8000	1200	0.10	1.2	7000	1100	0.09	1.1
3	0.2R	12	14000	3000	0.12	1.8	13000	2700	0.11	1.6
		15	13000	2600	0.12	1.8	12000	2400	0.11	1.6
		18	12000	2400	0.10	1.8	11000	2200	0.09	1.6
		24	10000	1800	0.08	1.8	9000	1600	0.07	1.6
		30	8000	1400	0.07	1.8	7000	1200	0.06	1.6
	0.5R	12	14000	3000	0.30	1.8	13000	2700	0.27	1.6
		15	13000	2600	0.30	1.8	12000	2400	0.27	1.6
		18	12000	2400	0.25	1.8	11000	2200	0.23	1.6
		24	10000	1800	0.20	1.8	9000	1600	0.18	1.6
		30	8000	1400	0.16	1.8	7000	1200	0.14	1.6
4	0.2R	16	10000	2800	0.14	2.8	9000	2500	0.13	2.5
		24	8000	2200	0.12	2.8	7000	1900	0.11	2.5
		32	6000	1600	0.10	2.8	5500	1400	0.09	2.5
	0.5R	16	10000	2800	0.30	2.4	9000	2500	0.27	2.2
		24	8000	2200	0.24	2.4	7000	1900	0.22	2.2
		32	6000	1600	0.18	2.4	5500	1400	0.16	2.2

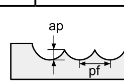


A200 Seires EGSSC4, EGCSC4, EGSRC2, EGCRC2

Material	Graphite					
Dia (mm)	RPM	fz (mm/z)	Side Milling 		Slot Milling 	
			ap (mm)	ae (mm)	ap (mm)	ae (mm)
3	10000 ~ Max.	0.012 ~ 0.018	1×d	0.1×d	0.25×d	1×d
4	10000 ~ Max.	0.016 ~ 0.024	1×d	0.1×d	0.25×d	1×d
5	10000 ~ Max.	0.020 ~ 0.030	1×d	0.1×d	0.25×d	1×d
6	10000 ~ Max.	0.024 ~ 0.036	1×d	0.1×d	0.25×d	1×d
8	10000 ~ Max.	0.026 ~ 0.038	1×d	0.1×d	0.25×d	1×d
10	10000 ~ Max.	0.032 ~ 0.048	1×d	0.1×d	0.25×d	1×d
12	10000 ~ Max.	0.038 ~ 0.058	1×d	0.1×d	0.25×d	1×d
						

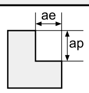
※For EGSRC, EGCRC, need reduce the fz 30%.

A200 Seires EGBSC2, EGBRC2

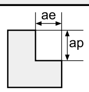
Material	Graphite		
Dia (mm)	RPM	ap (mm)	ae (mm)
2	10000 ~ Max.	0.1	0.1
3	10000 ~ Max.	0.1	0.15
4	10000 ~ Max.	0.2	0.2
6	10000 ~ Max.	0.2	0.3
8	10000 ~ Max.	0.25	0.3
10	10000 ~ Max.	0.3	0.4
12	10000 ~ Max.	0.3	0.4
			

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

A300 Seires ECSSF

Material	CFRP		GFRP	
Vc	160 ~ 220 m/min		100 ~ 160 m/min	
Dia. (d)	RPM	fz (mm/tooth)	RPM	fz (mm/tooth)
6	10080	0.020	6900	0.020
8	7560	0.030	5170	0.030
10	6050	0.030	4140	0.030
12	5040	0.035	3450	0.035
	ap = 1.5d ae ≤ 0.35d			

A300 Seires ECSSR

Material	CFRP		GFRP	
Vc	140 ~ 200 m/min		90 ~ 140 m/min	
Dia. (d)	RPM	fz (mm/tooth)	RPM	fz (mm/tooth)
6	9020	0.020	6100	0.020
8	6760	0.030	4570	0.030
10	5410	0.030	3660	0.030
12	4510	0.035	3050	0.035
	ap = 2d ae ≤ 0.35d			

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

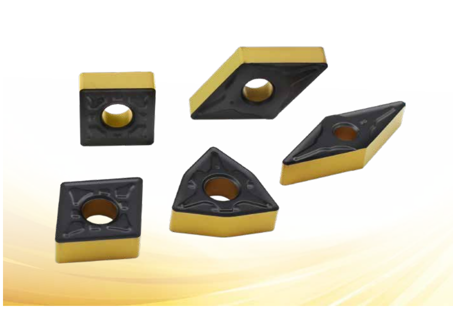
Troubleshooting 銑削加工異常原因及對策

Trouble 情況	Occurrences 原因	Countermeasures 對策
Chipping 崩刃	Too high feed 進給量太大	Reduce feed 降低進給量
	Up milling 逆銑（向上切削）	Change down milling 順銑（向下切削）
	Sharp cutting edge 切削刃太鋒利	Honing at the cutting edge-chamfering or rounding if needed 修磨切削刃 - 必要時倒角或倒圓
	Chattering 震動	Check spindle speed down 向下調整主軸轉速
	Too much overhang 刀具突出量太長	Adjust to minimize overhang 將刀具突出量調整為最小
	Unfixed chucking of Endmill 銑刀未牢固夾緊	Check the precision of chuck and collet 調整夾治具精度
Wear 磨損	High Cutting speed 切削速度過高	Decrease cutting speed 減低切削速度
	Low feed 進給量太小	Increase feed 增加進給量
	Up milling 逆銑（向上切削）	Down milling 順銑（向下切削）
	High-hardened work piece 材質硬度過高	Choosing special coating endmill 選用特殊鍍膜的銑刀
Tool Breakage 刀具折斷	Too much cutting amount 切削量太大	Decrease cutting amount 減少切削量
	High cutting force 切削力過大	Feed down; spindle speed up 降低進給；提高轉速
	Too much overhang 刀具突出量太長	Adjust to minimize overhang 將刀具突出量調整為最小
Surface Roughness 表面粗糙度	Chattering 震動	Change the cutting condition 改變切削條件
	Generation of built-up edge 排屑不良	Increasing cutting speed & Feed rate or down milling 提昇切削速度 & 進給率或順銑
	high feed, low speed 高進給，低切削速度	Reduce feed & Increase speed 降低進給提高切削速度
Accuracy of finished work piece 加工精度	Incorrect Numbers of flute 刃數不夠	Replace more flutes Endmill 更換多刃銑刀
	Deflection of Tool 刀具偏差	Using big diameter tool & Minimize the overhang 使用大刃徑和突出量減至最小

Contents 內容

Turning Tool Introduction 車刀具介紹

Negative Turning Inserts 負角車刀片



- 50+ types to choose from.
- Thick coating layer structure for various applications.
- Usable range cover from finishing to roughing.

- 超過 50 種刀片種類可供選擇
- 針對多樣化加工提供厚塗層對應
- 加工範圍包含蓋精加工至粗加工

→ Page C006

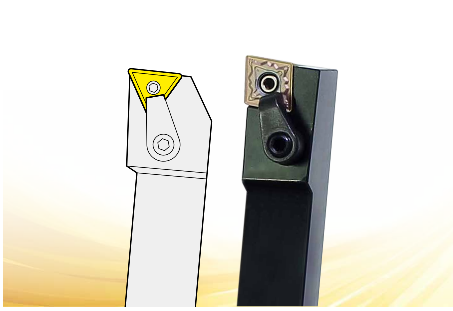
Positive Turning Inserts 正角車刀片

- 25+ types to choose from.
- E, G or M tolerance inserts available.
- Usable range cover from finishing to medium.

- 超過 25 種刀片種類可供選擇
- 可提供 E 級、G 級或 M 級公差車刀片
- 加工範圍包含精加工至中加工

→ Page C012

External Turning Holders 外徑車刀桿

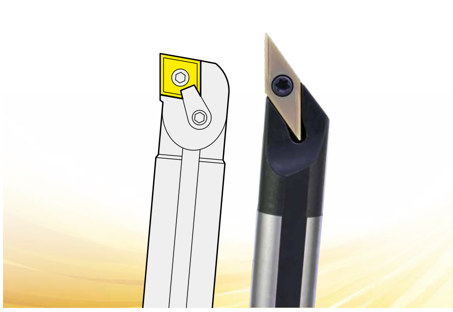


- Wide range of ISO external turning holders available.
- 9.5~32mm shank height.

- 提供各種 ISO 外徑車刀桿
- 9.5~32mm 刀桿高度

→ Page C034

Internal Turning Holders 內徑車刀桿



- Wide range of ISO internal turning holders available.
- 8~60mm shank diameter.

- 提供各種 ISO 內徑車刀桿
- 8~60mm 刀桿外徑

→ Page C054

WINSTAR

Designations for Turning Insert 車刀片型號編碼

C	N	M	G	12	04	08	(L)	-	MG
①	②	③	④	⑤	⑥	⑦	⑧		⑨

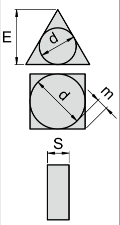
① Insert Shape

A 85°	B 82°	C 80°	D 55°	E 75°	H	K 55°	L
M 86°	O	R	S	T	V 35°	W	

② Relief Angle

A 3°	B 5°	C 7°	D 15°	E 20°
F 25°	G 30°	N 0°	P 11°	

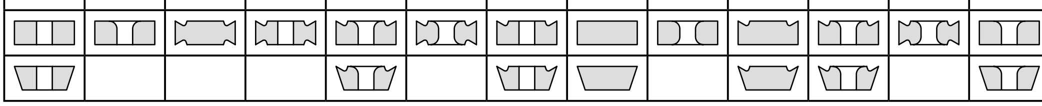
③ Tolerance Class



		Tolerance	A	F	C	H	E	G	J	K	L	M	N	U
	Range of tolerance	d±	0.025	0.013	0.025	0.013	0.025	0.025	0.05~0.15	0.05~0.15	0.05~0.15	0.05~0.15	0.05~0.15	0.08~0.25
		m±	0.005	0.005	0.013	0.013	0.025	0.025	0.005	0.013	0.025	0.08~0.2	0.08~0.2	0.13~0.38
		s±	0.025	0.025	0.025	0.025	0.025	0.05~0.13	0.025	0.025	0.025	0.05~0.13	0.025	0.13

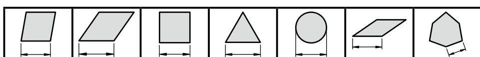
④ Insert Features

A	C	F	G	H	J	M	N	Q	R	T	U	W	X



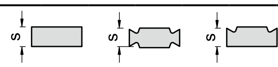
Special shape

⑤ Edge Length



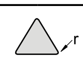
C	D	S	T	R	V	W	I.C.
Metric							mm
03	04	03	06	03	-	02	3.97
04	05	04	08	04	08	S3	4.76
05	06	05	09	05	09	03	5.56
-	-	-	-	06	-	-	6.00
06	07	06	11	06	11	04	6.35
08	09	07	13	07	13	05	7.94
-	-	-	-	08	-	-	8.00
09	11	09	16	09	16	06	9.525
-	-	-	-	10	-	-	10.00
11	13	11	19	11	19	07	11.11
-	-	-	-	12	-	-	12.00
12	15	12	22	12	22	08	12.70
14	17	14	24	14	24	09	14.29
16	19	15	27	15	27	10	15.875
-	-	-	-	16	-	-	16.00
17	21	17	30	17	30	11	17.46
19	23	19	33	19	33	13	19.05
-	-	-	-	20	-	-	20.00
22	27	22	38	22	38	15	22.225
-	-	-	-	25	-	-	25.00
25	31	25	44	25	44	17	25.40
32	38	31	54	31	54	21	31.75
-	-	-	-	32	-	-	32.00

⑥ Thickness



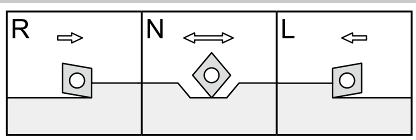
Symbol	01	T1	02	03	T3	04	05	06	07	09
S(mm)	1.59	1.98	2.38	3.18	3.97	4.76	5.56	6.35	7.94	9.52

⑦ Corner Radius



Symbol	01	02	04	08	12	16	20	24	28	32
r(mm)	0.1	0.2	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2

⑧ Cutting Direction



⑨ Chip Breaker Geometry

Positive Type	Negative Type
AG, XF, YF, FG, MG, MP	FG, FP, SM, SP, MP, ME, RK, RG, RP, HG

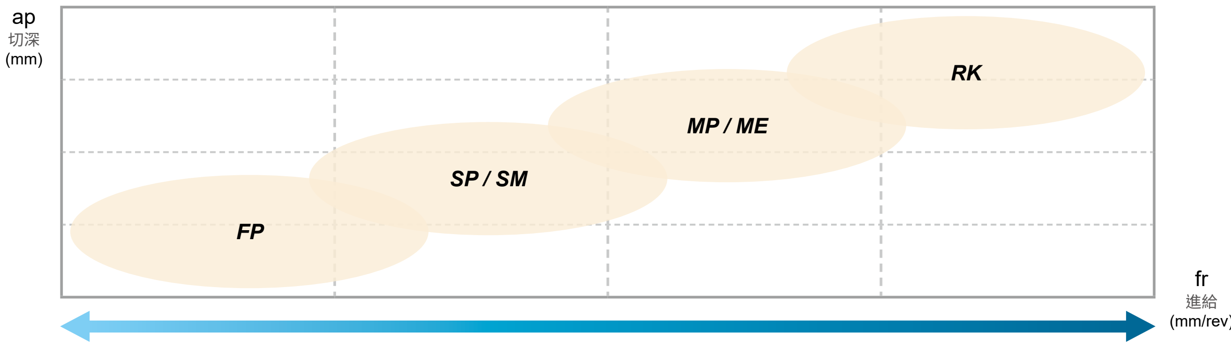
Turning

Turning Insert Grades 車刀片材質介紹

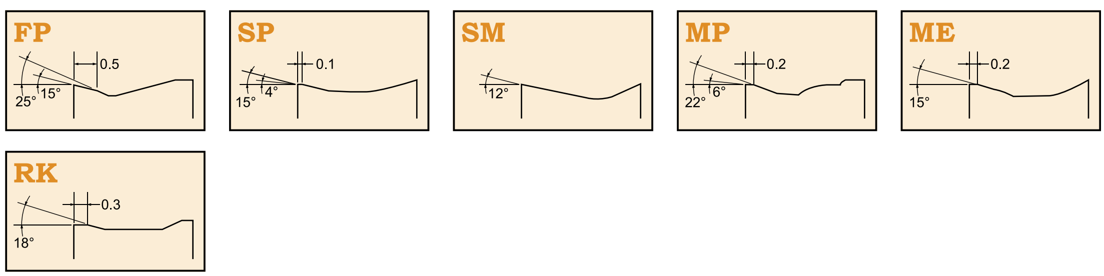
Grade Type 刀片材質	Coating Substrate 塗層基材	Application 加工特性	Working Material 加工材質						Industry Area 產業應用範圍	Previous Grade 以前的材質
			P	M	K	N	S	H		
CC7015	CVD TiCN-Al_2O_3-TiN	• Finishing and semi-finishing • Continuous cutting • Wear resistance grade for cast iron is 1st recommended • 適用於精加工和半精加工 • 適用連續加工 • 適合鑄鐵的第一推薦耐磨材質	○	○	●			○	• Auto parts • Machinery parts • 汽車零件 • 機械零件	***CX2575***
CC7025	CVD TiCN-Al_2O_3-TiN	• Semi-finishing and medium • Light interrupted cutting • General purpose grade for alloy steel is 1st recommended • 適用於半精加工和中加工 • 適用輕斷續加工 • 適合合金鋼的第一推薦泛用材質	●	●	●				• Auto parts • Machinery parts • 汽車零件 • 機械零件	***CX3575***
CC7035	CVD TiCN-Al_2O_3-TiN	• Medium and roughing • Interrupted cutting • Tough grade for stainless steel is 1st recommended • 適用於中加工和粗加工 • 適用斷續加工 • 適合不鏽鋼的第一推薦韌性材質	●	●	○				• Energy • Oil & Gas • Medical • 能源產業 • 石化產業 • 醫療產業	–
CP6015	PVD AlTiSiN	• Finishing cutting • Continuous cutting • Wear resistance grade for metal working • 適用於精加工 • 適用連續加工 • 適合大部份金屬加工的耐磨材質	●	○	●		●		• Auto small parts • Machinery parts • Aircraft parts • Auto lathe • 汽車小零件 • 機械零件 • 航太零件 • 自動車床	***CX1060***
CP6025	PVD AlTiSiN	• Semi-finishing and medium • Light interrupted cutting • General purpose grade for carbon steel and alloy steel • 適用於半精加工和中加工 • 適用輕斷續加工 • 適合碳鋼及合金鋼的泛用材質	●	●	●		●		• Auto small parts • Machinery parts • Aircraft parts • Auto lathe • 汽車小零件 • 機械零件 • 航太零件 • 自動車床	***CX2545*** ***CX2561***
CU1000	Uncoated	• Finishing and medium cutting • Continuous cutting • For aluminum alloy • 適用於精加工和中加工 • 適用連續加工 • 適合鋁合金				●			• Bike & auto small parts • Electronic parts • Auto lathe • 自行車與汽車小零件 • 電子零件 • 自動車床	***CX10***

Turning Insert Chip Breakers 車刀片斷屑槽介紹

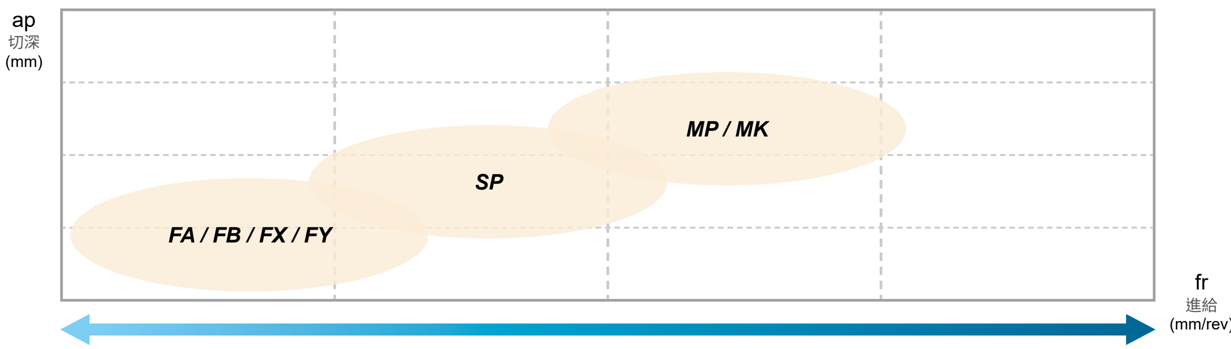
Negative 負角



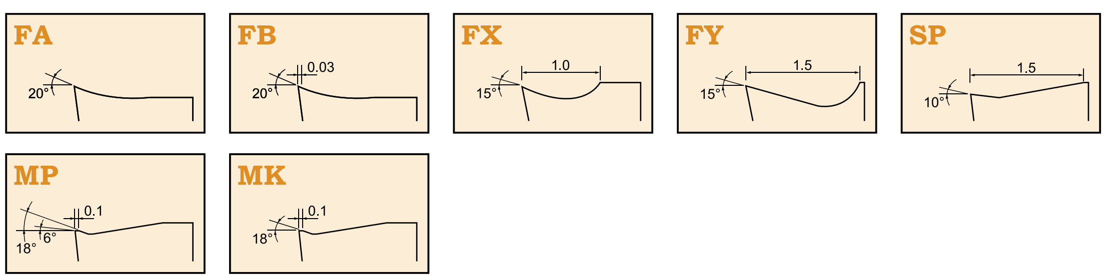
Finishing 精加工 | Semi-finishing 半精加工 | Medium 中加工 | Roughing 粗加工



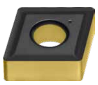
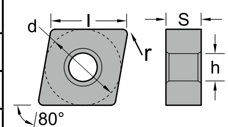
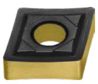
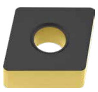
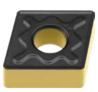
Positive 正角



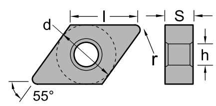
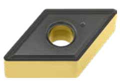
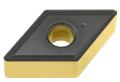
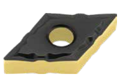
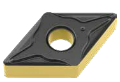
Finishing 精加工 | Semi-finishing 半精加工 | Medium 中加工



CN□□ - Negative Turning Inserts 負角車刀片

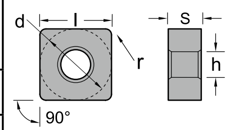
Inserts		Designation	Grade No. CVD CC7015	CVD CC7025	CVD CC7035	PVD CP6015	PVD CP6025		CU1000		Dimensions (mm) d	l	S	r	h	Drawing
Finishing 精		CNMG 120404-FP	✓	✓			✓				12.7	12.9	4.76	0.4	5.16	
		120408-FP	✓	✓			✓				12.7	12.9	4.76	0.8	5.16	
Semi-finishing 半精		CNMG 120404-SM	✓	✓			✓				12.7	12.9	4.76	0.4	5.16	
		120408-SM	✓	✓			✓				12.7	12.9	4.76	0.8	5.16	
		CNMG 120404-SP	✓	✓			✓				12.7	12.9	4.76	0.4	5.16	
		120408-SP	✓	✓			✓				12.7	12.9	4.76	0.8	5.16	
Medium 中		CNMA 120404	✓								12.7	12.9	4.76	0.4	5.16	
		120408	✓								12.7	12.9	4.76	0.8	5.16	
		CNMG 120404-MP	✓	✓	✓		✓				12.7	12.9	4.76	0.4	5.16	
		120408-MP	✓	✓	✓		✓				12.7	12.9	4.76	0.8	5.16	
		120412-MP	✓	✓	✓						12.7	12.9	4.76	1.2	5.16	
Roughing 粗		CNMG 120408-RK		✓	✓						12.7	12.9	4.76	0.8	5.16	
		120412-RK		✓	✓						12.7	12.9	4.76	1.2	5.16	

DN□□ - Negative Turning Inserts 負角車刀片

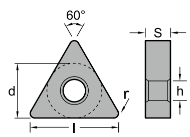
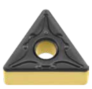
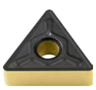
Inserts		Designation	Grade No. CVD			Grade No. PVD					Dimensions (mm)					Drawing
			CC7015	CC7025	CC7035	CP6015	CP6025		CU1000		d	l	S	r	h	
Finishing 精		DNGX 110401-FP					✓				9.525	11.6	4.76	0.1	4.5	
		110402-FP					✓				9.525	11.6	4.76	0.2	4.5	
		DNMG 110404-FP	✓	✓			✓				9.525	11.6	4.76	0.4	3.81	
		110408-FP	✓	✓			✓				9.525	11.6	4.76	0.8	3.81	
		DNMG 150404-FP	✓	✓			✓				12.7	15.5	4.76	0.4	5.16	
		150408-FP	✓	✓			✓				12.7	15.5	4.76	0.8	5.16	
		150608-FP	✓	✓			✓				12.7	15.5	6.35	0.8	5.16	
Semi-finishing 半精		DNMG 150404-SP	✓	✓			✓				12.7	15.5	4.76	0.4	5.16	
		150408-SP	✓	✓			✓				12.7	15.5	4.76	0.8	5.16	
Medium 中		DNMG 150404-MP	✓	✓							12.7	15.5	4.76	0.4	5.16	
		150408-MP	✓	✓							12.7	15.5	4.76	0.8	5.16	
		150608-MP	✓	✓							12.7	15.5	6.35	0.8	5.16	

Turning

SN□□ - Negative Turning Inserts 負角車刀片

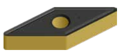
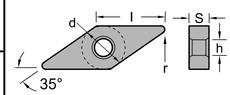
Inserts		Designation	Grade No. CVD			PVD					Dimensions (mm)					Drawing
			CC7015	CC7025	CC7035	CP6015	CP6025		CU1000		d	l	S	r	h	
Medium 中		SNMG 120408-MP	✓	✓	✓						12.7	12.7	4.76	0.8	5.16	
		120412-MP	✓	✓	✓						12.7	12.7	4.76	1.2	5.16	
Roughing 粗		SNMG 120408-RK		✓	✓						12.7	12.7	4.76	0.8	5.16	
		120412-RK		✓	✓						12.7	12.7	4.76	1.2	5.16	

TN□□ - Negative Turning Inserts 負角車刀片

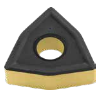
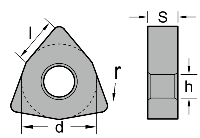
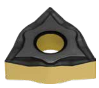
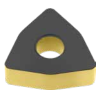
	Inserts	Designation	Grade No. CVD CC7015	CC7025	CC7035	PVD CP6015	CP6025		CU1000		Dimensions (mm) d	l	S	r	h	Drawing
Finishing 精		**TNMG 160404-FP**	✓	✓			✓				9.525	16.5	4.76	0.4	3.81	
		160408-FP	✓	✓			✓				9.525	16.5	4.76	0.8	3.81	
Semi-finishing 半精		**TNMG 160404-SP**	✓	✓			✓				9.525	16.5	4.76	0.4	3.81	
		160408-SP	✓	✓			✓				9.525	16.5	4.76	0.8	3.81	
Medium 中		**TNMA 160404**	✓								9.525	16.5	4.76	0.4	3.81	
		160408	✓								9.525	16.5	4.76	0.8	3.81	
		**TNMG 160404R-ME**	✓	✓	✓		✓				9.525	16.5	4.76	0.4	3.81	
		160408R-ME	✓	✓	✓		✓				9.525	16.5	4.76	0.8	3.81	
		**TNMG 160404L-ME**	✓	✓	✓		✓				9.525	16.5	4.76	0.4	3.81	
		160408L-ME	✓	✓	✓		✓				9.525	16.5	4.76	0.8	3.81	
		**TNMG 160404-MP**	✓	✓	✓		✓				9.525	16.5	4.76	0.4	3.81	
		160408-MP	✓	✓	✓		✓				9.525	16.5	4.76	0.8	3.81	
		160412-MP	✓	✓	✓						9.525	16.5	4.76	1.2	3.81	
Roughing 粗		**TNMG 160408-RK**		✓	✓						9.525	16.5	4.76	0.8	3.81	
		160412-RK		✓	✓						9.525	16.5	4.76	1.2	3.81	
		**TNMG 220408-RK**		✓	✓						12.7	22.0	4.76	0.8	5.16	

Turning

VN□□ - Negative Turning Inserts 負角車刀片

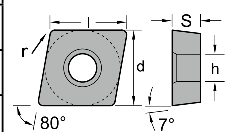
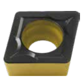
Inserts		Designation	Grade No. CVD CC7015	CVD CC7025	CVD CC7035	PVD CP6015	PVD CP6025	PVD CP6035	CU1000		Dimensions (mm) d	l	S	r	h	Drawing
Finishing 精		**VNMG 160404-FP**	✓	✓			✓				9.525	16.6	4.76	0.4	3.81	
		160408-FP	✓	✓			✓				9.525	16.6	4.76	0.8	3.81	
Medium 中		**VNMG 160404-MP**	✓	✓							9.525	16.6	4.76	0.4	3.81	
		160408-MP	✓	✓							9.525	16.6	4.76	0.8	3.81	

WN□□ - Negative Turning Inserts 負角車刀片

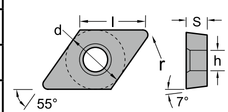
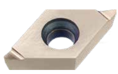
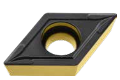
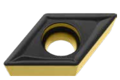
	Inserts	Designation	Grade No. CVD CC7015	CVD CC7025	CVD CC7035	PVD CP6015	PVD CP6025		CU1000		Dimensions (mm) d	l	S	r	h	Drawing
Finishing 精		WNMG 080404-FP	✓	✓			✓				12.7	8.7	4.76	0.4	5.16	
		080408-FP	✓	✓			✓				12.7	8.7	4.76	0.8	5.16	
Semi-finishing 半精		WNMG 080404-SP	✓	✓			✓				12.7	8.7	4.76	0.4	5.16	
		080408-SP	✓	✓			✓				12.7	8.7	4.76	0.8	5.16	
Medium 中		WNMA 080408	✓								12.7	8.7	4.76	0.8	5.16	
		080412	✓								12.7	8.7	4.76	1.2	5.16	
		WNMG 080404-MP	✓	✓	✓		✓				12.7	8.7	4.76	0.4	5.16	
		080408-MP	✓	✓	✓		✓				12.7	8.7	4.76	0.8	5.16	
		080412-MP	✓	✓	✓						12.7	8.7	4.76	1.2	5.16	
Roughing 粗		WNMG 080408-RK		✓	✓						12.7	8.7	4.76	0.8	5.16	
		080412-RK		✓	✓						12.7	8.7	4.76	1.2	5.16	

Turning

CC□□ - Positive Turning Inserts 正角車刀片

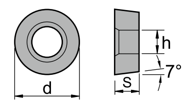
	Inserts	Designation	Grade No.								Dimensions (mm)					Drawing
			CVD			PVD										
			CC7015	CC7025	CC7035	CP6015	CP6025		CU1000		d	l	S	r	h	
Finishing 精		**CCGT 060202-FA**							✓		6.35	6.4	2.38	0.2	2.8	
		060204-FA							✓		6.35	6.4	2.38	0.4	2.8	
		09T304-FA							✓		9.525	9.7	3.97	0.4	4.4	
		09T308-FA							✓		9.525	9.7	3.97	0.8	4.4	
		120404-FA							✓		12.7	12.9	4.76	0.4	5.5	
		**CCGT 060202-FB**				✓					6.35	6.4	2.38	0.2	2.8	
		060204-FB				✓					6.35	6.4	2.38	0.4	2.8	
		09T304-FB				✓					9.525	9.7	3.97	0.4	4.4	
		09T308-FB				✓					9.525	9.7	3.97	0.8	4.4	
		120404-FB				✓					12.7	12.9	4.76	0.4	5.5	
Medium 中		**CCMT 060204-MP**		✓	✓		✓				6.35	6.4	2.38	0.4	2.8	
		09T304-MP		✓	✓		✓				9.525	9.7	3.97	0.4	4.4	
		09T308-MP		✓	✓		✓				9.525	9.7	3.97	0.8	4.4	
		**CCMT 060204-MK**		✓	✓		✓				6.35	6.4	2.38	0.4	2.8	
		09T304-MK		✓	✓		✓				9.525	9.7	3.97	0.4	4.4	
		09T308-MK		✓	✓		✓				9.525	9.7	3.97	0.8	4.4	
		120408-MK		✓	✓		✓				12.7	12.9	4.76	0.8	5.5	

DC□□ - Positive Turning Inserts 正角車刀片

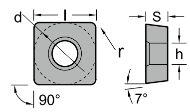
	Inserts	Designation		Grade No. CVD CC7015	CVD CC7025	CVD CC7035	PVD CP6015	PVD CP6025		CU1000		Dimensions (mm) d	l	S	r	h	Drawing
Finishing 精		DCET	11T301R-FX				✓					9.525	11.6	3.97	0.1	4.4	
			11T302R-FX				✓					9.525	11.6	3.97	0.2	4.4	
			11T304R-FX				✓					9.525	11.6	3.97	0.4	4.4	
		DCET	11T301L-FX				✓					9.525	11.6	3.97	0.1	4.4	
			11T302L-FX				✓					9.525	11.6	3.97	0.2	4.4	
			11T304L-FX				✓					9.525	11.6	3.97	0.4	4.4	
		DCET	11T301R-FY				✓					9.525	11.6	3.97	0.1	4.4	
			11T302R-FY				✓					9.525	11.6	3.97	0.2	4.4	
			11T304R-FY				✓					9.525	11.6	3.97	0.4	4.4	
		DCET	11T301L-FY				✓					9.525	11.6	3.97	0.1	4.4	
			11T302L-FY				✓					9.525	11.6	3.97	0.2	4.4	
			11T304L-FY				✓					9.525	11.6	3.97	0.4	4.4	
		DCGT	070202-FA							✓		6.35	7.7	2.38	0.2	2.8	
			070204-FA							✓		6.35	7.7	2.38	0.4	2.8	
			11T302-FA							✓		9.53	11.6	3.97	0.2	4.4	
			11T304-FA							✓		9.525	11.6	3.97	0.4	4.4	
			11T308-FA							✓		9.525	11.6	3.97	0.8	4.4	
		DCGT	070202-FB				✓					6.35	7.7	2.38	0.2	2.8	
			070204-FB				✓					6.35	7.7	2.38	0.4	2.8	
			11T302-FB				✓					9.525	11.6	3.97	0.2	4.4	
			11T304-FB				✓					9.525	11.6	3.97	0.4	4.4	
			11T308-FB				✓					9.525	11.6	3.97	0.8	4.4	
Medium 中		DCEW	11T301				✓					9.525	11.6	3.97	0.1	4.4	
			11T302				✓					9.525	11.6	3.97	0.2	4.4	
			11T304				✓					9.525	11.6	3.97	0.4	4.4	
		DCMT	11T304-MP		✓	✓		✓				9.525	11.6	3.97	0.4	4.4	
			11T308-MP		✓	✓		✓				9.525	11.6	3.97	0.8	4.4	
		DCMT	070204-MK		✓	✓		✓				6.35	7.7	2.38	0.4	2.8	
			11T304-MK	✓	✓	✓		✓				9.525	11.6	3.97	0.4	4.4	
			11T308-MK	✓	✓	✓		✓				9.525	11.6	3.97	0.8	4.4	

Turning

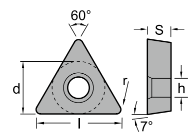
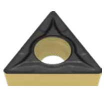
RC□□ - Positive Turning Inserts 正角車刀片

Inserts		Designation	Grade No.								Dimensions (mm)					Drawing
			CVD			PVD										
			CC7015	CC7025	CC7035	CP6015	CP6025		CU1000		d	l	S	r	h	
Finishing 精		**RCMT 1204MO-FB**					✓				12	-	4.76	-	4.2	

SC□□ - Positive Turning Inserts 正角車刀片

	Inserts	Designation	Grade No.								Dimensions (mm)					Drawing
			CVD			PVD										
			CC7015	CC7025	CC7035	CP6015	CP6025		CU1000		d	l	S	r	h	
Finishing 精		SCGT 09T304-FA							✓		9.525	9.525	3.97	0.4	4.4	
		09T308-FA							✓		9.525	9.525	3.97	0.8	4.4	
		SCGT 09T304-FB				✓					9.525	9.525	3.97	0.4	4.4	
		09T308-FB				✓					9.525	9.525	3.97	0.8	4.4	
Semi-finishing 半精		SCMT 09T304-SP		✓	✓		✓				9.525	9.525	3.97	0.4	4.4	
		09T308-SP		✓	✓		✓				9.525	9.525	3.97	0.8	4.4	
Medium 中		SCMT 09T304-MP		✓	✓		✓				9.525	9.525	3.97	0.4	4.4	
		09T308-MP		✓	✓		✓				9.525	9.525	3.97	0.8	4.4	
		SCMT 09T304-MK		✓	✓		✓				9.525	9.525	3.97	0.4	4.4	
		09T308-MK		✓	✓		✓				9.525	9.525	3.97	0.8	4.4	

TC□□ - Positive Turning Inserts 正角車刀片

Inserts		Designation	Grade No. CVD			Grade No. PVD					Dimensions (mm)					Drawing
			CC7015	CC7025	CC7035	CP6015	CP6025		CU1000		d	l	S	r	h	
Finishing 精		TCGT 090204-FA							✓		5.56	9.6	2.38	0.4	2.5	
		110204-FA							✓		6.35	11.0	2.38	0.4	2.8	
		16T304-FA							✓		9.525	16.5	3.97	0.4	4.4	
		16T308-FA							✓		9.525	16.5	3.97	0.8	4.4	
		TCGT 090204-FB				✓					5.56	9.6	2.38	0.4	2.5	
		110204-FB				✓					6.35	11.0	2.38	0.4	2.8	
		16T304-FB				✓					9.525	16.5	3.97	0.4	4.4	
		16T308-FB									9.525	16.5	3.97	0.8	4.4	
Semi-finishing 半精		TCMT 110204-SP		✓	✓		✓				6.35	11.0	2.38	0.4	2.8	
		16T308-SP		✓	✓		✓				9.525	16.5	3.97	0.8	4.4	
Medium 中		TCMT 110204-MP		✓	✓		✓				6.35	11.0	2.38	0.4	2.8	
		TCMT 110204-MK		✓	✓		✓				6.35	11.0	2.38	0.4	2.8	
		16T304-MK		✓	✓		✓				9.525	16.5	3.97	0.4	4.4	
		16T308-MK		✓	✓		✓				9.525	16.5	3.97	0.8	4.4	

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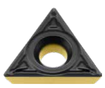
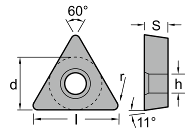
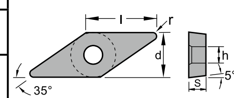
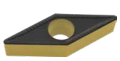
TP□□ - Positive Turning Inserts 正角車刀片

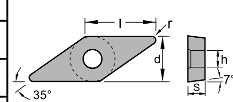
Inserts		Designation	Grade No. CVD CC7015	CVD CC7025	CVD CC7035	PVD CP6015	PVD CP6025		CU1000		Dimensions (mm) d	l	S	r	h	Drawing
Medium 中		**TPMH 160304-MP**		✓	✓						9.525	16.5	3.18	0.4	4.4	

Turning

VB □□ - Positive Turning Inserts 正角車刀片

	Inserts	Designation	Grade No. CVD CC7015	CVD CC7025	CVD CC7035	PVD CP6015	PVD CP6025		CU1000		Dimensions (mm) d	l	S	r	h	Drawing
Finishing 精		VBET 110301R-FX				✓					6.35	11.1	3.18	0.1	2.8	
		110302R-FX				✓					6.35	11.1	3.18	0.2	2.8	
		110304R-FX				✓					6.35	11.1	3.18	0.4	2.8	
		VBET 110301L-FX				✓					6.35	11.1	3.18	0.1	2.8	
		110302L-FX				✓					6.35	11.1	3.18	0.2	2.8	
		110304L-FX				✓					6.35	11.1	3.18	0.4	2.8	
		VBET 110301R-FY				✓					6.35	11.1	3.18	0.1	2.8	
		110302R-FY				✓					6.35	11.1	3.18	0.2	2.8	
		110304R-FY				✓					6.35	11.1	3.18	0.4	2.8	
		VBET 110301L-FY				✓					6.35	11.1	3.18	0.1	2.8	
		110302L-FY				✓					6.35	11.1	3.18	0.2	2.8	
		110304L-FY				✓					6.35	11.1	3.18	0.4	2.8	
Medium 中		VBEW 110301				✓					6.35	11.1	3.18	0.1	2.8	
		110302				✓					6.35	11.1	3.18	0.2	2.8	
		110304				✓					6.35	11.1	3.18	0.4	2.8	
		VBMT 160404-MK		✓	✓		✓				9.525	16.6	4.76	0.4	4.4	
		160408-MK		✓	✓		✓				9.525	16.6	4.76	0.8	4.4	

VC □□ - Positive Turning Inserts 正角車刀片

Inserts		Designation		Grade No. CVD CC7015	CVD CC7025	CVD CC7035	PVD CP6015	PVD CP6025		CU1000		Dimensions (mm) d	l	S	r	h	Drawing
Finishing 精		VCET	110301R-FX				✓					6.35	11.1	3.18	0.1	2.8	
			110302R-FX				✓					6.35	11.1	3.18	0.2	2.8	
			110304R-FX				✓					6.35	11.1	3.18	0.4	2.8	
		VCET	110301L-FX				✓					6.35	11.1	3.18	0.1	2.8	
			110302L-FX				✓					6.35	11.1	3.18	0.2	2.8	
			110304L-FX				✓					6.35	11.1	3.18	0.4	2.8	
		VCET	110301R-FY				✓					6.35	11.1	3.18	0.1	2.8	
			110302R-FY				✓					6.35	11.1	3.18	0.2	2.8	
			110304R-FY				✓					6.35	11.1	3.18	0.4	2.8	
		VCET	110301L-FY				✓					6.35	11.1	3.18	0.1	2.8	
			110302L-FY				✓					6.35	11.1	3.18	0.2	2.8	
			110304L-FY				✓					6.35	11.1	3.18	0.4	2.8	
		VCGT	110302-FA							✓		6.35	11.1	3.18	0.2	2.8	
			110304-FA							✓		6.35	11.1	3.18	0.4	2.8	
			160402-FA							✓		9.525	16.6	4.76	0.2	4.4	
			160404-FA							✓		9.525	16.6	4.76	0.4	4.4	
			160408-FA							✓		9.525	16.6	4.76	0.8	4.4	
		VCGT	110302-FB				✓					6.35	11.1	3.18	0.2	2.8	
			110304-FB				✓					6.35	11.1	3.18	0.4	2.8	
			160402-FB				✓					9.525	16.6	4.76	0.2	4.4	
			160404-FB				✓					9.525	16.6	4.76	0.4	4.4	
			160408-FB				✓					9.525	16.6	4.76	0.8	4.4	
Semi-finishing 半精		VCGT	110301-SP					✓				6.35	11.1	3.18	0.1	2.8	
			110302-SP					✓				6.35	11.1	3.18	0.2	2.8	
			110304-SP					✓				6.35	11.1	3.18	0.4	2.8	
Medium 中		VCEW	110301				✓					6.35	11.1	3.18	0.1	2.8	
			110302				✓					6.35	11.1	3.18	0.2	2.8	
			110304				✓					6.35	11.1	3.18	0.4	2.8	

Turning

Selection Guide & Recommended Cutting Conditions 車削選擇指南及建議切削數據

P *Steel* 鋼

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 斷屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Soft Steel / Low Carbon Steel 軟鋼 / 低碳鋼 (SS400, C15) ≤ HB180	Continuous (Finishing) 連續加工 (精)	FP, SP	CC7015	0.5-1.0-1.5	0.1-0.2-0.3	390-330-260
	General (Medium) 泛用加工 (中)	MP	CC7025	1.0-2.0-3.0	0.2-0.3-0.4	300-250-200
	Interrupted (Roughing) 斷續加工 (粗)	RK	CC7035	1.5-3.0-4.5	0.3-0.4-0.5	210-180-140
Carbon Steel / Alloy Steel 碳鋼 / 合金鋼 (S45C, SCM435) HB180 ~ 350	Continuous (Finishing) 連續加工 (精)	FP, SP	CC7015	0.5-1.0-1.5	0.1-0.2-0.3	320-270-210
	General (Medium) 泛用加工 (中)	MP	CC7025	1.0-2.0-3.0	0.2-0.3-0.4	230-190-150
	Interrupted (Roughing) 斷續加工 (粗)	RK	CC7035	1.5-3.0-4.5	0.3-0.4-0.5	170-140-110
Hard Steel / Alloy Steel 硬化鋼 / 合金鋼 (SCM440H) HRC35 ~ 45	Continuous (Finishing) 連續加工 (精)	FP, SP	CC7015	0.5-1.0-1.5	0.1-0.2-0.3	260-220-170
	General (Medium) 泛用加工 (中)	MP	CC7025	1.0-2.0-3.0	0.2-0.3-0.4	200-170-130
	Interrupted (Roughing) 斷續加工 (粗)	RK	CC7035	1.5-3.0-4.5	0.3-0.4-0.5	140-120-90

M *Stainless Steel* 不鏽鋼

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 斷屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Ferritic 鐵素體不鏽鋼 (SUS430) < HB200	Continuous (Finishing) 連續加工 (精)	FP, FB, SM, SP	CP6025	0.5-1.0-1.5	0.05-0.10-0.15	260-220-170
	General (Medium) 泛用加工 (中)	MP	CC7035	1.0-2.0-3.0	0.10-0.20-0.30	210-180-140
	Interrupted (Roughing) 斷續加工 (粗)	RK	CC7035	1.5-3.0-4.5	0.20-0.30-0.40	210-180-140
Martensitic / Austenitic 馬氏體 / 奧氏體不鏽鋼 (SUS410 / SUS304) ≤ HB200	Continuous (Finishing) 連續加工 (精)	FP, FB, SM, SP	CP6025	0.5-1.0-1.5	0.05-0.10-0.15	180-150-120
	General (Medium) 泛用加工 (中)	MP	CC7035	1.0-2.0-3.0	0.10-0.20-0.30	150-130-100
	Interrupted (Roughing) 斷續加工 (粗)	RK	CC7035	1.5-3.0-4.5	0.20-0.30-0.40	120-100-80
Duplex 雙相不鏽鋼 (SUS329) ≤ HB280	Continuous (Finishing) 連續加工 (精)	FP, FB, SM, SP	CP6025	0.5-1.0-1.5	0.05-0.10-0.15	150-130-100
	General (Medium) 泛用加工 (中)	MP	CC7035	1.0-2.0-3.0	0.10-0.20-0.30	120-100-80
	Interrupted (Roughing) 斷續加工 (粗)	RK	CC7035	1.5-3.0-4.5	0.20-0.30-0.40	110-90-70
Precipitation Hardening 析出硬化不鏽鋼 (SUS630) < HB450	Continuous (Finishing) 連續加工 (精)	FP, FB, SM, SP	CP6025	0.5-1.0-1.5	0.05-0.10-0.15	140-120-90
	General (Medium) 泛用加工 (中)	MP	CC7025	1.0-2.0-3.0	0.10-0.20-0.30	110-90-70
	Interrupted (Roughing) 斷續加工 (粗)	RK	CC7035	1.5-3.0-4.5	0.20-0.30-0.40	80-70-50

※ ap & fr value : Min. - Suggestion - Max. 下限 - 推薦 - 上限　　Vc : Max. - Suggestion - Min. 上限 - 推薦 - 下限

Selection Guide & Recommended Cutting Conditions 車削選擇指南及建議切削數據

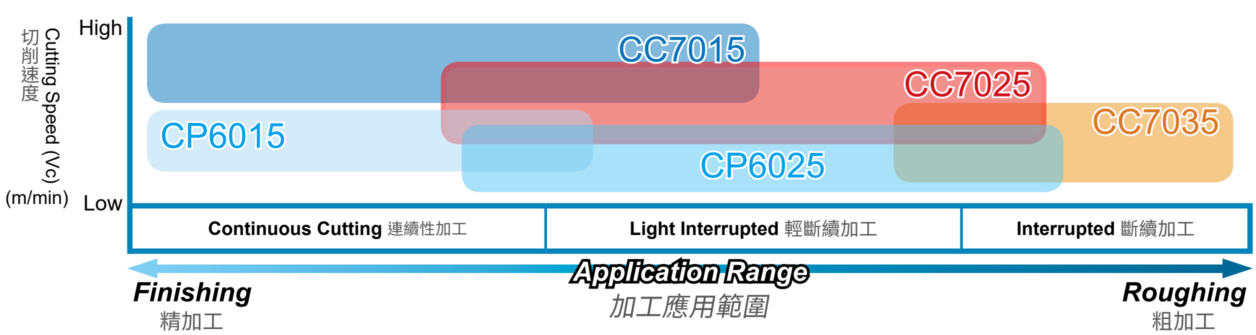
K Cast Iron 鑄鐵

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 斷屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Gray Cast Iron 灰鑄鐵 (GG-25) ≤ 350Mpa	Continuous (Finishing) 連續加工 (精)	SP	CC7015	0.5-2.0-2.0	0.10-0.20-0.30	400-300-200
	General (Medium) 泛用加工 (中)	Flat, MP	CC7015	0.5-2.0-4.0	0.10-0.25-0.40	360-270-180
	Interrupted (Roughing) 斷續加工 (粗)	Flat, RK	CC7025	0.5-2.0-6.0	0.10-0.30-0.50	300-230-150
Ductile Cast Iron 球墨鑄鐵 (GGG-40.3) ≤ 450Mpa	Continuous (Finishing) 連續加工 (精)	SP	CC7015	0.5-2.0-2.0	0.10-0.20-0.30	360-270-180
	General (Medium) 泛用加工 (中)	Flat, MP	CC7015	0.5-2.0-4.0	0.10-0.25-0.40	320-240-160
	Interrupted (Roughing) 斷續加工 (粗)	Flat, RK	CC7025	0.5-2.0-6.0	0.10-0.30-0.50	240-180-120
High-strength Ductile Cast Iron 高強度球墨鑄鐵 (GGG-70) ≤ 800Mpa	Continuous (Finishing) 連續加工 (精)	SP	CC7015	0.5-2.0-2.0	0.10-0.20-0.30	320-240-160
	General (Medium) 泛用加工 (中)	Flat, MP	CC7015	0.5-2.0-4.0	0.10-0.25-0.40	280-210-140
	Interrupted (Roughing) 斷續加工 (粗)	Flat, RK	CC7025	0.5-2.0-6.0	0.10-0.30-0.50	160-120-80

S High Temperature Alloy 高溫合金

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 斷屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Nickel Alloy / PH Stainless Steel 鎳合金 / 析出硬化不鏽鋼	Continuous (Finishing) 連續加工 (精)	FP, FB	CP6015	0.2-0.50-0.8	0.10-0.15-0.20	100-75-50
	Continuous (Semi-finishing) 連續加工 (半精)	SM, SP	CP6025	0.2-0.85-1.5	0.10-0.15-0.20	90-65-40
	General (Medium) 泛用加工 (中)	MP	CP6025	0.5-1.75-3.0	0.15-0.20-0.25	80-55-30
Titanium Alloy 鈦合金	Continuous (Finishing) 連續加工 (精)	FP, FB	CP6015	0.2-0.50-0.8	0.10-0.15-0.20	80-60-40
	Continuous (Semi-finishing) 連續加工 (半精)	SM, SP	CP6025	0.2-0.85-1.5	0.10-0.15-0.20	70-50-30
	General (Medium) 泛用加工 (中)	MP	CP6025	0.5-1.75-3.0	0.15-0.20-0.25	70-50-30

※ ap & fr value : Min. - Suggestion - Max. 下限 - 推薦 - 上限　　Vc : Max. - Suggestion - Min. 上限 - 推薦 - 下限



Turning Inserts Grade Comparison - CVD 車刀片材質比較表 - CVD

ISO Code		WINSTAR 萬事達	Mitsubishi 三菱	Hitachi 日立	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	Korloy 克勞伊	TaeguTec 特固克
P Steel	P10	CC7015	MC6015 UE6105 UE6110 UE6005 UE6010 UE6020	GM10 GM20 GM8015 HG8010	AC8020P AC8015P AC810P	CA510 CA515 CA5505 CA5515	T9005 T9105 T9015 T9115 T9215	NC3215	TT8105B
	P20	CC7025	MC6025 UC6010 UE6110 UE6020	GM20 GM8020 HG8025	AC8020P AC8025P AC820P	CA025P CA525 CA5515 CA5525 CR9025	T9015 T9115 T9025 T9125 T9225	NC3225	TT5100 TT8115B TT8125B
	P30	CC7035	MC6025 UE6020 MC6035 UE6035 UH6400	GM25 GM8035 HG8025	AC8035P AC830P AC6030M AC630M	CA025P CA525 CA5525 CA530 CA5535 CR9025	T9125 T9035 T9135 T3130	NC3120 NC3030 NC5330	TT5100 TT7100 TT8125B
	P40	CC7035	MC6035 UE6035 UH6400	GX30	AC8035P AC830P AC6030M AC630M	CA530 CA5535	T9035 T3130		TT5100 TT7100 TT8135B
M Stainless Steel **S** Superalloys	M10 S10	CC7015	MC7015 US7020	GM10 HS9105	AC6020M AC610M	CA6515	T9015 T9115	NC9115	TT9215
	M20 S20	CC7025 CC7035	US7020 MC7025	GM8020 HG8025 HS9115	AC6020M AC6030M AC610M AC630M	CA6525	T6020 T6120 T9115 T9125	NC9115 NC9125	TT5100 TT9215
	M30	CC7035	MC7025 US735	GM25 GM8035	AC6030M AC630M AC8035P AC830P		T6030 T6130 T9125	NC9125 NC9135	TT5100 TT9235
	M40	CC7035	US735	GX30	AC6030M AC630M			NC9135	TT5100 TT9235
K Cast Iron	K01	CC7015	MC5005 UC5105 UC5015	HG3305 HG3315 HX3505 HX3515	AC405K AC410K AC300G AC4010K	CA310 CA4505 CA5505	T5105 T5010		TT7005
	K10	CC7015	UC5015 UC5105 UC5115 UE6010 MC5015	GM8015 HX3515 HG8010 HG3315	AC4010K AC4015K AC405K AC415K	CA310 CA315 CA4505 CA4515 CA5505	T515 T5105 T5115 T5010	NC6310	TT7005 TT7015
	K20	CC7015	MC5015 MY5015 UE6010 UC5115 UE6110	GM8020 HG8025	AC4015K AC415K AC420K AC425K AC8025P	CA315 CA320 CA4515	T515 T5115 T5125 T5020	NC6315	TT7015 TT7025
	K30		UE6110	GM25		CA320	T5125 T9125	NC5330	TT7025

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此材質比照表僅供參考

WINSTAR

Turning Inserts Grade Comparison - CVD 車刀片材質比較表 - CVD

ISO Code		WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
P Steel	P10	CC7015	GC4205 GC4015 GC3115 GC4215 GC4315	IC8150 IC9150 IC9250	KCK05 KCP10B KCP10 KC9010 KC9110	TP1501 TP1000 TP1500 TP100	WPP01 WPP05
	P20	CC7025	GC4025 GC4215 GC4220 GC4225 GC4325	IC8250 IC9125 IC9250 IC9350	KCP25B KCP25 KC9125 KC9225 KC9325	TP2501 TP2000 TP2500 TP200	WPP10S WPP20S
	P30	CC7035	GC4225 GC4230 GC4235 GC2135 GC4335	IC635 IC8350 IC9350	KCP30B KCP30 KC9040 KC9140	TP2501 TP3501 TP2500 TP2000 TP3500 TP200	WPP30S
	P40	CC7035	GC4035 GC4235 GC4240 GC4335	IC635	KCP40B KCP40 KC9140 KC9240	TP40	
M Stainless Steel S Superalloys	M10 S10	CC7015	GC2015 GC2220	IC8250 IC9250 IC9350 IC6015	KCM15B KCM15 KC9010 KC9110 KC9210	TP1500 TP100	WAM20
	M20 S20	CC7025 CC7035	GC1515 GC2015 GC2025 GC2220	IC8350 IC9250 IC9350 IC6025	KCM25B KCM25 KC9025 KC9125 KC9225	TM2000 TP200	
	M30	CC7035	GC2040 GC235	IC8350 IC9350 IC4050	KCM35B KCM35 KC9240	TM4000 TP3501 TP300	
	M40	CC7035		IC635	KC9045 KC9245	TP40	
K Cast Iron	K01	CC7015	GC3205 GC3210	IC5005 IC428 IC9007 IC9150	KCPK05 KC9315 KCK05B KCK05	TK0501 TK1000 TK1001	WAK10
	K10	CC7015	GC3205 GC3210 GC3215 GC3115	IC5010 IC418 IC428 IC9015 IC9007	KC9110 KC9120 KC9315 KCK15B KCK15	TK1000 TK2000 TK2001 MK1500	WAK20
	K20	CC7015	GC4225 GC3215 GC3220 GC3225	IC418 IC9015	KC9125 KC9320 KC9325 KCK20B KCK20	TK2000 TX150 TP200	WAK30
	K30		GC3040 GC4335		KCP25B KC9320	TP2500 TP200	

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Turning

WINSTAR

Turning Inserts Grade Comparison - PVD 車刀片材質比較表 - PVD

ISO Code		WINSTAR 萬事達	Mitsubishi 三菱	Hitachi 日立	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	Korloy 克勞伊	TaeguTec 特固克
P Steel	P10	CP6015	MS6015 VP10MF	CY15 CY150 IP2000	AC1030U ACZ150 AC5005S AC5015S AC5025S AC520U	PR1705 PR930 PR1025 PR1115 PR1215 PR1225 PR1725	AH710		TT4410
	P20	CP6015 CP6025	MS6015 VP10RT VP15TF VP20MF UP20M VP20RT	CY150 IP2000	AC1030U AC5025S AC520U AC530U	PR930 PR1025 PR1115 PR1215 PR1225 PR1625 PR1725	AH7025 AH710 AH725 AH730 SH725 SH730		TT4410 TT4430 TT9020 TT9080
	P30	CP6025	VP10RT VP15TF VP20MF UP20M	CY250 CY9020 HC844 IP3000	AC1030U AC530U	PR1025 PR1225 PR1535	GH330 AH120 AH740 AH9030	PC5300	TT4410 TT4430 TT8020 TT8080 TT9020 TT9080
	P40	CP6025		CY250 HC844	AC1030U	PR1535	AH140 AH740 J740	PC5300 PC5400	TT4430 TT8020 TT8080 TT9020 TT9080
M Stainless Steel	M10	CP6015	VP10MF VP10RT	IP050S JP9105	AC5005S AC5015S AC5025S AC510U AC520U ACZ150	PR1025 PR1215 PR1225	AH710	PC8110	TT4410 TT5080
	M20	CP6025	VP10RT VP15TF VP20MF UP20M VP20RT	IP100S GX30 JP9115	AC5015S AC5025S AC1030U AC520U	PR930 PR1025 PR1125 PR1215 PR1725 PR1225 PR1515	AH630 AH725 AH730 GH330 GH730 SH75 SH730	PC8115	TT4410 TT4430 TT5080 TT9020 TT9080
	M30	CP6025	VP15TF VP20MF UP20M MP7035	CY250 CY9020	AC5025S AC6040M AC1030U AC520U AC530U	PR1125 PR1535	AH6030 AH120 AH725	PC5300	TT4410 TT4430 TT5080 TT8020 TT8080 TT9020 TT9080
	M40	CP6025	MP7035		AC6040M AC1030U AC530U	PR1535	J740 AH140 AH645	PC9030 PC5400	TT4430 TT8020 TT8080 TT9020 TT9080
K Cast Iron	K01						AH110		
	K10	CP6015	VP05RT	CY100H CY10H	AC1030U AC510U ACZ150 AC5015S	PR905 PR1215	GH110 AH110	PC8110	
	K20	CP6025	VP10RT VP15TF VP20RT	IP2000 CY9020	AC1030U AC510U ACZ150 AC5015S AC5025S	PR905 PR1215	AH120 AH725	PC8110	
	K30	CP6025	VP15TF VP20RT		AC1030U AC530U			PC5300 PC5400	
S Superalloys	S01		MP9005 VP05RT			PR005S	AH8005 AH905	PC8105	
	S10	CP6015 CP6025	MP9005 MP9015 VP10RT	JP9105	AC5005S AC5015S AC5025S AC510U AC520U ACZ150	PR005S PR015S	AH8015 AH905 SH730 AH110	PC8110	TT3010 TT3020 TT4410 TT5080
	S20	CP6025	MP9015 MT9015 VP20RT MP9025	JP9115	AC5015S AC5025S AC1030U AC520U	PR015S PR1535	AH8015 AH120 AH725	PC8115	TT3010 TT3020 TT4410 TT4430 TT5080
	S30	CP6025	MP9025		AC5025S AC6040M AC1030U AC520U AC530U	PR1535	AH725	PC5300 PC5400	TT8020 TT8080 TT3010 TT3020 TT4410 TT4430 TT5080

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此材質比照表僅供參考

Turning Inserts Grade Comparison - PVD 車刀片材質比較表 - PVD

ISO Code		WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
P Steel	P10	CP6015	GC1025	IC507 IC807 IC907	KC5010 KC5510 KU10T	CP200	
	P20	CP6015 CP6025	GC1020 GC1025 GC4125 GC1125	IC507 IC907 IC908	KC5025 KC5525 KC7215 KC7315 KU25T	CP250	
	P30	CP6025	GC1125 GC1145 GC1115 GC1105	IC328 IC928 IC3028	KC7015 KC7020 KC7235 KU25T	CP500	
	P40	CP6025	GC1145 GC2145	IC328 IC3028	KC7030 KC7040 KC7140	CP600	
M Stainless Steel	M10	CP6015	GC1005 GC1025 GC1105 GC15	IC507 IC520 IC807 IC907	KC5010 KC5510 KC6005 KCU10	TS2000 CP200 CP250	WSM20
	M20	CP6025	H5D6 GC1025 GC1115 GC4125 GC1125 GC30	IC308 IC507 IC907 IC908 IC3028	KC5025 KC5525 KC7020 KC7025 KCU25	TTP2050 TS2500 CP200 CP250 CP500	WSM30
	M30	CP6025	GC1020 GC2035 GC2030	IC908 IC1008 IC1028 IC3028	KC7030 KC7225	CP500	
	M40	CP6025	GC2145 GC1145	IC228 IC928 IC328		CP600	
K Cast Iron	K01			IC910	KC5515		
	K10	CP6015	GC1010	IC807 IC910 IC507 IC908	KC5010 KC7210	TS2000 CP200	
	K20	CP6025	GC1020 GC1120	IC508 IC908	KC5025 KC5525 KC7015 KC7215 KC7315	TS2500 CP200 CP250	
	K30	CP6025	GC1030	IC508 IC908	KC7225	CP500	
S Superalloys	S01			IC804 IC806			WSM10
	S10	CP6015 CP6025	GC1105 GC1005 GC1025	IC807 IC808 IC907 IC908	KC5010 KC5510 KCU10 KCS10	CP200 TS2000	WSM20
	S20	CP6025	GC1025 GC1125	IC806 IC808 IC908	KC5025 KC5525 KCU25	CP250 TS2500	WSM30
	S30	CP6025	GC1125	IC3028			

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此材質比照表僅供參考

Turning Inserts Chipbreaker Comparison Chart 車刀片斷屑槽比較表

Negative Inserts 負角車刀片

Work Material	Applications	WINSTAR 萬事達	Mitsubishi 三菱	Hitachi 日立	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	TaeguTec 特固克
P Steel	Fine Cutting		FH, FP, FS, FY	FE	FA, FL, FB	GP, XP, XF, VF, VC, SK	TF, NS, ZF	FA
	Finishing	FP	SA, SY, SH	BE, CE, B, BH	LU, FE, SU	PP, XQ, CQ, HQ	MM, TS, TSF	FG, FC
	Finishing to Light	SP, SM	LP	AB, CT	SE, SX	CJ, XS	AS, ZM	
	Medium	MP, ME	MA, MV, MH, MP	AH, AE, AY	GU, GE, UX	HS, PS, PQ, GS, PT, PG	TM, TQ, DM, AM	ML, MP, MC, PC, MT
	Roughing	RK	RP, GH, HAS, MT	RE, AR	MU, ME, MX, MP	HT, GT, PH	TH, S, CH	RT
	Heavy Cutting		HZ, HX, HL, HH, HXD, HR, HV, HCS	TE, UE, H, HX, HE	HG, HP, HU, HW, HF	PX, Standard	THS, TRS, 65, TUS	RX, RH, HT, HD, HY, HZ
M Stainless Steel	Finishing	FP	LM, SH	SE, MP, AB	SU, EF	MQ, GU	SS	EA, SF
	Light to Medium	SP, SM	GM, MS	PV	EX, EG	MS, MU	SF, SA	EM
	Medium	MP, ME	MM	DE	GU		SM	ET
	Roughing	RK	ES, 1M, 2M, HL, RM, GH, HM	AE	HM, EM, MU	TK	S, SH	VF, SU
K Cast Iron	Light Cutting	SP, SM	LK, MA, MK	V, VA	UZ	Standard, C, KQ	CM, CF	MT
	Medium	MP, ME	GK, RK ,GH	Y, RE	GZ, ME	ZS, GC, KG, KH	Standard, CH 33	RT
N Non-Ferrous Metal	Finishing	FP		AH	AX	AH	P	
S Superalloys	Finishing	SP, SM	LS, FJ		EF		HRF	
	Medium	MP, ME	MS, MJ	VI	EG, EX	SQ	HMM, SA, HRM	
	Roughing	RK	RS, GJ		MU, EM	SG, SX		
H Hardened Steel	Finishing				GH, FV		HP	
	Light Cutting		BF		LV	HH, HL	HF	
	Carburised Layer Removal		BM		SV	HD	HM	

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Turning Inserts Chipbreaker Comparison Chart 車刀片斷屑槽比較表

Negative Inserts 負角車刀片

Work Material	Applications	WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
P Steel	Fine Cutting		QF	SF	FF	FF1, FF2	FP5
	Finishing	FP	LC, XF, MF		FN, CT	MF2	NF3
	Finishing to Light	SP, SM	PF, KF	F3P, TF	LF, 33		MP3, NS6
	Medium	MP, ME	XM, QM, PMC, PM, SM, KM ,HM	GN, RF, LF	P, MG, MN, MP1	M3	MU5, MP5, NM4, NM6
	Roughing	RK	PR, XMR, KR	M3P, NR	RP, RN	M5, MR7, R4, R5, M6	RP5, NM9, RP7
	Heavy Cutting		HR, SR, MR	NM, TNM, R3P	RM, MR, RH	R7, MR7, RR9	NR6, NRF, NR8, NRR
M Stainless Steel	Finishing	FP	MF	F3M	FP, FS, LF	MF2	NF4, FM5
	Light to Medium	SP, SM	23	TF, VL	MS	MF1, M1	MM5
	Medium	MP, ME	MM, MMC, SMR	M3M, PP	MP	MF3, M3	NM4, MS3, MU5
	Roughing	RK	MR, MRR	MR, R3M, M4MW	UP	MF4, MF5, M5, MR3, MR4	NR4, RM5, HU5
K Cast Iron	Light Cutting	SP, SM	KF	GN	UN	M4	NM5
	Medium	MP, ME	KM, KR, KRR			MR7	RK5, RK7
N Non-Ferrous Metal	Finishing	FP			MS		
S Superalloys	Finishing	SP, SM	SF, SGF	F3S			NFT
	Medium	MP, ME	SM, SMC	VL		M1	NMT, NMS
	Roughing	RK	SMR			MR3, MR4	NRT, HU5, NRS
H Hardened Steel	Finishing						
	Light Cutting						
	Carburised Layer Removal						

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WINSTAR

Turning Inserts Chipbreaker Comparison Chart 車刀片斷屑槽比較表

Positive Inserts 正角車刀片

Work Material	Applications	WINSTAR 萬事達	Mitsubishi 三菱	Hitachi 日立	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	TaeguTec 特固克
P Steel	Finishing	FB, FX, FY	FJ, AM, FP, FM, FV, SQ	JQ, MP	FC, FB, LU, FP, FK	CF, GF, VF, P, PF, GP, XP, PP, MQ, DP	01, JRP, JTS, PSF, PF, 23, SS, JSS	FA, FX
	Finishing to Light	SP	SMG, LP, LM		SI, LB	CK, SKS, XQ	JS, CM ,PSS	SA
	Light to Medium		SV, MQ	JE	SC, SU, GU, SK, SF	GQ, SK, Standard, HQ, XQ, GK	PS, TSF, TM	FG, PC
	Medium	MP, MK	MP, MM, MK, MV		MU		PM	MT, PMR
M Stainless Steel	Finishing	FB, FX, FY	FM, FV		FC		PSF, PF, SS, JSS	FA, FX
	Finishing to Light	SP, SM	SMG, LM		SI, LB	MQ		FG
	Light to Medium		SV		SU, GU	HG		PC
	Medium	MP, MK	MM, MV, Blank		MU		PM	MT, PMR
K Cast Iron	Finishing	FB			FC		CF	
	Light to Medium	MP, MK	MK		MU			MT
N Non-Ferrous Metal	Finishing	FA	AZ		AG, AW, AY	AH, AP	AL, PP	FL
	Finishing to Light	FB			LD, GD			SA
S Superalloys	Finishing	FB, FX, FY	FS		FC, SI	PP, MQ	PSS	
	Light to Medium		LS, MS		SU, GU	HQ, GK	PS, PM	
H Hardened Steel	Finishing				FV		HP	
	Light Cutting		BF		LV			

The above table is selected from a publication for reference only, which is not obtained approval from each brand. 此斷屑槽比照表僅供參考

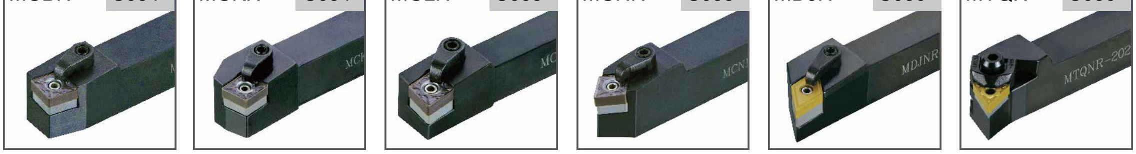
Turning Inserts Chipbreaker Comparison Chart 車刀片斷屑槽比較表

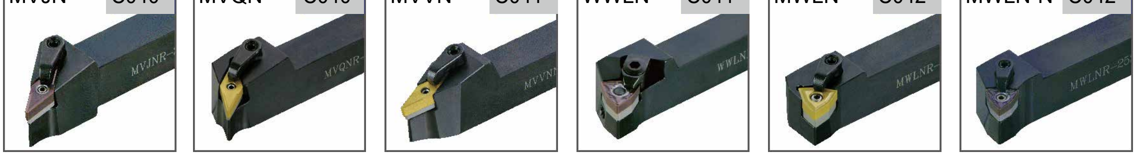
Positive Inserts 正角車刀片

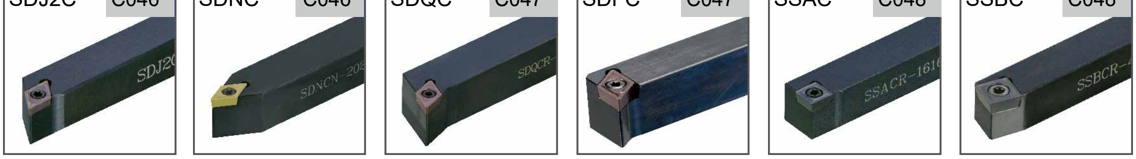
Work Material	Applications	WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
P Steel	Finishing	FB, FX, FY	UM, PF, UF, MF, XF	PF	11, UF, MF, KF, XF	GT-F1, FF1	FM4, FP4
	Finishing to Light	SP			LF		
	Light to Medium		PM, UM, XM	SM, 14	MP	MF2, F1	MP4, MM4, FP6, PM5
	Medium	MP, MK	PR, UR, MMC, MPC, XR	19	MF	F2, M3, M5	RP4, RM4
M Stainless Steel	Finishing	FB, FX, FY	MF, XF	PF	11, UF	FF1	FM4
	Finishing to Light	SP, SM	UF		LF, FP	F1	
	Light to Medium		MM	SM	MP	MF2	MM4, PS5
	Medium	MP, MK	UM, MR, XR, UR		MF	F2, M3, M5	PM5, RM4
K Cast Iron	Finishing	FB	KF, XF		11, UF		FK6
	Light to Medium	MP, MK	KM, UM, XR		FP, LF, MF, MP	M5	MK4, RK4
N Non-Ferrous Metal	Finishing	FA	AL	AS, AF	HP	AL	PM2
	Finishing to Light	FB					
S Superalloys	Finishing	FB, FX, FY	WF, MF				
	Light to Medium		UM, PM			MF2, R2, R3	FV4, MV4
H Hardened Steel	Finishing						
	Light Cutting						

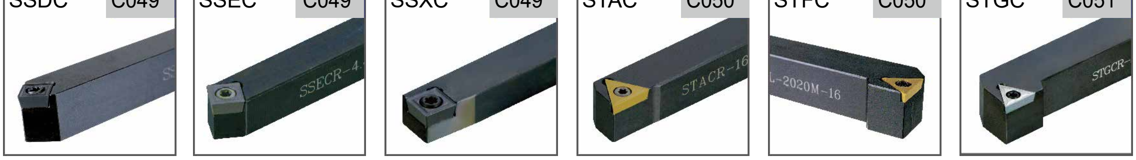
The above table is selected from a publication for reference only, which is not obtained approval from each brand. 此斷屑槽比照表僅供參考

External Turning Tools Index 外徑車刀桿索引









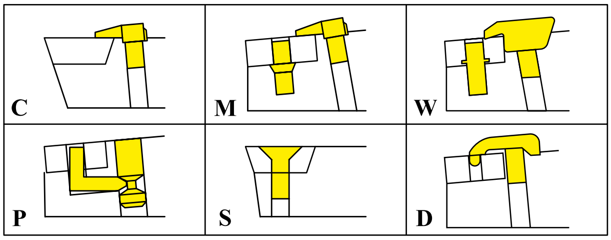
Internal Turning Tools Index 內徑車刀桿索引

WINSTAR

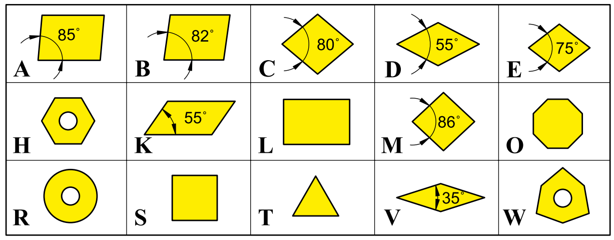
Tools Designations for External Turning 外徑車刀桿型號編碼

M	C	L	N	R	2	5	2	5	M	1	2	*
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬

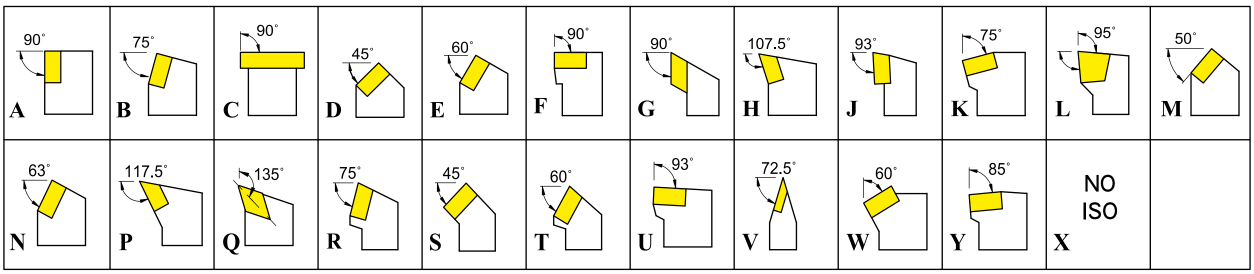
① Type of Locking



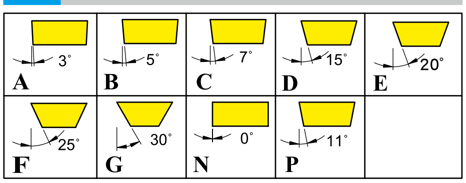
② Insert Shape



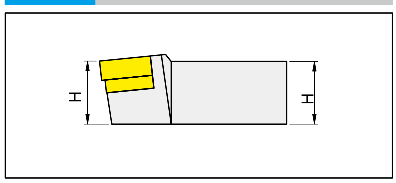
③ Type of Tool



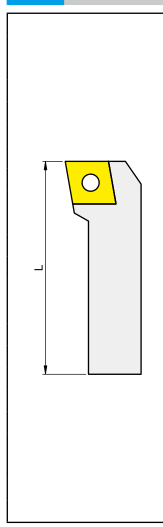
④ Rake Angle



⑥/⑦ Shank Height

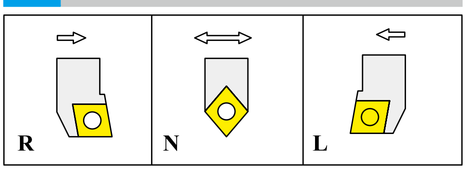


⑩ Tool Length

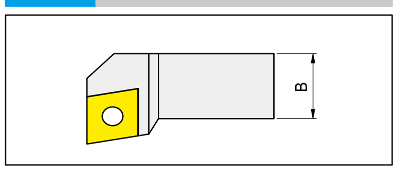


32	A
40	B
50	C
60	D
70	E
80	F
90	G
100	H
110	J
125	K
140	L
150	M
160	N
170	P
180	Q
200	R
250	S
300	T
350	U
400	V
450	W
500	Y
Special	X

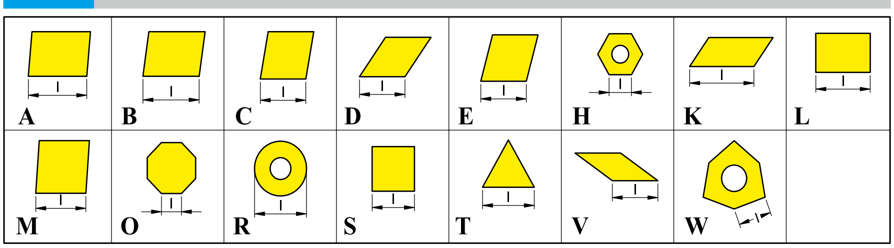
⑤ Hand of Tool



⑧/⑨ Shank Width



⑪/⑫ Edge Length



⑬ Optional Code

INSERTS	R-L

Tools Designations for Internal Turning 內徑車刀桿型號編碼

S	2	0	R	S	C	L	C	R	0	9	*
⑥	⑧	⑨	⑩	①	②	③	④	⑤	⑪	⑫	⑬

⑥ Shank

S = Steel shank

A = Steel shank + coolant hole

B = Steel shank + device anti-vibration

C = Cemented carbide shank with steel head

D = Steel shank + device anti-vibration + coolant hole

E = Cemented carbide shank with steel head + coolant hole

F = Cemented carbide shank with steel head + device anti-vibration

G = Cemented carbide shank with steel head + device anti-vibration + coolant hole

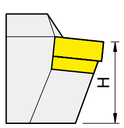
H = Heavy metal shank

J = Heavy mteal shank + coolant hole

Cartridges Designation

S	T	F	C	R	1	0	C	A	1	1
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑪	⑫

⑥/⑦ Shank Height



⑧ Type of Tool

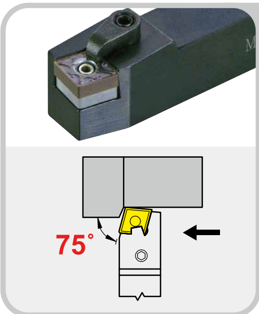
C = Cartridge

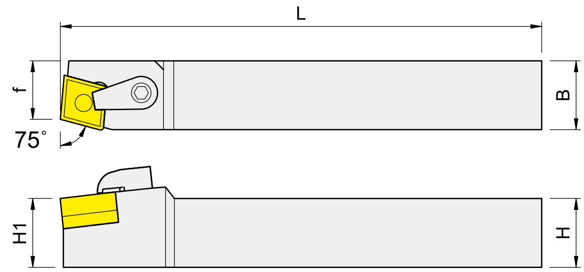
⑨ Execution

A = ISO 5611

External Turning Tools 外徑車刀桿

MCBN

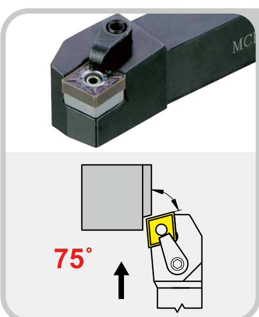


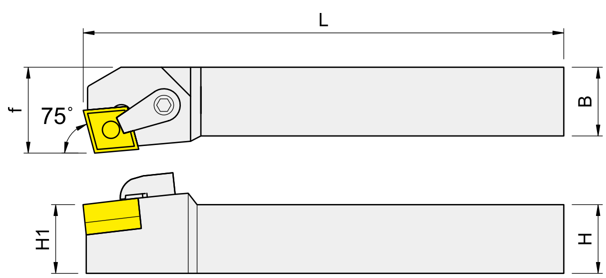


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMCBN$^R/_L$-2020K-12	20	20	125	20	17	CN..1204..	IMLP46-A	ICMS432	IPL25	IMS625TX	IMC620	IETL15
IMCBN$^R/_L$-2525M-12	25	25	150	25	22					IMS630TX		
IMCBN$^R/_L$-3232P-12	32	32	170	32	29							

MCKN



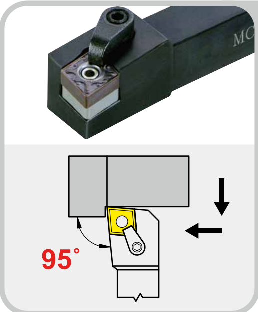


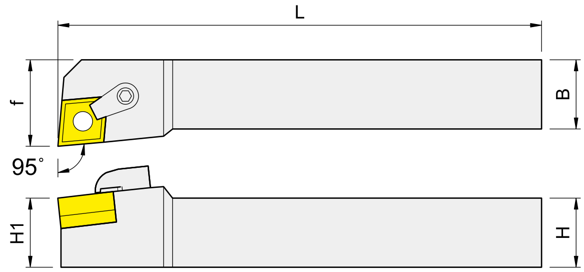
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMCKN$^R/_L$-1616K-12	16	16	125	16	20	CN..1204..	IMLP46-A	ICMS432	IPL25	IMS625TX	IMC620	IETL15
IMCKN$^R/_L$-2020K-12	20	20	125	20	25							
IMCKN$^R/_L$-2525M-12	25	25	150	25	32					IMS630TX		
IMCKN$^R/_L$-3232P-12	32	32	170	32	40							

External Turning Tools 外徑車刀桿

MCLN

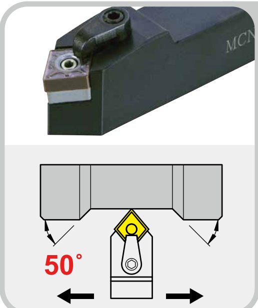


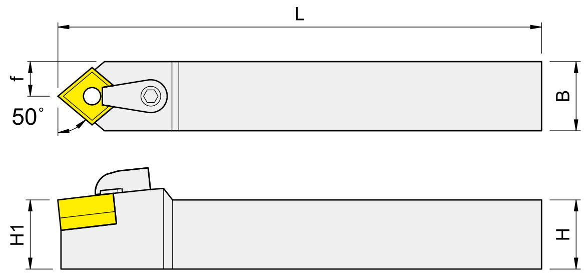


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMCLN$^{R}/_{L}$-1616K-12	16	16	125	16	20	CN..1204..	IMLP46-A	ICMS432	IPL25	IMS625TX	IMC620	IETL15
IMCLN$^{R}/_{L}$-2020K-12	20	20	125	20	25							
IMCLN$^{R}/_{L}$-2525M-12	25	25	150	25	32					IMS630TX		
IMCLN$^{R}/_{L}$-3232P-12	32	32	170	32	40							

MCNN

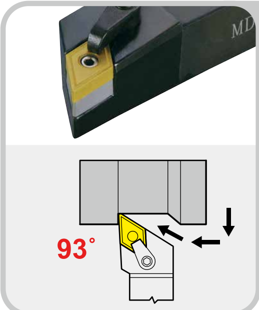


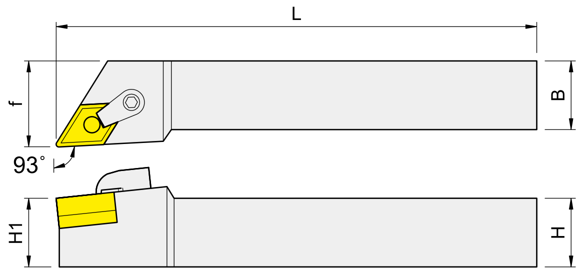


Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMCNNN-1616K-12	16	16	125	16	8	CN..1204..	IMLP46-A	ICMS432	IPL25	IMS625TX	IMC620	IETL15
IMCNNN-2020K-12	20	20	125	20	10							
IMCNNN-2525M-12	25	25	150	25	12.5					IMS630TX		
IMCNNN-3232P-12	32	32	170	32	16							

External Turning Tools 外徑車刀桿

MDJN

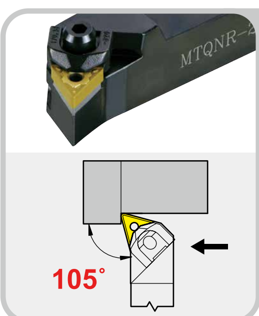


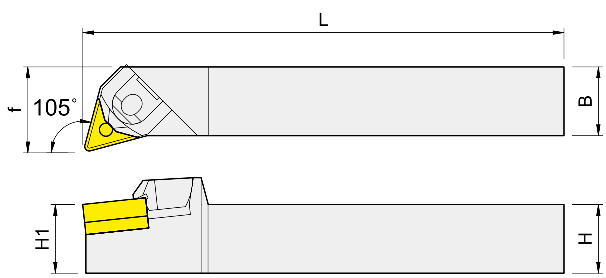


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMDJN$^{R}/_{L}$-2020K-1504	20	20	125	20	25	DN..1504..	IMLP46-AL	IDMS442	IPL25	IMS625TX	IMC622	IETL15
IMDJN$^{R}/_{L}$-2525M-1504	25	25	150	25	32					IMS630TX		
IMDJN$^{R}/_{L}$-2020K-1506	20	20	125	20	25	DN..1506..	IMLP46-AL	IDMS432	IPL25	IMS625TX	IMC622	IETL15
IMDJN$^{R}/_{L}$-2525M-1506	25	25	150	25	32					IMS630TX		

MTQN



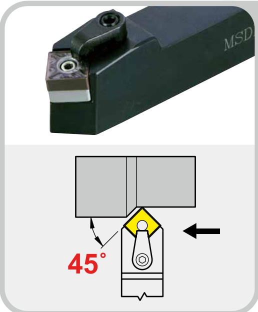


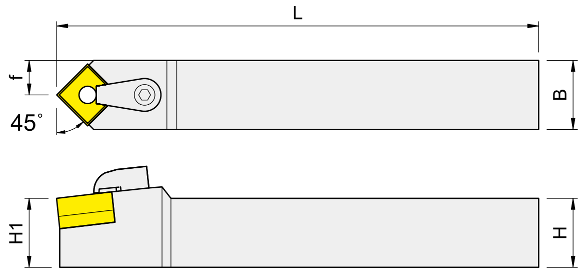
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H	B	L	H1	f							
IMTQN$^{R}/_{L}$-2020K-16	20	20	125	20	25	TN..1604..	IMCP3	IMCS3S-11	IPL30	ITWS322	IMCW3-P40	IPL40
IMTQN$^{R}/_{L}$-2525M-16	25	25	150	25	32							

External Turning Tools 外徑車刀桿

MSDN

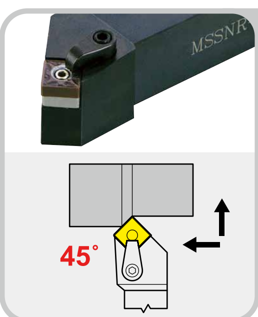


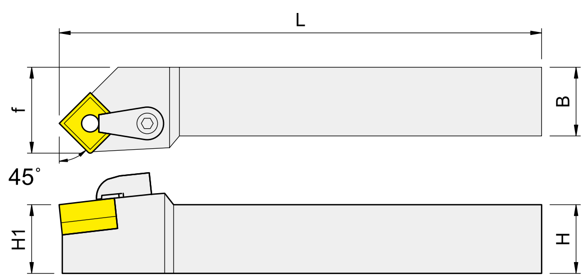


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMSDNN-2020K-12	20	20	125	20	10	SN..1204..	IMLP46-A	ISMS432	IPL25	IMS625TX	IMC620	IETL15
IMSDNN-2525M-12	25	25	150	25	12.5					IMS630TX		

MSSN



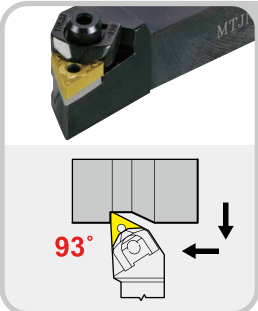


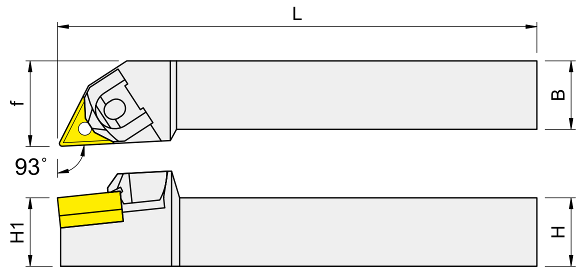
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMSSN$^{R}/_{L}$-1616K-12	16	16	125	16	20					IMS625TX		
IMSSN$^{R}/_{L}$-2020K-12	20	20	125	20	25	SN..1204..	IMLP46-A	ISMS432	IPL25		IMC620	IETL15
IMSSN$^{R}/_{L}$-2525M-12	25	25	150	25	32					IMS630TX		

External Turning Tools 外徑車刀桿

MTJN

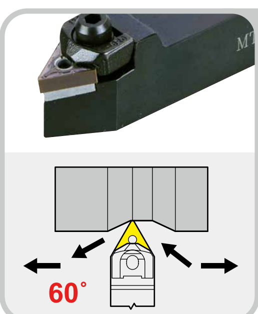


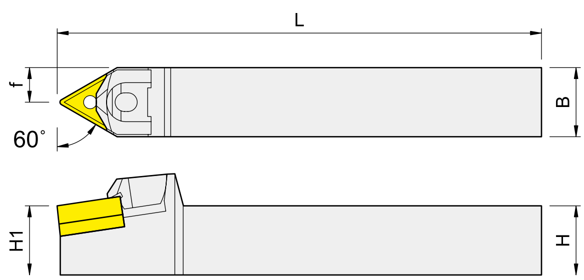


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H	B	L	H1	f							
IMTJN R/L-1216K-16	12	16	125	16	21	TN..1604..	IMCP3	IMCS3S-11	IPL30	ITWS322	IMCW3-P40	IPL40
IMTJN R/L-1616K-16	16	16	125	16	21							
IMTJN R/L-2020K-16	20	20	125	20	25							
IMTJN R/L-2525M-16	25	25	150	25	32							
IMTJN R/L-3232P-16	32	32	170	32	40							

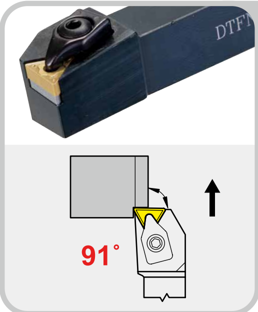
MTEN



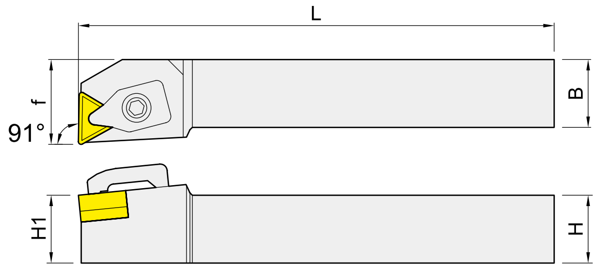


Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H	B	L	H1	f							
IMTENN-1216K-16	12	16	125	16	8	TN..1604..	IMCP3	IMCS3S-09	IPL30	ITWS322	IMCW3-P40	IPL40
IMTENN-1616K-16	16	16	125	16	8							
IMTENN-2020K-16	20	20	125	20	10							
IMTENN-2525M-16	25	25	150	25	12.5							

External Turning Tools 外徑車刀桿

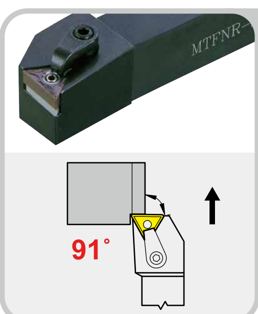


DTFN

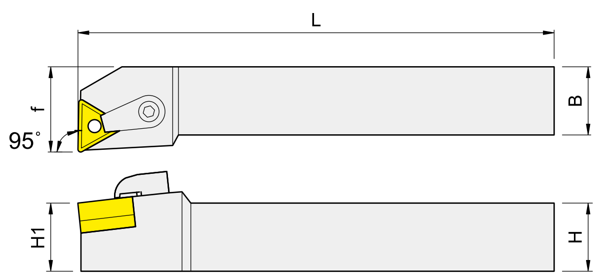


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Shim	Screw	Wrench	Clamp	Wrench
	H	B	L	H1	f						
IDTFN R/L-1616K-16	16	16	125	16	20						
IDTFN R/L-2020K-16	20	20	125	20	25	TN..1604..	ITWS322	IMS4008H	IPL25	IMCD324B	IPL40
IDTFN R/L-2525M-16	25	25	150	25	32						



MTFN

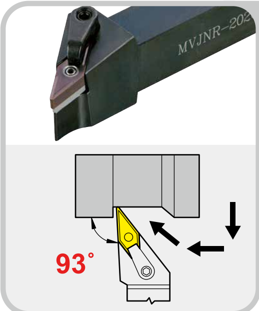


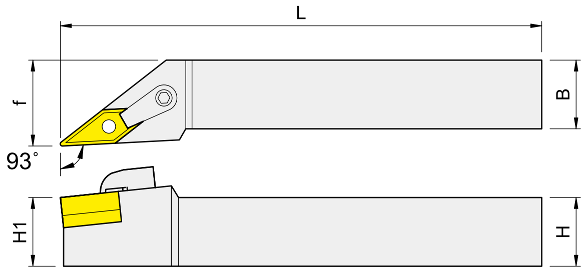
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMTFNR-1616K-16	16	16	125	16	20					IMS625TX		
IMTFNR-2020K-16	20	20	125	20	25	TN..1604..	IMLP34L-A	ITMS322	IPL20	IMS630TX	IMC620	IETL15
IMTFNR-2525M-16	25	25	150	25	32							

External Turning Tools 外徑車刀桿

MVJN

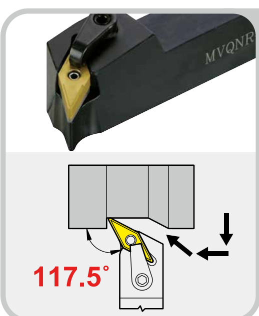


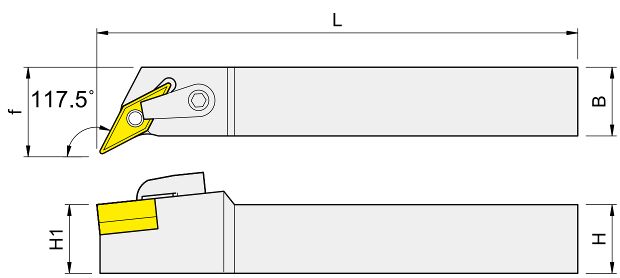


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMVJN R/L-1616K-16	16	16	125	16	21	VN..1604..	IMLP34L -A	IVMS322	IPL20	IMS625TX	IMC622	IETL15
IMVJN R/L-2020K-16	20	20	125	20	25							
IMVJN R/L-2525M-16	25	25	150	25	32					IMS630TX		

MVQN



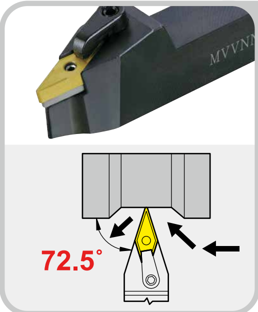


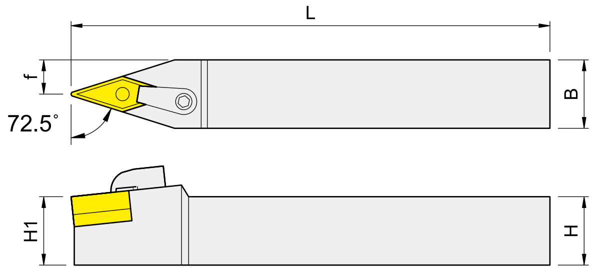
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMVQN R/L-2020K-16	20	20	125	20	25	VN..1604..	IMLP34L-A	IVMS322	IPL20	IMS625TX	IMC622	IETL15
IMVQN R/L-2525M-16	25	25	150	25	32					IMS630TX		

External Turning Tools 外徑車刀桿

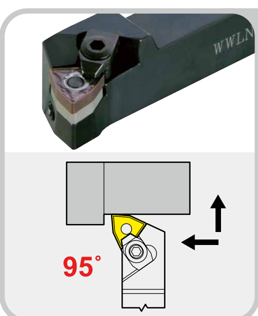
MVVN

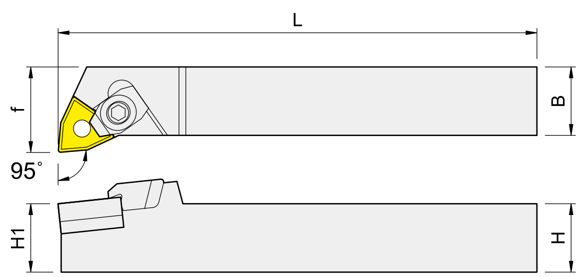




Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMVVNN-1616K-16	16	16	125	16	8					IMS625TX		
IMVVNN-2020K-16	20	20	125	20	10	VN..1604..	IMLP34L-A	IVMS322	IPL20		IMC622	IETL15
IMVVNN-2525M-16	25	25	150	25	12.5					IMS630TX		

WWLN



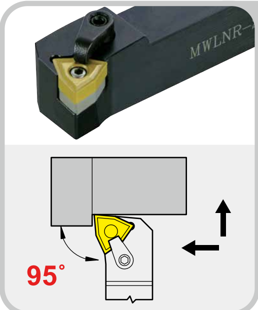


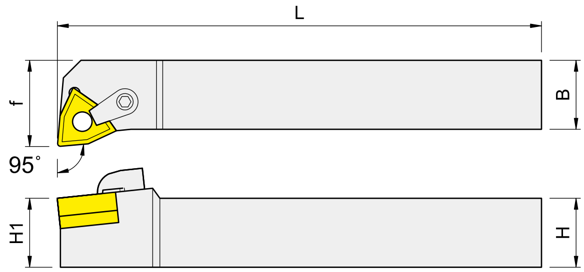
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H	B	L	H1	f							
IWWLN R/L-2020K-08	20	20	125	20	25	WN..0804..	IMCP4	IMCS3S-09	IPL30	IWMS432	IWCW6-P4	IPL40
IWWLN R/L-2525M-08	25	25	150	25	32							

External Turning Tools 外徑車刀桿

MWLN

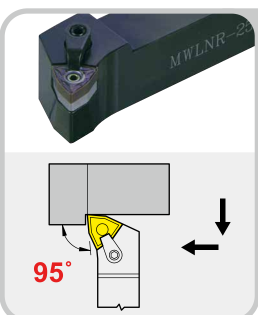


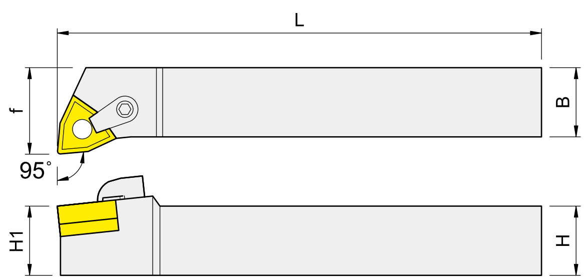


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMWLN$^{R}/_{L}$-2020K-08	20	20	125	20	25	WN..0804..	IMLP46-A	IWMS432	IPL25	IMS625TX	IMC620	IETL15
IMWLN$^{R}/_{L}$-2525M-08	25	25	150	25	32					IMS630TX		

MWLN-N



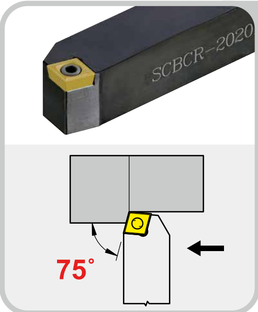


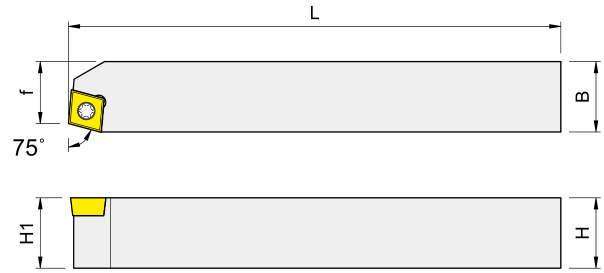
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMWLN$^{R}/_{L}$-2020K-08N	20	20	125	20	25	WN..0804..	IMLP46-A	IWMS432	IPL25	IMS625TX	IMC620	IETL15
IMWLN$^{R}/_{L}$-2525M-08N	25	25	150	25	32					IMS630TX		

External Turning Tools 外徑車刀桿

SCBC

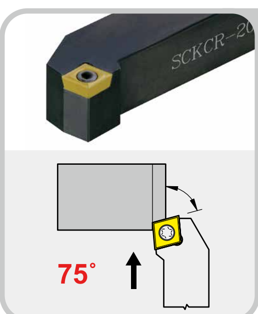


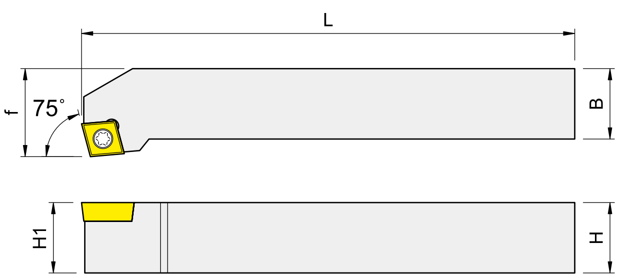


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISCBC$^{R}/_{L}$-2020K-09	20	20	125	20	17.5	CC..09T3..	IMS4011A	ITK15

SCKC



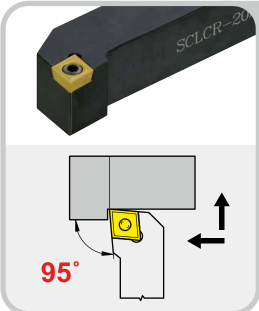


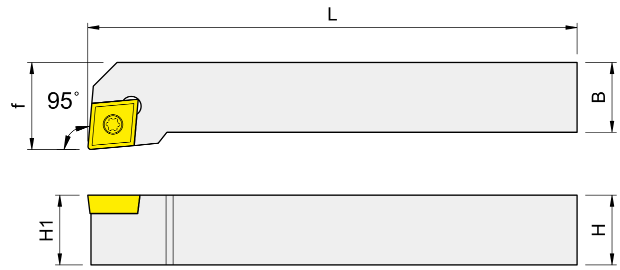
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISCKC$^{R}/_{L}$-1212K-09	12	12	125	12	16	CC..09T3..	IMS4011A	ITK15
ISCKC$^{R}/_{L}$-1616K-09	16	16	125	16	20			
ISCKC$^{R}/_{L}$-2020K-09	20	20	125	20	25			
ISCKC$^{R}/_{L}$-2525M-09	25	25	150	25	32			

External Turning Tools 外徑車刀桿

SCLC

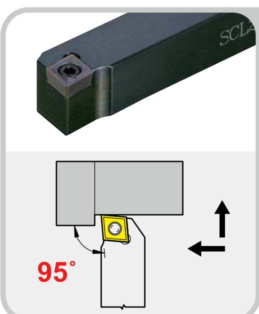


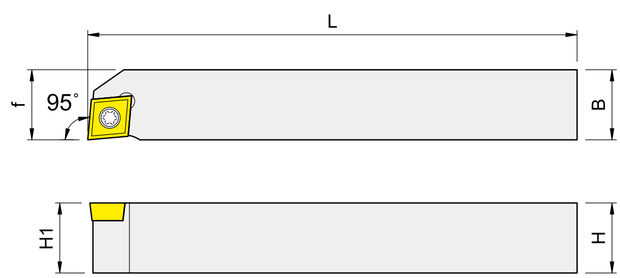


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISCLC^{R}/$_{L}$-1010H-06	10	10	100	10	12	CC..0602..	IMS2506A	ITK09
ISCLC^{R}/$_{L}$-1010K-06	10	10	125	10	12			
ISCLC^{R}/$_{L}$-1212H-09	12	12	100	12	16	CC..09T3..	IMS4011A	ITK15
ISCLC^{R}/$_{L}$-1212K-09	12	12	125	12	16			
ISCLC^{R}/$_{L}$-1616K-09	16	16	125	16	20			
ISCLC^{R}/$_{L}$-2020K-09	20	20	125	20	25			
ISCLC^{R}/$_{L}$-2525M-09	25	25	150	25	32			
ISCLC^{R}/$_{L}$-2020K-12	20	20	125	20	25	CC..1204..	IMS5011A	ITK20
ISCLC^{R}/$_{L}$-2525K-12	25	25	150	25	32			

SCL2C





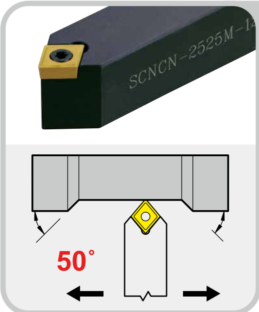
Right-hand shown

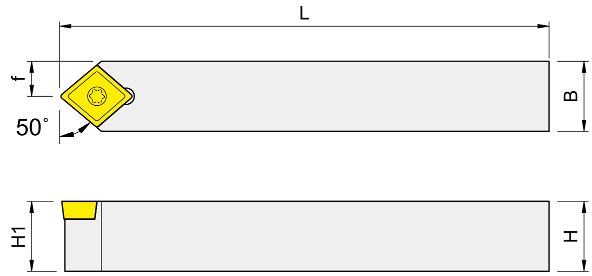
Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISCL2C^{R}/$_{L}$-1010H-06	10	10	100	10	10	CC..0602..	IMS2506A	ITK09
ISCL2C^{R}/$_{L}$-1212H-09	12	12	100	12	12	CC..09T3..	IMS4011A	ITK15
ISCL2C^{R}/$_{L}$-1616K-09	16	16	125	16	16			
ISCL2C^{R}/$_{L}$-2020K-09	20	20	125	20	25			

WINSTAR

External Turning Tools 外徑車刀桿

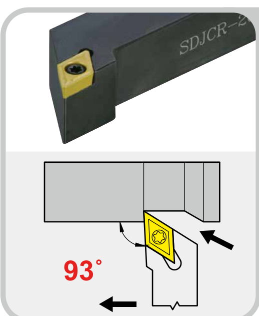
SCNC

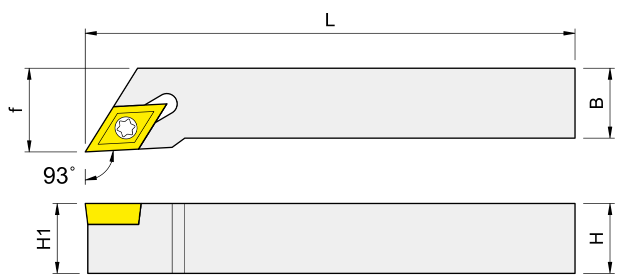




Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISCNCN-1616K-06	16	16	125	16	8	CC..0602..	IMS2506A	ITK09
ISCNCN-1212K-09	12	12	125	12	6	CC..09T3..	IMS4011A	ITK15
ISCNCN-1616K-09	16	16	125	16	8			
ISCNCN-2020K-09	20	20	125	20	10			
ISCNCN-2525M-09	25	25	150	25	12.5			
ISCNCN-2020K-12	20	20	125	20	10	CC..1204..	IMS5011A	ITK20
ISCNCN-2525M-12	25	25	150	25	12.5			

SDJC

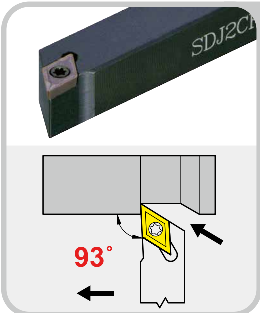




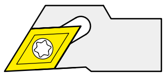
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISDJC$^{R}/_{L}$-1010H-07	10	10	100	10	12	DC..0702..	IMS2506B	ITK09
ISDJC$^{R}/_{L}$-1212H-07	12	12	100	12	16			
ISDJC$^{R}/_{L}$-1212K-07	12	12	125	12	16			
ISDJC$^{R}/_{L}$-1616K-07	16	16	125	16	20			
ISDJC$^{R}/_{L}$-2020K-07	20	20	125	20	25			
ISDJC$^{R}/_{L}$-1212H-11	12	12	100	12	16	DC..11T3..	IMS4009A	ITK15
ISDJC$^{R}/_{L}$-1212K-11	12	12	125	12	16			
ISDJC$^{R}/_{L}$-1616K-11	16	16	125	16	20			
ISDJC$^{R}/_{L}$-2020K-11	20	20	125	20	25			
ISDJC$^{R}/_{L}$-2525M-11	25	25	150	25	32			

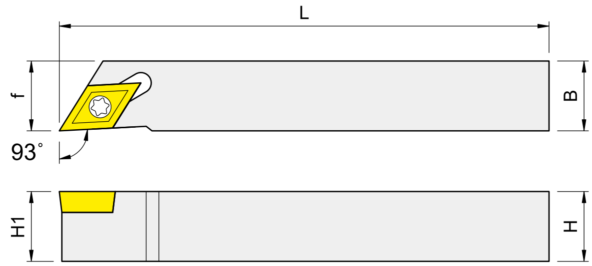
External Turning Tools 外徑車刀桿



SDJ2C



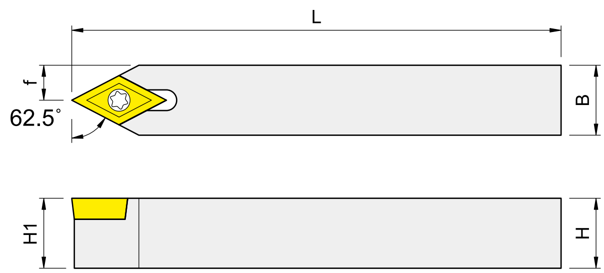
SDJ2CR-1010H/K-11



Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISDJ2C$^{R}/_{L}$-1010H-07	10	10	100	10	10	DC..0702..	IMS2506B	ITK09
ISDJ2C$^{R}/_{L}$-1212H-07	12	12	100	12	12			
ISDJ2C$^{R}/_{L}$-1212K-07	12	12	125	12	12			
ISDJ2C$^{R}/_{L}$-1616K-07	16	16	125	16	16			
ISDJ2C$^{R}/_{L}$-2020K-07	20	20	125	20	20			
ISDJ2C$^{R}/_{L}$-2525M-07	25	25	150	25	25			
ISDJ2C$^{R}/_{L}$-1010H-11	10	10	100	10	10	DC..11T3..	IMS4009A	ITK15
ISDJ2C$^{R}/_{L}$-1010K-11	10	10	125	10	10			
ISDJ2C$^{R}/_{L}$-1212H-11	12	12	100	12	12		IMS4011A	
ISDJ2C$^{R}/_{L}$-1616K-11	16	16	125	16	16			
ISDJ2C$^{R}/_{L}$-2020K-11	20	20	125	20	20			
ISDJ2C$^{R}/_{L}$-2525M-11	25	25	150	25	25			
ISDJ2C$^{R}/_{L}$-3232P-11	32	32	170	32	32			

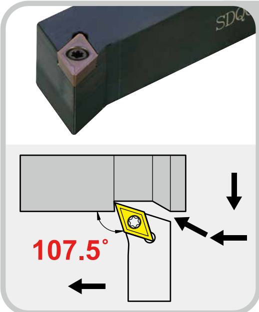
SDNC

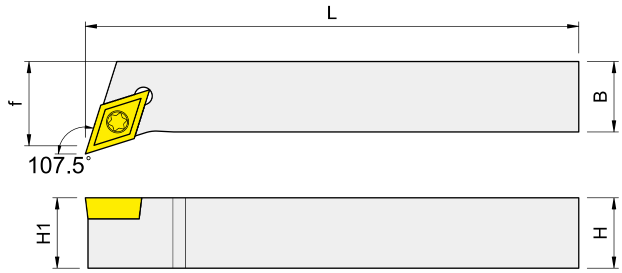


Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISDNCN-1010H-07	10	10	100	10	5	DC..0702..	IMS2506B	ITK09
ISDNCN-1212H-07	12	12	100	12	6			
ISDNCN-1616K-07	16	16	125	16	8			
ISDNCN-1212H-11	12	12	100	12	6	DC..11T3..	IMS4011A	ITK15
ISDNCN-1212K-11	12	12	125	12	6			
ISDNCN-1616K-11	16	16	125	16	8			
ISDNCN-2020K-11	20	20	125	20	10			
ISDNCN-2525M-11	25	25	150	25	12.5			

External Turning Tools 外徑車刀桿

SDQC



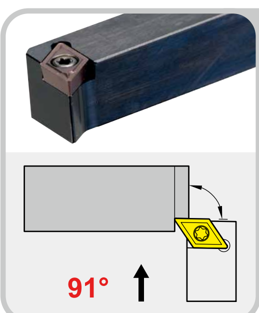


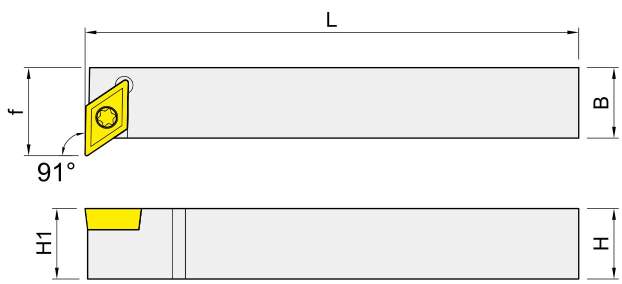
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISDQC$^R/_L$-1212H-11	12	12	100	12	16	DC..11T3..	IMS4011A	ITK15
ISDQC$^R/_L$-1616K-11	16	16	125	16	20			
ISDQC$^R/_L$-2020K-11	20	20	125	20	25			
ISDQC$^R/_L$-2525M-11	25	25	150	25	32			

Turning

SDFC



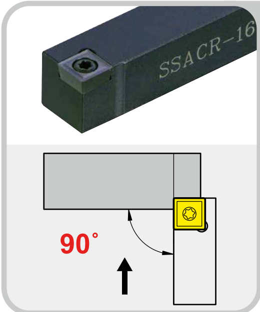


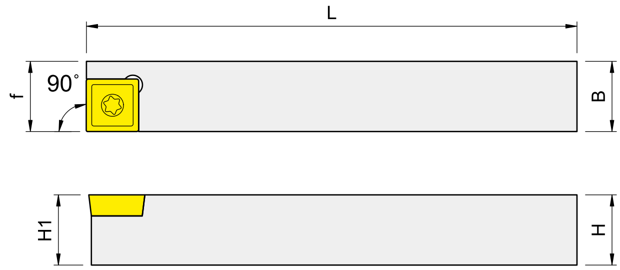
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISDFC$^R/_L$-1212K-07	12	12	125	12	16	DC..0702..	IMS2506B	ITK09
ISDFC$^R/_L$-1212K-11	12	12	125	12	19	DC..11T3..	IMS4011A	ITK15
ISDFC$^R/_L$-1616K-11	16	16	125	16	20			

External Turning Tools 外徑車刀桿

SSAC

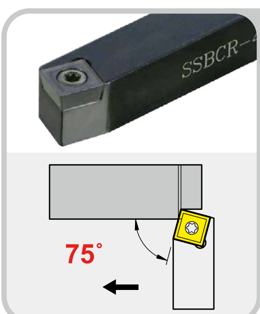


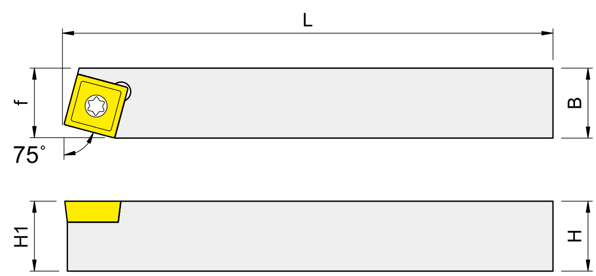


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISSAC$^R/_L$-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	IMS4009A	ITK15
ISSAC$^R/_L$-4.4H-09	12.7	12.7	100	12.7	12.7	SC..09T3..	IMS4011A	ITK15
ISSACR-1212H-09	12	12	100	12	12	SC..09T3..	IMS4011A	ITK15
ISSAC$^R/_L$-1616K-09	16	16	125	16	16	SC..09T3..	IMS4011A	ITK15

SSBC



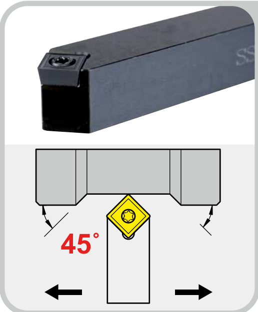


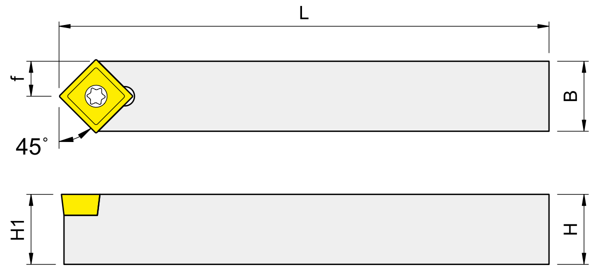
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISSBC$^R/_L$-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	IMS4009A	ITK15
ISSBC$^R/_L$-4.4H-09	12.7	12.7	100	12.7	12.7	SC..09T3..	IMS4011A	ITK15
ISSBC$^R/_L$-1212H-09	12	12	100	12	12	SC..09T3..	IMS4011A	ITK15

External Turning Tools 外徑車刀桿

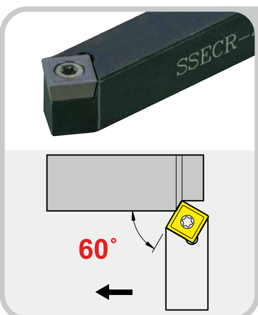
SSDC

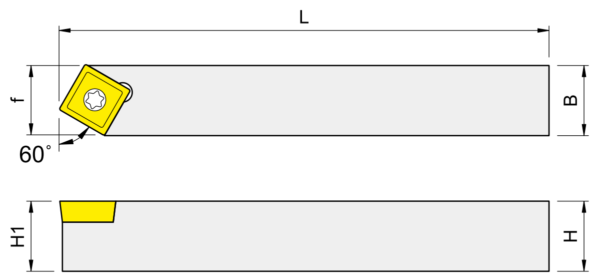




Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISSDCN-3.4H-09	9.5	12.7	100	9.5	6.35	SC..09T3..	IMS4009A	ITK15
ISSDCN-4.4H-09	12.7	12.7	100	12.7	6.35	SC..09T3..	IMS4011A	ITK15
ISSDCN-1212H-09	12	12	100	12	6			
ISSDCN-1616K-09	16	16	125	16	8			
ISSDCN-2020K-09	20	20	125	20	10			
ISSDCN-2525M-09	25	25	150	25	12.5			

SSEC

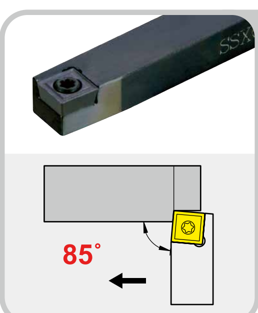


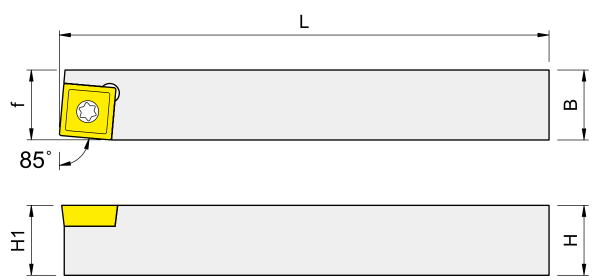


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISSEC^{R}/$_{L}$-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	IMS4009A	ITK15
ISSEC^{R}/$_{L}$-4.4H-09	12.7	12.7	100	12.7	12.7	SC..09T3..	IMS4011A	ITK15
ISSEC^{R}/$_{L}$-1212H-09	12	12	100	12	12			

SSXC

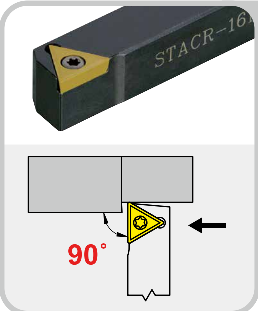




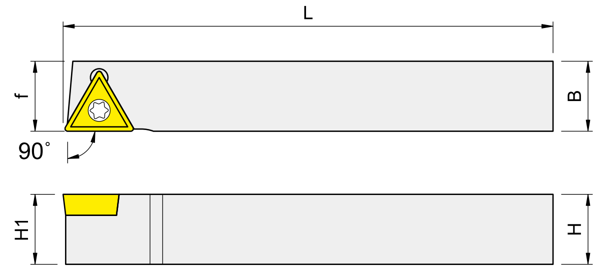
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISSXCR-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	IMS4009A	ITK15

External Turning Tools 外徑車刀桿

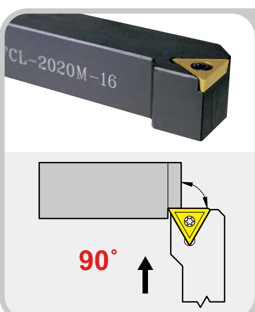


STAC

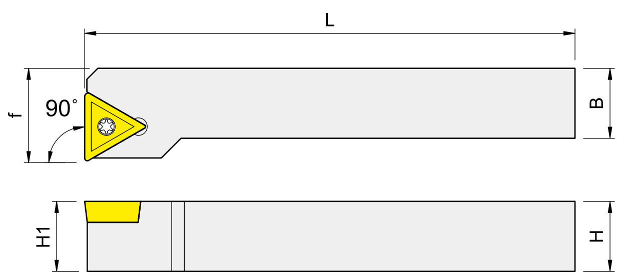


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISTACR-1010H-11	10	10	100	10	10			
ISTACR-1212H-11	12	12	100	12	12			
ISTACR-1616K-11	16	16	125	16	16	TC..1102..	IMS2506A	ITK09
ISTACR-3.4H-11	9.5	12.7	100	9.5	12.7			
ISTACR-4.4H-11	12.7	12.7	100	12.7	12.7			
ISTACR-1616K-16	16	16	125	16	16	TC..16T3..	IMS4011A	ITK15



STFC

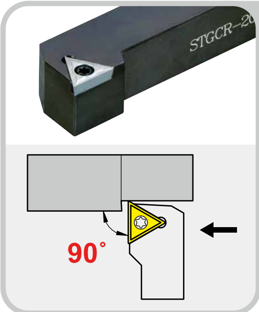


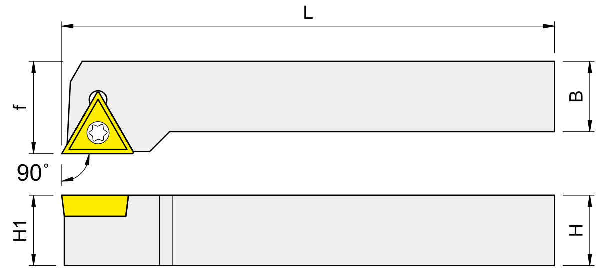
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISTFC^{R}/$_{L}$-2020K-16	20	20	125	20	25	TC..16T3..	IMS4011A	ITK15
ISTFC^{R}/$_{L}$-2525M-16	25	25	150	25	32			

External Turning Tools 外徑車刀桿

STGC

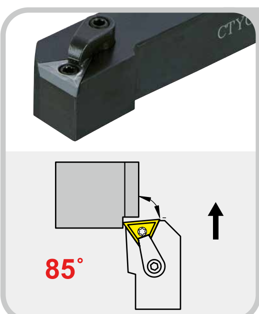


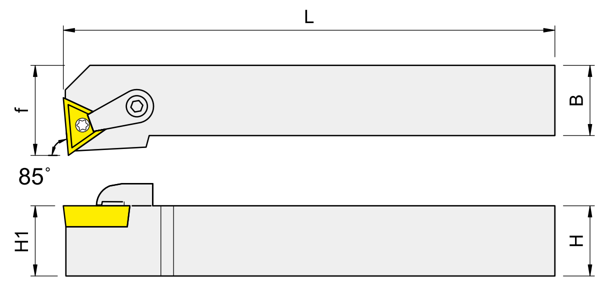


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISTGC^{R}/$_{L}$-1212K-16	12	12	100	12	16	TC..16T3..	IMS4011A	ITK15
ISTGC^{R}/$_{L}$-1616K-16	16	16	125	16	20			
ISTGC^{R}/$_{L}$-2020K-16	20	20	125	20	25			
ISTGC^{R}/$_{L}$-2525M-16	25	25	150	25	32			

CTYC



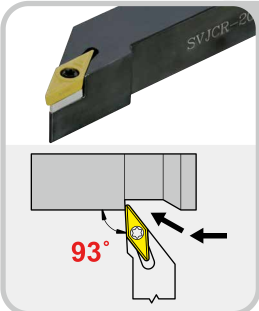


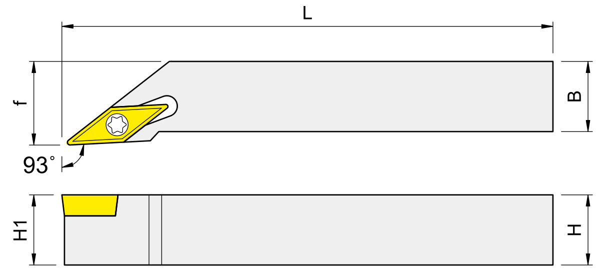
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Screw	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f						
ICTYC^{R}/$_{L}$-2020K-16	20	20	125	20	25	TC..16T3..	IMS4011A	ITK15	IMS625TX	IMC620	IETL15

External Turning Tools 外徑車刀桿

SVJB

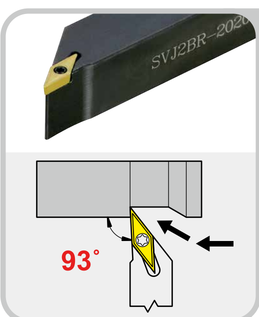


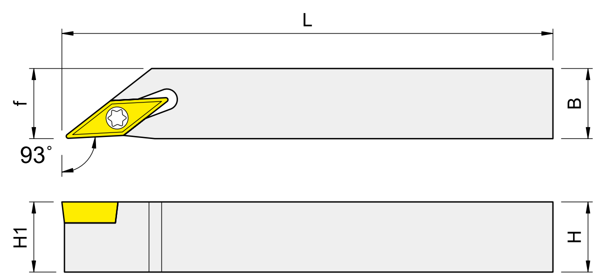


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Shim	Screw	Wrench	Screw	Wrench
	H	B	L	H1	f						
ISVJB$^{R}/_{L}$-1616K-16	16	16	125	16	20	VB..1604..	IVSS322	IMDS5035S	IPL35	IMS3512B	ITK15
ISVJB$^{R}/_{L}$-2020K-16	20	20	125	20	25						
ISVJB$^{R}/_{L}$-2525M-16	25	25	150	25	32						
ISVJC$^{R}/_{L}$-1010H-11	10	10	100	10	12	VC..1103..	--	--	--	IMS2506A	ITK09
ISVJC$^{R}/_{L}$-1212K-11	12	12	125	12	16						
ISVJC$^{R}/_{L}$-1616K-11	16	16	125	16	20						
ISVJC$^{R}/_{L}$-2020K-11	20	20	125	20	25						
ISVJC$^{R}/_{L}$-2525M-11	25	25	150	25	32						

SVJ2B



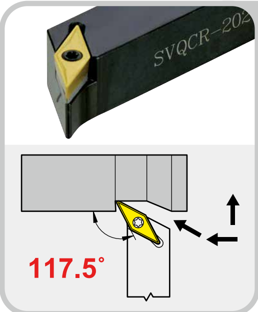


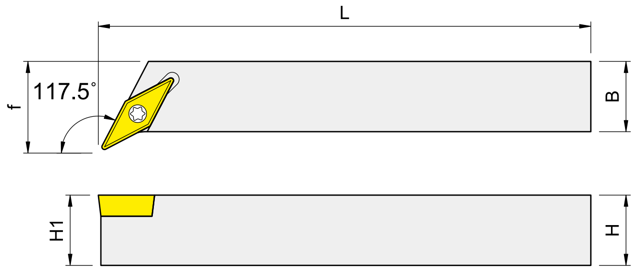
Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Screw	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f						
ISVJ2C$^{R}/_{L}$-1010H-11	10	10	100	10	10	VC..1103..	--	--	--	IMS2506A	ITK09
ISVJ2C$^{R}/_{L}$-1212H-11	12	12	100	12	12						
ISVJ2C$^{R}/_{L}$-1616K-11	16	16	125	16	16						
ISVJ2C$^{R}/_{L}$-2020K-11	20	20	125	20	20						

External Turning Tools 外徑車刀桿

SVQB

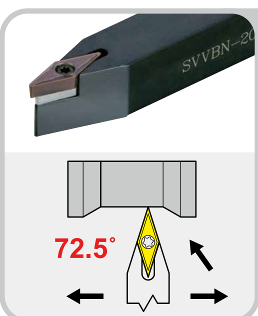


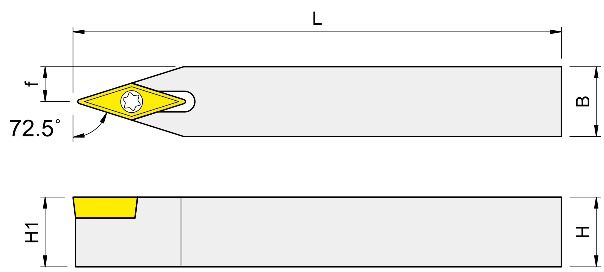


Right-hand shown

Order No. 訂購編碼	Dimensions, mm					Insert	Shim	Screw	Wrench	Screw	Wrench
	H	B	L	H1	f						
ISVQB$^R/_L$-2020K-16	20	20	125	20	25	VB..1604..	IVSS322	IMDS5035S	IPL35	IMS3512B	ITK15
ISVQB$^R/_L$-2525M-16	25	25	150	25	32						
ISVQC$^R/_L$-1212H-11	12	12	100	12	16	VC..1103..	--	--	--	IMS2506A	ITK09
ISVQC$^R/_L$-1616K-11	16	16	125	16	20						
ISVQC$^R/_L$-2020K-11	20	20	125	20	25						

SVVB



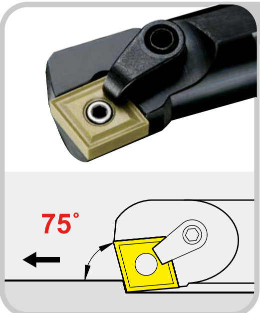


Order No. 訂購編碼	Dimensions, mm					Insert	Screw	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f						
ISVVBN-1616K-16	16	16	125	16	8	VB..1604..	IVSS322	IMDS5035S	IPL35	IMS3512B	ITK15
ISVVBN-2020K-16	20	20	125	20	10						
ISVVBN-2525M-16	25	25	150	25	12.5						
ISVVCN-1010H-11	10	10	100	10	5	VC..1103..	--	--	--	IMS2506A	ITK09
ISVVCN-1212K-11	12	12	125	12	6						
ISVVCN-1616K-11	16	16	125	16	8						
ISVVCN-2020K-11	20	20	125	20	10						
ISVVCN-2525M-11	25	25	150	25	12.5						

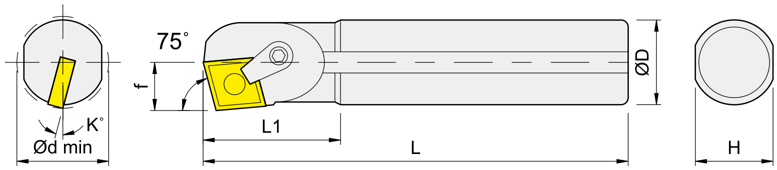
WINSTAR

Internal Turning Tools 內徑車刀桿

MCKN

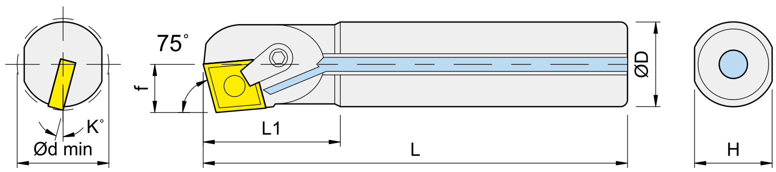


■ S..-MCKNR/L-12 Steel shank



Right-hand shown

■ A..-MCKNR/L-12 Steel shank+coolant hole



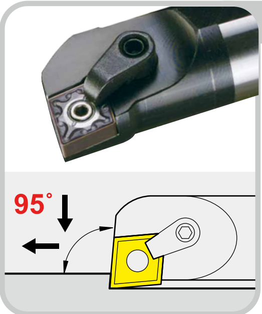
Right-hand shown

<table>
<tr><th rowspan="2">Order No.
訂購編碼</th><th colspan="7">Dimensions, mm</th><th rowspan="2">Insert</th><th rowspan="2">Shim</th><th rowspan="2">Pin</th><th rowspan="2">Wrench</th><th rowspan="2">Clamp</th><th rowspan="2">Screw</th><th rowspan="2">Wrench</th></tr>
<tr><th>D</th><th>L</th><th>L1</th><th>f</th><th>H</th><th>K</th><th>dmin</th></tr>
<tr><td>IS20R-MCKN$^{R}/_{L}$-12</td><td>20</td><td>200</td><td>40</td><td>13</td><td>18</td><td>15</td><td>25</td><td rowspan="10">CN..1204..</td><td rowspan="2">--</td><td rowspan="2">IMLP44-A</td><td rowspan="2">IPL25</td><td rowspan="10">IMC620</td><td rowspan="2">IMS620TX</td><td rowspan="10">IETL15</td></tr>
<tr><td>IS25R-MCKN$^{R}/_{L}$-12</td><td>25</td><td>200</td><td>40</td><td>15.5</td><td>23</td><td>13</td><td>30</td></tr>
<tr><td>IS32S-MCKN$^{R}/_{L}$-12</td><td>32</td><td>250</td><td>48</td><td>19.5</td><td>30</td><td>13</td><td>40</td><td rowspan="4">ICMS432</td><td rowspan="4">IMLP46-A</td><td rowspan="4">IPL25</td><td rowspan="4">IMS625TX</td></tr>
<tr><td>IS40T-MCKN$^{R}/_{L}$-12</td><td>40</td><td>300</td><td>55</td><td>25.5</td><td>37</td><td>12</td><td>50</td></tr>
<tr><td>IS50U-MCKN$^{R}/_{L}$-12</td><td>50</td><td>350</td><td>60</td><td>30.5</td><td>47</td><td>10</td><td>60</td></tr>
<tr><td>IS60V-MCKN$^{R}/_{L}$-12</td><td>60</td><td>400</td><td>60</td><td>35.5</td><td>57</td><td>9</td><td>70</td></tr>
<tr><td>IA20R-MCKN$^{R}/_{L}$-12</td><td>20</td><td>200</td><td>40</td><td>13</td><td>18</td><td>15</td><td>25</td><td rowspan="2">--</td><td rowspan="2">IMLP44-A</td><td rowspan="2">IPL25</td><td rowspan="2">IMS620TX</td></tr>
<tr><td>IA25R-MCKN$^{R}/_{L}$-12</td><td>25</td><td>200</td><td>40</td><td>15.5</td><td>23</td><td>13</td><td>30</td></tr>
<tr><td>IA32S-MCKN$^{R}/_{L}$-12</td><td>32</td><td>250</td><td>48</td><td>19.5</td><td>30</td><td>13</td><td>40</td><td rowspan="2">ICMS432</td><td rowspan="2">IMLP46-A</td><td rowspan="2">IPL25</td><td rowspan="2">IMS625TX</td></tr>
<tr><td>IA40T-MCKN$^{R}/_{L}$-12</td><td>40</td><td>300</td><td>55</td><td>25.5</td><td>37</td><td>12</td><td>50</td></tr>
</table>

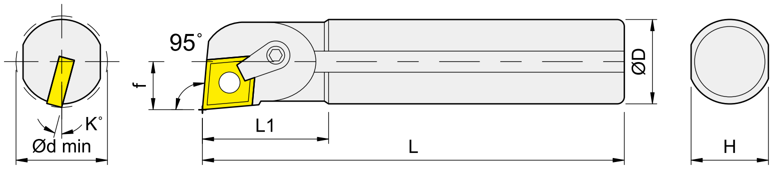
WINSTAR

Internal Turning Tools 內徑車刀桿

MCLN

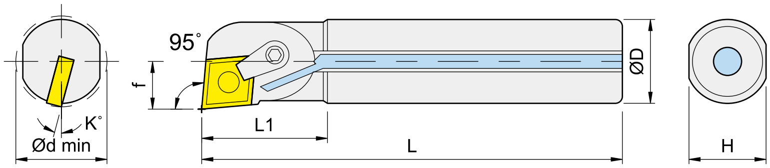


■ S..-MCKNR/L-12 Steel shank



Right-hand shown

■ A..-MCKNR/L-12 Steel shank+coolant hole



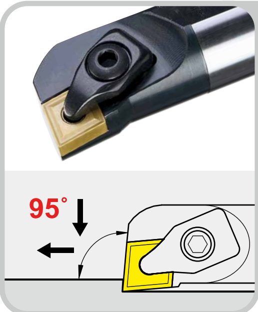
Right-hand shown

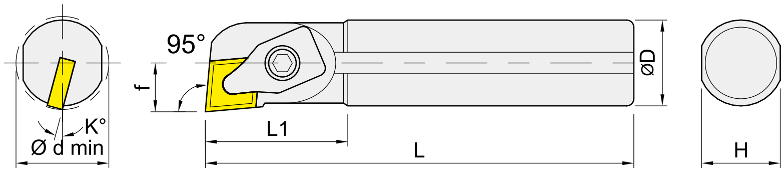
Order No. 訂購編碼	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS20R-MCLN$^{R}/_{L}$-12	20	200	40	13	18	15	25	CN..1204..	--	IMLP44-A	IPL25	IMC620	IMS620TX	IETL15
IS25R-MCLN$^{R}/_{L}$-12	25	200	40	15.5	23	13	30							
IS32S-MCLN$^{R}/_{L}$-12	32	250	48	19.5	30	13	40		ICMS432	IMLP46-A	IPL25		IMS625TX	
IS40T-MCLN$^{R}/_{L}$-12	40	300	55	25.5	37	12	50							
IS50U-MCLN$^{R}/_{L}$-12	50	350	60	30.5	47	10	60							
IS60V-MCLN$^{R}/_{L}$-12	60	400	60	35	57	9	70							
IA20R-MCLN$^{R}/_{L}$-12	20	200	40	13	18	15	25		--	IMLP44-A	IPL25		IMS620TX	
IA25R-MCLN$^{R}/_{L}$-12	25	200	40	15.5	23	13	30							
IA32S-MCLN$^{R}/_{L}$-12	32	250	48	19.5	30	13	40		ICMS432	IMLP46-A	IPL25		IMS625TX	
IA40T-MCLN$^{R}/_{L}$-12	40	300	55	25.5	37	12	50							

Turning

Internal Turning Tools 內徑車刀桿

DCLN

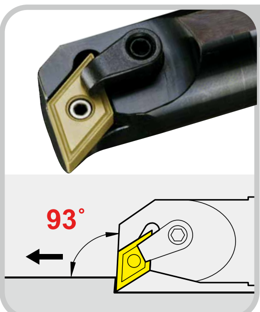




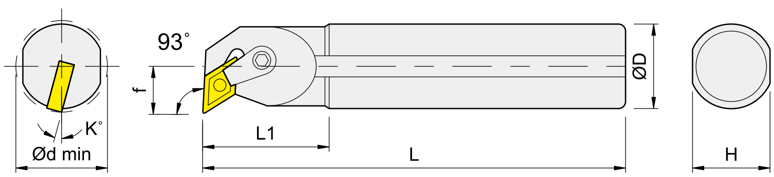
Right-hand shown

Order No. 訂購編碼	Dimensions, mm							Insert	Shim	Screw	Wrench	Clamp	Wrench
	D	L	L1	f	H	K	dmin						
IS20R-DCLN$^{R}/_{L}$-12	20	200	40	14	18	15	28	CN..1204..	--	--	--	IMCD425	IETL20
IS25R-DCLN$^{R}/_{L}$-12	25	200	40	15	23	15	30	CN..1204..	--	--	--	IMCD425	IETL20

MDUN

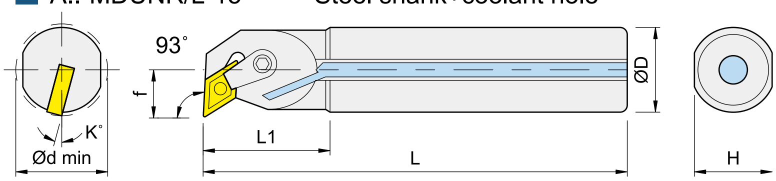


S..-MDUNR/L-15 Steel shank



Right-hand shown

A..-MDUNR/L-15 Steel shank+coolant hole

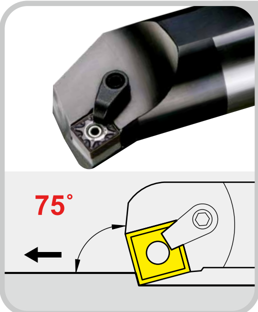


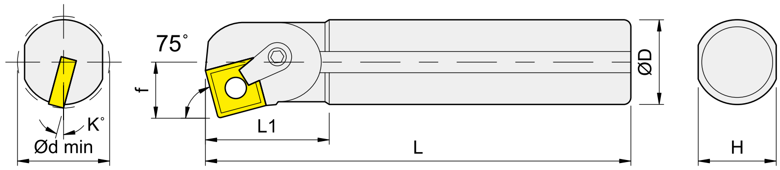
Right-hand shown

Order No. 訂購編碼	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS25R-MDUN$^{R}/_{L}$-15	25	200	40	17	23	13	32	DN..1504..	--	IMLP44-A	IPL25	IMC620	IMS620TX	IETL15
IS32S-MDUN$^{R}/_{L}$-15	32	250	50	21	30	13	40	DN..1504..	IDMS432	IMLP46-A	IPL25	IMC620	IMS625TX	IETL15
IA25R-MDUN$^{R}/_{L}$-15	25	200	40	17	23	13	32	DN..1504..	--	IMLP44-A	IPL25	IMC620	IMS620TX	IETL15
IA32S-MDUN$^{R}/_{L}$-15	32	250	50	21	30	13	40	DN..1504..	IDMS432	IMLP46-A	IPL25	IMC620	IMS625TX	IETL15

Internal Turning Tools 內徑車刀桿

MSKN

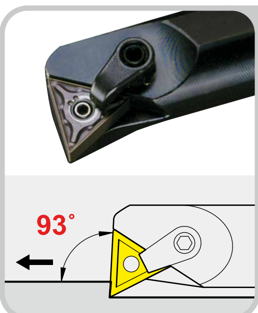




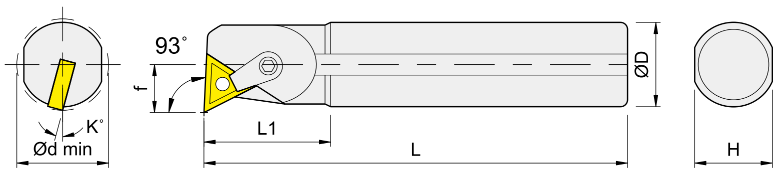
Right-hand shown

Order No. 訂購編碼	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS40T-MSKN$^{R}/_{L}$-12	40	300	55	25.5	37	12	50	SN..1204..	ISMS432	IMLP46-A	IPL25	IMC620	IMS625TX	IETL15
IS50U-MSKN$^{R}/_{L}$-12	50	350	60	30.5	47	10	60							
IS60V-MSKN$^{R}/_{L}$-12	60	400	60	36	57	9	70							

MTUN

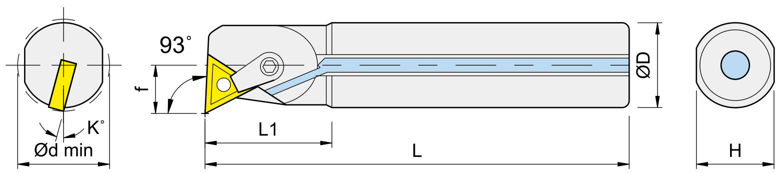


S..-MTUNR/L-16 Steel shank



Right-hand shown

A..-MTUNR/L-16 Steel shank+coolant hole

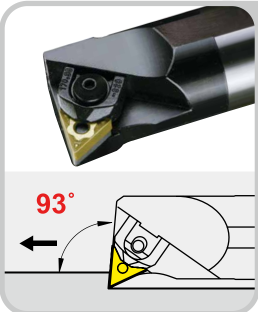


Right-hand shown

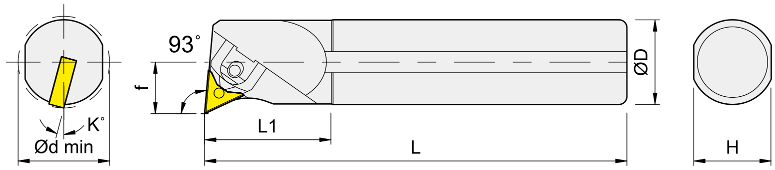
Order No. 訂購編碼	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS20R-MTUN$^{R}/_{L}$-16	20	200	36	13	18	15	25	TN..1604..	--	IMLP33L	IPL20	IMC515	IMS520TX	IETL10
IS25R-MTUN$^{R}/_{L}$-16	25	200	40	15	23	13	30							
IS32S-MTUN$^{R}/_{L}$-16	32	250	48	20	30	13	40		ITMS322	IMLP34L		IMC620	IMS625TX	IETL15
IS40T-MTUN$^{R}/_{L}$-16	40	300	55	26	37	10	50							
IS50U-MTUN$^{R}/_{L}$-16	50	350	60	31	47	9	60							
IS60V-MTUN$^{R}/_{L}$-16	60	400	60	35.5	57	8	70							
IA20R-MTUN$^{R}/_{L}$-16	20	200	36	13	18	15	25		--	IMLP33L		IMC515	IMS520TX	IETL10
IA25R-MTUN$^{R}/_{L}$-16	25	200	40	15	23	13	30							
IA32S-MTUN$^{R}/_{L}$-16	32	250	48	20	30	13	40		ITMS322	IMLP34L		IMC620	IMS625TX	IETL15
IA40T-MTUN$^{R}/_{L}$-16	40	300	55	26	37	10	50							

Internal Turning Tools 內徑車刀桿

WTUN

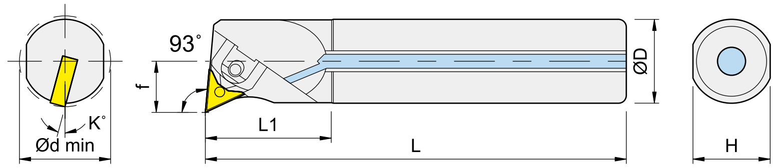


S..-WTUNR/L-16 Steel shank



Right-hand shown

A..-WTUNR/L-16 Steel shank+coolant hole



Right-hand shown

<table>
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訂購編碼</th><th colspan="7">Dimensions, mm</th><th rowspan="2">Insert</th><th rowspan="2">Shim</th><th rowspan="2">Pin</th><th rowspan="2">Clamp</th><th rowspan="2">Wrench</th></tr>
<tr><th>D</th><th>L</th><th>L1</th><th>f</th><th>H</th><th>K</th><th>dmin</th></tr>
<tr><td>IS32S-WTUN$^{R}/_{L}$-16</td><td>32</td><td>250</td><td>48</td><td>19.5</td><td>30</td><td>13</td><td>40</td><td rowspan="9">TN..1604..</td><td rowspan="9">ITMS322</td><td>ISCP315</td><td rowspan="9">IMCW3-P25</td><td rowspan="9">IPL25</td></tr>
<tr><td>IS40T-WTUN$^{R}/_{L}$-16</td><td>40</td><td>300</td><td>55</td><td>25.5</td><td>37</td><td>10</td><td>50</td><td rowspan="5">ISCP318</td></tr>
<tr><td>IS40U-WTUN$^{R}/_{L}$-16</td><td>40</td><td>350</td><td>55</td><td>25.5</td><td>37</td><td>10</td><td>50</td></tr>
<tr><td>IS50U-WTUN$^{R}/_{L}$-16</td><td>50</td><td>350</td><td>60</td><td>30.5</td><td>47</td><td>9</td><td>60</td></tr>
<tr><td>IS50V-WTUN$^{R}/_{L}$-16</td><td>50</td><td>400</td><td>60</td><td>30.5</td><td>47</td><td>9</td><td>60</td></tr>
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<tr><td>IA32S-WTUN$^{R}/_{L}$-16</td><td>32</td><td>250</td><td>48</td><td>19.5</td><td>30</td><td>13</td><td>40</td><td>ISCP315</td></tr>
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<tr><td>IA40U-WTUN$^{R}/_{L}$-16</td><td>40</td><td>350</td><td>55</td><td>25.5</td><td>37</td><td>10</td><td>50</td></tr>
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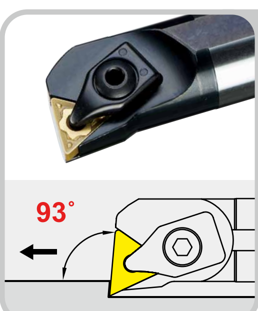
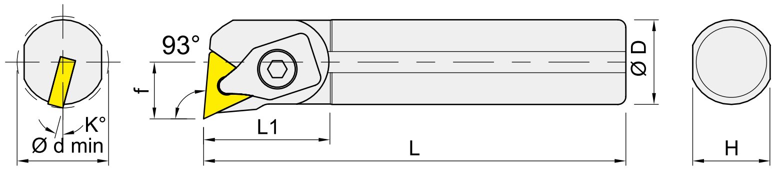
DTUN



S..-DTUNR/L-16 Steel shank



Right-hand shown

<table>
<tr><th rowspan="2">Order No.
訂購編碼</th><th colspan="7">Dimensions, mm</th><th rowspan="2">Insert</th><th rowspan="2">Shim</th><th rowspan="2">Screw</th><th rowspan="2">Wrench</th><th rowspan="2">Clamp</th><th rowspan="2">Wrench</th></tr>
<tr><th>D</th><th>L</th><th>L1</th><th>f</th><th>H</th><th>K</th><th>dmin</th></tr>
<tr><td>IS20R-DTUN$^{R}/_{L}$-16</td><td>20</td><td>200</td><td>40</td><td>14</td><td>18</td><td>15</td><td>28</td><td rowspan="3">TN..1604..</td><td rowspan="2">--</td><td rowspan="2">--</td><td rowspan="2">--</td><td rowspan="2">IMCD324</td><td rowspan="3">IETL20</td></tr>
<tr><td>IS25R-DTUN$^{R}/_{L}$-16</td><td>25</td><td>200</td><td>40</td><td>15.5</td><td>23</td><td>13</td><td>30</td></tr>
<tr><td>IS32S-DTUNR-16</td><td>32</td><td>250</td><td>48</td><td>19.5</td><td>30</td><td>13</td><td>40</td><td>ITWS322</td><td>IMS4008H</td><td>IPL25</td><td>IMCD324B</td></tr>
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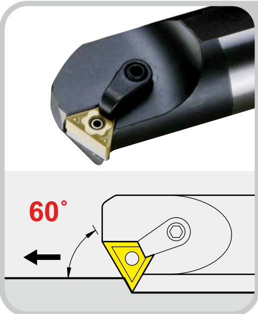
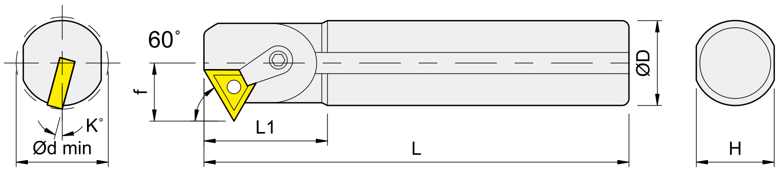
Internal Turning Tools 內徑車刀桿

MTWN



S..-MTWNR/L-16 Steel shank

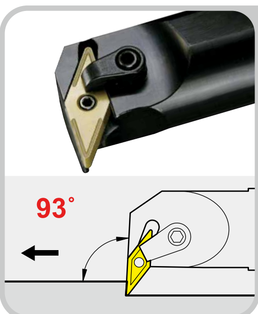


Right-hand shown

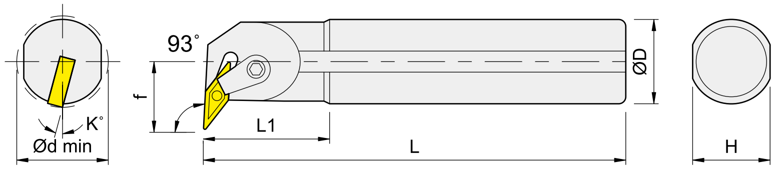
Order No. 訂購編碼	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS20R-MTWN$^{R}/_{L}$-16	20	200	40	13.5	18	15	27		--	IMLP33L		IMC515	IMS520TX	IETL10
IS25R-MTWN$^{R}/_{L}$-16	25	200	40	16	23	13	32	TN..1604..			IPL20			
IS32S-MTWN$^{R}/_{L}$-16	32	250	48	20	30	13	40		ITWS322	IMLP34L		IMC620	IMS625TX	IETL15

Turning

MVUN

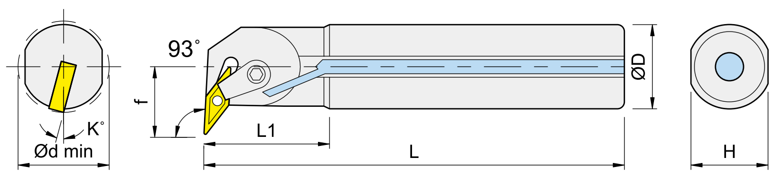


S..-MVUNR/L-16 Steel shank



Right-hand shown

A..-MVUNR/L-16 Steel shank+coolant hole

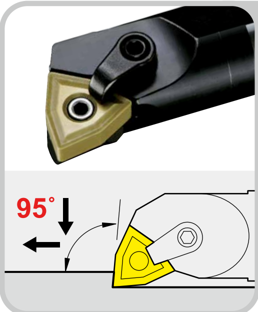


Right-hand shown

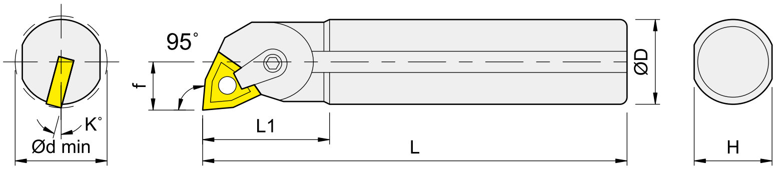
Order No. 訂購編碼	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS25R-MVUN$^{R}/_{L}$-16	25	200	45	18	23	13	32		--	IMLP33L	IPL20	IMC515	IMS520TX	IETL10
IS32S-MVUN$^{R}/_{L}$-16	32	250	50	21	30	13	40	VN..1604..	IVMS322	IMLP34L	IPL20	IMC620	IMS625TX	IETL15
IA25R-MVUN$^{R}/_{L}$-16	25	200	45	18	23	13	32		--	IMLP33L	IPL20	IMC515	IMS520TX	IETL10
IA32S-MVUN$^{R}/_{L}$-16	32	250	50	21	30	13	40		IVMS322	IMLP34L	IPL20	IMC620	IMS625TX	IETL15

Internal Turning Tools 內徑車刀桿

MWLN

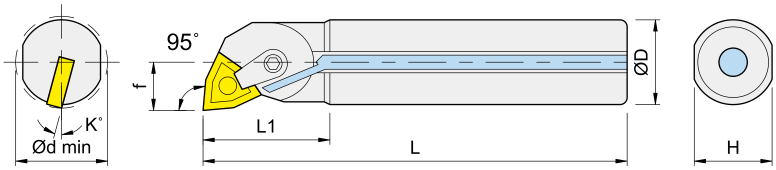


■ S..-MWLNR/L-08 Steel shank



Right-hand shown

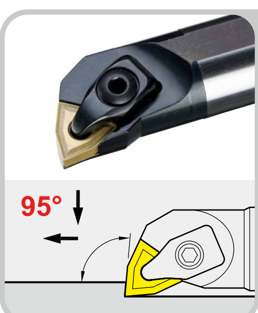
■ A..-MWLNR/L-08 Steel shank+coolant hole



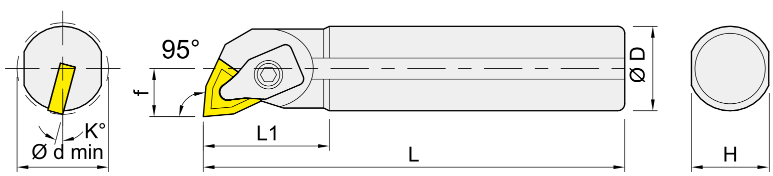
Right-hand shown

Order No. 訂購編碼	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS20R-MWLN^{R}/$_{L}$-08	20	200	36	13	18	15	25	WN..0804..	--	IMLP44-A	IPL25	IMC515	IMS520TX	IETL10
IS25R-MWLN^{R}/$_{L}$-08	25	200	40	15	23	13	30							
IS32S-MWLN^{R}/$_{L}$-08	32	250	48	20	30	13	40		IWMS432	IMLP46-A			IMS520TX	
IS40T-MWLN^{R}/$_{L}$-08	40	300	55	25.5	37	10	50					IMC620	IMS625TX	IETL15
IS50U-MWLN^{R}/$_{L}$-08	50	350	60	30.5	47	9	60							
IS60V-MWLN^{R}/$_{L}$-08	60	400	60	35.5	57	8	70							
IA20R-MWLN^{R}/$_{L}$-08	20	200	36	13	18	15	25		--	IMLP44-A		IMC515	IMS520TX	IETL10
IA25R-MWLN^{R}/$_{L}$-08	25	200	40	15	23	13	30							
IA32S-MWLN^{R}/$_{L}$-08	32	250	48	20	30	13	40		IWMS432	IMLP46-A			IMS520TX	

DWLN



■ S..-DWLNR/L-.. Steel shank



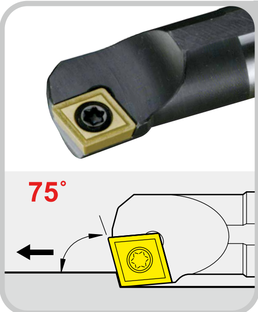
Right-hand shown

Order No. 訂購編碼	Dimensions, mm							Insert	Shim	Screw	Wrench	Clamp	Wrench
	D	L	L1	f	H	K	dmin						
IS20R-DWLN^{R}/$_{L}$-08	20	200	40	14	18	15	28	WN..0804..	--	--	--	IMCD425	IETL20
IS25R-DWLN^{R}/$_{L}$-08	25	200	40	15	23	13	30						

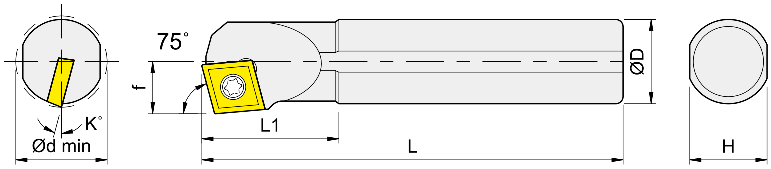
WINSTAR

Internal Turning Tools 內徑車刀桿

SCKC

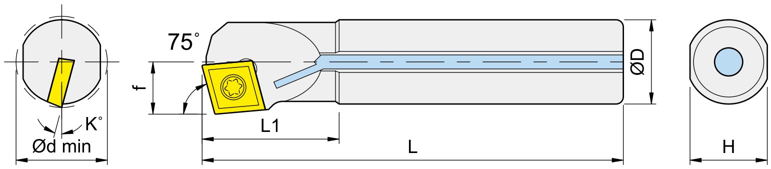


■ S..-SCKC/PR/L-.. Steel shank



Right-hand shown

■ A..-SCKC/PR/L-.. Steel shank+coolant hole

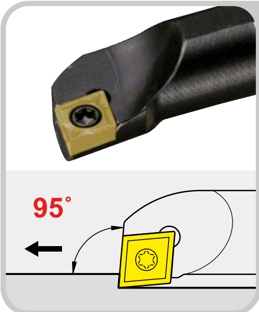


Right-hand shown

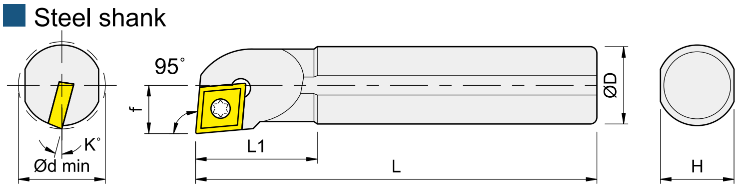
Order No. 訂購編碼	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IS08K-SCKC$^{R}/_{L}$-06	8	125	20	5	7	15	10	CC..0602..	IMS2506A	ITK09
IS10K-SCKC$^{R}/_{L}$-06	10	125	22	6	9	13	12			
IS12M-SCKC$^{R}/_{L}$-06	12	150	26	8	11	10	16			
IS16Q-SCKC$^{R}/_{L}$-06	16	180	32	10	15	7	20			
IS12M-SCKC$^{R}/_{L}$-09	12	150	28	8	11	11	16	CC..09T3..	IMS4008A	ITK15
IS16Q-SCKC$^{R}/_{L}$-09	16	180	32	10	15	7	20			
IS20R-SCKC$^{R}/_{L}$-09	20	200	36	12.5	18	5	25		IMS4009A	
IA08K-SCKC$^{R}/_{L}$-06	8	125	20	5	7	15	10	CC..0602..	IMS2506A	ITK09
IA10K-SCKC$^{R}/_{L}$-06	10	125	22	6	9	13	12			
IA12M-SCKC$^{R}/_{L}$-06	12	150	26	8	11	10	16			
IA16Q-SCKC$^{R}/_{L}$-06	16	180	32	10	15	7	20			
IA12M-SCKC$^{R}/_{L}$-09	12	150	28	8	11	11	16	CC..09T3..	IMS4008A	ITK15
IA16Q-SCKC$^{R}/_{L}$-09	16	180	32	10	15	7	20			
IA20R-SCKC$^{R}/_{L}$-09	20	200	36	12.5	18	5	25		IMS4009A	

Internal Turning Tools 內徑車刀桿

SCLC



■ Steel shank



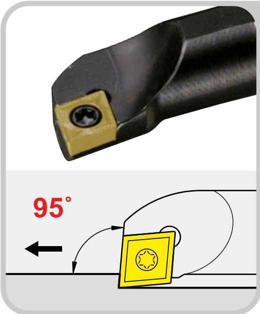
Right-hand shown

Order No. 訂購編碼	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IS08K-SCLC^R/$_L$-06	8	125	20	5	7	15	10			
IS08K-SCLC^R/$_L$-06-D09	8	125	20	4.5	7	15	9			
IS10K-SCLC^R/$_L$-06	10	125	22	6	9	13	12			
IS10K-SCLC^R/$_L$-06-D11	10	125	22	5.5	9	13	11	CC..0602..	IMS2506A	ITK09
IS12M-SCLC^R/$_L$-06	12	150	26	8	11	10	16			
IS12M-SCLC^R/$_L$-06-D13	12	150	26	6.5	11	10	13			
IS14Q-SCLC^R/$_L$-06	14	180	26	8	13	10	16			
IS16Q-SCLC^R/$_L$-06	16	180	32	10	15	7	20			
IS12M-SCLC^R/$_L$-09	12	150	26	8	11	10	16			
IS14Q-SCLC^R/$_L$-09	14	180	26	8	13	10	16			
IS15Q-SCLC^R/$_L$-09	15	180	32	8.5	14	10	17			
IS16Q-SCLC^R/$_L$-09	16	180	32	10	15	7	20		IMS4008A	
IS16Q-SCLC^R/$_L$-09-D18	16	180	32	9	15	7	18	CC..09T3..		ITK15
IS18Q-SCLCR-09	18	180	32	10	17	7	20			
IS20R-SCLC^R/$_L$-09	20	200	36	13	18	5	25		IMS4009A	
IS22R-SCLC^R/$_L$-09	22	200	40	12.5	20	5	25			
IS25R-SCLC^R/$_L$-09	25	200	40	15	23	5	30	CC..09T3..	IMS4011A	ITK15
IS32S-SCLC^R/$_L$-12	32	250	48	20	30	5	38			
IS40T-SCLC^R/$_L$-12	40	300	55	26	37	3	50	CC..1204..	IMS5011A	ITK20
IS40V-SCLC^R/$_L$-12	40	400	55	26	37	3	50			

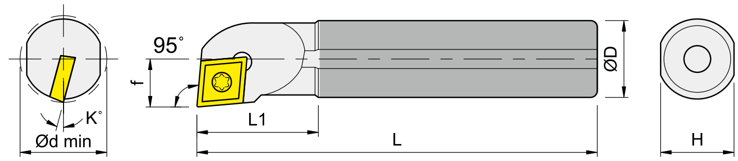
Steel Shank + Coolant										
IA08K-SCLC^R/$_L$-06	8	125	20	5	7	15	10			
IA08K-SCLC^R/$_L$-06-D09	8	125	20	4.5	7	15	9			
IA10K-SCLC^R/$_L$-06	10	125	22	6	9	13	12			
IA10K-SCLC^R/$_L$-06-D11	10	125	22	5.5	9	13	11	CC..0602..	IMS2506A	ITK09
IA12M-SCLC^R/$_L$-06	12	150	26	8	11	10	16			
IA12M-SCLC^R/$_L$-06-D13	12	150	26	6.5	11	10	13			
IA14Q-SCLC^R/$_L$-06	14	180	26	8	13	10	16			
IA16Q-SCLC^R/$_L$-06	16	180	32	10	15	7	20			
IA12M-SCLC^R/$_L$-09	12	150	26	8	11	10	16			
IA16Q-SCLC^R/$_L$-09	16	180	32	10	15	7	20		IMS4008A	
IA16Q-SCLC^R/$_L$-09-D18	16	180	32	9	15	7	18	CC..09T3..		ITK15
IA20R-SCLC^R/$_L$-09	20	200	40	13	18	5	25		IMS4009A	
IA25R-SCLC^R/$_L$-09	25	200	40	15	23	5	30	CC..09T3..	IMS4011A	ITK15
IA32S-SCLC^R/$_L$-12	32	250	48	20	30	5	38	CC..1204..	IMS5011A	ITK20

Internal Turning Tools 內徑車刀桿

SCLC



Carbide shank

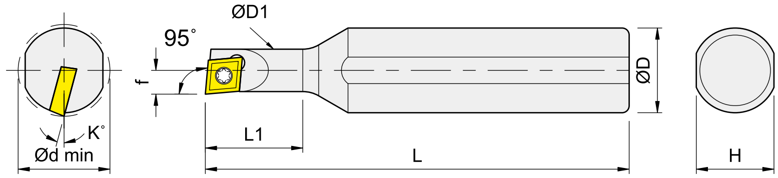


Right-hand shown

Order No. 訂購編碼	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IC07J-SCLC$^{R}/_{L}$-06	7	110	18	4	6.7	15	8	CC..0602..	IMS2506A	ITK09
IC08K-SCLC$^{R}/_{L}$-06	8	125	20	5	7.2	15	10	CC..0602..	IMS2506A	ITK09
IC08K-SCLC$^{R}/_{L}$-06-D09	8	125	20	4.5	7.2	15	9			
IC10K-SCLC$^{R}/_{L}$-06	10	125	22	6	9.2	13	12			
IC10K-SCLC$^{R}/_{L}$-06-D11	10	125	22	5.5	9.2	13	11			
IC12M-SCLC$^{R}/_{L}$-06	12	150	26	8	11.2	10	16			
IC12M-SCLC$^{R}/_{L}$-06-D13	12	150	26	6.5	11.2	10	13			
IC12Q-SCLC$^{R}/_{L}$-09	12	150	26	8	11.2	10	16	CC..09T3..	IMS4008A	ITK15
IC16R-SCLC$^{R}/_{L}$-09	16	200	32	10	15.2	7	20			
IC16R-SCLCR-09-D18	16	200	32	9	15.2	7	18			

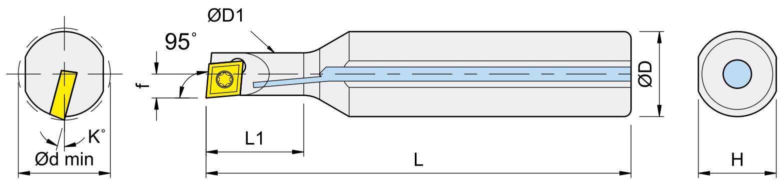
SCLC

■ S..-SCLCR/L-.. Steel shank



Right-hand shown

■ A..-SCLCR/L-.. Steel shank+coolant hole

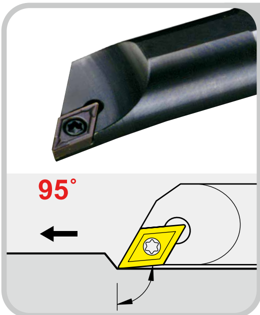


Right-hand shown

Order No. 訂購編碼	Dimensions, mm								Insert	Screw	Wrench
	D	D1	L	L1	f	H	K	dmin			
IS1607K-SCLC$^{R}/_{L}$-06	16	7	125	20	4	15	13	8	CC..0602..	IMS2506A	ITK09
IS1608K-SCLC$^{R}/_{L}$-06A	16	8	125	20	4.5	15	11	9			
IS1608K-SCLC$^{R}/_{L}$-06	16	8	125	25	4.5	15	11	9			
IS1609K-SCLC$^{R}/_{L}$-06	16	9	125	25	5	15	11	10			
IA1607K-SCLC$^{R}/_{L}$-06	16	7	125	20	4	15	13	8	CC..0602..	IMS2506A	ITK09
IA1608K-SCLC$^{R}/_{L}$-06A	16	8	125	20	4.5	15	11	9			
IA1608K-SCLCR-06	16	8	125	25	4.5	15	11	9			
IA1609K-SCLC$^{R}/_{L}$-06	16	9	125	25	5	15	11	10			

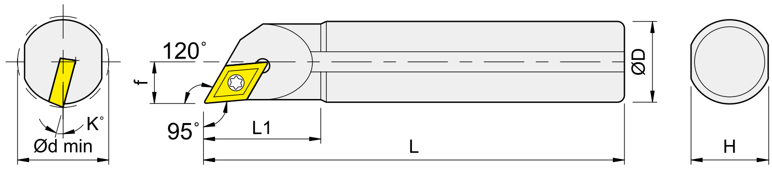
WINSTAR

Internal Turning Tools 內徑車刀桿



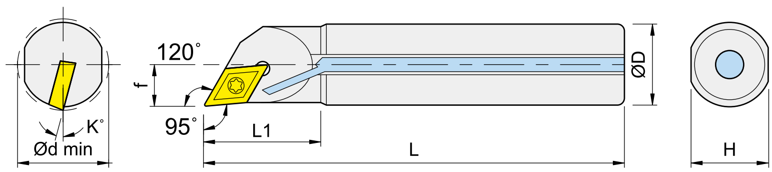
SDJC

■ S..-SDJCR/L-.. Steel shank



Right-hand shown

■ A..-SDJCR/L-.. Steel shank+coolant hole



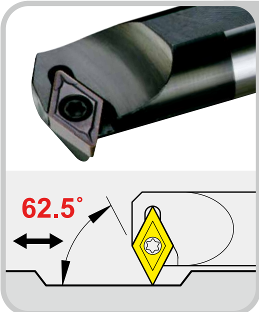
Right-hand shown

Order No. 訂購編碼	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IS08K-SDJC$^{R}/_{L}$-07	8	125	22	5	7	15	10	DC..0702..	IMS2506B	ITK09
IS10K-SDJC$^{R}/_{L}$-07	10	125	25	6	9	13	12			
IS12M-SDJC$^{R}/_{L}$-07	12	150	30	7	11	10	14			
IS16Q-SDJC$^{R}/_{L}$-07	16	180	38	9.5	15	7	19			
IS16Q-SDJC$^{R}/_{L}$-11	16	180	38	9.5	15	7	19	DC..11T3..	IMS4009A	ITK15
IS20R-SDJC$^{R}/_{L}$-11	20	200	42	11.5	18	7	23			
IS25R-SDJC$^{R}/_{L}$-11	25	200	45	14	23	5	28			
IS32S-SDJC$^{R}/_{L}$-11	32	250	48	17.5	30	5	35			
IA08K-SDJC$^{R}/_{L}$-07	8	125	22	5	7	15	10	DC..0702..	IMS2506B	ITK09
IA10K-SDJC$^{R}/_{L}$-07	10	125	25	6	9	13	12			
IA12M-SDJC$^{R}/_{L}$-07	12	150	30	7	11	10	14			
IA16Q-SDJC$^{R}/_{L}$-07	16	180	38	9.5	15	7	19			
IA16Q-SDJC$^{R}/_{L}$-11	16	180	38	9.5	15	7	19	DC..11T3..	IMS4009A	ITK15
IA20R-SDJC$^{R}/_{L}$-11	20	200	42	11.5	18	7	23			
IA25R-SDJC$^{R}/_{L}$-11	25	200	45	14	23	5	28			

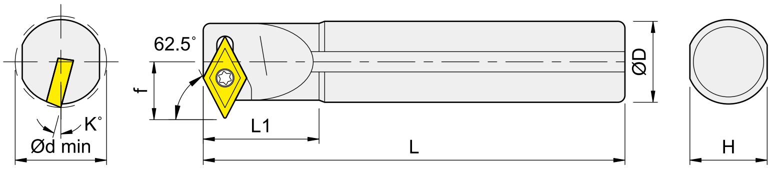
Turning

Internal Turning Tools 內徑車刀桿

SDNC

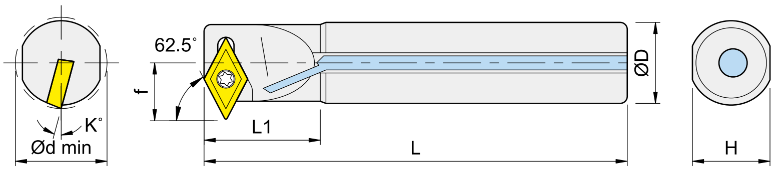


■ S..-SDNCR/L-.. Steel shank



Right-hand shown

■ A..-SDNCR/L-.. Steel shank+coolant hole

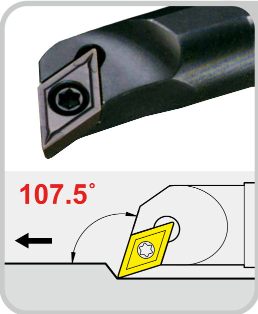


Right-hand shown

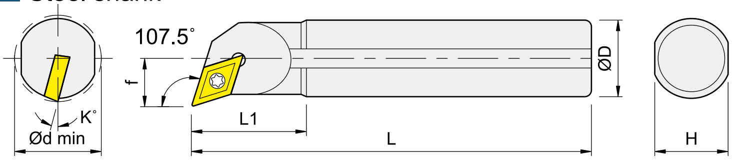
Order No. 訂購編碼	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IS12M-SDNC$^R/_L$-07	12	150	25	9	11	7	16	DC..0702..	IMS2506B	ITK09
IS16Q-SDNC$^R/_L$-07	16	180	30	11	15	7	20			
IS20R-SDNC$^R/_L$-11	20	200	35	15	18	7	25	DC..11T3..	IMS4009A	ITK15
IS25R-SDNC$^R/_L$-11	25	200	35	17	23	5	32			
IS32S-SDNC$^R/_L$-11	32	250	40	20.5	30	5	40			
IA12M-SDNC$^R/_L$-07	12	150	25	9	11	7	16	DC..0702..	IMS2506B	ITK09
IA16Q-SDNC$^R/_L$-07	16	180	30	11	15	7	20			
IA20R-SDNC$^R/_L$-11	20	200	35	15	18	7	25	DC..11T3..	IMS4009A	ITK15
IA25R-SDNC$^R/_L$-11	25	200	35	17	23	5	32			

Internal Turning Tools 內徑車刀桿

SDQC

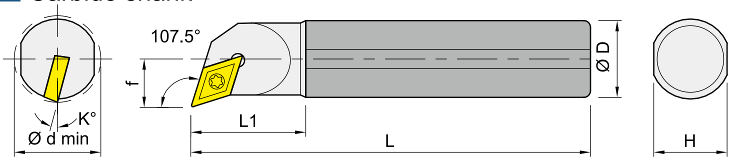


■ Steel shank



Right-hand shown

■ Carbide shank

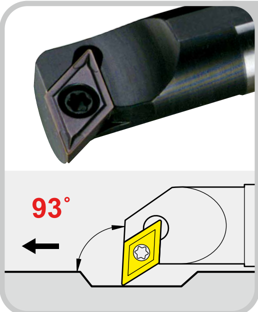


Right-hand shown

Order No. 訂購編碼	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
Steel Shank										
IS10K-SDQC$^{R}/_{L}$-07	10	125	22	6.5	9	13	13	DC..0702..	IMS2506B	ITK09
IS12M-SDQC$^{R}/_{L}$-07	12	150	30	8	11	10	16			
IS16Q-SDQC$^{R}/_{L}$-07	16	180	35	10.25	15	7	20			
IS20R-SDQC$^{R}/_{L}$-07	20	200	40	12.5	18	7	25			
IS16Q-SDQC$^{R}/_{L}$-11	16	180	35	10.5	15	7	20	DC..11T3..	IMS4009A	ITK15
IS20R-SDQC$^{R}/_{L}$-11	20	200	40	13	18	7	25			
IS25R-SDQC$^{R}/_{L}$-11	25	200	45	15.5	23	5	32			
IS32S-SDQC$^{R}/_{L}$-11	32	250	48	19.5	30	5	40			
IS40T-SDQC$^{R}/_{L}$-11	40	300	55	25	37	3	50			
IS50U-SDQC$^{R}/_{L}$-11	50	350	60	30	47	2	60			
Carbide Shank										
IC10M-SDQCR-07	10	150	22	6	9.2	13	13	DC..0702..	IMS2506B	ITK09
IC12Q-SDQCR-07	12	180	30	8	11.2	10	16			
IC16R-SDQC$^{R}/_{L}$-07	16	200	35	10.25	15.2	7	20			

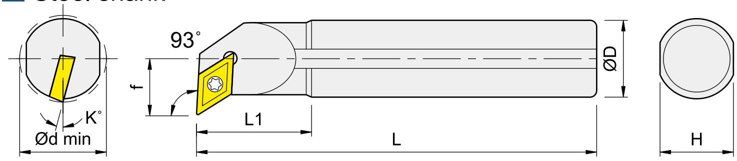
Steel Shank + Coolant										
IA10K-SDQC$^{R}/_{L}$-07	10	125	22	6.5	9	13	13	DC..0702..	IMS2506B	ITK09
IA12M-SDQC$^{R}/_{L}$-07	12	150	30	8	11	10	16			
IA16Q-SDQC$^{R}/_{L}$-07	16	180	35	10.25	15	7	20			
IA16Q-SDQC$^{R}/_{L}$-11	16	180	35	10.5	15	7	20	DC..11T3..	IMS4009A	ITK15
IA20R-SDQC$^{R}/_{L}$-11	20	200	40	13	18	7	25			
IA25R-SDQC$^{R}/_{L}$-11	25	200	45	15.5	23	5	32			
IA32S-SDQC$^{R}/_{L}$-11	32	250	48	19.5	30	5	40			
IA40T-SDQCR/L-11	40	300	55	25	37	3	50			
IA50U-SDQCR/L-11	50	350	60	30	47	2	60			

Internal Turning Tools 內徑車刀桿



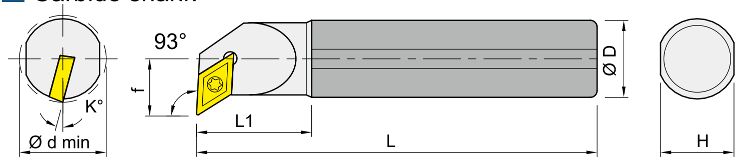
SDUC

■ Steel shank



Right-hand shown

■ Carbide shank



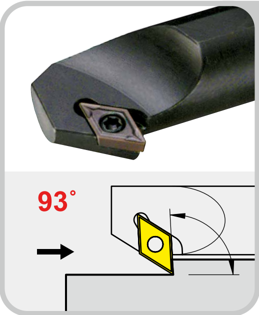
Right-hand shown

Order No. 訂購編碼	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
Steel Shank										
IS10K-SDUC$^{R}/_{L}$-07	10	125	25	7	9	13	13	DC..0702..	IMS2506B	ITK09
IS12M-SDUC$^{R}/_{L}$-07	12	150	30	8.5	11	10	16			
IS16Q-SDUC$^{R}/_{L}$-07	16	180	30	11	15	7	20			
IS20R-SDUC$^{R}/_{L}$-07	20	200	40	12.5	18	7	25			
IS16Q-SDUC$^{R}/_{L}$-11	16	180	30	11	15	7	20	DC..11T3..	IMS4009A	ITK15
IS20R-SDUC$^{R}/_{L}$-11	20	200	40	13	18	7	25			
IS25R-SDUC$^{R}/_{L}$-11	25	200	45	17	23	5	32			
IS32S-SDUC$^{R}/_{L}$-11	32	250	48	20	30	5	40			
IS40T-SDUC$^{R}/_{L}$-11	40	300	55	25	37	3	50			
Carbide Shank										
IC10M-SDUCR-07	10	150	25	7	9.2	13	13	DC..0702..	IMS2506B	ITK09
IC12Q-SDUCR-07	12	180	30	8.5	11.2	10	16			
IC16R-SDUCR-11	16	200	30	11	15.2	7	20	DC..11T3..	IMS4009A	ITK15

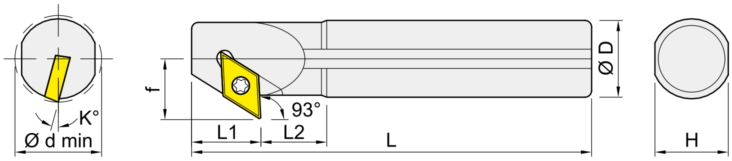
Steel Shank + Coolant										
IA10K-SDUC$^{R}/_{L}$-07	10	125	25	7	9	13	13	DC..0702..	IMS2506B	ITK09
IA12M-SDUC$^{R}/_{L}$-07	12	150	30	8.5	11	10	16			
IA16Q-SDUC$^{R}/_{L}$-07	16	180	30	11	15	7	20			
IA16Q-SDUC$^{R}/_{L}$-11	16	180	30	11	15	7	20	DC..11T3..	IMS4009A	ITK15
IA20R-SDUC$^{R}/_{L}$-11	20	200	40	12.5	18	7	25			
IA25R-SDUC$^{R}/_{L}$-11	25	200	45	17	23	5	32			
IA32S-SDUC$^{R}/_{L}$-11	32	250	48	20	30	5	40			
IA40T-SDUC$^{R}/_{L}$-11	40	300	55	25	37	3	50			

Internal Turning Tools 內徑車刀桿

SDZC

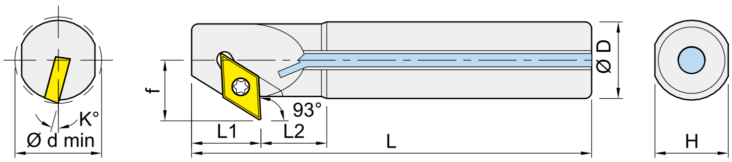


S..-SDZCR/L-.. Steel shank



Right-hand shown

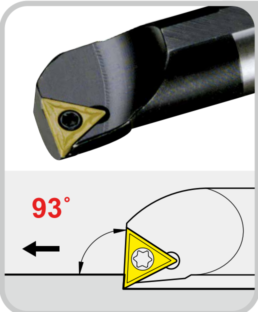
A..-SDZCR/L-.. Steel shank+coolant hole



Right-hand shown

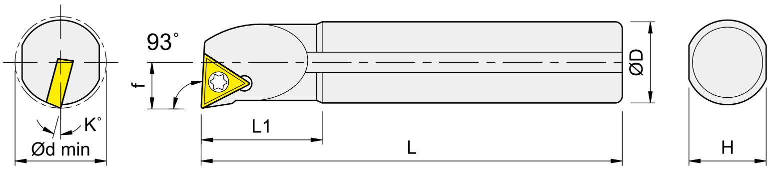
Order No. 訂購編碼	Dimensions, mm								Insert	Screw	Wrench
	D	L	L1	L2	f	H	K	dmin			
IS10M-SDZC$^{R}/_{L}$-07	10	150	12	18	8.5	9	13	14			
IS12M-SDZC$^{R}/_{L}$-07	12	150	12	20	10.5	11	10	17	DC..0702..	IMS2506B	ITK09
IS16Q-SDZC$^{R}/_{L}$-07	16	180	12	26	12.5	15	7	21			
IS20R-SDZC$^{R}/_{L}$-11	20	200	18	27	15.5	18	7	26			
IS25R-SDZC$^{R}/_{L}$-11	25	200	18	32	18	23	5	33	DC..11T3..	IMS4009A	ITK15
IS32S-SDZC$^{R}/_{L}$-11	32	250	18	42	21.5	30	5	40			
IA10M-SDZC$^{R}/_{L}$-07	10	150	12	18	8.5	9	13	14			
IA12M-SDZC$^{R}/_{L}$-07	12	150	12	20	10.5	11	10	17	DC..0702..	IMS2506B0	ITK09
IA16Q-SDZC$^{R}/_{L}$-07	16	180	12	26	12.5	15	7	21			
IA20R-SDZC$^{R}/_{L}$-11	20	200	18	27	15.5	18	7	26			
IA25R-SDZC$^{R}/_{L}$-11	25	200	18	32	18	23	5	33	DC..11T3..	IMS4009A	ITK15
IA32S-SDZC$^{R}/_{L}$-11	32	250	18	42	21.5	30	5	40			

Internal Turning Tools 內徑車刀桿



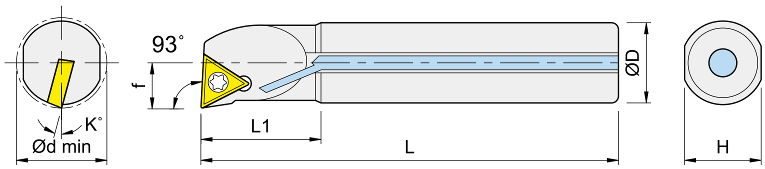
STUC

■ S..-STUCR/L-.. Steel shank



Right-hand shown

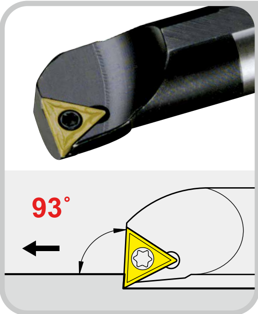
■ A..-STUCR/L-.. Steel shank+coolant hole



Right-hand shown

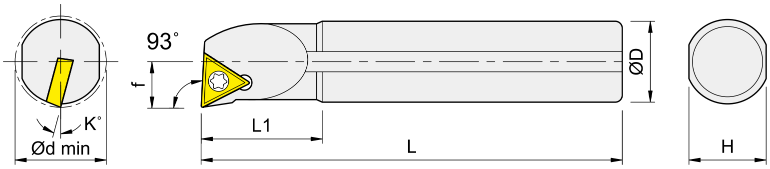
Order No. 訂購編碼	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IS08K-STUC$^{R}/_{L}$-09	8	125	20	5.5	7	15	10		IMS2205A	
IS10K-STUC$^{R}/_{L}$-09	10	125	22	6	9	13	12			
IS10K-STUC$^{R}/_{L}$-09-D11	10	125	22	5.5	9	13	11	TC..0902..	IMS2206A	ITK07
IS12M-STUCR-09	12	150	26	8	11	10	16			
IS14M-STUCR-09	14	150	26	8	13	10	16			
IS10K-STUC$^{R}/_{L}$-11	10	125	22	6	9	13	12			
IS12M-STUC$^{R}/_{L}$-11	12	150	26	8	11	10	16			
IS12M-STUC$^{R}/_{L}$-11-D13	12	150	26	6.5	11	10	13	TC..1102..	IMS2506A	ITK09
IS16Q-STUC$^{R}/_{L}$-11	16	180	32	10	15	7	20			
IS16Q-STUC$^{R}/_{L}$-11-D18	16	180	32	9	15	7	18			
IS20R-STUC$^{R}/_{L}$-16	20	200	40	13	18	7	25			
IS25R-STUC$^{R}/_{L}$-16	25	200	40	15	23	5	30	TC..16T3..	IMS4011A	ITK15
IS32S-STUC$^{R}/_{L}$-16	32	250	48	20	30	5	38			
IS32T-STUC$^{R}/_{L}$-16	32	300	48	20	30	5	38			
IA08K-STUC$^{R}/_{L}$-09	8	125	20	5.5	7	15	10	TC..0902..	IMS2205A	ITK07
IA10K-STUC$^{R}/_{L}$-09	10	125	22	6	9	13	12		IMS2206A	
IA10K-STUC$^{R}/_{L}$-11	10	125	22	6	9	13	12			
IA12M-STUC$^{R}/_{L}$-11	12	150	26	8	11	10	16	TC..1102..	IMS2506A	ITK09
IA16Q-STUC$^{R}/_{L}$-11	16	180	32	10	15	7	20			
IA20R-STUC$^{R}/_{L}$-16	20	200	40	13	18	7	25			
IA25R-STUC$^{R}/_{L}$-16	25	200	40	15	23	5	30	TC..16T3..	IMS4011A	ITK15
IA32S-STUC$^{R}/_{L}$-16	32	250	48	20	30	5	38			
IA32T-STUC$^{R}/_{L}$-16	32	300	48	20	30	5	38			

Internal Turning Tools 內徑車刀桿



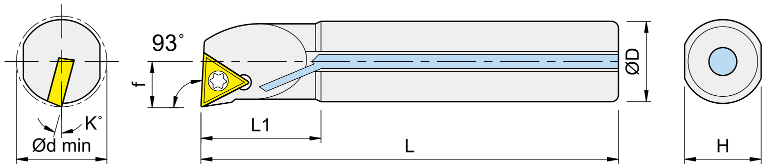
STUP

■ S..-STUPR/L-.. Steel shank



Right-hand shown

■ A..-STUPR/L-.. Steel shank+coolant hole

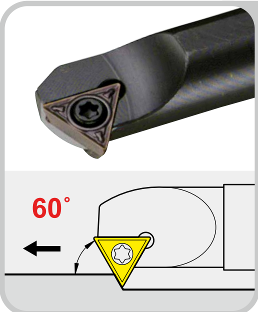


Right-hand shown

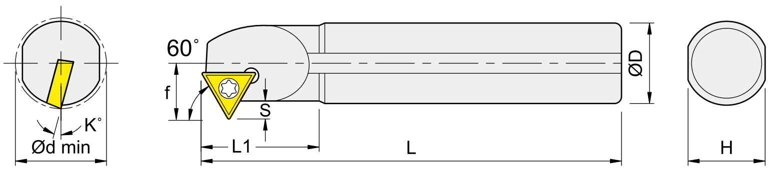
Order No. 訂購編碼	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
S20R-STUPR/L-1603	20	200	40	13	18	4	25	TP..1603..	IMS4011A	ITK15
S25R-STUPR/L-1603	25	200	40	16	23	0	30			
S32R-STUPR/L-1603	32	250	48	20	30	0	38			
A20R-STUPR/L-1603	20	200	40	13	18	4	25			
A25R-STUPR/L-1603	25	200	40	16	23	0	30			
A32R-STUPR/L-1603	32	250	48	20	30	0	38			

Internal Turning Tools 內徑車刀桿

STWC

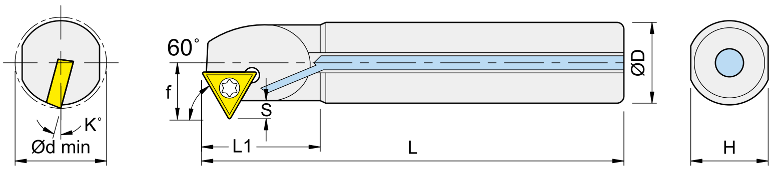


■ S..-STWCR/L-.. Steel shank



Right-hand shown

■ A..-STWCR/L-.. Steel shank+coolant hole

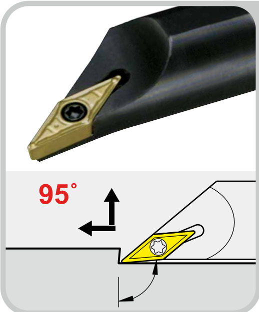


Right-hand shown

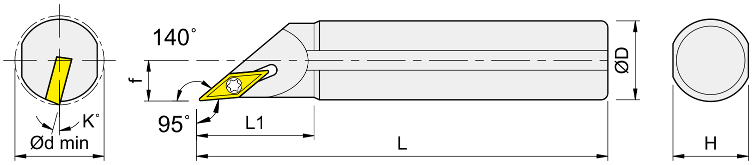
Order No. 訂購編碼	Dimensions, mm								Insert	Screw	Wrench
	D	L	L1	f	S	H	K	dmin			
IS08K-STWC$^{R}/_{L}$-09	8	125	23	6	2	7	15	11	TC..0902..	IMS2205A	ITK07
IS10K-STWC$^{R}/_{L}$-11	10	125	23	7.5	2.5	9	15	13	TC..1102..	IMS2506A	ITK09
IS12M-STWC$^{R}/_{L}$-11	12	150	30	8.5	2.5	11	13	16			
IS16Q-STWC$^{R}/_{L}$-11	16	180	30	10.5	2.5	15	10	20			
IS20R-STWC$^{R}/_{L}$-11	20	200	40	12.5	2.5	18	7	25			
IS20R-STWC$^{R}/_{L}$-16	20	200	40	14.5	4.5	18	8	26	TC..16T3..	IMS4011A	ITK15
IS25R-STWC$^{R}/_{L}$-16	25	200	45	17	4.5	23	6	30			
IS32S-STWC$^{R}/_{L}$-16	32	250	45	20.5	4.5	30	4	40			
IA10K-STWC$^{R}/_{L}$-11	10	125	23	7.5	2.5	9	15	13	TC..1102..	IMS2506A	ITK09
IA12M-STWC$^{R}/_{L}$-11	12	150	30	8.5	2.5	11	13	16			
IA16Q-STWC$^{R}/_{L}$-11	16	180	30	10.5	2.5	15	10	20			
IA20R-STWC$^{R}/_{L}$-11	20	200	40	12.5	2.5	18	7	25			
IA20R-STWC$^{R}/_{L}$-16	20	200	40	14.5	4.5	18	8	26	TC..16T3..	IMS4011A	ITK15
IA25R-STWC$^{R}/_{L}$-16	25	200	45	17	4.5	23	6	30			
IA32S-STWC$^{R}/_{L}$-16	32	250	45	20.5	4.5	30	4	40			

Internal Turning Tools 內徑車刀桿

SVJB

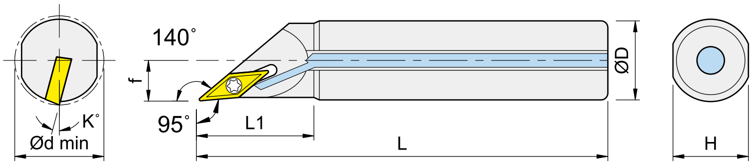


S..-SVJBR/L-.. Steel shank



Right-hand shown

A..-SVJBR/L-.. Steel shank+coolant hole

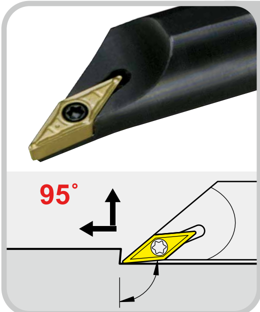


Right-hand shown

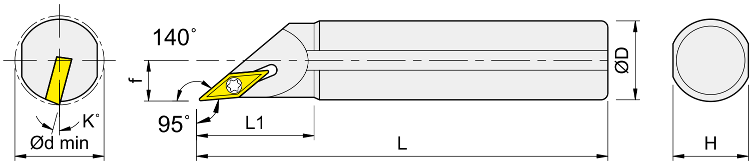
Order No. 訂購編碼	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IS16Q-SVJBR/L-16	16	180	38	9.5	15	7	19	VB..1604..	IMS3509B	ITK15
IS20R-SVJBR/L-16	20	200	42	11.5	18	7	23			
IS25R-SVJBR/L-16	25	200	45	14	23	5	28			
IS32S-SVJBR/L-16	32	250	50	17.5	30	4	35			
IA16Q-SVJBR/L-16	16	180	38	9.5	15	7	19	VB..1604..	IMS3509B	ITK15
IA20R-SVJBR/L-16	20	200	42	11.5	18	7	23			
IA25R-SVJBR/L-16	25	200	45	14	23	5	28			
IA32S-SVJBR/L-16	32	250	50	17.5	30	4	35			

Internal Turning Tools 內徑車刀桿

SVJC

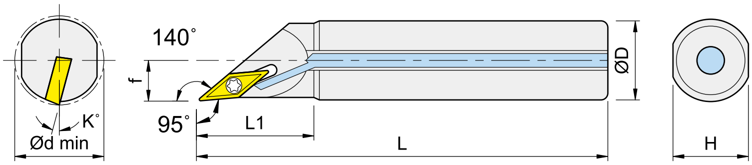


■ S..-SVJCR/L-.. Steel shank



Right-hand shown

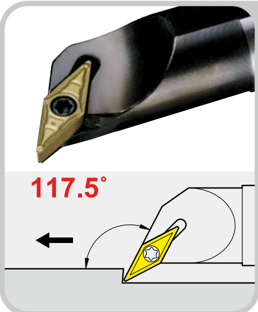
■ A..-SVJCR/L-.. Steel shank+coolant hole



Right-hand shown

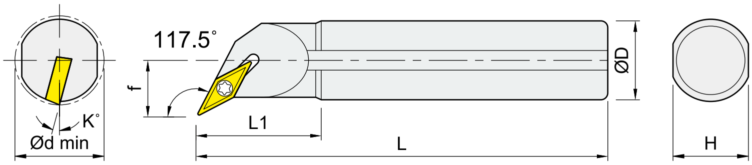
Order No. 訂購編碼	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IC10K-SVJC$^{R}/_{L}$-11	10	125	25	6	9	13	12	VC..1103..	IMS2506A	ITK09
IC12M-SVJC$^{R}/_{L}$-11	12	150	30	7	11	10	14			
IC16Q-SVJC$^{R}/_{L}$-11	16	180	38	9.5	15	7	19			
IC20R-SVJC$^{R}/_{L}$-11	20	200	42	11.5	18	7	23			
IE10K-SVJC$^{R}/_{L}$-11	10	125	25	6	9	13	12			
IE12M-SVJC$^{R}/_{L}$-11	12	150	30	7	11	10	14			
IE16Q-SVJC$^{R}/_{L}$-11	16	180	38	9.5	15	7	19			
IE20R-SVJC$^{R}/_{L}$-11	20	200	42	11.5	18	7	23			

Internal Turning Tools 內徑車刀桿



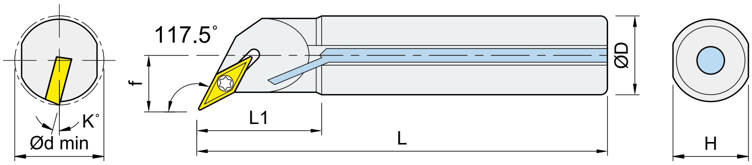
SVQB

■ S..-SVQB/CR/L-.. Steel shank



Right-hand shown

■ A..-SVQB/CR/L-.. Steel shank+coolant hole

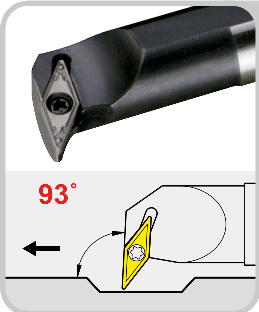


Right-hand shown

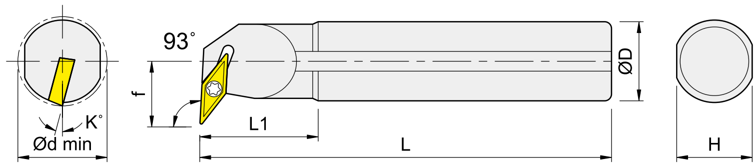
<table>
<tr><th rowspan="2">Order No.
訂購編碼</th><th colspan="7">Dimensions, mm</th><th rowspan="2">Insert</th><th rowspan="2">Shim</th><th rowspan="2">Screw</th><th rowspan="2">Wrench</th><th rowspan="2">Screw</th><th rowspan="2">Wrench</th></tr>
<tr><th>D</th><th>L</th><th>L1</th><th>f</th><th>H</th><th>K</th><th>dmin</th></tr>
<tr><td>IS25R-SVQB$^{R}/_{L}$-16</td><td>25</td><td>200</td><td>45</td><td>16</td><td>23</td><td>5</td><td>32</td><td rowspan="5">VB..1604..</td><td>--</td><td>--</td><td>--</td><td>IMS3509B</td><td rowspan="5">ITK15</td></tr>
<tr><td>IS32S-SVQB$^{R}/_{L}$-16</td><td>32</td><td>250</td><td>48</td><td>20</td><td>30</td><td>5</td><td>40</td><td rowspan="2">IVSS322</td><td rowspan="2">IMDS5035S</td><td rowspan="2">IPL35</td><td rowspan="2">IMS3512B</td></tr>
<tr><td>IS40T-SVQB$^{R}/_{L}$-16</td><td>40</td><td>300</td><td>60</td><td>25.5</td><td>37</td><td>5</td><td>50</td></tr>
<tr><td>IA25R-SVQB$^{R}/_{L}$-16</td><td>25</td><td>200</td><td>45</td><td>16</td><td>23</td><td>5</td><td>32</td><td>--</td><td>--</td><td>--</td><td>IMS3509B</td></tr>
<tr><td>IA32S-SVQB$^{R}/_{L}$-16</td><td>32</td><td>250</td><td>48</td><td>20</td><td>30</td><td>5</td><td>40</td><td>IVSS322</td><td>IMDS5035S</td><td>IPL35</td><td>IMS3512B</td></tr>
<tr><td>IS12M-SVQC$^{R}/_{L}$-11</td><td>12</td><td>150</td><td>28</td><td>9</td><td>11</td><td>10</td><td>16</td><td rowspan="5">VC..1103..</td><td rowspan="5">--</td><td rowspan="5">--</td><td rowspan="5">--</td><td rowspan="5">IMS2506A</td><td rowspan="5">ITK09</td></tr>
<tr><td>IS16Q-SVQC$^{R}/_{L}$-11</td><td>16</td><td>180</td><td>35</td><td>11</td><td>15</td><td>7</td><td>20</td></tr>
<tr><td>IS20R-SVQC$^{R}/_{L}$-11</td><td>20</td><td>200</td><td>40</td><td>13</td><td>18</td><td>7</td><td>25</td></tr>
<tr><td>IA16Q-SVQC$^{R}/_{L}$-11</td><td>16</td><td>180</td><td>35</td><td>11</td><td>15</td><td>7</td><td>20</td></tr>
<tr><td>IA25R-SVQC$^{R}/_{L}$-16</td><td>20</td><td>200</td><td>40</td><td>13</td><td>18</td><td>7</td><td>25</td></tr>
</table>

Internal Turning Tools 內徑車刀桿

SVUB

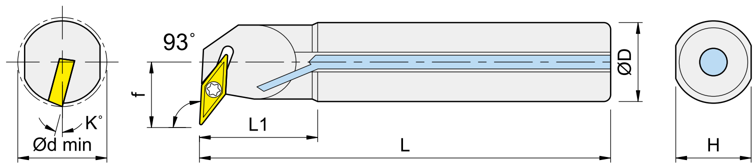


■ S..-SVUBR/L-.. Steel shank



Right-hand shown

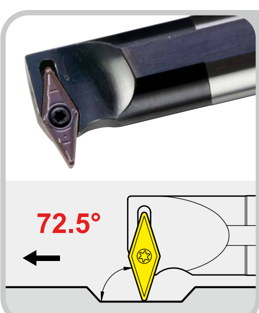
■ A..-SVUBR/L-.. Steel shank+coolant hole

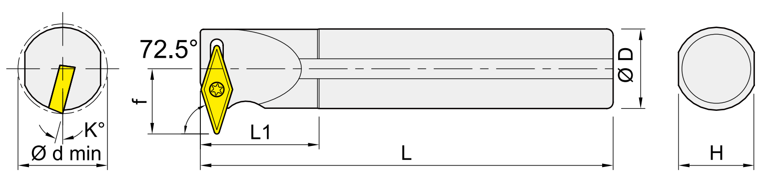


Right-hand shown

Order No. 訂購編碼	Dimensions, mm							Insert	Shim	Screw	Wrench	Screw	Wrench
	D	L	L1	f	H	K	dmin						
IS25R-SVUB$^{R}/_{L}$-16	25	200	45	18	23	5	32	VB..1604..	--	--	--	IMS3509B	ITK15
IS32S-SVUB$^{R}/_{L}$-16	32	250	50	22	30	5	40		IVSS322	IMDS5035S	IPL35	IMS3512B	
IS40T-SVUB$^{R}/_{L}$-16	40	300	55	27	37	5	50						
IA25R-SVUB$^{R}/_{L}$-16	25	200	45	18	23	5	32		--	--	--	IMS3509B	
IS16Q-SVUC$^{R}/_{L}$-11	16	180	30	13	15	7	22	VC..1103..	--	--	--	IMS2506A	ITK09
IS20R-SVUC$^{R}/_{L}$-11	20	200	40	15	18	7	27						
IA16Q-SVUC$^{R}/_{L}$-11	16	180	30	13	15	7	22						
IA20R-SVUC$^{R}/_{L}$-11	20	200	40	15	18	7	27						

SVVB





Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Screw	Wrench	Screw	Wrench
	D	L	L1	f	H	K	dmin						
IS25R-SVVB$^{R}/_{L}$-16	25	200	45	20.5	23	5	34	VB..1604..	--	--	--	IMS3509B	ITK15
IS25S-SVVB$^{R}/_{L}$-16	25	250	45	20.5	23	5	34						
IS32S-SVVB$^{R}/_{L}$-16	32	250	50	25	30	5	42	VB..1604..	IVSS322	IMDS5035S	IPL35	IMS3512B	ITK15

Grooving & Parting Tool Series Introduction 切槽及切斷系列介紹

MGEH Series

- Use MGMN200/300/400, MRMN200/300/400 inserts.
- For grooving (Depth < 20mm) of small workpieces in automatic lathe or small machine.

- 使用 MGMN200/300/400, MRMN200/300/400 刀片
- 適用於自動車床或小型機台，小型工件的切槽加工 (切深 < 20mm)

→ Page C078

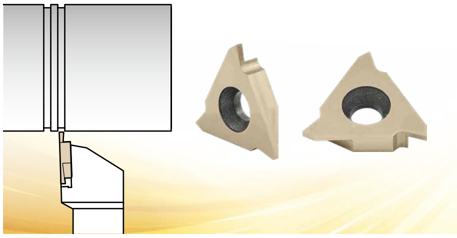
KGM Series

- Use GMM2020, GMM2520, GMM3020 inserts.
- For grooving (Depth < 20mm) of small workpieces in automatic lathe or small machine.

- 使用 GMM2020, GMM2520, GMM3020 刀片
- 適用於自動車床或小型機台，小型工件的切槽加工 (切深 < 20mm)

→ Page C080

TGF Series

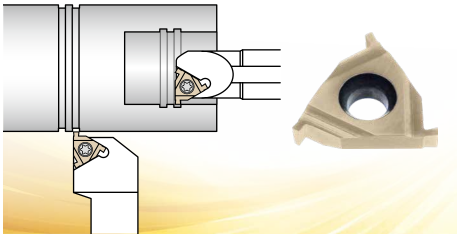


- Use TGF32 inserts for vertical grooving.
- For shallow grooving (Depth < 2.5mm) of small workpieces in automatic lathe or small machine.

- 使用 TGF32 刀片適用於立式切槽加工
- 適用於自動車床或小型機台，小型工件的淺切槽加工 (切深 < 2.5mm)

→ Page C082

TGL Series

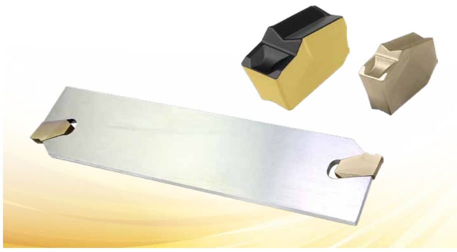


- Use TGL11 or TGL16 inserts for laydown grooving.
- For shallow grooving (Depth < 2.5mm) of small workpieces in automatic lathe or small machine.

- 使用 TGL11 或 TGL16 刀片適用於臥式切槽加工
- 適用於自動車床或小型機台，小型工件的淺切槽加工 (切深 < 2.5mm)

→ Page C086

SGIH Series



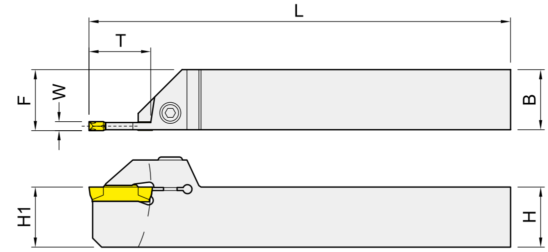
- Use TGTN0220, TGTN0310, TGTN0410 inserts.
- For parting (Depth < 40mm) of large workpieces.

- 使用 TGTN0220, TGTN0310, TGTN0410 刀片
- 適用於大型工件的切斷加工 (切深 < 40mm)

→ Page C091

MGEH Grooving Tools (Depth < 20mm) MGEH 切槽刀 (切深 < 20mm)

Tool Holder Specifications 刀桿規格



Right-hand shown

Insert Brand 建議刀片 : Winstar, Korloy, ...

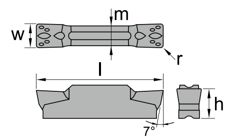
Order No. 訂購編碼	Dimensions (mm)						Inserts	Screw	Wrench
	H (H1)	B	L	F	T	W			
IMGEH$^{R}/_{L}$1616K2T16T	16	16	125	16.25	16	2.0	MGMN200.. MRMN200..	IHTMT520	IETL25
IMGEH$^{R}/_{L}$2020K2T20T	20	20	125	20.25	20	2.0		IHTMT525	IETL25
IMGEH$^{R}/_{L}$2525M2T20T	25	25	150	25.25	20	2.0		IHTMT525	IETL25
IMGEH$^{R}/_{L}$1616K3T20T	16	16	125	16.30	20	3.0	MGMN300.. MRMG300..	IHTMT520	IETL25
IMGEH$^{R}/_{L}$2020K3T20T	20	20	125	20.30	20	3.0		IHTMT525	IETL25
IMGEHR2525M3T20T	25	25	150	25.30	20	3.0		IHTMT525	IETL25
IMGEHR2525M4T20T	25	25	150	25.35	20	4.0	MGMN400.. MRMN400..	IHTMT525	IETL25

MGEH Grooving Tools (Depth < 20mm) MGEH 切槽刀 (切深 < 20mm)

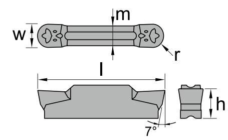
Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	w	r	l	h	m
MGMN200	2.0	0.2	16	3.5	1.60
MGMN300	3.0	0.4	21	4.8	2.35
MGMN400	4.0	0.4	21	4.8	3.30
MRMN200	2.0	1.0	16	3.5	1.60
MRMN300	3.0	1.5	21	4.8	2.35
MRMN400	4.0	2.0	21	4.8	3.30

Chipbreaker	
MG	For general cutting



MGMN



MRMN

Turning

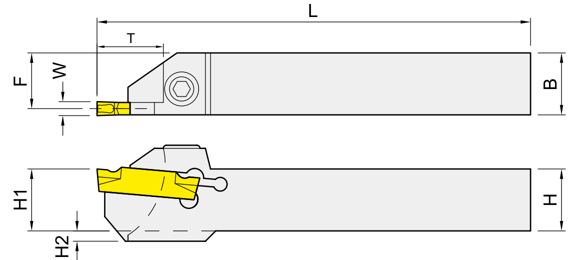
Insert Designation 刀片型號

Inserts	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IMGMN200SG33TX	MGMN200-SG-CX33TX	●	●	●		●	●
	IMGMN200SG43TX	MGMN200-SG-CX43TX	●	●	●		○	
	IMGMN300MG33TX	MGMN300-MG-CX33TX	●	●	●		●	●
	IMGMN300MG43TX	MGMN300-MG-CX43TX	●	●	●		○	
	IMGMN400MG33TX	MGMN400-MG-CX33TX	●	●	●		●	●
	IMGMN400MG43TX	MGMN400-MG-CX43TX	●	●	●		○	
	IMRMN200MG33TX	MRMN200-MG-CX33TX	●	●	●		●	●
	IMRMN200MG43TX	MRMN200-MG-CX43TX	●	●	●		○	
	IMRMN300MG33TX	MRMN300-MG-CX33TX	●	●	●		●	●
	IMRMN300MG43TX	MRMN300-MG-CX43TX	●	●	●		○	
	IMRMN400MG33TX	MRMN400-MG-CX33TX	●	●	●		●	●
	IMRMN400MG43TX	MRMN400-MG-CX43TX	●	●	●		○	

＊ CX33TX for General cutting.
CX43TX for Interrupted cutting.

KGM Grooving Tools (Depth < 20mm) KGM 切槽刀 (切深 < 20mm)

Tool Holder Specifications 刀桿規格



Right-hand shown

Insert Brand 建議刀片 : Winstar, Kyocera, ...

Order No. 訂購編碼	Dimensions (mm)						W (mm)		Inserts	Screw	Wrench
	H (H1)	B	L	F	T	H2	min	max			
IKGM$^R/_L$1212K1.5L10	12	12	125	11.4	10	2	1.5	2.0	GMM2020..	IHTM416	IPL30
IKGM$^R/_L$1616K1.5L10	16	16	125	15.4	10	-	1.5	2.0		IHTMT520	IETL25
IKGM$^R/_L$2020K1.5L10	20	20	125	19.4	10	-	1.5	2.0		IHTMT525	IETL25
IKGM$^R/_L$2525M1.5L10	25	25	150	24.4	10	-	1.5	2.0		IHTMT525	IETL25
IKGM$^R/_L$1212K2TL10	12	12	125	11.1	10	2	2.0	3.0	GMM2020.. GMM2520.. GMM3020..	IHTM416	IPL30
IKGM$^R/_L$1616K2TL10	16	16	125	15.1	10	-	2.0	3.0		IHTMT520	IETL25
IKGM$^R/_L$2020K2TL10	20	20	125	19.1	10	-	2.0	3.0		IHTMT525	IETL25
IKGM$^R/_L$2525M2TL10	25	25	150	24.1	10	-	2.0	3.0		IHTMT525	IETL25
IKGM$^R/_L$1212K2TL13	12	12	125	11.1	13	3	2.0	3.0		IHTM420	IPL30
IKGM$^R/_L$1616K2TL13	16	16	125	15.1	13	-	2.0	3.0		IHTMT520	IETL25
IKGM$^R/_L$2020K2TL13	20	20	125	19.1	13	-	2.0	3.0		IHTMT525	IETL25
IKGM$^R/_L$2525M2TL13	25	25	150	24.1	13	-	2.0	3.0		IHTMT525	IETL25
IKGM$^R/_L$1212K2TL17	12	12	125	11.1	17	4	2.0	3.0		IHTM420	IPL30
IKGM$^R/_L$1616K2TL17	16	16	125	15.1	17	-	2.0	3.0		IHTMT520	IETL25
IKGM$^R/_L$2020K2TL17	20	20	125	19.1	17	-	2.0	3.0		IHTMT525	IETL25
IKGM$^R/_L$2525M2TL17	25	25	150	24.1	17	-	2.0	3.0		IHTMT525	IETL25
IKGM$^R/_L$1616K3TL16	16	16	125	14.8	16	-	3.0	4.0	GMM3020..	IHTMT520	IETL25
IKGM$^R/_L$2020K3TL16	20	20	125	18.8	16	-	3.0	4.0		IHTMT525	IETL25
IKGM$^R/_L$2525M3TL16	25	25	150	23.8	16	-	3.0	4.0		IHTMT525	IETL25
IKGM$^R/_L$1616K3TL20	16	16	125	14.8	20	4	3.0	4.0		IHTMT525	IETL25
IKGM$^R/_L$2020K3TL20	20	20	125	18.8	20	-	3.0	4.0		IHTMT525	IETL25
IKGM$^R/_L$2525M3TL20	25	25	150	23.8	20	-	3.0	4.0		IHTMT525	IETL25
IKGMR3232P3TL20	32	32	170	30.8	20	-	3.0	4.0		IHTMT525	IETL25

KGM Grooving Tools (Depth < 20mm) KGM 切槽刀 (切深 < 20mm)

Insert Specifications 刀片規格

Insert	Dimensions (mm)						Fig.
	w	r	l	h	m	k°	
GMM2020	2.0	0.20	20	4.3	1.5	-	1
GMM2020R06	2.0	0.20	20	4.3	1.5	6°	2
GMM2020R15	2.0	0.05	20	4.3	1.5	15°	2
GMM2020L15	2.0	0.05	20	4.3	1.5	15°	3
GMM2520	2.5	0.20	20	4.3	1.9	-	1
GMM2520R06	2.5	0.20	20	4.3	1.9	6°	2
GMM2520R15	2.5	0.05	20	4.3	1.9	15°	2
GMM2520L15	2.5	0.05	20	4.3	1.9	15°	3
GMM3020	3.0	0.25	20	4.3	2.3	-	1
GMM3020R06	3.0	0.25	20	4.3	2.3	6°	2
GMM3020R15	3.0	0.05	20	4.3	2.3	15°	2
GMM3020L15	3.0	0.05	20	4.3	2.3	15°	3

Chipbreaker	
MR	For high feed cutting

Fig. 1

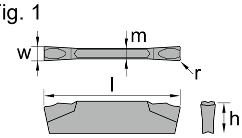


Fig. 2

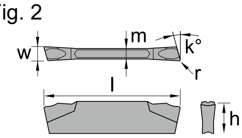
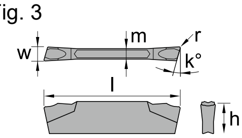


Fig. 3



Insert Designation 刀片型號

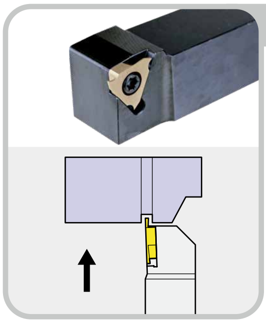
InserTX	Order No. 訂購編碼	Designation	Working Material P	M	K	N	S	H
	IGMM2020MR33TX	GMM2020-MR-CX33TX	●	●	●		●	●
	IGMM2020MR43TX	GMM2020-MR-CX43TX	●	●	●		○	
	IGMM2520MR33TX	GMM2520-MR-CX33TX	●	●	●		●	●
	IGMM3020MR33TX	GMM3020-MR-CX33TX	●	●	●		●	●
	IGMM2020R06MR33TX	GMM2020R06-MR-CX33TX	●	●	●		●	●
	IGMM2020R06MR43TX	GMM2020R06-MR-CX43TX	●	●	●		○	
	IGMM2520R06MR33TX	GMM2520R06-MR-CX33TX	●	●	●		●	●
	IGMM3020R06MR33TX	GMM3020R06-MR-CX33TX	●	●	●		●	●
	IGMM2020R15MR33TX	GMM2020R15-MR-CX33TX	●	●	●		●	●
	IGMM2020L15MR33TX	GMM2020L15-MR-CX33TX	●	●	●		●	●
	IGMM2020R15MR43TX	GMM2020R15-MR-CX43TX	●	●	●		○	
	IGMM2020L15MR43TX	GMM2020L15-MR-CX43TX	●	●	●		○	
	IGMM2520R15MR33TX	GMM2520R15-MR-CX33TX	●	●	●		●	●
	IGMM2520L15MR33TX	GMM2520L15-MR-CX33TX	●	●	●		●	●
	IGMM3020R15MR33TX	GMM3020R15-MR-CX33TX	●	●	●		○	●
	IGMM3020L15MR33TX	GMM3020L15-MR-CX33TX	●	●	●		○	●

＊ CX33TX for General cutting.
CX43TX for Interrupted cutting.

TGF Shallow Grooving Tools (Vertical , Depth < 2.5mm) TGF 淺切槽刀 (立式 , 切深 < 2.5mm)

Tool Holder Specifications 刀桿規格

KTGF



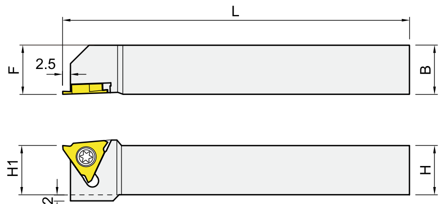


Fig 1

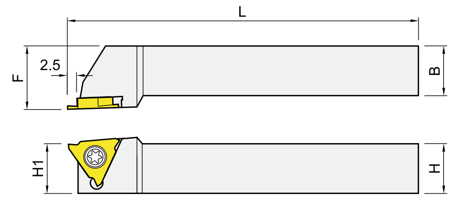


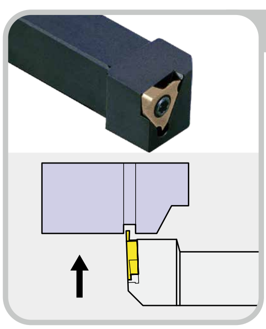
Fig 2

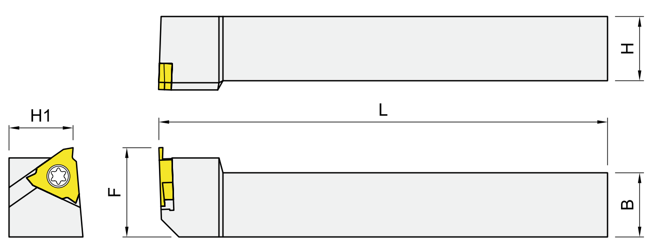
Right-hand shown

Insert Brand 建議刀片 : Winstar, Kyocera, ...

Order No. 訂購編碼	Dimensions (mm)					Insert	Screw	Wrench	Fig
	H(H1)	B	L	H2	F				
IKTGF^R/$_L$1010K16F	10	10	125	4	10	TGF32R TGF32L	IMS4009A	ITK15	1
IKTGFR1012K16F	10	12	125	2	12		IMS4011A		
IKTGF^R/$_L$1212K16F	12	12	125	2	12				
IKTGF^R/$_L$1616K16F	16	16	125	-	16				
IKTGFR2020K16F	20	20	125	-	20	TGF32R			
IKTGF^R/$_L$1616K16	16	16	125	-	20	TGF32R TGF32L			2
IKTGF^R/$_L$2020K16	20	20	125	-	25				
IKTGF^R/$_L$2525M16	25	25	150	-	32				

KTGFS





Left-hand shown

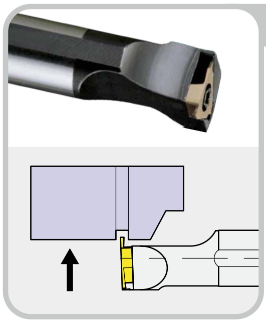
Insert Brand 建議刀片 : Winstar, Kyocera, ...

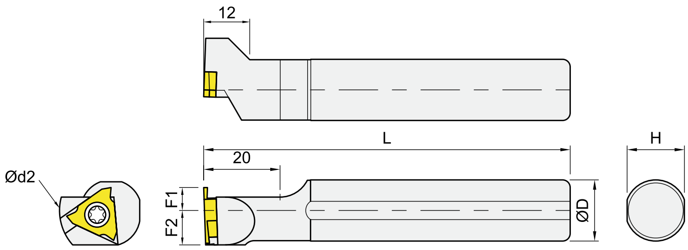
Order No. 訂購編碼	Dimensions (mm)				Insert	Screw	Wrench
	H(H1)	B	L	F			
IKTGFSL1616K16	16	16	125	22	TGF32R	IMS4009A	ITK15
IKTGFSL2020K16	20	20	125	26			

TGF Shallow Grooving Tools (Vertical , Depth < 2.5mm) TGF 淺切槽刀 (立式 , 切深 < 2.5mm)

Tool Holder Specifications 刀桿規格

KTGFL





Left-hand shown

Insert Brand 建議刀片 : Winstar, Kyocera, ...

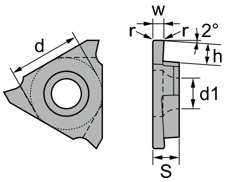
Order No. 訂購編碼	Dimensions (mm)						Insert	Screw	Wrench
	D	L	H	F1	F2	d2			
IS16HKTGFL16	16	100	15	6	9	27	TGF32R	IMS4009A	ITK15

Recommended Cutting Conditions 建議切削數據

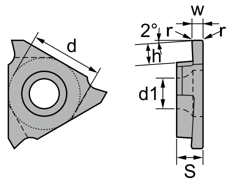
Working Material	Vc (m/min)	fr (mm/rev)
Carbon Steel / Alloy Steel	50 ~ 200	0.02 ~ 0.10
Stainless Steel	50 ~ 200	0.02 ~ 0.10
Cast Iron	50 ~ 200	0.02 ~ 0.10
Aluminum Alloy	200 ~ 300	0.05 ~ 0.15
High Temperature Alloy	80 ~ 120	0.03 ~ 0.07
Hardened Steel	80 ~ 120	0.03 ~ 0.07

KTGF Shallow Grooving Tools (Vertical , Depth < 2.5mm) KTGF 淺切槽刀 (立式 , 切深 < 2.5mm)

Insert Designation 刀片型號



Right hand



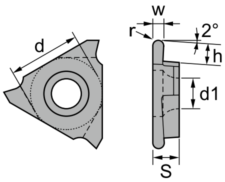
Left hand

Order No. 訂購編碼	Designation	Dimensions (mm)						Max Depth of Cut		Working Material					
		w	h	r	S	d	d1	O.D.	I.D.	P	M	K	N	S	H
ITGF32R0336025	TGF32R033-CP6025	0.33	1.0	0.05	3.18	9.525	4.4	0.8	0.5	●	●	●		○	○
ITGF32L0336025	TGF32L033-CP6025	0.33	1.0	0.05	3.18	9.525	4.4	0.8	0.5	●	●	●		○	○
ITGF32R0506025	TGF32R050-CP6025	0.50	1.4	0.05	3.18	9.525	4.4	1.2	0.8	●	●	●		○	○
ITGF32L0506025	TGF32L050-CP6025	0.50	1.4	0.05	3.18	9.525	4.4	1.2	0.8	●	●	●		○	○
ITGF32R0756025	TGF32R075-CP6025	0.75	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L0756025	TGF32L075-CP6025	0.75	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R0956025	TGF32R095-CP6025	0.95	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L0956025	TGF32L095-CP6025	0.95	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1006025	TGF32R100-CP6025	1.00	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1006025	TGF32L100-CP6025	1.00	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1106025	TGF32R110-CP6025	1.10	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1106025	TGF32L110-CP6025	1.10	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1256025	TGF32R125-CP6025	1.25	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1256025	TGF32L125-CP6025	1.25	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1356025	TGF32R135-CP6025	1.35	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1356025	TGF32L135-CP6025	1.35	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1456025	TGF32R145-CP6025	1.45	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1456025	TGF32L145-CP6025	1.45	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1506025	TGF32R150-CP6025	1.50	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1506025	TGF32L150-CP6025	1.50	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1656025	TGF32R165-CP6025	1.65	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1656025	TGF32L165-CP6025	1.65	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1756025	TGF32R175-CP6025	1.75	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1756025	TGF32L175-CP6025	1.75	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1806025	TGF32R180-CP6025	1.80	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1806025	TGF32L180-CP6025	1.80	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1856025	TGF32R185-CP6025	1.85	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1856025	TGF32L185-CP6025	1.85	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1956025	TGF32R195-CP6025	1.95	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1956025	TGF32R195-CP6025	1.95	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R2006025	TGF32R200-CP6025	2.00	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L2006025	TGF32L200-CP6025	2.00	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R2506025	TGF32R250-CP6025	2.50	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L2506025	TGF32L250-CP6025	2.50	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○

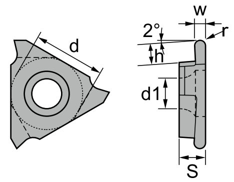
※ To choose CP10(uncoating) for N material machining.

KTGF Shallow Grooving Tools (Vertical , Depth < 2.5mm) KTGF 淺切槽刀 (立式 , 切深 < 2.5mm)

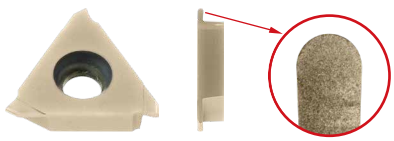
Insert Designation 刀片型號



Right hand



Left hand

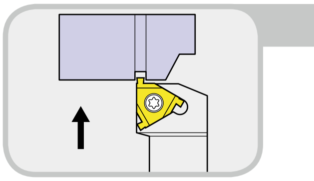


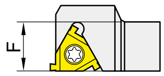
Order No. 訂購編碼	Designation	Dimensions (mm)						Max Depth of Cut		Working Material					
		w	h	r	S	d	d1	O.D.	I.D.	P	M	K	N	S	H
ITGF32R025R6025	TGF32R025R-CP6025	0.50	1.4	0.25	3.18	9.525	4.4	1.2	0.8	●	●	●		○	○
ITGF32L025R6025	TGF32L025R-CP6025	0.50	1.4	0.25	3.18	9.525	4.4	1.2	0.8	●	●	●		○	○
ITGF32R037R6025	TGF32R037R-CP6025	0.75	2.5	0.375	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L037R6025	TGF32L037R-CP6025	0.75	2.5	0.375	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R050R6025	TGF32R050R-CP6025	1.00	2.5	0.5	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L050R6025	TGF32L050R-CP6025	1.00	2.5	0.5	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R062R6025	TGF32R062R-CP6025	1.25	2.5	0.625	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L062R6025	TGF32L062R-CP6025	1.25	2.5	0.625	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R075R6025	TGF32R075R-CP6025	1.50	2.5	0.75	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L075R6025	TGF32L075R-CP6025	1.50	2.5	0.75	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○

※ To choose CP10(uncoating) for N material machining.

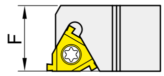
TGL Shallow Grooving Tools (Laydown, Depth < 2.5mm) TGL 淺切槽刀 (臥式 , 切深 < 2.5mm)

Tool Holder Specifications 刀桿規格

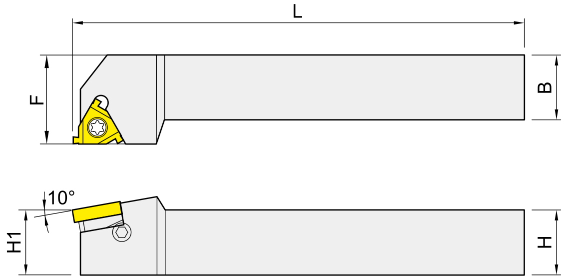




SER1010K16
SER1212K16



SER1216K16
SER1616K16H



Right-hand shown

Insert Brand 建議刀片 : Winstar

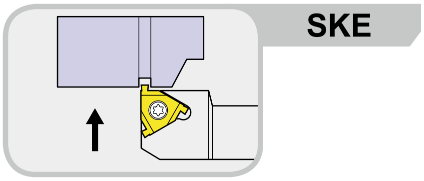
Order No. 訂購編碼	Dimensions (mm)				Insert	Spare parts
	H(H1)	B	L	F		
ISE$^{R}/_{L}$1216K16	12	16	125	16	TGL16ER or TGL16EL	①
ISE$^{R}/_{L}$1010K16H	10	10	125	10		
ISE$^{R}/_{L}$1212K16H	12	12	125	12		
ISE$^{R}/_{L}$1616K16H	16	16	125	16		
ISE$^{R}/_{L}$1616K16	16	16	125	20		②
ISE$^{R}/_{L}$2020K16	20	20	125	25		
ISE$^{R}/_{L}$2525M16	25	25	150	32		
ISE$^{R}/_{L}$3232P16	32	32	170	40		

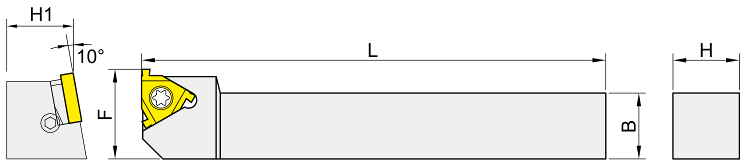
Spare parts	Screw	Shim	Screw	Wrench	Wrench
①	IMS3509A	-	-	-	ITK15
②	IMS3512A	IGXN16 or IGXE16	IHTM309	IPL25	ITK15

※ SER right hand tools shim is IGXE16, SEL left hand tools shim is IGXN16.

TGL Shallow Grooving Tools (Laydown, Depth < 2.5mm) TGL 淺切槽刀 (臥式 , 切深 < 2.5mm)

Tool Holder Specifications 刀桿規格





Right-hand shown

Insert Brand 建議刀片 : Winstar

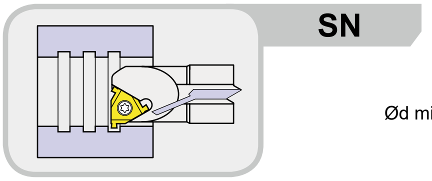
Order No. 訂購編碼	Dimensions (mm)				Insert	Spare parts
	H(H1)	B	L	F		
ISKE^{R}/$_{L}$1212K16	12	12	125	18	TGL16ER or TGL16EL	①
ISKE^{R}/$_{L}$1616K16	16	16	125	22		②
ISKE^{R}/$_{L}$2020K16	20	20	125	27		
ISKE^{R}/$_{L}$2525M16	25	25	150	34		

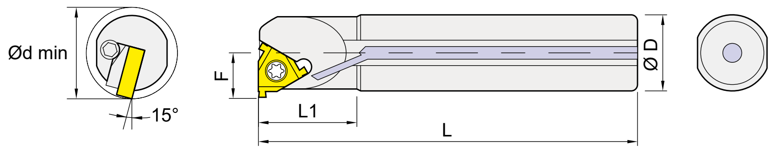
Spare parts	Screw	Shim	Screw	Wrench	Wrench
①	IMS3509A	-	-	-	ITK15
②	IMS3512A	IGXN16 or IGXE16	IHTM309	IPL25	ITK15

※ SKER right hand tools shim is IGXE16, SKEL left hand tools shim is IGXN16.

SE Shallow Grooving Tools (Laydown, Depth < 2.5mm) SE 淺切槽刀 (臥式 , 切深 < 2.5mm)

Tool Holder Specifications 刀桿規格





Right-hand shown

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	Dimensions (mm)					Coolant	Insert	Spare parts
	D	L	L1	F	d min			
ISN^R/$_L$0010K11S10	10	125	22	6.5	13		TGL11IR or TGL11IL	①
ISN^R/$_L$0012M11S12	12	150	26	8	16			
ISN^R/$_L$A0010K11S10	10	125	22	6.5	13	●		
ISN^R/$_L$A0012M11S12	12	150	26	8	16	●		
ISN^R/$_L$0016Q16	16	180	36	10	19		TGL16IR or TGL16IL	②
ISN^R/$_L$0020R16	20	200	40	12	24			③
ISN^R/$_L$0025R16	25	200	45	14.5	29			
ISN^R/$_L$0032S16	32	250	45	18.5	36			
ISN^R/$_L$A0016Q16	16	180	36	10	19	●		②
ISN^R/$_L$A0020R16	20	200	40	12	24	●		③
ISN^R/$_L$A0025R16	25	200	45	14.5	29	●		
ISN^R/$_L$A0032S16	32	250	45	18.5	36	●		

Spare parts	Screw	Wrench	Shim	Screw	Wrench
①	IMS2507G	ITK08	-	-	-
②	IMS3509A	ITK15	-	-	-
③	IMS3512A	ITK15	IGXN16 or IGXE16	IHTM309	IPL25

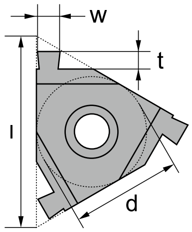
※ SNR right hand tools shim is IGXN16, SNL left hand tools shim is IGXE16.

Recommended Cutting Conditions 建議切削數據

Working Material	Vc (m/min)	fr (mm/rev)
Carbon Steel / Alloy Steel	50 ~ 200	0.02 ~ 0.10
Stainless Steel	50 ~ 200	0.02 ~ 0.10
Cast Iron	50 ~ 200	0.02 ~ 0.10
Aluminum Alloy	200 ~ 300	0.05 ~ 0.15
High Temperature Alloy	80 ~ 120	0.03 ~ 0.07
Hardened Steel	80 ~ 120	0.03 ~ 0.07

SKE Shallow Grooving Tools (Laydown, Depth < 2.5mm) SKE 淺切槽刀 (臥式 , 切深 < 2.5mm)

Insert Designation 刀片型號



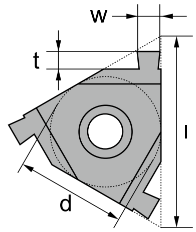
※Same insert can be used for external right hand and internal left hand.
相同的刀片可以使用在外徑右手與內徑左手加工

Order No. 訂購編碼	Designation	Dimensions (mm)				Working Material					
		d	l	w ±0.02	t	P	M	K	N	S	H
ITGL11ER0506025	TGL11ER050-CP6025	1/4	11	0.50	1.4	●	●	●		○	○
ITGL11IL0506025	TGL11IL050-CP6025	1/4	11	0.50	1.4	●	●	●		○	○
ITGL11ER0606025	TGL11ER060-CP6025	1/4	11	0.60	1.4	●	●	●		○	○
ITGL11IL0606025	TGL11IL060-CP6025	1/4	11	0.60	1.4	●	●	●		○	○
ITGL11ER0706025	TGL11ER070-CP6025	1/4	11	0.70	1.4	●	●	●		○	○
ITGL11IL0706025	TGL11IL070-CP6025	1/4	11	0.70	1.4	●	●	●		○	○
ITGL11ER0806025	TGL11ER080-CP6025	1/4	11	0.80	1.4	●	●	●		○	○
ITGL11IL0806025	TGL11IL080-CP6025	1/4	11	0.80	1.4	●	●	●		○	○
ITGL11ER1006025	TGL11ER100-CP6025	1/4	11	1.00	1.4	●	●	●		○	○
ITGL11IL1006025	TGL11IL100-CP6025	1/4	11	1.00	1.4	●	●	●		○	○
ITGL11ER1206025	TGL11ER120-CP6025	1/4	11	1.20	1.4	●	●	●		○	○
ITGL11IL1206025	TGL11IL120-CP6025	1/4	11	1.20	1.4	●	●	●		○	○
ITGL16ER0506025	TGL16ER050-CP6025	3/8	16	0.50	1.4	●	●	●		○	○
ITGL16IL0506025	TGL16IL050-CP6025	3/8	16	0.50	1.4	●	●	●		○	○
ITGL16ER1006025	TGL16ER100-CP6025	3/8	16	1.00	1.4	●	●	●		○	○
ITGL16IL1006025	TGL16IL100-CP6025	3/8	16	1.00	1.4	●	●	●		○	○
ITGL16ER1206025	TGL16ER120-CP6025	3/8	16	1.20	1.6	●	●	●		○	○
ITGL16IL1206025	TGL16IL120-CP6025	3/8	16	1.20	1.6	●	●	●		○	○
ITGL16ER1406025	TGL16ER140-CP6025	3/8	16	1.40	1.8	●	●	●		○	○
ITGL16IL1406025	TGL16IL140-CP6025	3/8	16	1.40	1.8	●	●	●		○	○
ITGL16ER1706025	TGL16ER170-CP6025	3/8	16	1.70	2.0	●	●	●		○	○
ITGL16IL1706025	TGL16IL170-CP6025	3/8	16	1.70	2.0	●	●	●		○	○
ITGL16ER1956025	TGL16ER195-CP6025	3/8	16	1.95	2.0	●	●	●		○	○
ITGL16IL1956025	TGL16IL195-CP6025	3/8	16	1.95	2.0	●	●	●		○	○
ITGL16ER2256025	TGL16ER225-CP6025	3/8	16	2.25	2.25	●	●	●		○	○
ITGL16IL2256025	TGL16IL225-CP6025	3/8	16	2.25	2.25	●	●	●		○	○

※ To choose CP10(uncoating) for N material machining.

SN Shallow Grooving Tools (Laydown, Depth < 2.5mm) SN 淺切槽刀 (臥式 , 切深 < 2.5mm)

Insert Designation 刀片型號



※Same insert can be used for internal right hand and external left hand.
相同的刀片可以使用在內徑右手與外徑左手加工

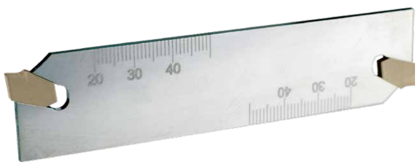
Order No. 訂購編碼	Designation	Dimensions (mm)				Working Material					
		d	l	w ±0.02	t	P	M	K	N	S	H
ITGL11IR0506025	TGL11IR050-CP6025	1/4	11	0.50	1.4	●	●	●		○	○
ITGL11EL0506025	TGL11EL050-CP6025	1/4	11	0.50	1.4	●	●	●		○	○
ITGL11IR0606025	TGL11IR060-CP6025	1/4	11	0.60	1.4	●	●	●		○	○
ITGL11EL0606025	TGL11EL060-CP6025	1/4	11	0.60	1.4	●	●	●		○	○
ITGL11IR0706025	TGL11IR070-CP6025	1/4	11	0.70	1.4	●	●	●		○	○
ITGL11EL0706025	TGL11EL070-CP6025	1/4	11	0.70	1.4	●	●	●		○	○
ITGL11IR0806025	TGL11IR080-CP6025	1/4	11	0.80	1.4	●	●	●		○	○
ITGL11EL0806025	TGL11EL080-CP6025	1/4	11	0.80	1.4	●	●	●		○	○
ITGL11IR1006025	TGL11IR100-CP6025	1/4	11	1.00	1.4	●	●	●		○	○
ITGL11EL1006025	TGL11EL100-CP6025	1/4	11	1.00	1.4	●	●	●		○	○
ITGL11IR1206025	TGL11IR120-CP6025	1/4	11	1.20	1.4	●	●	●		○	○
ITGL11EL1206025	TGL11EL120-CP6025	1/4	11	1.20	1.4	●	●	●		○	○
ITGL16IR0506025	TGL16IR050-CP6025	3/8	16	0.50	1.4	●	●	●		○	○
ITGL16EL0506025	TGL16EL050-CP6025	3/8	16	0.50	1.4	●	●	●		○	○
ITGL16IR1006025	TGL16IR100-CP6025	3/8	16	1.00	1.4	●	●	●		○	○
ITGL16EL1006025	TGL16EL100-CP6025	3/8	16	1.00	1.4	●	●	●		○	○
ITGL16IR1206025	TGL16IR120-CP6025	3/8	16	1.20	1.6	●	●	●		○	○
ITGL16EL1206025	TGL16EL120-CP6025	3/8	16	1.20	1.6	●	●	●		○	○
ITGL16IR1406025	TGL16IR140-CP6025	3/8	16	1.40	1.8	●	●	●		○	○
ITGL16EL1406025	TGL16EL140-CP6025	3/8	16	1.40	1.8	●	●	●		○	○
ITGL16IR1706025	TGL16IR170-CP6025	3/8	16	1.70	2.0	●	●	●		○	○
ITGL16EL1706025	TGL16EL170-CP6025	3/8	16	1.70	2.0	●	●	●		○	○
ITGL16IR1956025	TGL16IR195-CP6025	3/8	16	1.95	2.0	●	●	●		○	○
ITGL16EL1956025	TGL16EL195-CP6025	3/8	16	1.95	2.0	●	●	●		○	○
ITGL16IR2256025	TGL16IR225-CP6025	3/8	16	2.25	2.25	●	●	●		○	○
ITGL16EL2256025	TGL16EL225-CP6025	3/8	16	2.25	2.25	●	●	●		○	○

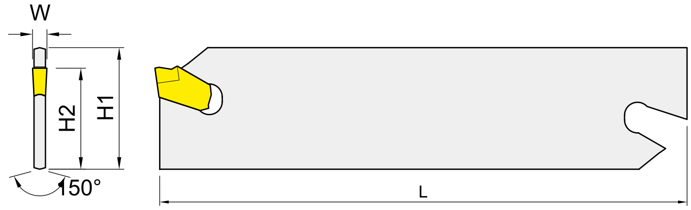
※ To choose CP10(uncoating) for N material machining.

SGIH Parting Tools (Depth < 40mm) SGIH 切斷刀 (切深 < 40mm)

Tool Holder Specifications 刀桿規格

SGIH

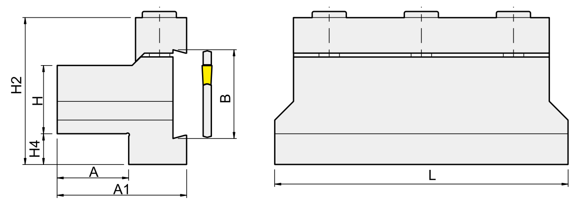




Insert Brand 建議刀片 : Winstar, Iscar, ...

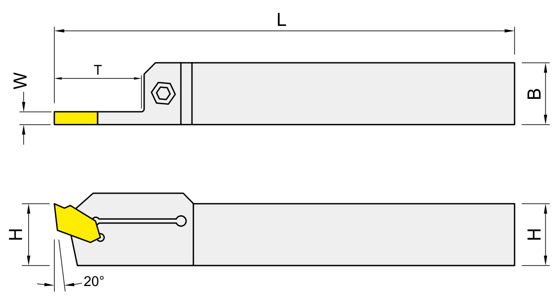
Order No. 訂購編碼	Dimensions (mm)				Insert	Tool Block	Wrench
	H1	H2	L	W			
ISGIH26-2	26	21.4	110	2.2	TGTN0220	ISGTBU..-26	IESG-1
ISGIH26-3	26	21.4	110	3.1	TGTN0310		
ISGIH26-4	26	21.4	110	4.1	TGTN0410		
ISGIH32-2	32	25	150	2.2	TGTN0220	ISGTBU..-32	
ISGIH32-3	32	25	150	3.1	TGTN0310		
ISGIH32-4	32	25	150	4.1	TGTN0410		

SGTBU



Order No. 訂購編碼	Dimensions (mm)							Screw	Wrench	BLADE
	H	B	A	A1	L	H2	H4			
ISGTBU20-26	20	26	21	38	86	43	9	IHTM630	IPL50	ISGIH26-3
ISGTBU25-26	25	26	23	40	86	43	4			
ISGTBU20-32	20	32	21	40	110	50	13			ISGIH32-3
ISGTBU25-32	25	32	23	42	110	50	8			

SGTHR

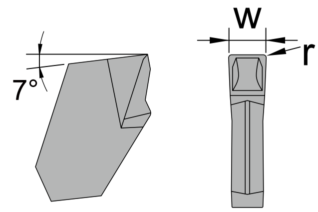


Order No. 訂購編碼	Dimensions (mm)					Insert	Screw	Wrench
	H	B	L	W	T			
ISGTHR16162	16	16	110	2	16	TGTN0220	IHTM521	IPL40
ISGTHR20202	20	20	125	2	18			
ISGTHR20203	20	20	125	3	20	TGTN0310	IHTM625	IPL50
ISGTHR25253	25	25	150	3	25			
ISGTHR25254	25	25	150	4	30	TGTN0410	IHTM625	IPL50

SGIH Parting Tools (Depth < 40mm) SGIH 切斷刀 (切深 < 40mm)

Insert Specifications 刀片規格

Insert	Dimensions (mm)	
	w	r
TGTN0220	2.2	0.2
TGTN0310	3.1	0.2
TGTN0410	4.1	0.25



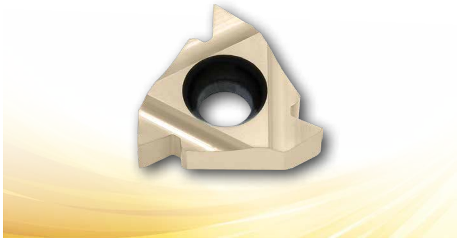
Insert Designation 刀片型號

Inserts	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	ITGTN022033TX	TGTN0220-CX33TX	●	●	●		●	●
	ITGTN022043TX	TGTN0220-CX43TX	●	●	●		○	
	ITGTN022047TA	TGTN0220-CX47TA	●	●	●			
	ITGTN031033TX	TGTN0310-CX33TX	●	●	●		●	●
	ITGTN031043TX	TGTN0310-CX43TX	●	●	●		○	
	ITGTN031047TA	TGTN0310-CX47TA	●	●	●			
	ITGTN041033TX	TGTN0410-CX33TX	●	●	●		●	●
	ITGTN041043TX	TGTN0410-CX43TX	●	●	●		○	
	ITGTN041047TA	TGTN0410-CX47TA	●	●	●			

＊ CX33TX for General cutting.
CX43TX for Interrupted cutting.
CX47TA for Heavy interrupted cutting.

Thread Turning Tool Introduction 車牙刀具介紹

Partial Profile Thread Turuing Inserts 車牙刀片泛牙型

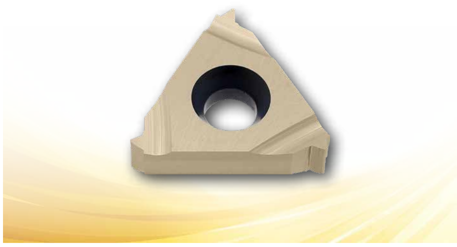


- 11 or 16 size inserts, 60° or 55°.
- A(0.5~1.5), AG(0.5~3.0) and G(1.75~3.0).
- Left hand or right hand inserts.

- 11 或 16 尺寸的車牙刀片，60°或 55°
- A(0.5~1.5 螺距), AG(0.5~3.0 螺距) 和 G(1.75~3.0 螺距)
- 提供左手或右手刀片

→ Page C095, C102

ISO Metric Thread Turuing Inserts 車牙刀片 ISO M 牙

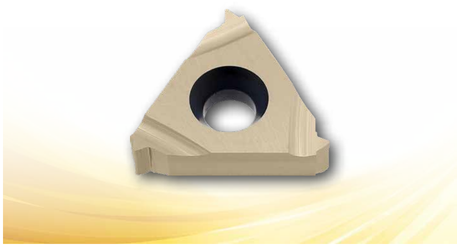


- 11 or 16 size inserts, 60°.
- 0.35~3.0 pitch.
- Left hand or right hand inserts.

- 11 或 16 尺寸的車牙刀片，60°
- 0.35~3.0 螺距
- 提供左手或右手刀片

→ Page C096

American UN Thread Turuing Inserts 車牙刀片 UN 牙



- 11 or 16 size inserts, 60°.
- 32~8 TPI.
- Left hand or right hand inserts.

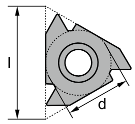
- 11 或 16 尺寸的車牙刀片，60°
- 每英吋牙數 32 ~ 8(TPI)
- 提供左手或右手刀片

→ Page C098

Designations for Threading Insert 車牙刀片型號編碼

16	I	R	A	60
①	②	③	④	⑤

① Insert Size



l (mm)	d (inch)
11	1/4
16	3/8

② Application

E	External
I	Internal

③ Hand of Tool

R	Right Hand
L	Left Hand

④ Thread Pitch or TPI

Partial Profile

	TP (mm)	TPI
A	0.5 ~ 1.5	48 ~ 16
AG	0.5 ~ 3.0	48 ~ 8
G	1.75 ~ 3.0	14 ~ 8

Full Profile

Value by number

TP (mm)	TPI
0.75	34
⋮	⋮
3.00	8

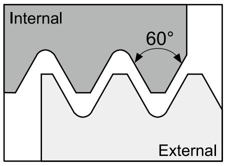
⑤ Thread Standard

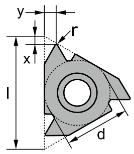
Partial Profile	
55°	Partial Profile 55°
60°	Partial Profile 60°

Full Profile	
ISO	ISO Metric 60°
UN	American UN 60°
W	Whitworth 55°

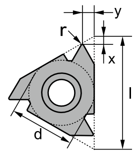
Threading Inserts - Partial Profile 60° 車牙刀片 - 60° 泛牙型

External 外徑





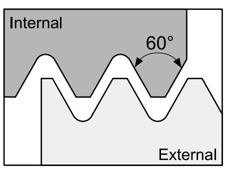
Right hand

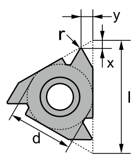


Left hand

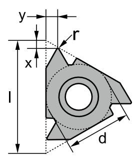
Order No. 訂購編碼	Designation	Pitch		Dimensions (mm)					Working Material					
		TP (mm)	TPI	d	l	r	x	y	P	M	K	N	S	H
I11ERA606025	11ERA60-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
I11ELA606025	11ELA60-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
I16ERA606025	16ERA60-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
I16ELA606025	16ELA60-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
I16ERAG606025	16ERAG60-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
I16ELAG606025	16ELAG60-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
I16ERG606025	16ERG60-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.17	1.2	1.7	●	●	●		○	○
I16ELG606025	16ELG60-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.17	1.2	1.7	●	●	●		○	○

Internal 內徑





Right hand

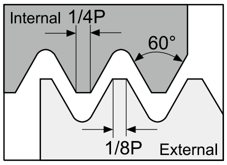


Left hand

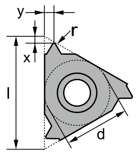
Order No. 訂購編碼	Designation	Pitch		Dimensions (mm)					Working Material					
		TP (mm)	TPI	d	l	r	x	y	P	M	K	N	S	H
I11IRA606025	11IRA60-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
I11ILA606025	11ILA60-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
I16IRA606025	16IRA60-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
I16ILA606025	16ILA60-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
I16IRAG606025	16IRAG60-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
I16ILAG606025	16ILAG60-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
I16IRG606025	16IRG60-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.12	1.2	1.7	●	●	●		○	○
I16ILG606025	16ILG60-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.12	1.2	1.7	●	●	●		○	○

Threading Inserts - ISO Metric 60° 車牙刀片 - ISO 公制 60° 螺紋

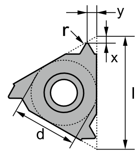
External 外徑



Tolerance Class : 6g/6H



Right hand

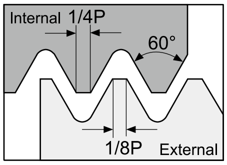


Left hand

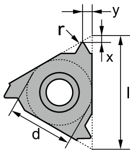
Order No. 訂購編碼	Designation	Pitch	Dimensions (mm)					Working Material					
		TP (mm)	d	l	r	x	y	P	M	K	N	S	H
I16ER035ISO6025	16ER0.35ISO-CP6025	0.35	3/8"	16	0.04	0.8	0.4	●	●	●		○	○
I16EL035ISO6025	16EL0.35ISO-CP6025	0.35	3/8"	16	0.04	0.8	0.4	●	●	●		○	○
I16ER040ISO6025	16ER0.40ISO-CP6025	0.40	3/8"	16	0.04	0.7	0.4	●	●	●		○	○
I16ER045ISO6025	16ER0.45ISO-CP6025	0.45	3/8"	16	0.05	0.7	0.4	●	●	●		○	○
I16ER050ISO6025	16ER0.50ISO-CP6025	0.50	3/8"	16	0.05	0.6	0.6	●	●	●		○	○
I16EL050ISO6025	16EL0.50ISO-CP6025	0.50	3/8"	16	0.05	0.6	0.6	●	●	●		○	○
I16ER060ISO6025	16ER0.60ISO-CP6025	0.60	3/8"	16	0.07	0.6	0.6	●	●	●		○	○
I16ER070ISO6025	16ER0.70ISO-CP6025	0.70	3/8"	16	0.07	0.6	0.6	●	●	●		○	○
I16ER075ISO6025	16ER0.75ISO-CP6025	0.75	3/8"	16	0.08	0.6	0.6	●	●	●		○	○
I16EL075ISO6025	16EL0.75ISO-CP6025	0.75	3/8"	16	0.08	0.6	0.6	●	●	●		○	○
I16ER080ISO6025	16ER0.80ISO-CP6025	0.80	3/8"	16	0.09	0.6	0.6	●	●	●		○	○
I16EL080ISO6025	16EL0.80ISO-CP6025	0.80	3/8"	16	0.09	0.6	0.6	●	●	●		○	○
I16ER100ISO6025	16ER1.00ISO-CP6025	1.00	3/8"	16	0.12	0.7	0.7	●	●	●		○	○
I16EL100ISO6025	16EL1.00ISO-CP6025	1.00	3/8"	16	0.12	0.7	0.7	●	●	●		○	○
I16ER125ISO6025	16ER1.25ISO-CP6025	1.25	3/8"	16	0.15	0.8	0.9	●	●	●		○	○
I16EL125ISO6025	16EL1.25ISO-CP6025	1.25	3/8"	16	0.15	0.8	0.9	●	●	●		○	○
I16ER150ISO6025	16ER1.50ISO-CP6025	1.50	3/8"	16	0.18	0.8	1.0	●	●	●		○	○
I16EL150ISO6025	16EL1.50ISO-CP6025	1.50	3/8"	16	0.18	0.8	1.0	●	●	●		○	○
I16ER175ISO6025	16ER1.75ISO-CP6025	1.75	3/8"	16	0.21	0.9	1.2	●	●	●		○	○
I16EL175ISO6025	16EL1.75ISO-CP6025	1.75	3/8"	16	0.21	0.9	1.2	●	●	●		○	○
I16ER200ISO6025	16ER2.00ISO-CP6025	2.00	3/8"	16	0.25	1.0	1.3	●	●	●		○	○
I16EL200ISO6025	16EL2.00ISO-CP6025	2.00	3/8"	16	0.25	1.0	1.3	●	●	●		○	○
I16ER250ISO6025	16ER2.50ISO-CP6025	2.50	3/8"	16	0.31	1.1	1.5	●	●	●		○	○
I16EL250ISO6025	16EL2.50ISO-CP6025	2.50	3/8"	16	0.31	1.1	1.5	●	●	●		○	○
I16ER300ISO6025	16ER3.00ISO-CP6025	3.00	3/8"	16	0.38	1.2	1.6	●	●	●		○	○
I16EL300ISO6025	16EL3.00ISO-CP6025	3.00	3/8"	16	0.38	1.2	1.6	●	●	●		○	○

Threading Inserts - ISO Metric 60° 車牙刀片 - ISO 公制 60° 螺紋

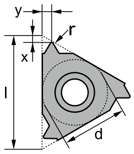
Internal 內徑



Tolerance Class : 6g/6H



Right hand



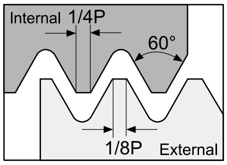
Left hand

Order No. 訂購編碼	Designation	Pitch	Dimensions (mm)					Working Material					
		TP (mm)	d	l	r	x	y	P	M	K	N	S	H
I11IR035ISO6025	11IR0.35ISO-CP6025	0.35	1/4"	11	0.02	0.8	0.3	●	●	●		○	○
I11IL035ISO6025	11IL0.35ISO-CP6025	0.35	1/4"	11	0.02	0.8	0.3	●	●	●		○	○
I11IR040ISO6025	11IR0.40ISO-CP6025	0.40	1/4"	11	0.02	0.8	0.4	●	●	●		○	○
I11IR050ISO6025	11IR0.50ISO-CP6025	0.50	1/4"	11	0.03	0.6	0.6	●	●	●		○	○
I11IL050ISO6025	11IL0.50ISO-CP6025	0.50	1/4"	11	0.03	0.6	0.6	●	●	●		○	○
I11IR070ISO6025	11IR0.70ISO-CP6025	0.70	1/4"	11	0.04	0.6	0.6	●	●	●		○	○
I11IR075ISO6025	11IR0.75ISO-CP6025	0.75	1/4"	11	0.04	0.6	0.6	●	●	●		○	○
I11IL075ISO6025	11IL0.75ISO-CP6025	0.75	1/4"	11	0.04	0.6	0.6	●	●	●		○	○
I11IR080ISO6025	11IR0.80ISO-CP6025	0.80	1/4"	11	0.04	0.6	0.6	●	●	●		○	○
I11IR100ISO6025	11IR1.00ISO-CP6025	1.00	1/4"	11	0.05	0.6	0.7	●	●	●		○	○
I11IL100ISO6025	11IL1.00ISO-CP6025	1.00	1/4"	11	0.05	0.6	0.7	●	●	●		○	○
I11IR125ISO6025	11IR1.25ISO-CP6025	1.25	1/4"	11	0.07	0.8	0.8	●	●	●		○	○
I11IL125ISO6025	11IL1.25ISO-CP6025	1.25	1/4"	11	0.07	0.8	0.8	●	●	●		○	○
I11IR150ISO6025	11IR1.50ISO-CP6025	1.50	1/4"	11	0.08	0.8	1.0	●	●	●		○	○
I11IL150ISO6025	11IL1.50ISO-CP6025	1.50	1/4"	11	0.08	0.8	1.0	●	●	●		○	○
I16IR075ISO6025	16IR0.75ISO-CP6025	0.75	3/8"	16	0.04	0.6	0.6	●	●	●		○	○
I16IL075ISO6025	16IL0.75ISO-CP6025	0.75	3/8"	16	0.04	0.6	0.6	●	●	●		○	○
I16IR080ISO6025	16IR0.80ISO-CP6025	0.80	3/8"	16	0.04	0.6	0.6	●	●	●		○	○
I16IL080ISO6025	16IL0.80ISO-CP6025	0.80	3/8"	16	0.04	0.6	0.6	●	●	●		○	○
I16IR100ISO6025	16IR1.00ISO-CP6025	1.00	3/8"	16	0.05	0.6	0.7	●	●	●		○	○
I16IL100ISO6025	16IL1.00ISO-CP6025	1.00	3/8"	16	0.05	0.6	0.7	●	●	●		○	○
I16IR125ISO6025	16IR1.25ISO-CP6025	1.25	3/8"	16	0.07	0.8	0.9	●	●	●		○	○
I16IL125ISO6025	16IL1.25ISO-CP6025	1.25	3/8"	16	0.07	0.8	0.9	●	●	●		○	○
I16IR150ISO6025	16IR1.50ISO-CP6025	1.50	3/8"	16	0.10	0.8	1.0	●	●	●		○	○
I16IL150ISO6025	16IL1.50ISO-CP6025	1.50	3/8"	16	0.10	0.8	1.0	●	●	●		○	○
I16IR175ISO6025	16IR1.75ISO-CP6025	1.75	3/8"	16	0.12	0.9	1.2	●	●	●		○	○
I16IL175ISO6025	16IL1.75ISO-CP6025	1.75	3/8"	16	0.12	0.9	1.2	●	●	●		○	○
I16IR200ISO6025	16IR2.00ISO-CP6025	2.00	3/8"	16	0.13	1.0	1.3	●	●	●		○	○
I16IL200ISO6025	16IL2.00ISO-CP6025	2.00	3/8"	16	0.13	1.0	1.3	●	●	●		○	○
I16IR250ISO6025	16IR2.50ISO-CP6025	2.50	3/8"	16	0.15	1.1	1.5	●	●	●		○	○
I16IL250ISO6025	16IL2.50ISO-CP6025	2.50	3/8"	16	0.15	1.1	1.5	●	●	●		○	○
I16IR300ISO6025	16IR3.00ISO-CP6025	3.00	3/8"	16	0.18	1.1	1.5	●	●	●		○	○
I16IL300ISO6025	16IL3.00ISO-CP6025	3.00	3/8"	16	0.18	1.1	1.5	●	●	●		○	○

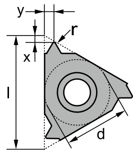
WINSTAR

Threading Inserts - American UN 60° 車牙刀片 - 美制 UN 60° 螺紋

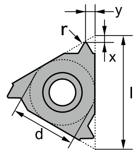
External 外徑



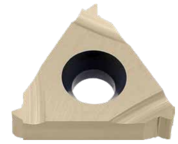
Tolerance Class : 2A/2B



Right hand



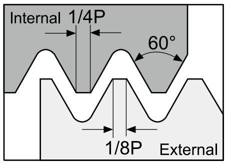
Left hand



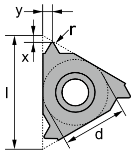
Order No. 訂購編碼	Designation	Pitch	Dimensions (mm)					Working Material					
		TPI	d	l	r	x	y	P	M	K	N	S	H
I11ER32UN6025	11ER32UN-CP6025	32	1/4"	11	0.09	0.6	0.6	●	●	●		○	○
I11ER28UN6025	11ER28UN-CP6025	28	1/4"	11	0.10	0.6	0.7	●	●	●		○	○
I11EL28UN6025	11EL28UN-CP6025	28	1/4"	11	0.10	0.6	0.7	●	●	●		○	○
I11ER18UN6025	11ER18UN-CP6025	18	1/4"	11	0.17	0.8	1.0	●	●	●		○	○
I11ER16UN6025	11ER16UN-CP6025	16	1/4"	11	0.18	0.9	1.1	●	●	●		○	○
I16ER40UN6025	16ER40UN-CP6025	40	3/8"	16	0.06	0.6	0.6	●	●	●		○	○
I16EL40UN6025	16EL40UN-CP6025	40	3/8"	16	0.06	0.6	0.6	●	●	●		○	○
I16ER36UN6025	16ER36UN-CP6025	36	3/8"	16	0.07	0.6	0.6	●	●	●		○	○
I16EL36UN6025	16EL36UN-CP6025	36	3/8"	16	0.07	0.6	0.6	●	●	●		○	○
I16ER32UN6025	16ER32UN-CP6025	32	3/8"	16	0.09	0.6	0.6	●	●	●		○	○
I16EL32UN6025	16EL32UN-CP6025	32	3/8"	16	0.09	0.6	0.6	●	●	●		○	○
I16ER28UN6025	16ER28UN-CP6025	28	3/8"	16	0.10	0.6	0.7	●	●	●		○	○
I16EL28UN6025	16EL28UN-CP6025	28	3/8"	16	0.10	0.6	0.7	●	●	●		○	○
I16ER26UN6025	16ER26UN-CP6025	26	3/8"	16	0.11	0.7	0.8	●	●	●		○	○
I16EL26UN6025	16EL26UN-CP6025	26	3/8"	16	0.11	0.7	0.8	●	●	●		○	○
I16ER24UN6025	16ER24UN-CP6025	24	3/8"	16	0.12	0.7	0.8	●	●	●		○	○
I16EL24UN6025	16EL24UN-CP6025	24	3/8"	16	0.12	0.7	0.8	●	●	●		○	○
I16ER20UN6025	16ER20UN-CP6025	20	3/8"	16	0.15	0.8	0.9	●	●	●		○	○
I16EL20UN6025	16EL20UN-CP6025	20	3/8"	16	0.15	0.8	0.9	●	●	●		○	○

Threading Inserts - American UN 60° 車牙刀片 - 美制 UN 60° 螺紋

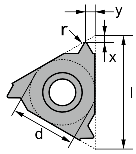
External 外徑



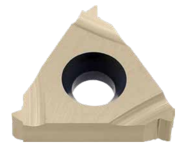
Tolerance Class : 2A/2B



Right hand



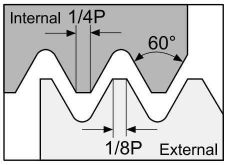
Left hand



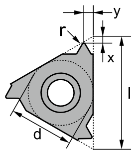
Order No. 訂購編碼	Designation	Pitch	Dimensions (mm)					Working Material					
		TPI	d	l	r	x	y	P	M	K	N	S	H
I16ER18UN6025	16ER18UN-CP6025	18	3/8"	16	0.17	0.8	1.0	●	●	●		○	○
I16EL18UN6025	16EL18UN-CP6025	18	3/8"	16	0.17	0.8	1.0	●	●	●		○	○
I16ER16UN6025	16ER16UN-CP6025	16	3/8"	16	0.18	0.9	1.1	●	●	●		○	○
I16EL16UN6025	16EL16UN-CP6025	16	3/8"	16	0.18	0.9	1.1	●	●	●		○	○
I16ER14UN6025	16ER14UN-CP6025	14	3/8"	16	0.22	1.0	1.2	●	●	●		○	○
I16EL14UN6025	16EL14UN-CP6025	14	3/8"	16	0.22	1.0	1.2	●	●	●		○	○
I16ER13UN6025	16ER13UN-CP6025	13	3/8"	16	0.24	1.0	1.3	●	●	●		○	○
I16EL13UN6025	16EL13UN-CP6025	13	3/8"	16	0.24	1.0	1.3	●	●	●		○	○
I16ER12UN6025	16ER12UN-CP6025	12	3/8"	16	0.26	1.1	1.4	●	●	●		○	○
I16EL12UN6025	16EL12UN-CP6025	12	3/8"	16	0.26	1.1	1.4	●	●	●		○	○
I16ER115UN6025	16ER11.5UN-CP6025	11.5	3/8"	16	0.27	1.1	1.5	●	●	●		○	○
I16EL115UN6025	16EL11.5UN-CP6025	11.5	3/8"	16	0.27	1.1	1.5	●	●	●		○	○
I16ER11UN6025	16ER11UN-CP6025	11	3/8"	16	0.28	1.1	1.5	●	●	●		○	○
I16EL11UN6025	16EL11UN-CP6025	11	3/8"	16	0.28	1.1	1.5	●	●	●		○	○
I16ER10UN6025	16ER10UN-CP6025	10	3/8"	16	0.32	1.1	1.5	●	●	●		○	○
I16EL10UN6025	16EL10UN-CP6025	10	3/8"	16	0.32	1.1	1.5	●	●	●		○	○
I16ER9UN6025	16ER9UN-CP6025	9	3/8"	16	0.36	1.2	1.7	●	●	●		○	○
I16EL9UN6025	16EL9UN-CP6025	9	3/8"	16	0.36	1.2	1.7	●	●	●		○	○
I16ER8UN6025	16ER8UN-CP6025	8	3/8"	16	0.41	1.2	1.6	●	●	●		○	○
I16EL8UN6025	16EL8UN-CP6025	8	3/8"	16	0.41	1.2	1.6	●	●	●		○	○

Threading Inserts - American UN 60° 車牙刀片 - 美制 UN 60° 螺紋

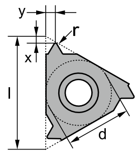
Internal 內徑



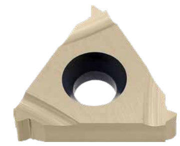
Tolerance Class : 2A/2B



Right hand



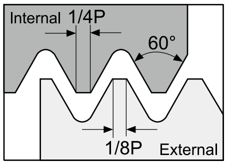
Left hand



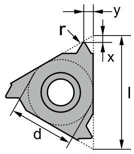
Order No. 訂購編碼	Designation	Pitch	Dimensions (mm)					Working Material					
		TPI	d	l	r	x	y	P	M	K	N	S	H
I11IR32UN6025	11IR32UN-CP6025	32	1/4"	11	0.04	0.6	0.6	●	●	●		○	○
I11IL32UN6025	11IL32UN-CP6025	32	1/4"	11	0.04	0.6	0.6	●	●	●		○	○
I11IR28UN6025	11IR28UN-CP6025	28	1/4"	11	0.04	0.6	0.7	●	●	●		○	○
I11IL28UN6025	11IL28UN-CP6025	28	1/4"	11	0.04	0.6	0.7	●	●	●		○	○
I11IR24UN6025	11IR24UN-CP6025	24	1/4"	11	0.05	0.7	0.8	●	●	●		○	○
I11IL24UN6025	11IL24UN-CP6025	24	1/4"	11	0.05	0.7	0.8	●	●	●		○	○
I11IR20UN6025	11IR20UN-CP6025	20	1/4"	11	0.06	0.8	0.9	●	●	●		○	○
I11IL20UN6025	11IL20UN-CP6025	20	1/4"	11	0.06	0.8	0.9	●	●	●		○	○
I11IR18UN6025	11IR18UN-CP6025	18	1/4"	11	0.07	0.8	1.0	●	●	●		○	○
I11IL18UN6025	11IL18UN-CP6025	18	1/4"	11	0.07	0.8	1.0	●	●	●		○	○
I11IR16UN6025	11IR16UN-CP6025	16	1/4"	11	0.09	0.9	1.1	●	●	●		○	○
I11IL16UN6025	11IL16UN-CP6025	16	1/4"	11	0.09	0.9	1.1	●	●	●		○	○
I16IR40UN6025	16IR40UN-CP6025	40	3/8"	16	0.03	0.6	0.6	●	●	●		○	○
I16IL40UN6025	16IL40UN-CP6025	40	3/8"	16	0.03	0.6	0.6	●	●	●		○	○
I16IR36UN6025	16IR36UN-CP6025	36	3/8"	16	0.03	0.6	0.6	●	●	●		○	○
I16IL36UN6025	16IL36UN-CP6025	36	3/8"	16	0.03	0.6	0.6	●	●	●		○	○
I16IR32UN6025	16IR32UN-CP6025	32	3/8"	16	0.04	0.6	0.6	●	●	●		○	○
I16IL32UN6025	16IL32UN-CP6025	32	3/8"	16	0.04	0.6	0.6	●	●	●		○	○
I16IR28UN6025	16IR28UN-CP6025	28	3/8"	16	0.04	0.6	0.7	●	●	●		○	○
I16IL28UN6025	16IL28UN-CP6025	28	3/8"	16	0.04	0.6	0.7	●	●	●		○	○
I16IR26UN6025	16IR26UN-CP6025	26	3/8"	16	0.04	0.7	0.8	●	●	●		○	○
I16IL26UN6025	16IL26UN-CP6025	26	3/8"	16	0.04	0.7	0.8	●	●	●		○	○
I16IR24UN6025	16IR24UN-CP6025	24	3/8"	16	0.05	0.7	0.8	●	●	●		○	○
I16IL24UN6025	16IL24UN-CP6025	24	3/8"	16	0.05	0.7	0.8	●	●	●		○	○
I16IR20UN6025	16IR20UN-CP6025	20	3/8"	16	0.06	0.8	0.9	●	●	●		○	○
I16IL20UN6025	16IL20UN-CP6025	20	3/8"	16	0.06	0.8	0.9	●	●	●		○	○

Threading Inserts - American UN 60° 車牙刀片 - 美制 UN 60° 螺紋

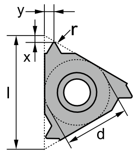
Internal 內徑



Tolerance Class : 2A/2B



Right hand

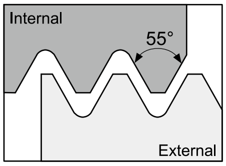


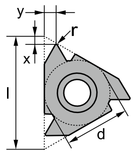
Left hand

Order No. 訂購編碼	Designation	Pitch	Dimensions (mm)					Working Material					
		TPI	d	l	r	x	y	P	M	K	N	S	H
I16IR18UN6025	16IR18UN-CP6025	18	3/8"	16	0.07	0.8	1.0	●	●	●		○	○
I16IL18UN6025	16IL18UN-CP6025	18	3/8"	16	0.07	0.8	1.0	●	●	●		○	○
I16IR16UN6025	16IR16UN-CP6025	16	3/8"	16	0.09	0.9	1.1	●	●	●		○	○
I16IL16UN6025	16IL16UN-CP6025	16	3/8"	16	0.09	0.9	1.1	●	●	●		○	○
I16IR14UN6025	16IR14UN-CP6025	14	3/8"	16	0.10	0.9	1.2	●	●	●		○	○
I16IL14UN6025	16IL14UN-CP6025	14	3/8"	16	0.10	0.9	1.2	●	●	●		○	○
I16IR13UN6025	16IR13UN-CP6025	13	3/8"	16	0.11	1.0	1.3	●	●	●		○	○
I16IL13UN6025	16IL13UN-CP6025	13	3/8"	16	0.11	1.0	1.3	●	●	●		○	○
I16IR12UN6025	16IR12UN-CP6025	12	3/8"	16	0.12	1.1	1.4	●	●	●		○	○
I16IL12UN6025	16IL12UN-CP6025	12	3/8"	16	0.12	1.1	1.4	●	●	●		○	○
I16IR115UN6025	16IR11.5UN-CP6025	11.5	3/8"	16	0.13	1.1	1.5	●	●	●		○	○
I16IL115UN6025	16IL11.5UN-CP6025	11.5	3/8"	16	0.13	1.1	1.5	●	●	●		○	○
I16IR11UN6025	16IR11UN-CP6025	11	3/8"	16	0.14	1.1	1.5	●	●	●		○	○
I16IL11UN6025	16IL11UN-CP6025	11	3/8"	16	0.14	1.1	1.5	●	●	●		○	○
I16IR10UN6025	16IR10UN-CP6025	10	3/8"	16	0.15	1.1	1.5	●	●	●		○	○
I16IL10UN6025	16IL10UN-CP6025	10	3/8"	16	0.15	1.1	1.5	●	●	●		○	○
I16IR9UN6025	16IR9UN-CP6025	9	3/8"	16	0.17	1.2	1.7	●	●	●		○	○
I16IL9UN6025	16IL9UN-CP6025	9	3/8"	16	0.17	1.2	1.7	●	●	●		○	○
I16IR8UN6025	16IR8UN-CP6025	8	3/8"	16	0.19	1.1	1.5	●	●	●		○	○
I16IL8UN6025	16IL8UN-CP6025	8	3/8"	16	0.19	1.1	1.5	●	●	●		○	○

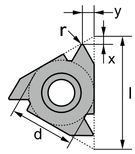
Threading Inserts - Partial Profile 55° 車牙刀片 - 55° 泛牙型

External 外徑





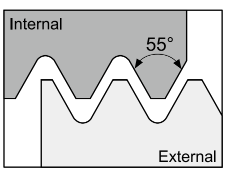
Right hand

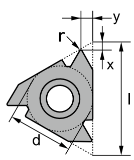


Left hand

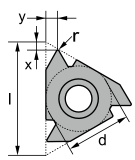
Order No. 訂購編碼	Designation	Pitch		Dimensions (mm)					Working Material					
		TP (mm)	TPI	d	l	r	x	y	P	M	K	N	S	H
I11ERA556025	11ERA55-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
I11ELA556025	11ELA55-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
I16ERA556025	16ERA55-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
I16ELA556025	16ELA55-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
I16ERAG556025	16ERAG55-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
I16ELAG556025	16ELAG55-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
I16ERG556025	16ERG55-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.17	1.2	1.7	●	●	●		○	○
I16ELG556025	16ELG55-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.17	1.2	1.7	●	●	●		○	○

Internal 內徑

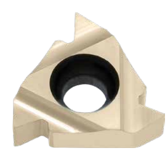




Right hand

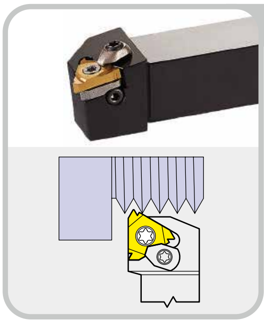


Left hand

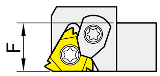


Order No. 訂購編碼	Designation	Pitch		Dimensions (mm)					Working Material					
		TP (mm)	TPI	d	l	r	x	y	P	M	K	N	S	H
I11IRA556025	11IRA55-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
I11ILA556025	11ILA55-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
I16IRA556025	16IRA55-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
I16ILA556025	16ILA55-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
I16IRAG556025	16IRAG55-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
I16ILAG556025	16ILAG55-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
I16IRG556025	16IRG55-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.12	1.2	1.7	●	●	●		○	○
I16ILG556025	16ILG55-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.12	1.2	1.7	●	●	●		○	○

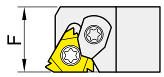
External Threading Tool Holders 外徑車牙刀桿



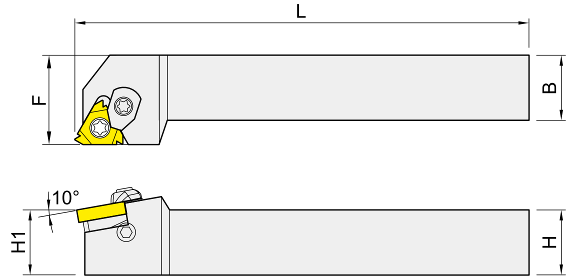
SE..CL



SER1010K16HC
SER1212K16HC



SER1216K16HC
SER1616K16HC



Right-hand shown

Order No. 訂購編碼	Dimensions (mm)				Insert	Spare parts
	H(H1)	B	L	F		
ISE^R/$_L$1010K16HC	10	10	125	10	16ER 16EL	①
ISE^R/$_L$1212K16HC	12	12	125	12		
ISE^R/$_L$1216K16HC	12	16	125	16		
ISE^R/$_L$1616K16HC	16	16	125	16		
ISE^R/$_L$1616K16CL	16	16	125	20		②
ISE^R/$_L$2020K16CL	20	20	125	25		
ISE^R/$_L$2525M16CL	25	25	150	32		
ISE^R/$_L$3232P16CL	32	32	170	40		

Spare parts	Screw	Shim	Screw	Wrench	Clamp	Wrench
①	IMS3509A	-	-	-	-	ITK15
②	IMS3512A	IGXN16 or IGXE16	IHTM309	IPL25	IMC353V	ITK15

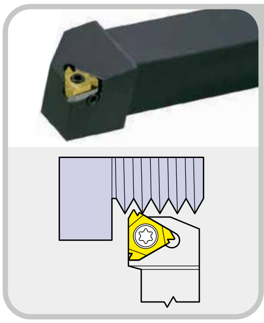
※ SER right hand tools shim is IGXE16, SEL left hand tools shim is IGXN16.

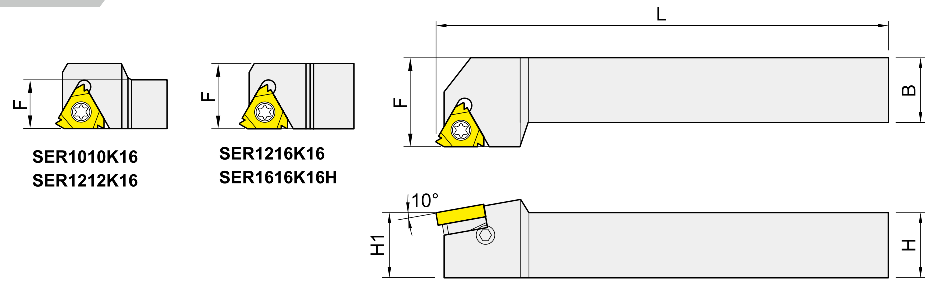
Turning

WINSTAR

External Threading Tool Holders 外徑車牙刀桿

SE





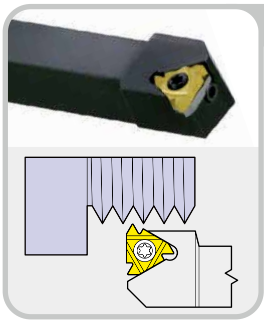
Right-hand shown

Order No. 訂購編碼	Dimensions (mm)				Insert	Spare parts
	H(H1)	B	L	F		
ISE$^{R}/_{L}$1216K16	12	16	125	16	16ER 16EL	①
ISE$^{R}/_{L}$1010K16H	10	10	125	10		
ISE$^{R}/_{L}$1212K16H	12	12	125	12		
ISE$^{R}/_{L}$1616K16H	16	16	125	16		
ISE$^{R}/_{L}$1616K16	16	16	125	20		②
ISE$^{R}/_{L}$2020K16	20	20	125	25		
ISE$^{R}/_{L}$2525M16	25	25	150	32		
ISE$^{R}/_{L}$3232P16	32	32	170	40		

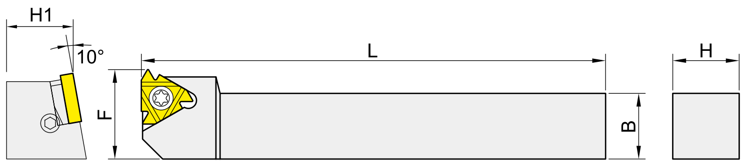
Spare parts	Screw	Shim	Screw	Wrench	Wrench
①	IMS3509A	-	-	-	ITK15
②	IMS3512A	IGXN16 or IGXE16	IHTM309	IPL25	ITK15

※ SER right hand tools shim is IGXE16, SEL left hand tools shim is IGXN16.

External Threading Tool Holders 外徑車牙刀桿



SKE



Right-hand shown

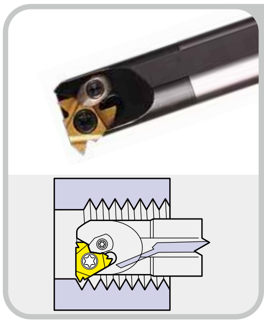
Order No. 訂購編碼	Dimensions (mm)				Insert	Spare parts
	H(H1)	B	L	F		
ISKE^{R}/$_{L}$1212K16	12	12	125	18	16ER 16EL	①
ISKE^{R}/$_{L}$1616K16	16	16	125	22		②
ISKE^{R}/$_{L}$2020K16	20	20	125	27		
ISKE^{R}/$_{L}$2525M16	25	25	150	34		

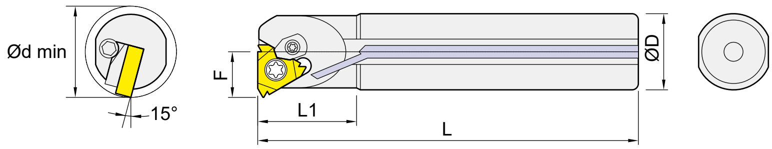
Spare parts	Screw	Shim	Screw	Wrench	Wrench
①	IMS3509A	-	-	-	ITK15
②	IMS3512A	IGXN16 or IGXE16	IHTM309	IPL25	ITK15

※ SKER right hand tools shim is IGXE16, SKEL left hand tools shim is IGXN16.

Internal Threading Tool Holders 內徑車牙刀桿

SN..CL





Right-hand shown

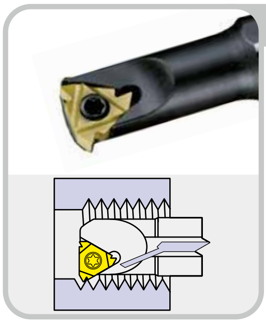
Order No. 訂購編碼	Dimensions (mm)					Coolant	Insert	Spare parts
	D	L	L1	F	d min			
ISN$^{R}/_{L}$0020R16CL	20	200	40	12	24		16IR 16IL	①
ISN$^{R}/_{L}$0025R16CL	25	200	45	14.5	29			
ISN$^{R}/_{L}$0032S16CL	32	250	45	18.5	36			
ISN$^{R}/_{L}$A0020R16CL	20	200	40	12	24	●		
ISN$^{R}/_{L}$A0025R16CL	25	200	45	14.5	29	●		
ISN$^{R}/_{L}$A0032S16CL	32	250	45	18.5	36	●		

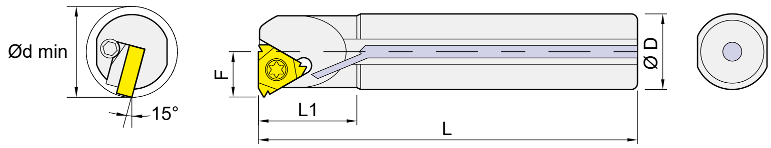
Spare parts	Screw	Shim	Screw	Wrench	Clamp	Wrench
①	IMS3512A	IGXN16 or IGXE16	IHTM309	IPL25	IMC353V	ITK15

※ SNR right hand tools shim is IGXN16, SNL left hand tools shim is IGXE16.

Internal Threading Tool Holders 內徑車牙刀桿

SN





Right-hand shown

Order No. 訂購編碼	Dimensions (mm)					Coolant	Insert	Spare parts
	D	L	L1	F	d min			
ISN$^{R}/_{L}$0010K11S10	10	125	22	6.5	13		11IR 11IL	①
ISN$^{R}/_{L}$0012M11S12	12	150	26	8	16			
ISN$^{R}/_{L}$A0010K11S10	10	125	22	6.5	13	●		
ISN$^{R}/_{L}$A0012M11S12	12	150	26	8	16	●		
ISN$^{R}/_{L}$0016Q16	16	180	36	10	19		16IR 16IL	②
ISN$^{R}/_{L}$0020R16	20	200	40	12	24			③
ISN$^{R}/_{L}$0025R16	25	200	45	14.5	29			
ISN$^{R}/_{L}$0032S16	32	250	45	18.5	36			
ISN$^{R}/_{L}$A0016Q16	16	180	36	10	19	●		②
ISN$^{R}/_{L}$A0020R16	20	200	40	12	24	●		③
ISN$^{R}/_{L}$A0025R16	25	200	45	14.5	29	●		
ISN$^{R}/_{L}$A0032S16	32	250	45	18.5	36	●		

Spare parts	Screw	Wrench	Shim	Screw	Wrench
①	IMS2507G	ITK08	-	-	-
②	IMS3509A	ITK15	-	-	-
③	IMS3512A	ITK15	IGXN16 or IGXE16	IHTM309	IPL25

※ SNR right hand tools shim is IGXN16, SNL left hand tools shim is IGXE16.

Recommended Cutting Conditions 建議切削數據

Working Material	Vc (m/min)
Carbon Steel (HB85-225)	60 -100 -140
Stainless 300 Series	40 - 80 - 120
Cast Iron (HB140-220)	60 - 90 -120
High Temperature Alloy	25 - 45 - 65
Hardened Steel	20 - 40 -60

Depth of Cut And Number of Passes 切深與加工步數

ISO Metric 60° External 外徑

No. of Passes	Pitch (mm)															
	0.5	0.75	0.8	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
	Radial infeed per pass (mm)															
1	0.102	0.178	0.178	0.178	0.178	0.229	0.229	0.254	0.279	0.279	0.330	0.330	0.381	0.406	0.432	0.457
2	0.102	0.152	0.152	0.178	0.178	0.203	0.203	0.229	0.254	0.254	0.305	0.330	0.330	0.381	0.406	0.432
3	0.076	0.102	0.127	0.127	0.152	0.178	0.152	0.178	0.203	0.203	0.254	0.254	0.279	0.330	0.330	0.356
4	0.076	0.076	0.076	0.102	0.127	0.152	0.152	0.152	0.178	0.178	0.203	0.229	0.229	0.279	0.279	0.305
5	**0.356**	**0.508**	**0.533**	0.076	0.102	0.127	0.127	0.152	0.152	0.152	0.178	0.178	0.229	0.229	0.229	0.279
6				**0.660**	0.076	0.076	0.102	0.127	0.127	0.152	0.178	0.178	0.203	0.229	0.229	0.229
7					**0.813**	**0.965**	0.102	0.102	0.127	0.127	0.152	0.152	0.178	0.203	0.203	0.229
8							0.076	0.076	0.102	0.127	0.152	0.152	0.178	0.178	0.178	0.203
9							**1.143**	**1.270**	0.102	0.127	0.152	0.152	0.152	0.178	0.178	0.203
10									0.076	0.102	0.127	0.127	0.152	0.178	0.178	0.178
11									**1.600**	0.102	0.102	0.127	0.152	0.152	0.152	0.178
12										0.076	0.076	0.127	0.127	0.152	0.152	0.152
13										**1.880**	**2.210**	0.102	0.127	0.127	0.127	0.152
14												0.076	0.102	0.102	0.127	0.152
15												**2.515**	**2.819**	**3.124**	0.127	0.127
16															0.102	0.102
															3.429	**3.734**

Last pass equals total depth of thread.

ISO Metric 60° Internal 內徑

No. of Passes	Pitch (mm)														
	0.5	0.75	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
	Radial infeed per pass (mm)														
1	0.102	0.178	0.178	0.203	0.254	0.229	0.254	0.279	0.279	0.305	0.330	0.356	0.381	0.381	0.406
2	0.102	0.127	0.152	0.178	0.203	0.203	0.229	0.229	0.229	0.279	0.305	0.330	0.356	0.356	0.406
3	0.076	0.102	0.102	0.127	0.152	0.152	0.178	0.178	0.203	0.229	0.229	0.279	0.305	0.305	0.356
4	0.076	0.076	0.102	0.102	0.102	0.127	0.152	0.152	0.152	0.203	0.203	0.229	0.254	0.254	0.279
5	**0.356**	**0.483**	0.076	0.102	0.102	0.102	0.127	0.152	0.152	0.178	0.178	0.203	0.229	0.229	0.229
6			**0.610**	0.076	0.076	0.102	0.102	0.127	0.152	0.152	0.152	0.178	0.203	0.203	0.229
7				**0.787**	**0.889**	0.102	0.102	0.102	0.127	0.152	0.152	0.152	0.178	0.178	0.203
8						0.076	0.076	0.102	0.102	0.152	0.152	0.152	0.152	0.178	0.178
9						**1.092**	**1.219**	0.102	0.102	0.127	0.127	0.152	0.152	0.152	0.178
10								0.076	0.102	0.102	0.127	0.152	0.152	0.152	0.152
11								**1.499**	0.102	0.102	0.102	0.127	0.152	0.152	0.152
12									0.076	0.076	0.102	0.127	0.152	0.152	0.152
13									**1.778**	**2.057**	0.102	0.102	0.127	0.152	0.152
14											0.076	0.102	0.102	0.127	0.152
15											**2.337**	**2.642**	**2.896**	0.127	0.127
16														0.102	0.102
														3.200	**3.454**

Last pass equals total depth of thread.

Depth of Cut And Number of Passes 切深與加工步數

Unified(UN) 60° External 外徑

No. of Passes	TPI												
	32	28	24	20	18	16	14	13	12	11	10	9	8
	Radial infeed per pass (mm)												
1	0.178	0.178	0.178	0.203	0.229	0.229	0.229	0.254	0.279	0.279	0.279	0.279	0.305
2	0.152	0.152	0.178	0.178	0.203	0.203	0.229	0.229	0.229	0.254	0.229	0.229	0.254
3	0.127	0.127	0.152	0.152	0.152	0.152	0.178	0.178	0.203	0.203	0.203	0.203	0.229
4	0.076	0.102	0.127	0.127	0.152	0.152	0.152	0.152	0.152	0.178	0.178	0.178	0.178
5	**0.533**	0.076	0.076	0.102	0.127	0.127	0.127	0.152	0.152	0.152	0.152	0.152	0.178
6		**0.635**	**0.711**	0.076	0.076	0.102	0.102	0.127	0.152	0.152	0.152	0.152	0.152
7				**0.838**	**0.940**	0.076	0.102	0.102	0.127	0.127	0.152	0.152	0.152
8						**1.041**	0.076	0.076	0.076	0.102	0.127	0.127	0.152
9							**1.194**	**1.270**	**1.372**	0.076	0.102	0.127	0.127
10										**1.499**	0.076	0.102	0.127
11											**1.651**	0.076	0.102
12												**1.778**	0.076
13													**2.032**

Last pass equals total depth of thread.

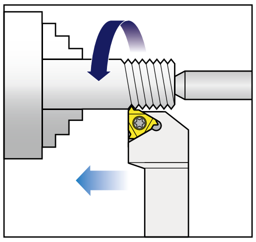
Unified(UN) 60° Internal 內徑

No. of Passes	TPI												
	32	28	24	20	18	16	14	13	12	11	10	9	8
	Radial infeed per pass (mm)												
1	0.178	0.178	0.178	0.203	0.229	0.229	0.229	0.254	0.279	0.279	0.279	0.279	0.305
2	0.152	0.152	0.152	0.178	0.178	0.178	0.203	0.229	0.229	0.229	0.229	0.229	0.279
3	0.102	0.102	0.152	0.127	0.152	0.152	0.152	0.152	0.178	0.178	0.152	0.178	0.203
4	0.076	0.102	0.102	0.102	0.127	0.127	0.152	0.152	0.152	0.152	0.152	0.152	0.178
5	**0.508**	0.076	0.076	0.102	0.102	0.102	0.102	0.127	0.127	0.152	0.152	0.152	0.152
6		**0.610**	**0.660**	0.076	0.076	0.102	0.102	0.102	0.102	0.127	0.127	0.152	0.152
7				**0.787**	**0.864**	0.076	0.102	0.102	0.102	0.102	0.102	0.127	0.127
8						**0.940**	0.076	0.076	0.076	0.102	0.102	0.102	0.102
9							**1.118**	**1.194**	**1.245**	0.076	0.102	0.102	0.102
10										**1.397**	0.076	0.102	0.102
11											**1.499**	0.076	0.102
12												**1.651**	0.076
13													**1.880**

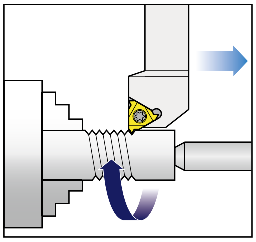
Last pass equals total depth of thread.

Thread Methods 進刀方法

External Right Hand Thread

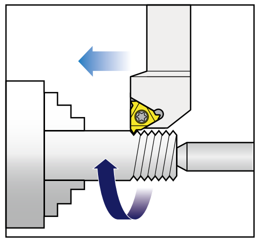


Spindle : Clockwise
Tool : right hand

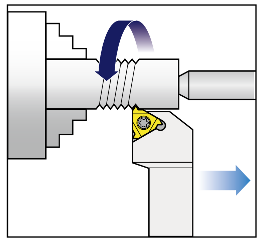


Spindle : Counterclockwise
Tool : left hand

External Left Hand Thread

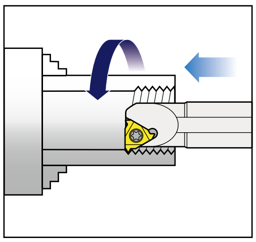


Spindle : Counterclockwise
Tool : left hand

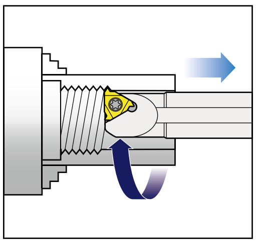


Spindle : Clockwise
Tool : right hand

Internal Right Hand Thread

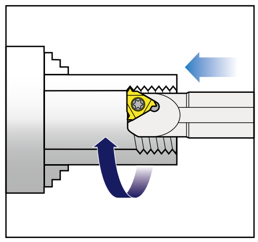


Spindle : Clockwise
Tool : right hand

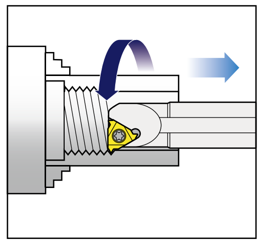


Spindle : Counterclockwise
Tool : left hand

Internal Left Hand Thread

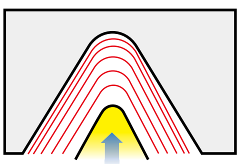
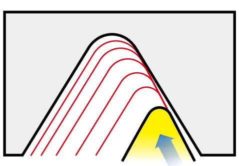
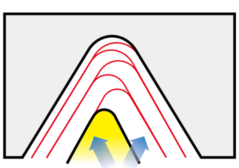


Spindle : Counterclockwise
Tool : left hand



Spindle : Clockwise
Tool : right hand

Infeed Methods 螺紋加工方法

Infeed Methods	Features
 Radial Infeed	• For pitches of less than 1.5mm or 16 T.P.I. • Most commonly used method on manual lathes. • Equal wear on leading and trailing edge. • Good surface finish on trailing edge. • Use on work hardening materials. • Use on short chipping materials.
 Modified Flank Infeed	• For threads greater than 1.5mm or 16 T.P.I. • Reduced cutting pressure on larger pitches. • Reduced chatter. • Directs chip away from the cutting edge. • Displaced in-feed angle improves surface finish. • First choice for internal threading.
 Alternating Flank Infeed	• Recommended for large pitches. • Recommended for long chipping materials. • Method divides the work between both flanks. • Results in equal wear. • Less cutting pressure. • Not available on all lathes.

Auto Lathe Tool Series Introduction 自動車床刀具系列介紹

DL Series Solid Carbide Mini Bars 迷你鎢鋼搪刀

- Suitable for small holes boring, internal grooving, face grooving and threading machining.
- Mini boring diameter 1.0mm.

- 適用於小孔徑之內部搪孔、開槽、端面開槽及螺紋加工
- 最小搪孔徑 1.0mm

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DE Series Solid Carbide Modular Bars 模組化鎢鋼搪刀

- Easy tool changeover and position repeatability (±0.05mm).
- Double ended design for two different shank sizes.
- Mini boring diameter 1.0mm.

- 刀具更換更迅速，擁有優異的重複定位精度 (±0.05mm)
- 雙端設計，可用於兩種不同柄徑尺寸刀具
- 最小搪孔徑 1.0mm

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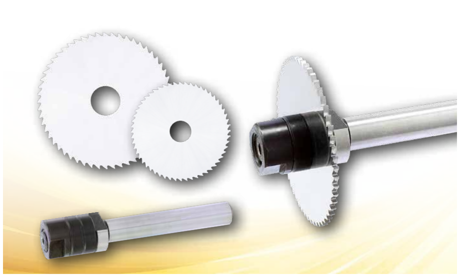
ETU Series Solid Endmills 全鎢鋼銑刀 (短全長)

- Short total length design.
- Cutting dia. 1~12mm wih 6mm shank dia. is suitable for automatic lathe.
- Sharp cutting edge produces an excellent surface finish.

- 短全長設計
- 刀具外徑 1~12mm, 刀柄尺寸 6mm 適用於自動車床
- 鋒利的切削刃可產生出色的表面光潔度

→ Page C131

ETW Series Carbide Slitting Saws 全鎢鋼小徑鋸片



- Suitable for small parts cutting off or slot machining.
- Saw arbor shank from Ø6 ~ Ø10mm.
- Carbide saw diameters from 15 ~ 30mm.

- 適用於小型零組件切斷或槽加工
- 提供鋸片軸心柄從 Ø6~Ø10mm
- 鋸片尺寸由 15~30mm

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SAKG Series Indexable Turning Tools 多功能捨棄式車刀

- Back turning / Parting off / Profiling / Grooving / Threading for small to mid-sized parts.
- Insert is more stable on holder by two screw clamping.

- 適用於小型至中型零組件多功能車削 (後掃，切斷，切槽，輪廓，螺紋加工)
- 使用兩顆螺絲將刀片更穩定的固定至刀桿上

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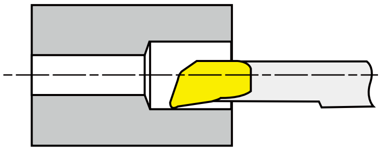
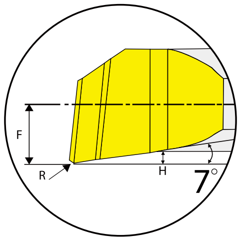
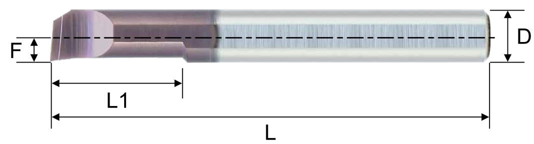
DLBSR Carbide Mini Internal Boring Bars (7°) 迷你鎢鋼內徑搪刀 (7°)



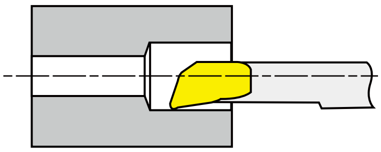


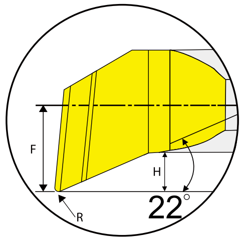


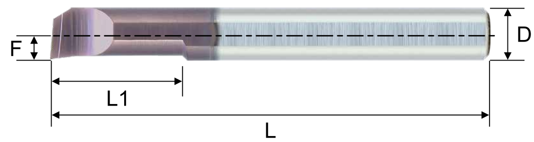
Order No. 訂購編碼	F	L1	L	R	D	H	Min. Bore Dia.
DLBSR08051507U	0.8	5	50	0.15	3	0.1	2.4
DLBSR08101507U	0.8	10	50	0.15	3	0.1	2.4
DLBSR13100507U	1.3	10	50	0.05	3	0.2	3.1
DLBSR13150507U	1.3	15	50	0.05	3	0.2	3.1
DLBSR13151007U	1.3	15	50	0.10	3	0.2	3.1
DLBSR13102007U	1.3	10	50	0.20	3	0.2	3.1
DLBSR13152007U	1.3	15	50	0.20	3	0.2	3.1
DLBSR17101007U	1.7	10	50	0.10	4	0.2	4.1
DLBSR17151007U	1.7	15	50	0.10	4	0.2	4.1
DLBSR17221007U	1.7	22	50	0.10	4	0.2	4.1
DLBSR17102007U	1.7	10	50	0.20	4	0.2	4.1
DLBSR17152007U	1.7	15	50	0.20	4	0.2	4.1
DLBSR17222007U	1.7	22	50	0.20	4	0.2	4.1
DLBSR21151007U	2.1	15	50	0.10	5	0.3	5.1
DLBSR21221007U	2.1	22	50	0.10	5	0.3	5.1
DLBSR21301007U	2.1	30	75	0.10	5	0.3	5.1
DLBSR21152007U	2.1	15	50	0.20	5	0.3	5.1
DLBSR21222007U	2.1	22	50	0.20	5	0.3	5.1
DLBSR21302007U	2.1	30	75	0.20	5	0.3	5.1
DLBSR28150507U	2.8	15	50	0.05	6	0.3	6.1
DLBSR28151007U	2.8	15	50	0.10	6	0.3	6.1
DLBSR28152007U	2.8	15	50	0.20	6	0.3	6.1
DLBSR28222007U	2.8	22	50	0.20	6	0.3	6.1
DLBSR28302007U	2.8	30	60	0.20	6	0.3	6.1

∗ For left hand tools specify DLBSL instead of DLBSR.

DLBSR Carbide Mini Internal Boring Bars (22°) 迷你鎢鋼內徑搪刀 (22°)



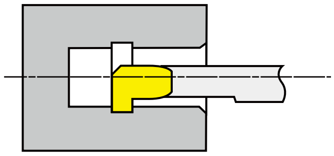


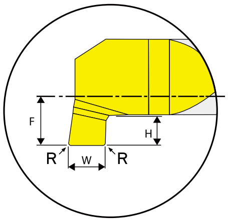


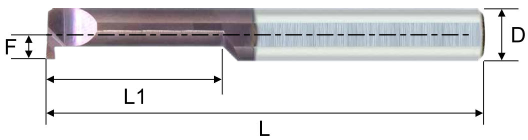
Order No. 訂購編碼	F	L1	L	R	D	H	Min. Bore Dia.
DLBSR04030522U	0.4	3	50	0.05	4	0.2	1.0
DLBSR04050522U	0.4	5	50	0.05	4	0.2	1.0
DLBSR08060522U	0.8	6	50	0.05	4	0.4	2.0
DLBSR08100522U	0.8	10	50	0.05	4	0.4	2.0
DLBSR08140522U	0.8	14	50	0.05	4	0.4	2.0
DLBSR13091022U	1.3	9	50	0.10	4	0.6	3.0
DLBSR13151022U	1.3	15	50	0.10	4	0.6	3.0
DLBSR13211022U	1.3	21	50	0.10	4	0.6	3.0
DLBSR18121022U	1.8	12	50	0.10	4	0.8	4.0
DLBSR18201022U	1.8	20	50	0.10	4	0.8	4.0
DLBSR18281022U	1.8	28	60	0.10	4	0.8	4.0
DLBSR23152022U	2.3	15	50	0.20	6	1.0	5.0
DLBSR23252022U	2.3	25	50	0.20	6	1.0	5.0
DLBSR23302022U	2.3	30	60	0.20	6	1.0	5.0
DLBSR28182022U	2.8	18	50	0.20	6	1.2	6.0
DLBSR28302022U	2.8	30	60	0.20	6	1.2	6.0
DLBSR28422022U	2.8	42	65	0.20	6	1.2	6.0

＊ For left hand tools specify DLBSL instead of DLBSR.

DLGSR Carbide Mini Internal Grooving Bars 迷你鎢鋼內徑開槽刀



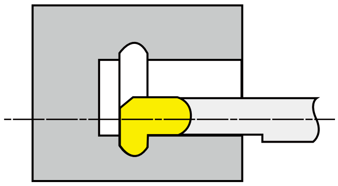


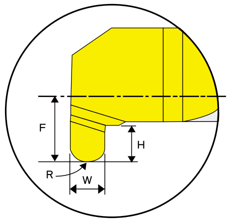


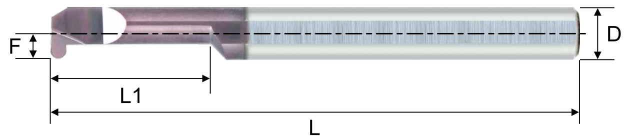
Order No. 訂購編碼	F	L1	L	W	R	D	H	Min. Bore Dia.
DLGSR17101010U	1.7	10	50	1.00	0.1	4	1.0	4.1
DLGSR17101510U	1.7	10	50	1.50	0.1	4	1.0	4.1
DLGSR23101012U	2.3	10	50	1.00	0.1	5	1.2	5.1
DLGSR23101512U	2.3	10	50	1.50	0.1	5	1.2	5.1
DLGSR23102012U	2.3	10	50	2.00	0.1	5	1.2	5.1
DLGSR28201014U	2.8	20	50	1.00	0.1	6	1.4	6.1
DLGSR28201514U	2.8	20	50	1.50	0.1	6	1.4	6.1
DLGSR28202014U	2.8	20	50	2.00	0.1	6	1.4	6.1
DLGSR38301022U	3.8	30	60	1.00	0.15	8	2.2	8.1
DLGSR38301522U	3.8	30	60	1.50	0.15	8	2.2	8.1
DLGSR38302022U	3.8	30	60	2.00	0.15	8	2.2	8.1

＊ For left hand tools specify DLGSL instead of DLGSR.

DLGBR Carbide Mini Internal Grooving R Bars 迷你鎢鋼內徑 R 開槽刀



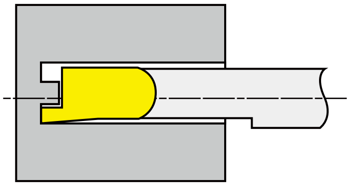


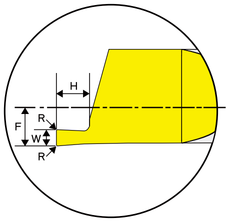


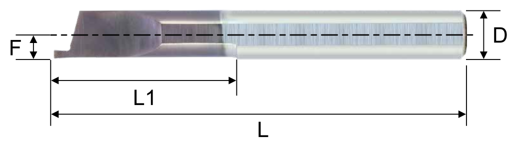
Order No. 訂購編碼	F	L1	L	W	R	D	H	Min. Bore Dia.
DLGBR17101010U	1.7	10	50	1.00	0.50	4	1.0	4.1
DLGBR17101510U	1.7	10	50	1.50	0.75	4	1.0	4.1
DLGBR23151012U	2.3	15	50	1.00	0.50	5	1.2	5.1
DLGBR23151512U	2.3	15	50	1.50	0.75	5	1.2	5.1
DLGBR23152012U	2.3	15	50	2.00	1.00	5	1.2	5.1
DLGBR28151016U	2.8	15	50	1.00	0.50	6	1.6	6.1
DLGBR28151516U	2.8	15	50	1.50	0.75	6	1.6	6.1
DLGBR28152016U	2.8	15	50	2.00	1.00	6	1.6	6.1

∗ For left hand tools specify DLGBL instead of DLGBR.

DLFSR Carbide Mini Internal Face Grooving Bars 迷你鎢鋼內徑端面開槽刀



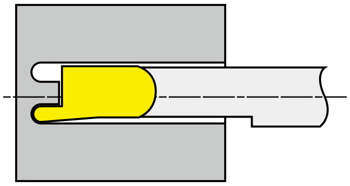


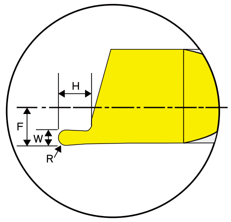


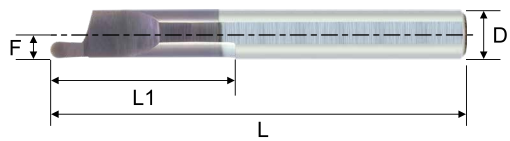
Order No. 訂購編碼	F	L1	L	W	R	D	H	Min. Bore Dia.
DLFSR18150712U	1.8	15	50	0.75	0.1	4	1.2	4
DLFSR18151015U	1.8	15	50	1.00	0.1	4	1.5	4
DLFSR18151526U	1.8	15	50	1.50	0.1	4	2.6	4
DLFSR23220712U	2.3	22	50	0.75	0.1	6	1.2	5
DLFSR23221015U	2.3	22	50	1.00	0.1	6	1.5	5
DLFSR23221525U	2.3	22	50	1.50	0.1	6	2.5	5
DLFSR23222036U	2.3	22	50	2.00	0.1	6	3.6	5
DLFSR28221015U	2.8	22	50	1.00	0.1	6	1.5	6
DLFSR28221525U	2.8	22	50	1.50	0.1	6	2.5	6
DLFSR28222030U	2.8	22	50	2.00	0.1	6	3.0	6
DLFSR28222546U	2.8	22	50	2.50	0.1	6	4.6	6

＊ For left hand tools specify DLFSL instead of DLFSR.

DLFBR Carbide Mini Internal Face R Grooving Bars 迷你鎢鋼內徑端面 R 開槽刀





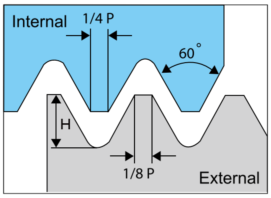


Order No. 訂購編碼	F	L1	L	W	R	D	H	Min. Bore Dia.
DLFBR18150512U	1.8	15	50	1.0	0.50	4	1.2	4
DLFBR18150715U	1.8	15	50	1.5	0.75	4	1.5	4
DLFBR23220512U	2.3	22	50	1.0	0.50	6	1.2	5
DLFBR23220715U	2.3	22	50	1.5	0.75	6	1.5	5
DLFBR23221025U	2.3	22	50	2.0	1.00	6	2.5	5
DLFBR28220715U	2.8	22	50	1.5	0.75	6	1.5	6
DLFBR28221025U	2.8	22	50	2.0	1.00	6	2.5	6

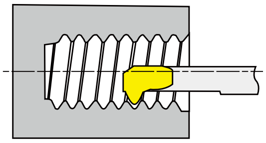
＊ For left hand tools specify DLFBL instead of DLFBR.

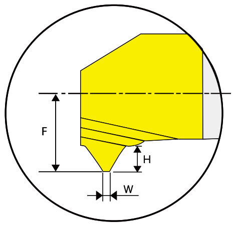
DLTSR Carbide Mini Internal Thread 迷你鎢鋼內徑螺紋搪刀

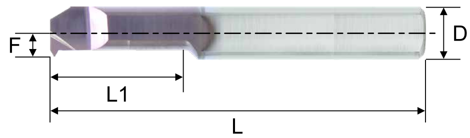
ISO Metric 60°
ISO 牙



Tolerance class : 6H





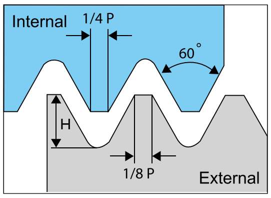


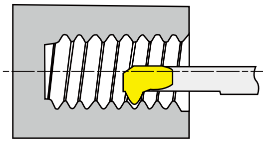
Order No. 訂購編碼	F	Pitch	L1	W	L	D	H	Min. Bore Dia.
DLTSR05010360U	1.4	0.50	10	0.062	39	3	0.33	3.2
DLTSR07010360U	1.4	0.70	10	0.087	39	3	0.46	3.2
DLTSR07510360U	1.4	0.75	10	0.093	39	3	0.49	3.2
DLTSR05010460U	1.8	0.50	10	0.062	50	4	0.33	4.1
DLTSR07510460U	1.8	0.75	10	0.093	50	4	0.49	4.1
DLTSR08010460U	1.8	0.80	10	0.100	50	4	0.52	4.1
DLTSR10010560U	2.2	1.00	10	0.125	50	5	0.65	4.9
DLTSR05015660U	2.6	0.50	15	0.062	50	6	0.33	5.9
DLTSR07515660U	2.6	0.75	15	0.093	50	6	0.49	5.9
DLTSR10015660U	2.6	1.00	15	0.125	50	6	0.65	5.9
DLTSR12522660U	2.8	1.25	22	0.156	50	6	0.81	6.1

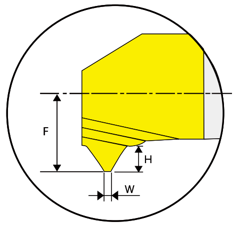
∗ For left hand tools specify DLTSL instead of DLTSR.

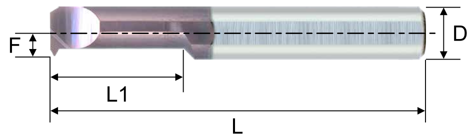
DLTMR Carbide Mini Internal Thread 迷你鎢鋼內徑螺紋搪刀

Partial Profile 60°
泛用牙







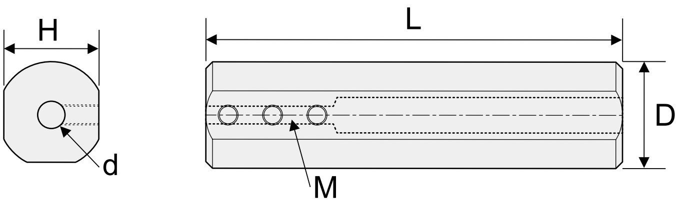


Tolerance class : 6H

Order No. 訂購編碼	F	Pitch	L1	W	L	D	H	Min. Bore Dia.
DLTMR04508360U	1.0	0.45 ~ 0.70	8	0.056	50	3	0.5	2.6
DLTMR07015360U	1.4	0.70 ~ 1.00	15	0.087	50	3	0.7	3.2
DLTMR08015460U	1.8	0.80 ~ 1.00	15	0.100	50	4	0.7	4.1
DLTMR10015560U	2.3	1.00 ~ 1.25	15	0.125	50	5	0.8	5.1
DLTMR10015660U	2.6	1.00 ~ 1.50	15	0.125	50	6	1.0	6.0
DLTMR10018860U	3.6	1.00 ~ 1.75	18	0.125	60	8	1.4	8.0
DLTMR10018160U	4.6	1.00 ~ 2.00	18	0.125	75	10	1.8	10.0

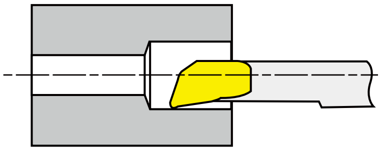
＊ For left hand tools specify DLTML instead of DLTMR.

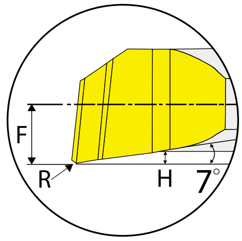
DLS Carbide Mini Bars - Sleeves 迷你鎢鋼內徑搪刀套筒

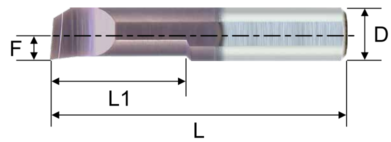


Order No. 訂購編碼	d	D	L	H	M
DLS0316100	3	16	100	14	M4
DLS0416100	4	16	100	14	M4
DLS0516100	5	16	100	14	M4
DLS0616100	6	16	100	14	M5
DLS0816100	8	16	100	14	M5
DLS1016100	10	16	100	14	M5

DEBSR Carbide Modular Internal Boring Bars (7°) 模組化鎢鋼內徑搪刀 (7°)



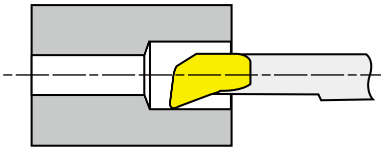


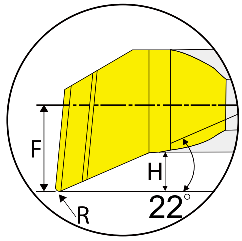


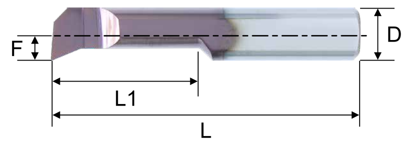
Order No. 訂購編碼	F	L1	L (±0.05mm)	R	D	H	Min. Bore Dia.
DEBSR08051507U	0.8	5	21.5	0.15	3	0.1	2.4
DEBSR08101507U	0.8	10	26.5	0.15	3	0.1	2.4
DEBSR13100507U	1.3	10	26.5	0.05	3	0.2	3.1
DEBSR13150507U	1.3	15	31.5	0.05	3	0.2	3.1
DEBSR13151007U	1.3	15	31.5	0.10	3	0.2	3.1
DEBSR13102007U	1.3	10	26.5	0.20	3	0.2	3.1
DEBSR13152007U	1.3	15	31.5	0.20	3	0.2	3.1
DEBSR17101007U	1.7	10	26.5	0.10	4	0.2	4.1
DEBSR17151007U	1.7	15	31.5	0.10	4	0.2	4.1
DEBSR17221007U	1.7	22	38.5	0.10	4	0.2	4.1
DEBSR17102007U	1.7	10	26.5	0.20	4	0.2	4.1
DEBSR17152007U	1.7	15	31.5	0.20	4	0.2	4.1
DEBSR17222007U	1.7	22	38.5	0.20	4	0.2	4.1
DEBSR21151007U	2.1	15	31.5	0.10	5	0.3	5.1
DEBSR21221007U	2.1	22	38.5	0.10	5	0.3	5.1
DEBSR21301007U	2.1	30	46.5	0.10	5	0.3	5.1
DEBSR21152007U	2.1	15	31.5	0.20	5	0.3	5.1
DEBSR21222007U	2.1	22	38.5	0.20	5	0.3	5.1
DEBSR21302007U	2.1	30	46.5	0.20	5	0.3	5.1
DEBSR28150507U	2.8	15	31.5	0.05	6	0.3	6.1
DEBSR28151007U	2.8	15	31.5	0.10	6	0.3	6.1
DEBSR28152007U	2.8	15	31.5	0.20	6	0.3	6.1
DEBSR28222007U	2.8	22	38.5	0.20	6	0.3	6.1
DEBSR28302007U	2.8	30	46.5	0.20	6	0.3	6.1

∗ For left hand tools specify DEBSL instead of DEBSR.

DEBSR Carbide Modular Internal Boring Bars (22°) 模組化鎢鋼內徑搪刀 (22°)



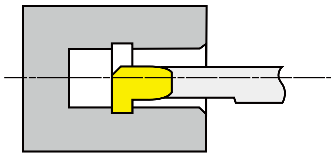


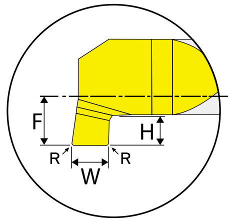


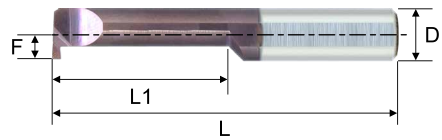
Order No. 訂購編碼	F	L1	L (±0.05mm)	R	D	H	Min. Bore Dia.
DEBSR04030522U	0.4	3	19.5	0.05	4	0.2	1.0
DEBSR04050522U	0.4	5	21.5	0.05	4	0.2	1.0
DEBSR08060522U	0.8	6	22.5	0.05	4	0.4	2.0
DEBSR08100522U	0.8	10	26.5	0.05	4	0.4	2.0
DEBSR08140522U	0.8	14	30.5	0.05	4	0.4	2.0
DEBSR13091022U	1.3	9	25.5	0.10	4	0.6	3.0
DEBSR13151022U	1.3	15	31.5	0.10	4	0.6	3.0
DEBSR13211022U	1.3	21	37.5	0.10	4	0.6	3.0
DEBSR18121022U	1.8	12	28.5	0.10	4	0.8	4.0
DEBSR18201022U	1.8	20	36.5	0.10	4	0.8	4.0
DEBSR18281022U	1.8	28	44.5	0.10	4	0.8	4.0
DEBSR23152022U	2.3	15	31.5	0.20	6	1.0	5.0
DEBSR23252022U	2.3	25	41.5	0.20	6	1.0	5.0
DEBSR23302022U	2.3	30	46.5	0.20	6	1.0	5.0
DEBSR28182022U	2.8	18	34.5	0.20	6	1.2	6.0
DEBSR28302022U	2.8	30	46.5	0.20	6	1.2	6.0
DEBSR28422022U	2.8	42	58.5	0.20	6	1.2	6.0

＊ For left hand tools specify DEBSL instead of DEBSR.

DEGSR Carbide Modular Internal Grooving Bars 模組化鎢鋼內徑開槽刀



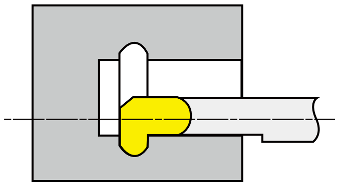


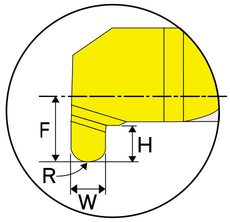


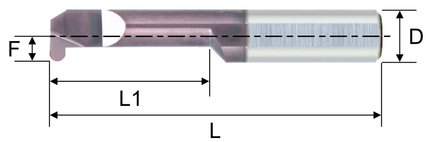
Order No. 訂購編碼	F	L1	L (±0.05mm)	W	R	D	H	Min. Bore Dia.
DEGSR17101010U	1.7	10	26.5	1.00	0.1	4	1.0	4.1
DEGSR17101510U	1.7	10	26.5	1.50	0.1	4	1.0	4.1
DEGSR23101012U	2.3	10	26.5	1.00	0.1	5	1.2	5.1
DEGSR23101512U	2.3	10	26.5	1.50	0.1	5	1.2	5.1
DEGSR23102012U	2.3	10	26.5	2.00	0.1	5	1.2	5.1
DEGSR28201014U	2.8	20	36.5	1.00	0.1	6	1.4	6.1
DEGSR28201514U	2.8	20	36.5	1.50	0.1	6	1.4	6.1
DEGSR28202014U	2.8	20	36.5	2.00	0.1	6	1.4	6.1

∗ For left hand tools specify DEGSL instead of DEGSR.

DEGBR Carbide Modular Internal Grooving R Bars 模組化鎢鋼內徑 R 開槽刀



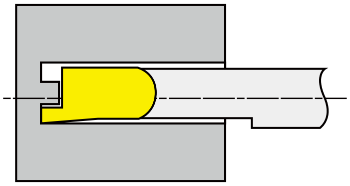


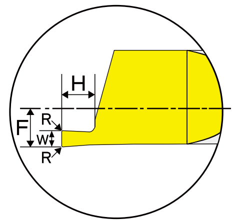


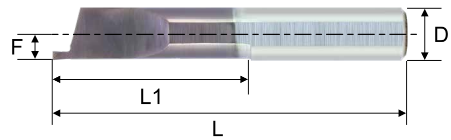
Order No. 訂購編碼	F	L1	L (±0.05mm)	W	R	D	H	Min. Bore Dia.
DEGBR17101010U	1.7	10	26.5	1.00	0.50	4	1.0	4.1
DEGBR17101510U	1.7	10	26.5	1.50	0.75	4	1.0	4.1
DEGBR23151012U	2.3	15	31.5	1.00	0.50	5	1.2	5.1
DEGBR23151512U	2.3	15	31.5	1.50	0.75	5	1.2	5.1
DEGBR23152012U	2.3	15	31.5	2.00	1.00	5	1.2	5.1
DEGBR28151016U	2.8	15	31.5	1.00	0.50	6	1.6	6.1
DEGBR28151516U	2.8	15	31.5	1.50	0.75	6	1.6	6.1
DEGBR28152016U	2.8	15	31.5	2.00	1.00	6	1.6	6.1

＊ For left hand tools specify DEGBL instead of DEGBR.

DEFSR Carbide Modular Internal Face Grooving Bars 模組化鎢鋼內徑端面開槽刀



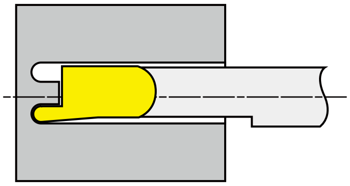


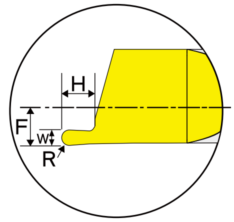


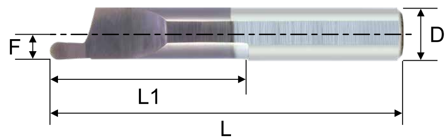
Order No. 訂購編碼	F	L1	L (±0.05mm)	W	R	D	H	Min. Bore Dia.
DEFSR18150712U	1.8	15	31.5	0.75	0.1	4	1.2	4
DEFSR18151015U	1.8	15	31.5	1.00	0.1	4	1.5	4
DEFSR18151526U	1.8	15	31.5	1.50	0.1	4	2.6	4
DEFSR23220712U	2.3	22	38.5	0.75	0.1	6	1.2	5
DEFSR23221015U	2.3	22	38.5	1.00	0.1	6	1.5	5
DEFSR23221525U	2.3	22	38.5	1.50	0.1	6	2.5	5
DEFSR23222036U	2.3	22	38.5	2.00	0.1	6	3.6	5
DEFSR28221015U	2.8	22	38.5	1.00	0.1	6	1.5	6
DEFSR28221525U	2.8	22	38.5	1.50	0.1	6	2.5	6
DEFSR28222030U	2.8	22	38.5	2.00	0.1	6	3.0	6
DEFSR28222546U	2.8	22	38.5	2.50	0.1	6	4.6	6

＊ For left hand tools specify DEFSL instead of DEFSR.

DEFBR Carbide Modular Internal Face R Grooving Bars 模組化鎢鋼內徑端面 R 開槽刀





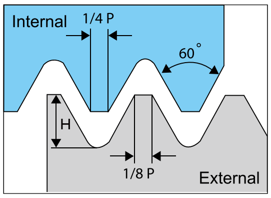


Order No. 訂購編碼	F	L1	L (±0.05mm)	W	R	D	H	Min. Bore Dia.
DEFBR18150512U	1.8	15	31.5	1.0	0.50	4	1.2	4
DEFBR18150715U	1.8	15	31.5	1.5	0.75	4	1.5	4
DEFBR23220512U	2.3	22	38.5	1.0	0.50	6	1.2	5
DEFBR23220715U	2.3	22	38.5	1.5	0.75	6	1.5	5
DEFBR23221025U	2.3	22	38.5	2.0	1.00	6	2.5	5
DEFBR28220715U	2.8	22	38.5	1.5	0.75	6	1.5	6
DEFBR28221025U	2.8	22	38.5	2.0	1.00	6	2.5	6

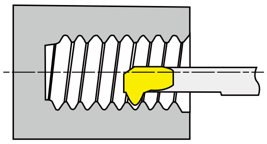
＊ For left hand tools specify DEFBL instead of DEFBR.

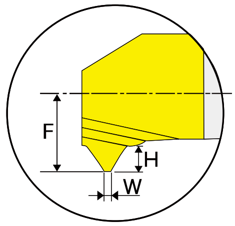
WINSTAR

DETSR Carbide Modular Internal Thread 模組化鎢鋼內徑螺紋搪刀

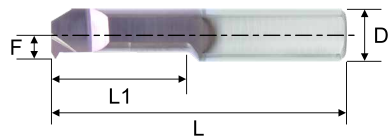


Tolerance class : 6H





ISO Metric 60°
ISO 牙

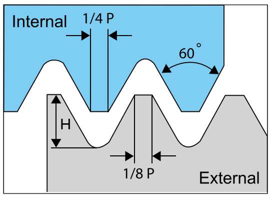


Order No. 訂購編碼	F	Pitch	L1	W	L (±0.05mm)	D	H	Min. Bore Dia.
DETSR05010360U	1.4	0.50	10	0.062	26.5	3	0.33	3.2
DETSR07010360U	1.4	0.70	10	0.087	26.5	3	0.46	3.2
DETSR07510360U	1.4	0.75	10	0.093	26.5	3	0.49	3.2
DETSR05010460U	1.8	0.50	10	0.062	26.5	4	0.33	4.1
DETSR07510460U	1.8	0.75	10	0.093	26.5	4	0.49	4.1
DETSR08010460U	1.8	0.80	10	0.100	26.5	4	0.52	4.1
DETSR10010560U	2.2	1.00	10	0.125	26.5	5	0.65	4.9
DETSR05015660U	2.6	0.50	15	0.062	31.5	6	0.33	5.9
DETSR07515660U	2.6	0.75	15	0.093	31.5	6	0.49	5.9
DETSR10015660U	2.6	1.00	15	0.125	31.5	6	0.65	5.9
DETSR12522660U	2.8	1.25	22	0.156	38.5	6	0.81	6.1

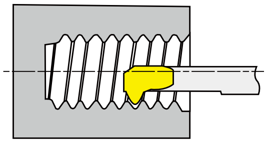
＊ For left hand tools specify DETSL instead of DETSR.

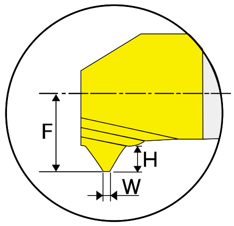
WINSTAR

DETMR Carbide Modular Internal Thread 模組化鎢鋼內徑螺紋搪刀

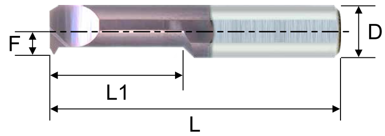


Tolerance class : 6H





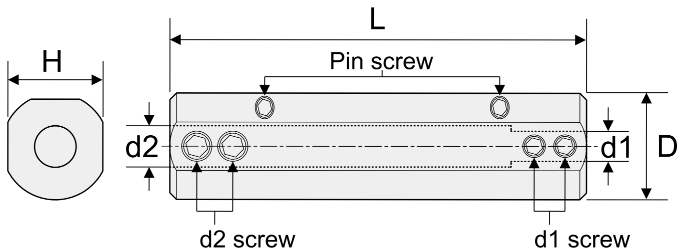
Partial Profile 60°
泛用牙



Order No. 訂購編碼	F	Pitch	L1	W	L (±0.05mm)	D	H	Min. Bore Dia.
DETMR04508360U	1.0	0.45 ~ 0.70	8	0.056	24.5	3	0.5	2.6
DETMR07015360U	1.4	0.70 ~ 1.00	15	0.087	31.5	3	0.7	3.2
DETMR08015460U	1.8	0.80 ~ 1.00	15	0.100	31.5	4	0.7	4.1
DETMR10015560U	2.3	1.00 ~ 1.25	15	0.125	31.5	5	0.8	5.1
DETMR10015660U	2.6	1.00 ~ 1.50	15	0.125	31.5	6	1.0	6.0

＊ For left hand tools specify DETML instead of DETMR.

DES Carbide Modular Bars - Double Sizes Sleeves 模組化鎢鋼內徑搪刀雙柄套筒

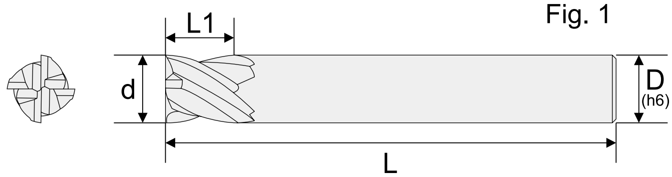


Order No. 訂購編碼	D	d1	d2	L	H	Spare parts
DES1635075	16	3	5	75	15	①
DES1646075	16	4	6	75	15	②

Spare parts	d1		d2		Pin	
	Screw	Wrench	Screw	Wrench	Screw	Wrench
①	ITHM405	IPL20	ITHM405	IPL20	ITTS412	IPL20
②	ITHM405	IPL20	ITHM505	IPL25	ITTS412	IPL20

ETU Series - Carbide Endmills (Short Total Length) 全鎢鋼銑刀 (短全長)

Fig. 1



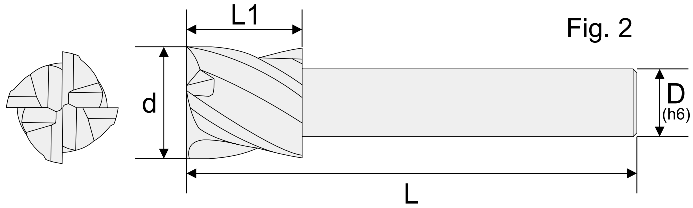
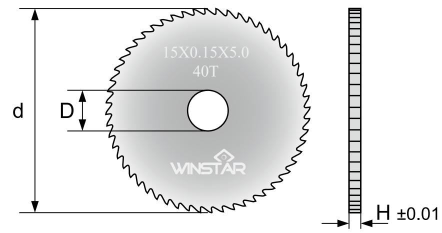
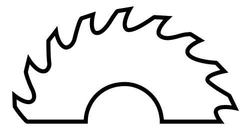


Fig. 2

Order No. 訂購編碼	Dia (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)	Coating	Fig
ETSSC401000U	1.0	1.0	40	6	4	UNICO	1
ETSSC401500U	1.5	1.5	40	6	4	UNICO	1
ETSSC402000U	2.0	2.0	40	6	4	UNICO	1
ETSSC402500U	2.5	2.5	40	6	4	UNICO	1
ETSSC403000U	3.0	3.0	40	6	4	UNICO	1
ETSSC404000U	4.0	4.0	40	6	4	UNICO	2
ETSSC405000U	5.0	5.0	40	6	4	UNICO	2
ETSSC406000U	6.0	6.0	40	6	4	UNICO	2
ETSSC408000U	8.0	8.0	40	6	4	UNICO	2
ETSSC410000U	10.0	10.0	40	6	4	UNICO	2
ETSSC412000U	12.0	10.0	40	6	4	UNICO	2

ETWSF Carbide Slitting Saws 全鎢鋼小徑鋸片

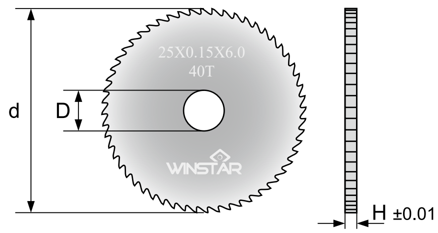


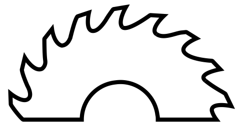


Order No. 訂購編碼	**d**	**H**	**D**	**T**
ETWSF04015015	15	0.15	5	40
ETWSF04015020	15	0.20	5	40
ETWSF04015025	15	0.25	5	40
ETWSF04015030	15	0.30	5	40
ETWSF04015040	15	0.40	5	40
ETWSF04015050	15	0.50	5	40
ETWSF04015060	15	0.60	5	40
ETWSF04015070	15	0.70	5	40
ETWSF04015080	15	0.80	5	40
ETWSF04015090	15	0.90	5	40
ETWSF04015100	15	1.00	5	40
ETWSF05020015	20	0.15	5	56
ETWSF05020020	20	0.20	5	56
ETWSF05020025	20	0.25	5	56
ETWSF05020030	20	0.30	5	56
ETWSF05020040	20	0.40	5	56
ETWSF05020050	20	0.50	5	56
ETWSF05020060	20	0.60	5	56
ETWSF05020070	20	0.70	5	56
ETWSF05020080	20	0.80	5	56
ETWSF05020090	20	0.90	5	56
ETWSF05020100	20	1.00	5	56
ETWSF05020120	20	1.20	5	56
ETWSF05020150	20	1.50	5	56

* Other diameters make to order.

ETWSF Carbide Slitting Saws 全鎢鋼小徑鋸片

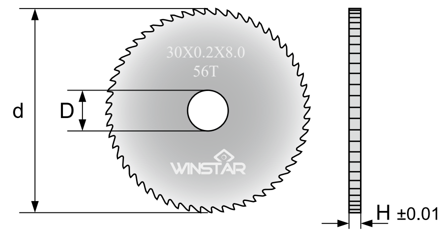


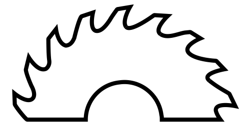


Order No. 訂購編碼	d	H	D	T
ETWSF04025015	25	0.15	6	40
ETWSF04025020	25	0.20	6	40
ETWSF04025025	25	0.25	6	40
ETWSF04025030	25	0.30	6	40
ETWSF04025040	25	0.40	6	40
ETWSF04025050	25	0.50	6	40
ETWSF04025060	25	0.60	6	40
ETWSF04025070	25	0.70	6	40
ETWSF04025080	25	0.80	6	40
ETWSF04025090	25	0.90	6	40
ETWSF04025100	25	1.00	6	40
ETWSF04025120	25	1.20	6	40
ETWSF04025150	25	1.50	6	40
ETWSF07025015	25	0.15	6	72
ETWSF07025020	25	0.20	6	72
ETWSF07025025	25	0.25	6	72
ETWSF07025030	25	0.30	6	72
ETWSF07025040	25	0.40	6	72
ETWSF07025050	25	0.50	6	72
ETWSF07025060	25	0.60	6	72
ETWSF07025070	25	0.70	6	72
ETWSF07025080	25	0.80	6	72
ETWSF07025090	25	0.90	6	72
ETWSF07025100	25	1.00	6	72
ETWSF07025120	25	1.20	6	72
ETWSF07025150	25	1.50	6	72

* Other diameters make to order.

ETWLF Carbide Slitting Saws 全鎢鋼小徑鋸片

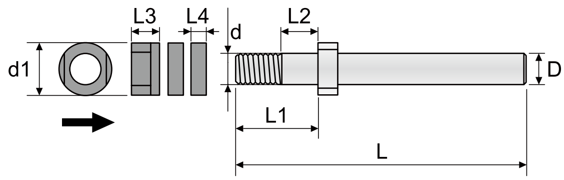




Order No. 訂購編碼	**d**	**H**	**D**	**T**
ETWLF05030020	30	0.20	8	56
ETWLF05030025	30	0.25	8	56
ETWLF05030030	30	0.30	8	56
ETWLF05030040	30	0.40	8	56
ETWLF05030050	30	0.50	8	56
ETWLF05030060	30	0.60	8	56
ETWLF05030070	30	0.70	8	56
ETWLF05030080	30	0.80	8	56
ETWLF05030090	30	0.90	8	56
ETWLF05030100	30	1.00	8	56
ETWLF05030110	30	1.10	8	56
ETWLF05030120	30	1.20	8	56
ETWLF05030150	30	1.50	8	56
ETWLF05030200	30	2.00	8	56

* Other diameters make to order.

ETWSA Carbide Slitting Saws - Arbors 全鎢鋼小徑鋸片 - 軸心



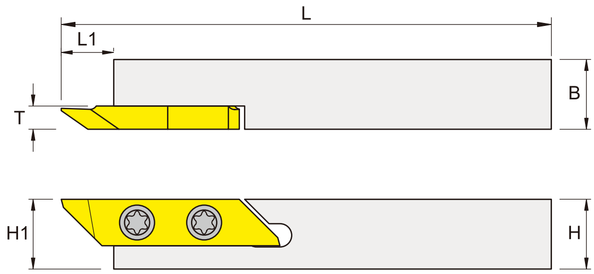
Order No. 訂購編碼	d	D	d1	L1	L2	L	L3	L4
ETWSA050065	5	6	10	12	5.2	50	5	3.0
ETWSA050076	5	7	13	16	7.5	60	8.8	4.0
ETWSA060065	6	6	10	12	5.2	50	5.1	3.2
ETWSA060076	6	7	13	16	7.5	60	8.8	4.0
ETWSA060106	6	10	16	11	5.2	60	5.5	1.5 / 3.0
ETWSA060109	6	10	13	16	7.5	90	8.2	4.2
ETWSA080106	8	10	13	16	7.5	60	7.5	4.2

Recommended Cutting Conditions 建議切削數據

Working Material	Carbon Steel (S35C,S45C,S50C)		Alloy Steel (SCM,SKT,SKD)		Stainless Steel (SUS304)		Cast Iron (FC,FCD)		Aluminum / Copper		Hardened Steel (SKT,SKD)	
Hardness	HRC < 30		HRC 30 ~ 45		-		HRC < 30		-		HRC 45 ~ 55	
Vc	54 - 68 - 82 m/min		36 - 45 - 54 m/min		48 - 59 - 70 m/min		54 - 68 - 82 m/min		120 - 150 - 180 m/min		23 - 29 - 35 m/min	
Diameter (mm)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
15	1450	220	950	150	1250	180	1450	220	3180	560	620	90
20	1080	240	720	160	940	200	1080	240	2390	580	460	100
25	860	260	570	170	750	220	860	260	1900	600	370	110
30	740	280	470	180	630	240	740	280	1590	620	310	120

SAKG Indexable Turning Holders SAKG 多功能車刀桿

Tool Holder Specifications 刀桿規格



Right-hand shown

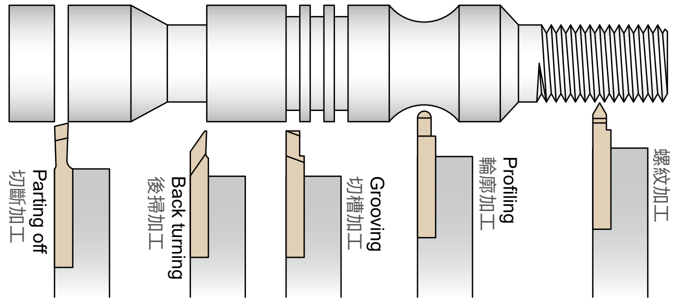
Order No. 訂購編碼	Item Specification	Dimensions (mm)					Insert	Screw	Wrench
		H(H1)	B	L	L1	T			
ISAKGR1010K	SAKGR-1010K-374	10	10	125	9	4	SAK...	IMS3509A	ITK15
ISAKGL1010K	SAKGL-1010K-374	10	10	125	9	4			
ISAKGR1212K	SAKGR-1212K-374	12	12	125	9	4			
ISAKGL1212K	SAKGL-1212K-374	12	12	125	9	4			
ISAKGR1212M	SAKGR-1212M-374	12	12	150	9	4			
ISAKGL1212M	SAKGL-1212M-374	12	12	150	9	4			
ISAKGR1616M	SAKGR-1616M-374	16	16	150	9	4			
ISAKGL1616M	SAKGL-1616M-374	16	16	150	9	4			
ISAKGR2020K	SAKGR-2020K-374	20	20	125	9	4			
ISAKGL2020K	SAKGL-2020K-374	20	20	125	9	4			
ISAKGR2525M	SAKGR-2525M-374	25	25	150	9	4			
ISAKGL2525M	SAKGL-2525M-374	25	25	150	9	4			

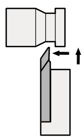
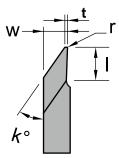
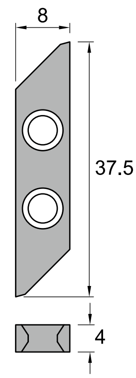
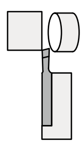
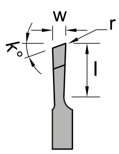
Recommended Cutting Conditions 建議切削數據

For Back turning, Parting off and Grooving

Working Material	Vc (m/min)	fr (mm/rev)
Carbon Steel / Alloy Steel	50 ~ 200	0.02 ~ 0.10
Stainless Steel	50 ~ 200	0.02 ~ 0.10
Cast Iron	50 ~ 200	0.02 ~ 0.10
Aluminum Alloy	200 ~ 300	0.05 ~ 0.15
High Temperature Alloy	80 ~ 120	0.03 ~ 0.07
Hardened Steel	80 ~ 120	0.03 ~ 0.07

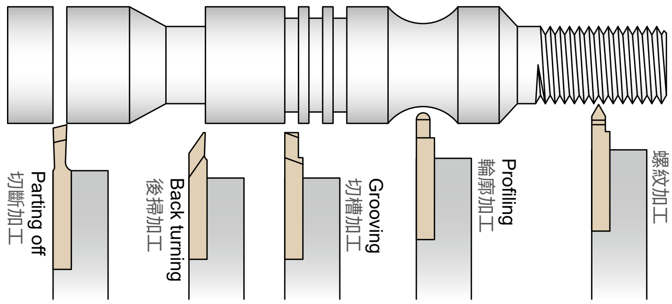
Insert Specifications 刀片規格

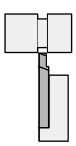
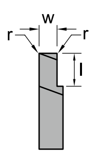
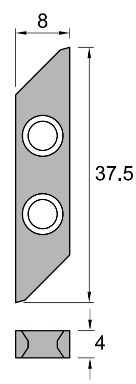
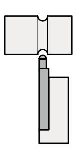
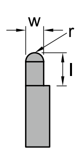
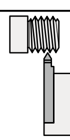
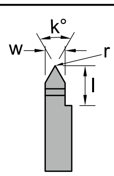


Inserts		Designation	Grade No.						Dimensions (mm)					Drawing
			CP6025						w	r	l	k	t	
 Back turning 後掃加工		**SAKBR20005**	✓						2.0	-	5.0	35	0.5	
		SAKBR20015	✓						2.0	0.1	5.0	35	0.5	
		SAKBR20025	✓						2.0	0.2	5.0	35	0.5	
		SAKBR30015	✓						3.0	0.1	5.0	35	0.75	
		SAKBR30025	✓						3.0	0.2	5.0	35	0.75	
 Parting off 切斷加工		**SAKCR15018**	✓						1.5	0.1	8.5	15	-	
		SAKCR20019	✓						2.0	0.1	9.0	15	-	
		SAKCR25019	✓						2.5	0.1	9.0	15	-	
		SAKCR30019	✓						3.0	0.1	9.0	15	-	

Turning

Insert Specifications 刀片規格



Inserts		Designation	Grade No.					Dimensions (mm)					Drawing
			CP6025					w	r	l	k	pitch	
 Grooving 切槽加工		**SAKGR10013**	✓					1.0	0.1	3.0	-	-	 8 37.5 4
		SAKGR15013	✓					1.5	0.1	3.0	-	-	
		SAKGR15025	✓					1.5	0.2	5.0	-	-	
		SAKGR15027	✓					1.5	0.2	7.0	-	-	
		SAKGR20015	✓					2.0	0.1	5.0	-	-	
		SAKGR20025	✓					2.0	0.2	5.0	-	-	
		SAKGR20027	✓					2.0	0.2	7.0	-	-	
		SAKGR20029	✓					2.0	0.2	9.0	-	-	
		SAKGR25015	✓					2.5	0.1	5.0	-	-	
		SAKGR25025	✓					2.5	0.2	5.0	-	-	
		SAKGR25029	✓					2.5	0.2	9.0	-	-	
		SAKGR30015	✓					3.0	0.1	5.0	-	-	
		SAKGR30019	✓					3.0	0.1	9.0	-	-	
		SAKGR30025	✓					3.0	0.2	5.0	-	-	
		SAKGR30027	✓					3.0	0.2	7.0	-	-	
		SAKGR30029	✓					3.0	0.2	9.0	-	-	
 Profiling 輪廓加工		**SAKPR10053**	✓					1.0	0.5	3.0	-	-	
		SAKPR15075	✓					1.5	0.75	5.0	-	-	
		SAKPR20105	✓					2.0	1.0	5.0	-	-	
		SAKPR25125	✓					2.5	1.25	5.0	-	-	
		SAKPR30158	✓					3.0	1.5	8.0	-	-	
 Threading 螺紋加工		**SAKTR20655**	✓					2.0	0.05	6.0	55	0.5~2	
		SAKTR30655	✓					3.0	0.1	6.0	55	1~3	
		SAKTR20660	✓					2.0	0.05	6.0	60	0.5~2	
		SAKTR30660	✓					3.0	0.1	6.0	60	1~3	

WINSTAR

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Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Tip Angle 鑽尖	Coating 塗層	P	M	K	N	S	H	Page 頁碼

DP Series High Performance・Universal Drills 高效能內冷及外冷全鎢鋼鑽頭

Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Tip Angle 鑽尖	Coating 塗層	P	M	K	N	S	H	Page 頁碼
	Universal · Internal Coolant · 3D 高效能內冷鑽頭・3D	DPC3	Ø1.4~Ø20	140°	UNIX	●	●	●		●	○	D012
	Universal · Internal Coolant · 5D 高效能內冷鑽頭・5D	DPC5	Ø1.4~Ø20	140°	UNIX	●	●	●		●	○	D014
	Universal · Internal Coolant · 7D 高效能內冷鑽頭・7D	DPC7	Ø4~Ø16	140°	UNIX	●	●	●		●	○	D016
	Universal · Internal Coolant · 10D 高效能內冷鑽頭・10D	DPC9	Ø3~Ø12	135°	UNIX	●	●	●		●	○	D017
	Universal · Internal Coolant · 15D 高效能內冷鑽頭・15D	DPC9	Ø3~Ø16	135°	UNIX	●	●	●		●	○	D018
	Universal · Internal Coolant · 20D 高效能內冷鑽頭・20D	DPC9	Ø3~Ø10	135°	UNIX	●	●	●		●	○	D019
	Universal · Internal Coolant · 30D 高效能內冷鑽頭・30D	DPC9	Ø3~Ø6	135°	UNIX	●	●	●		●	○	D020
	Universal · External Coolant · 3D 高效能外冷鑽頭・3D	DPN3	Ø0.3~Ø20	140°	UNIX	●	●	●		●	○	D021
	Universal · External Coolant · 5D 高效能外冷鑽頭・5D	DPN5	Ø3~Ø20	140°	UNIX	●	●	●		●	○	D023
	Universal · Micro Hole · External Coolant · 10~50D 微小徑深孔鑽・10~50 倍深 (啄鑽專用)	DPN9	Ø0.1~Ø1	130°	UNIX	●	●	●		○	○	D025

DM Series High Performance・Exotic Material Drills 高效能內冷及外冷全鎢鋼鑽頭 (難切削材用)

Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Tip Angle 鑽尖	Coating 塗層	P	M	K	N	S	H	Page 頁碼
	Exotic Material · Internal Coolant · 3D 高效能內冷鑽頭 (難切削材用)・3D	DMC3	Ø3.9~Ø20	140°	SINIX	●	●	●		●	○	D026
	Exotic Material · Internal Coolant · 5D 高效能內冷鑽頭 (難切削材用)・5D	DMC5	Ø3.4~Ø20	140°	SINIX	●	●	●		●	○	D027
	Exotic Material · External Coolant · 3D 高效能外冷鑽頭 (難切削材用)・3D	DMN3	Ø4~Ø18	140°	SINIX	●	●	●		●		D028

DF Series Flat Drills 平底外冷鑽頭

Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Tip Angle 鑽尖	Coating 塗層	P	M	K	N	S	H	Page 頁碼
	Flat · External Coolant · 3D 平底外冷鑽頭・3D	DFN3	Ø2.2~Ø20	0°	UNIX	●	○	●				D029

DA Series Straight Flute Drills 直刃外冷全鎢鋼鑽鉸刀

Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Tip Angle 鑽尖	Coating 塗層	P	M	K	N	S	H	Page 頁碼
	Straight flute · External Coolant · 3D 直刃外冷鑽鉸刀・3D	DAN	Ø4~Ø16	130°	UNIX	○		●	●			D031
	Straight flute · External Coolant · 5D 直刃外冷鑽鉸刀・5D	DAN	Ø4~Ø16	130°	UNIX	○		●	●			D032

DG Series General Purpose Drills 泛用外冷全鎢鋼鑽頭

Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Tip Angle 鑽尖	Coating 塗層	P	M	K	N	S	H	Page 頁碼
	Universal · External Coolant · 3D 泛用外冷鑽頭・3D	DGN3	Ø2~Ø16	130°	UNICO	●	○	●				D033
	Universal · External Coolant · 5D 泛用外冷鑽頭・5D	DGN5	Ø5~Ø16	130°	UNICO	●	○	●				D035

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DT Series Spotting Drills 定位外冷全鎢鋼鑽頭

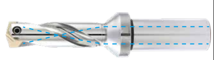
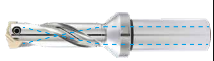
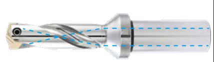
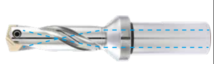
Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Tip Angle 鑽尖	Coating 塗層	P	M	K	N	S	H	Page 頁碼
	Spotting · External Coolant · Tip angle 90°&120° 定位外冷鑽頭・鑽尖 90° & 120°	DTN	Ø0.3~Ø16	90° & 120°	UNICO	●	●	●	○	●	●	D036
	Spotting · External Coolant · Tip angle 90° 定位外冷鑽頭・鑽尖 90°	DTN	Ø1.3~Ø16	90°	UNICO	●	●	●	○	○	●	D036
	Spotting · External Coolant · Tip angle 120° 定位外冷鑽頭・鑽尖 120°	DTN	Ø3~Ø16	120°	UNICO	●	●	●	○	●	●	D037
	Spotting · External Coolant · Tip angle 142° 定位外冷鑽頭・鑽尖 142°	DTN	Ø3~Ø16	142°	UNICO	●	●	●	○	●	●	D038

DC Series Center Drills 中心外冷全鎢鋼鑽頭

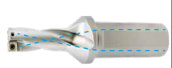
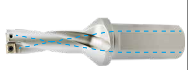
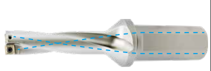
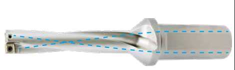
Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Tip Angle 鑽尖	Coating 塗層	P	M	K	N	S	H	Page 頁碼
	Centering · External Coolant · Countersink angle 60° 中心外冷鑽頭・錐孔 60°	DCN	Ø1~Ø5	120°	UNICO	●	○	●				D039
	Centering · External Coolant · Countersink angle 90° 中心外冷鑽頭・錐孔 90°	DCN	Ø1~Ø5	120°	UNICO	●	○	●				D039

Appearance 外觀	Name 名稱	Diameter 外徑	Inserts 刀片	Page 頁碼

DMU Series Modular Drills 模組化鑽頭

Appearance 外觀	Name 名稱	Diameter 外徑	Inserts 刀片	Page 頁碼
	Modular Drills· 3D 模組化鑽頭・3D	Ø13~Ø25.4	DMUA..	D045
	Modular Drills · 5D 模組化鑽頭・5D	Ø13~Ø25.4	DMUA..	D045
	Modular Drills· 7D 模組化鑽頭・7D	Ø13~Ø25.4	DMUA..	D046
	Modular Drills · 10D 模組化鑽頭・10D	Ø13~Ø25.4	DMUA..	D046

DSP Series Indexable Drilling Tools 捨棄式鑽頭

Appearance 外觀	Name 名稱	Diameter 外徑	Inserts 刀片	Page 頁碼
	Indexable Drills · 2D 捨棄式鑽頭・2D	Ø12.5~Ø41	SPMG..	D049
	Indexable Drills · 3D 捨棄式鑽頭・3D	Ø12.5~Ø41	SPMG..	D051
	Indexable Drills · 4D 捨棄式鑽頭・4D	Ø12.5~Ø41	SPMG..	D053
	Indexable Drills · 5D 捨棄式鑽頭・5D	Ø13~Ø36	SPMG..	D055

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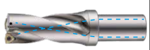
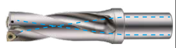
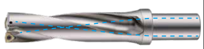
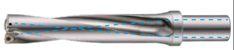
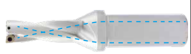
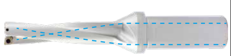
Appearance 外觀	Name 名稱	Diameter 外徑	Inserts 刀片	Page 頁碼
DWC Series Indexable Drilling Tools 捨棄式鑽頭				
	Indexable Drills · 2D 捨棄式鑽頭・2D	Ø14~Ø60	WCMT..	D058
	Indexable Drills · 3D 捨棄式鑽頭・3D	Ø14~Ø60	WCMT..	D060
	Indexable Drills · 4D 捨棄式鑽頭・4D	Ø14~Ø60	WCMT..	D062
	Indexable Drills · 5D 捨棄式鑽頭・5D	Ø16~Ø44	WCMT..	D064

DWD Series Indexable Drilling Tools 捨棄式鑽頭

	Indexable Drills · 3D (Single Flute) 捨棄式鑽頭・3D (單刃)	Ø8~Ø15	WDXT..	D067
	Indexable Drills · 3D 捨棄式鑽頭・3D	Ø13~Ø25	WDXT..	D067
	Indexable Drills · 4D 捨棄式鑽頭・4D	Ø13~Ø25	WDXT..	D068
	Indexable Drills · 5D 捨棄式鑽頭・5D	Ø13~Ø25	WDXT..	D069

Appearance 外觀	Name 名稱	Spotting Range 定位外徑範圍	Inserts 刀片	Page 頁碼
DTS Series Indexable Spotting Drills 捨棄式定位鑽頭				
	DTS60 Indexable Spotting Drills 60° 定位鑽	Ø0.2~Ø3	DCEX11T3	D072
	DTS90 Indexable Spotting Drills 90° 定位鑽	Ø1~Ø5	SDMX05T1	D074
	DTS90 Indexable Spotting Drills 90° 定位鑽	Ø2~Ø11	SCGX09T3 / SCMX09T3	D074
	DTS90 Indexable Spotting Drills 90° 定位鑽	Ø3~Ø14	SDMX11T3	D074
	DTS90 Modular Spotting Drill Heads 90° 定位鑽刀頭	Ø2~Ø11	SCGX09T3 / SCMX09T3	D074
	DTS90 Indexable Spotting Drills 90° 定位鑽	Ø3~Ø20	TCMX16T3	D075

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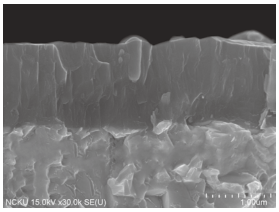
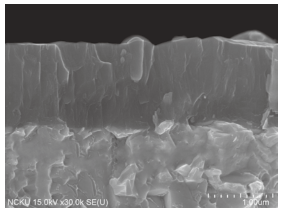
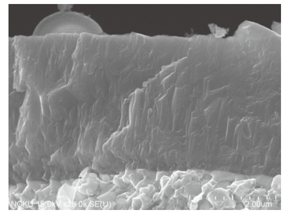
DR Series Solid Carbide Reamers 全鎢鋼鉸刀												
	Left spiral flute · External Coolant 螺旋機械外冷鉸刀	DRMN	Ø2.99~Ø12.02	–	UNIX	●		●	●			D079
	Straight flute · Internal Coolant 直刃內冷鉸刀	DRSC	Ø3~Ø12	–	UNIX	●	○	●	●	○		D080
	Straight flute · External Coolant 直刃外冷鉸刀	DRSN	Ø2.99~Ø12.02	–	UNIX	●	○	●	●	○		D081

Appearance 外觀	Name 名稱	Boring Range 搪孔範圍	Inserts 刀片	Page 頁碼
DB Series Indexable Boring Tools 捨棄式搪孔刀				
	DBP - Finsih Boring Head · Internal Coolant 捨棄式內冷單刃精搪刀	Ø20~Ø202	TC..09 / TC..11	D084
	DBR - Rough Boring Head · Internal Coolant 捨棄式內冷雙刃粗搪刀	Ø25~Ø204	CC..06 / CC..09 / SC..09 TC..11 / TC..16	D085
	DBEXC - Constant Diameter Extension 等徑搪刀延長桿	–	–	D086
	DBBT - Boring Taper Shank 捨棄式搪刀刀柄	–	–	D087

Appearance 外觀	Name 名稱	Code No. 編碼	Thread 螺紋規格	Coating 塗層	P	M	K	N	S	H	Page 頁碼
Solid Carbide Taps 全鎢鋼絲攻											
	Forming Taps 全鎢鋼無屑絲攻	TFMN	M1~M6	–				●			D089
	Straight Fluted Taps 全鎢鋼直刃絲攻	TSTN	M4~M10	UNIX						●	D090

Coating and Grade Introduction 塗層與材質介紹

Coating 塗層

	UNICO	UNIX	SINIX
Coating Type 塗層類型			
Hardness(HV 0.05) 硬度	HV2800 ~ 3100	HV2800 ~ 3100	HV3500 ~ 3800
Friction Coefficient 摩擦系數	0.4 ~ 0.5	0.3 ~ 0.4	0.3 ~ 0.4
Working Temperature 加工溫度	800 ~ 900 °C	800 ~ 900 °C	1100 ~ 1200 °C
Coating Structure 塗層結構	Multi-layer	Multi-layer	Nano Multi-layer
Coating Elements 塗層元素	Al, Ti, Cr, N	Al, Ti, Cr, N	Al, Ti, Si, Cr, N

Grade 材質

Grade Type 刀片材質	Properties 屬性	Application 加工特性	Working Material 加工材質 P	M	K	N	S	H	Industry Area 產業應用範圍	Previous Grade 以前的材質
CX33TX (PVD)	• Wear resistance • Anti-corrosion • 耐磨性 • 抗腐蝕	• Medium to roughing • General machining • For carbon steel & alloy steel is 1st recommended • 適合中至粗加工 • 適合泛用加工 • 加工碳鋼 & 合金鋼為第一建議	●	●	●		●	●	• Mold & Die • Automotive • Machinery • Aerospace • 模具產業 • 汽車零件 • 機械零件 • 航太零件	***CX32HS***
CX43TX (PVD)	• Tough substrate • Anti-corrosion • 韌性基材 • 抗腐蝕	• Medium to roughing • Interrupted machining • For stainless steel is 1st recommended • 適合中至粗加工 • 適合斷續加工 • 加工不鏽鋼為第一建議	●	●	●		●		• Electronics • Medical • Aerospace • 電子零件 • 醫療產業 • 航太零件	–

Selection Guide 選擇指南

P *Steel* 鋼

Application 應用	1st Recommendation 第一推薦	2nd Recommendation 第二推薦
Large Hole Drilling (Indexable) (Hole Tolerance : -0.1~+0.4) 大孔 (中至大孔 , 捨棄式鑽頭)	DSP · SPMG-MG · CX33TX 	DWC · WCMT-MM · CX33TX 
Medium Hole Drilling (Modular) (Hole Tolerance : 0~+0.2) 中孔 (中至中大孔 , 模組化鑽頭)	DMU · DMUA-SX · CX33TX 	–
Small Hole Drilling (Solid) (Hole Tolerance : 0~+0.1) 小孔 (小至中孔 , 全鎢鋼鑽頭)	DPC / DPN · UNIX 	DMC / DMN · SINIX 

M *Stainless Steel* 不鏽鋼

Application 應用	1st Recommendation 第一推薦	2nd Recommendation 第二推薦
Large Hole Drilling (Indexable) (Hole Tolerance : -0.1~+0.4) 大孔 (中至大孔 , 捨棄式鑽頭)	DWC · WCMT-SG · CX43TX 	DSP · SPMG-MG · CX43TX 
Medium Hole Drilling (Modular) (Hole Tolerance : 0~+0.2) 中孔 (中至中大孔 , 模組化鑽頭)	DMU · DMUA-SX · CX33TX 	–
Small Hole Drilling (Solid) (Hole Tolerance : 0~+0.1) 小孔 (小至中孔 , 全鎢鋼鑽頭)	DMC / DMN · SINIX 	DPC / DPN · UNIX 

K *Cast Iron* 鑄鐵

Application 應用	**1st Recommendation** 第一推薦	**2nd Recommendation** 第二推薦
Large Hole Drilling (Indexable) (Hole Tolerance : -0.1~+0.4) 大孔 (中至大孔 , 捨棄式鑽頭)	DSP・SPMG-MG・CX33TX 	DWC・WCMT-MM・CX33TX 
Medium Hole Drilling (Modular) (Hole Tolerance : 0~+0.2) 中孔 (中至中大孔 , 模組化鑽頭)	DMU・DMUA-SX・CX33TX 	–
Small Hole Drilling (Solid) (Hole Tolerance : 0~+0.1) 小孔 (小至中孔 , 全鎢鋼鑽頭)	DPC / DPN・UNIX 	DMC / DMN・SINIX 

N *Aluminum alloy & Brass* 鋁合金與銅

Application 應用	**1st Recommendation** 第一推薦	**2nd Recommendation** 第二推薦
Large Hole Drilling (Indexable) (Hole Tolerance : -0.1~+0.4) 大孔 (中至大孔 , 捨棄式鑽頭)	–	–
Medium Hole Drilling (Modular) (Hole Tolerance : 0~+0.2) 中孔 (中至中大孔 , 模組化鑽頭)	–	–
Small Hole Drilling (Solid) (Hole Tolerance : 0~+0.1) 小孔 (小至中孔 , 全鎢鋼鑽頭)	DMC・Uncoated 	DMN・Uncoated 

S High Temperature Alloy 高溫合金

Application 應用	1st Recommendation 第一推薦	2nd Recommendation 第二推薦
Large Hole Drilling (Indexable) (Hole Tolerance : -0.1~+0.4) 大孔(中至大孔,捨棄式鑽頭)	DWC · WCMT-SG · CX43TX 	DSP · SPMG-MG · CX43TX 
Medium Hole Drilling (Modular) (Hole Tolerance : 0~+0.2) 中孔(中至中大孔,模組化鑽頭)	DMU · DMUA-SX · CX33TX 	–
Small Hole Drilling (Solid) (Hole Tolerance : 0~+0.1) 小孔(小至中孔,全鎢鋼鑽頭)	DMC / DMN · SINIX 	DPC / DPN · UNIX 

H Hardened Steel 高硬度鋼

Application 應用	1st Recommendation 第一推薦	2nd Recommendation 第二推薦
Large Hole Drilling (Indexable) (Hole Tolerance : -0.1~+0.4) 大孔(中至大孔,捨棄式鑽頭)	DSP · SPMG-MG · CX33TX 	DWC · WCMT-MM · CX33TX 
Medium Hole Drilling (Modular) (Hole Tolerance : 0~+0.2) 中孔(中至中大孔,模組化鑽頭)	DMU · DMUA-SX · CX33TX 	–
Small Hole Drilling (Solid) (Hole Tolerance : 0~+0.1) 小孔(小至中孔,全鎢鋼鑽頭)	DPC · SINIX 	DPN · SINIX 

Solid Carbide Drill Series Introduction 全鎢鋼鑽頭系列介紹

DP Series

- High performance for universal drilling.
- DPC 3D~30D drills with internal coolant.
- DPN 3D~50D drills with external coolant
- High rigidity geometry & UNIX smooth coating.

- 高效能泛用鑽孔用
- 3~30 倍徑內冷鑽
- 3~50 倍徑外冷鑽
- 高剛性及高鋁鈦平滑塗層

→ Page D012

DM Series

- High performance for exotic material drilling.
- 3D~5D drills with internal or external coolant.
- Sharp geometry & SINIX smooth coating.

- 高效能鑽頭，適用於難切削材
- 內冷 / 外冷鑽及 3、5 倍徑鑽孔深度
- 鋒利刀口及含矽平滑塗層

→ Page D026

DF Series

- High performance for non-flat drilling.
- 3D drills with external coolant.
- UNIX smooth coating.

- 高效能平底鑽 適用於斜面或曲面鑽孔
- 外冷鑽及 3 倍徑鑽孔深度
- 高鋁鈦平滑塗層

→ Page D029

DA Series

- High performance for drilling and reaming with straight flute.
- External coolant and 3D~5D drills.
- UNIX smooth coating.

- 高效能直刃鑽鉸刀
- 外冷鑽及 3、5 倍徑鑽孔深度
- 高鋁鈦平滑塗層

→ Page D031

Solid Carbide Drill Series Introduction 全鎢鋼鑽頭系列介紹

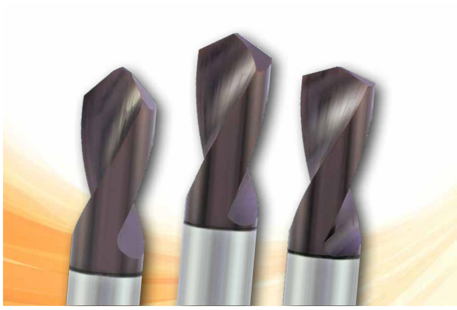
DG Series

- General purpose drilling.
- External coolant and 3D~5D drills.
- UNICO coating.

- 泛用鑽孔用
- 外冷鑽及 3、5 倍徑鑽孔深度
- 高鋁鈦塗層

→ Page D033

DT Series



- For spotting.
- Provide 90°,120° and 142° tip angle.
- UNICO coating.

- 定位鑽孔用
- 提供 90° , 120°及 142°鑽尖
- 高鋁鈦塗層

→ Page D036

DC Series

- For center drilling.
- Provide countersink angle 60°and 90°.
- UNICO coating.

- 中心鑽孔用
- 提供 60°及 90°埋頭孔
- 高鋁鈦塗層

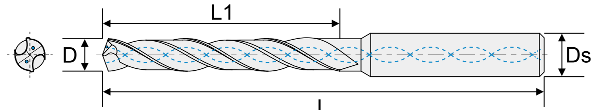
→ Page D039

WINSTAR

DPC - for Universal · Internal Coolant · 3D 高效能內冷鑽頭 · 3 倍深

P	M	K	N	S	H
●	●	●		●	○

- 3×D Cutting Depth
- 140° SX Tip
- Double Margin
- New UNIX Smooth Coating
- h8 Tolerance



Unit:mm

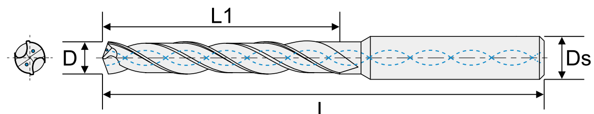
Order No. 訂購編碼	D	L1	L	Ds	Order No. 訂購編碼	D	L1	L	Ds
DPC30140031UX	1.40	8	50	3	DPC30570030UX	5.70	28	66	6
DPC30150031UX	1.50	10	50	3	DPC30580030UX	5.80	28	66	6
DPC30160031UX	1.60	10	50	3	DPC30590030UX	5.90	28	66	6
DPC30170031UX	1.70	10	50	3	DPC30600030UX	6.00	28	66	6
DPC30180031UX	1.80	12	50	3	DPC30610030UX	6.10	34	79	8
DPC30190031UX	1.90	12	50	3	DPC30620030UX	6.20	34	79	8
DPC30200031UX	2.00	12	50	3	DPC30630030UX	6.30	34	79	8
DPC30210031UX	2.10	12	50	3	DPC30635030UX	6.35(1/4")	34	79	8
DPC30220031UX	2.20	12	50	3	DPC30640030UX	6.40	34	79	8
DPC30230031UX	2.30	14	50	3	DPC30650030UX	6.50	34	79	8
DPC30240031UX	2.40	14	50	3	DPC30660030UX	6.60	34	79	8
DPC30250031UX	2.50	16	50	3	DPC30670030UX	6.70	34	79	8
DPC30260031UX	2.60	16	50	3	DPC30680030UX	6.80	34	79	8
DPC30270031UX	2.70	16	50	3	DPC30690030UX	6.90	34	79	8
DPC30280031UX	2.80	16	50	3	DPC30700030UX	7.00	34	79	8
DPC30290031UX	2.90	16	50	3	DPC30710030UX	7.10	41	79	8
DPC30300031UX	3.00	16	50	3	DPC30720030UX	7.20	41	79	8
DPC30300034UX	3.00	20	60	4	DPC30730030UX	7.30	41	79	8
DPC30310034UX	3.10	20	60	4	DPC30740030UX	7.40	41	79	8
DPC30317034UX	3.17(1/8")	20	60	4	DPC30750030UX	7.50	41	79	8
DPC30320034UX	3.20	20	60	4	DPC30760030UX	7.60	41	79	8
DPC30330034UX	3.30	20	60	4	DPC30770030UX	7.70	41	79	8
DPC30340034UX	3.40	20	60	4	DPC30780030UX	7.80	41	79	8
DPC30350034UX	3.50	20	60	4	DPC30790030UX	7.90	41	79	8
DPC30360034UX	3.60	20	60	4	DPC30794030UX	7.94(5/16)	41	79	8
DPC30370034UX	3.70	20	60	4	DPC30800030UX	8.00	41	79	8
DPC30380034UX	3.80	24	60	4	DPC30810030UX	8.10	47	89	10
DPC30390034UX	3.90	24	60	4	DPC30820030UX	8.20	47	89	10
DPC30400030UX	4.00	24	66	6	DPC30830030UX	8.30	47	89	10
DPC30410030UX	4.10	24	66	6	DPC30840030UX	8.40	47	89	10
DPC30420030UX	4.20	24	66	6	DPC30850030UX	8.50	47	89	10
DPC30430030UX	4.30	24	66	6	DPC30860030UX	8.60	47	89	10
DPC30440030UX	4.40	24	66	6	DPC30870030UX	8.70	47	89	10
DPC30450030UX	4.50	24	66	6	DPC30880030UX	8.80	47	89	10
DPC30460030UX	4.60	24	66	6	DPC30890030UX	8.90	47	89	10
DPC30465030UX	4.65(13/71")	24	66	6	DPC30900030UX	9.00	47	89	10
DPC30470030UX	4.70	24	66	6	DPC30910030UX	9.10	47	89	10
DPC30476030UX	4.76(3/16")	28	66	6	DPC30920030UX	9.20	47	89	10
DPC30480030UX	4.80	28	66	6	DPC30925030UX	9.25(23/64")	47	89	10
DPC30490030UX	4.90	28	66	6	DPC30930030UX	9.30	47	89	10
DPC30500030UX	5.00	28	66	6	DPC30940030UX	9.40	47	89	10
DPC30510030UX	5.10	28	66	6	DPC30950030UX	9.50	47	89	10
DPC30520030UX	5.20	28	66	6	DPC30952030UX	9.52(3/8")	47	89	10
DPC30530030UX	5.30	28	66	6	DPC30960030UX	9.60	47	89	10
DPC30540030UX	5.40	28	66	6	DPC30970030UX	9.70	47	89	10
DPC30550030UX	5.50	28	66	6	DPC30980030UX	9.80	47	89	10
DPC30556030UX	5.56	28	66	6	DPC30990030UX	9.90	47	89	10
DPC30560030UX	5.60	28	66	6	DPC31000030UX	10.00	47	89	10

Cutting conditions : Page D040

DPC - for Universal · Internal Coolant · 3D 高效能內冷鑽頭．3 倍深

P	M	K	N	S	H
●	●	●		●	○

- 3×D Cutting Depth
- New UNIX Smooth Coating
- 140° SX Tip
- h8 Tolerance
- Double Margin



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DPC31010030UX	10.10	55	102	12
DPC31020030UX	10.20	55	102	12
DPC31030030UX	10.30	55	102	12
DPC31040030UX	10.40	55	102	12
DPC31050030UX	10.50	55	102	12
DPC31060030UX	10.60	55	102	12
DPC31070030UX	10.70	55	102	12
DPC31080030UX	10.80	55	102	12
DPC31090030UX	10.90	55	102	12
DPC31100030UX	11.00	55	102	12
DPC31110030UX	11.10	55	102	12
DPC31111030UX	11.11(7/16")	55	102	12
DPC31120030UX	11.20	55	102	12
DPC31130030UX	11.30	55	102	12
DPC31140030UX	11.40	55	102	12
DPC31150030UX	11.50	55	102	12
DPC31160030UX	11.60	55	102	12
DPC31170030UX	11.70	55	102	12
DPC31180030UX	11.80	55	102	12
DPC31190030UX	11.90	55	102	12
DPC31200030UX	12.00	55	102	12
DPC31210030UX	12.10	60	107	14
DPC31220030UX	12.20	60	107	14
DPC31230030UX	12.30	60	107	14
DPC31240030UX	12.40	60	107	14
DPC31250030UX	12.50	60	107	14
DPC31260030UX	12.60	60	107	14
DPC31270030UX	12.70(1/2")	60	107	14
DPC31280030UX	12.80	60	107	14
DPC31290030UX	12.90	60	107	14
DPC31300030UX	13.00	60	107	14
DPC31320030UX	13.20	60	107	14
DPC31330030UX	13.30	60	107	14
DPC31350030UX	13.50	60	107	14
DPC31370030UX	13.70	60	107	14
DPC31380030UX	13.80	60	107	14
DPC31400030UX	14.00	60	107	14
DPC31420030UX	14.20	65	115	16
DPC31429030UX	14.29(9/16")	65	115	16
DPC31430030UX	14.30	65	115	16
DPC31440030UX	14.40	65	115	16
DPC31450030UX	14.50	65	115	16
DPC31470030UX	14.70	65	115	16
DPC31500030UX	15.00	65	115	16
DPC31520030UX	15.20	65	115	16
DPC31550030UX	15.50	65	115	16
DPC31560030UX	15.60	65	115	16
DPC31570030UX	15.70	65	115	16

Order No. 訂購編碼	D	L1	L	Ds
DPC31580030UX	15.80	65	115	16
DPC31587030UX	15.87(5/8")	65	115	16
DPC31600030UX	16.00	65	115	16
DPC31650030UX	16.50	73	123	18
DPC31700030UX	17.00	73	123	18
DPC31750030UX	17.50	73	123	18
DPC31800030UX	18.00	73	123	18
DPC31850030UX	18.50	79	131	20
DPC31900030UX	19.00	79	131	20
DPC31905030UX	19.05(3/4")	79	131	20
DPC31950030UX	19.50	79	131	20
DPC32000030UX	20.00	79	131	20

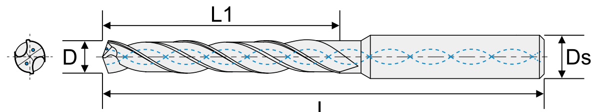
Cutting conditions : Page D040

WINSTAR

DPC - for Universal · Internal Coolant · 5D 高效能內冷鑽頭・5 倍深

P	M	K	N	S	H
●	●	●		●	○

- 5×D Cutting Depth
- 140° SX Tip
- Double Margin
- New UNIX Smooth Coating
- h8 Tolerance



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds	Order No. 訂購編碼	D	L1	L	Ds
DPC50140051UX	1.40	10	50	3	DPC50580050UX	5.80	44	82	6
DPC50150051UX	1.50	12	50	3	DPC50590050UX	5.90	44	82	6
DPC50160051UX	1.60	12	50	3	DPC50600050UX	6.00	44	82	6
DPC50170051UX	1.70	12	50	3	DPC50610050UX	6.10	53	91	8
DPC50180051UX	1.80	14	50	3	DPC50620050UX	6.20	53	91	8
DPC50190051UX	1.90	14	50	3	DPC50630050UX	6.30	53	91	8
DPC50200051UX	2.00	14	50	3	DPC50635050UX	6.35(1/4")	53	91	8
DPC50210051UX	2.10	16	50	3	DPC50640050UX	6.40	53	91	8
DPC50220051UX	2.20	16	50	3	DPC50650050UX	6.50	53	91	8
DPC50230051UX	2.30	18	50	3	DPC50660050UX	6.60	53	91	8
DPC50240051UX	2.40	18	50	3	DPC50670050UX	6.70	53	91	8
DPC50250051UX	2.50	20	60	3	DPC50680050UX	6.80	53	91	8
DPC50260051UX	2.60	20	60	3	DPC50690050UX	6.90	53	91	8
DPC50270051UX	2.70	20	60	3	DPC50700050UX	7.00	53	91	8
DPC50280051UX	2.80	20	60	3	DPC50710050UX	7.10	53	91	8
DPC50290051UX	2.90	22	60	3	DPC50720050UX	7.20	53	91	8
DPC50300051UX	3.00	22	60	3	DPC50730050UX	7.30	53	91	8
DPC50300054UX	3.00	28	60	4	DPC50740050UX	7.40	53	91	8
DPC50317054UX	3.17(1/8")	28	60	4	DPC50750050UX	7.50	53	91	8
DPC50325054UX	3.25	28	60	4	DPC50760050UX	7.60	53	91	8
DPC50330054UX	3.30	28	60	4	DPC50770050UX	7.70	53	91	8
DPC50340054UX	3.40	28	60	4	DPC50780050UX	7.80	53	91	8
DPC50350054UX	3.50	28	60	4	DPC50790050UX	7.90	53	91	8
DPC50360054UX	3.60	28	60	4	DPC50794050UX	7.94(5/16")	53	91	8
DPC50370054UX	3.70	28	60	4	DPC50800050UX	8.00	53	91	8
DPC50380054UX	3.80	36	74	4	DPC50810050UX	8.10	61	103	10
DPC50397054UX	3.97(5/32")	36	74	4	DPC50820050UX	8.20	61	103	10
DPC50400050UX	4.00	36	74	6	DPC50830050UX	8.30	61	103	10
DPC50410050UX	4.10	36	74	6	DPC50840050UX	8.40	61	103	10
DPC50420050UX	4.20	36	74	6	DPC50850050UX	8.50	61	103	10
DPC50430050UX	4.30	36	74	6	DPC50860050UX	8.60	61	103	10
DPC50440050UX	4.40	36	74	6	DPC50870050UX	8.70	61	103	10
DPC50450050UX	4.50	36	74	6	DPC50880050UX	8.80	61	103	10
DPC50460050UX	4.60	36	74	6	DPC50890050UX	8.90	61	103	10
DPC50465050UX	4.65(13/71")	36	74	6	DPC50900050UX	9.00	61	103	10
DPC50470050UX	4.70	36	74	6	DPC50910050UX	9.10	61	103	10
DPC50476050UX	4.76(3/16")	44	82	6	DPC50920050UX	9.20	61	103	10
DPC50480050UX	4.80	44	82	6	DPC50925050UX	9.25(23/64")	61	103	10
DPC50490050UX	4.90	44	82	6	DPC50930050UX	9.30	61	103	10
DPC50500050UX	5.00	44	82	6	DPC50940050UX	9.40	61	103	10
DPC50510050UX	5.10	44	82	6	DPC50950050UX	9.50	61	103	10
DPC50520050UX	5.20	44	82	6	DPC50952050UX	9.52(3/8")	61	103	10
DPC50530050UX	5.30	44	82	6	DPC50960050UX	9.60	61	103	10
DPC50540050UX	5.40	44	82	6	DPC50970050UX	9.70	61	103	10
DPC50550050UX	5.50	44	82	6	DPC50980050UX	9.80	61	103	10
DPC50555050UX	5.55(7/32")	44	82	6	DPC50990050UX	9.90	61	103	10
DPC50560050UX	5.60	44	82	6	DPC51000050UX	10.00	61	103	10
DPC50570050UX	5.70	44	82	6	DPC51010050UX	10.10	71	118	12

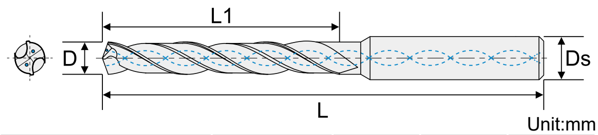
Cutting conditions : Page D040

WINSTAR

DPC - for Universal · Internal Coolant · 5D 高效能內冷鑽頭・5 倍深

P	M	K	N	S	H
●	●	●		●	○

- 5×D Cutting Depth
- 140° SX Tip
- Double Margin
- New UNIX Smooth Coating
- h8 Tolerance



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DPC51020050UX	10.20	71	118	12
DPC51030050UX	10.30	71	118	12
DPC51040050UX	10.40	71	118	12
DPC51050050UX	10.50	71	118	12
DPC51060050UX	10.60	71	118	12
DPC51070050UX	10.70	71	118	12
DPC51080050UX	10.80	71	118	12
DPC51090050UX	10.90	71	118	12
DPC51100050UX	11.00	71	118	12
DPC51110050UX	11.10	71	118	12
DPC51111050UX	11.11(7/16")	71	118	12
DPC51120050UX	11.20	71	118	12
DPC51130050UX	11.30	71	118	12
DPC51140050UX	11.40	71	118	12
DPC51150050UX	11.50	71	118	12
DPC51160050UX	11.60	71	118	12
DPC51170050UX	11.70	71	118	12
DPC51180050UX	11.80	71	118	12
DPC51190050UX	11.90	71	118	12
DPC51200050UX	12.00	71	118	12
DPC51210050UX	12.10	77	124	14
DPC51220050UX	12.20	77	124	14
DPC51230050UX	12.30	77	124	14
DPC51240050UX	12.40	77	124	14
DPC51250050UX	12.50	77	124	14
DPC51260050UX	12.60	77	124	14
DPC51270050UX	12.70(1/2")	77	124	14
DPC51280050UX	12.80	77	124	14
DPC51290050UX	12.90	77	124	14
DPC51300050UX	13.00	77	124	14
DPC51310050UX	13.10	77	124	14
DPC51330050UX	13.30	77	124	14
DPC51340050UX	13.40	77	124	14
DPC51350050UX	13.50	77	124	14
DPC51360050UX	13.60	77	124	14
DPC51370050UX	13.70	77	124	14
DPC51380050UX	13.80	77	124	14
DPC51390050UX	13.90	77	124	14
DPC51400050UX	14.00	77	124	14
DPC51410050UX	14.10	83	133	16
DPC51420050UX	14.20	83	133	16
DPC51429050UX	14.29(9/16")	83	133	16
DPC51430050UX	14.30	83	133	16
DPC51440050UX	14.40	83	133	16
DPC51450050UX	14.50	83	133	16
DPC51460050UX	14.60	83	133	16
DPC51470050UX	14.70	83	133	16
DPC51480050UX	14.80	83	133	16

Order No. 訂購編碼	D	L1	L	Ds
DPC51490050UX	14.90	83	133	16
DPC51500050UX	15.00	83	133	16
DPC51510050UX	15.10	83	133	16
DPC51520050UX	15.20	83	133	16
DPC51530050UX	15.30	83	133	16
DPC51540050UX	15.40	83	133	16
DPC51550050UX	15.50	83	133	16
DPC51560050UX	15.60	83	133	16
DPC51570050UX	15.70	83	133	16
DPC51580050UX	15.80	83	133	16
DPC51587050UX	15.87(5/8")	83	133	16
DPC51590050UX	15.90	83	133	16
DPC51600050UX	16.00	83	133	16
DPC51650050UX	16.50	93	143	18
DPC51700050UX	17.00	93	143	18
DPC51750050UX	17.50	93	143	18
DPC51800050UX	18.00	93	143	18
DPC52000050UX	20.00	101	153	20

Cutting conditions : Page D040

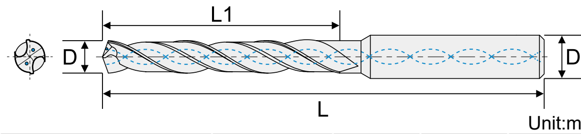
WINSTAR

DPC - for Universal · Internal Coolant · 7D 高效能內冷鑽頭 · 7 倍深

P	M	K	N	S	H
●	●	●		●	○

- 7×D Cutting Depth
- 140° SX Tip
- Double Margin
- New UNIX Smooth Coating
- h8 Tolerance

＊ Made to order 訂單式生產



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DPC70400070UX	4.00	40	80	6
DPC70410070UX	4.10	40	80	6
DPC70420070UX	4.20	40	80	6
DPC70430070UX	4.30	45	80	6
DPC70440070UX	4.40	45	80	6
DPC70450070UX	4.50	45	80	6
DPC70460070UX	4.60	45	80	6
DPC70465070UX	4.65(13/71")	45	80	6
DPC70470070UX	4.70	45	80	6
DPC70480070UX	4.80	50	97	6
DPC70490070UX	4.90	50	97	6
DPC70500070UX	5.00	50	97	6
DPC70510070UX	5.10	50	97	6
DPC70520070UX	5.20	50	97	6
DPC70530070UX	5.30	50	97	6
DPC70540070UX	5.40	57	97	6
DPC70550070UX	5.50	57	97	6
DPC70570070UX	5.70	57	97	6
DPC70580070UX	5.80	57	97	6
DPC70590070UX	5.90	57	97	6
DPC70600070UX	6.00	57	97	6
DPC70620070UX	6.20	66	106	8
DPC70630070UX	6.30	66	106	8
DPC70635070UX	6.35(1/4")	66	106	8
DPC70650070UX	6.50	66	106	8
DPC70660070UX	6.60	66	106	8
DPC70670070UX	6.70	66	106	8
DPC70680070UX	6.80	66	106	8
DPC70690070UX	6.90	76	116	8
DPC70700070UX	7.00	76	116	8
DPC70710070UX	7.10	76	116	8
DPC70720070UX	7.20	76	116	8
DPC70750070UX	7.50	76	116	8
DPC70760070UX	7.60	76	116	8
DPC70770070UX	7.70	76	116	8
DPC70780070UX	7.80	76	116	8
DPC70800070UX	8.00	76	116	8
DPC70810070UX	8.10	87	131	10
DPC70820070UX	8.20	87	131	10
DPC70840070UX	8.40	87	131	10
DPC70850070UX	8.50	87	131	10
DPC70860070UX	8.60	87	131	10
DPC70870070UX	8.70	87	131	10
DPC70880070UX	8.80	87	131	10
DPC70890070UX	8.90	87	131	10
DPC70900070UX	9.00	95	139	10
DPC70910070UX	9.10	95	139	10
DPC70920070UX	9.20	95	139	10

Order No. 訂購編碼	D	L1	L	Ds
DPC70930070UX	9.30	95	139	10
DPC70940070UX	9.40	95	139	10
DPC70950070UX	9.50	95	139	10
DPC70952070UX	9.52	95	139	10
DPC70970070UX	9.70	95	139	10
DPC70980070UX	9.80	95	139	10
DPC71000070UX	10.00	95	139	10
DPC71020070UX	10.20	106	155	12
DPC71030070UX	10.30	106	155	12
DPC71050070UX	10.50	106	155	12
DPC71072070UX	10.72(27/64")	106	155	12
DPC71080070UX	10.80	106	155	12
DPC71100070UX	11.00	106	155	12
DPC71120070UX	11.20	114	155	12
DPC71150070UX	11.50	114	155	12
DPC71180070UX	11.80	114	155	12
DPC71200070UX	12.00	114	155	12
DPC71210070UX	12.10	133	182	14
DPC71220070UX	12.20	133	182	14
DPC71230070UX	12.30	133	182	14
DPC71250070UX	12.50	133	182	14
DPC71270070UX	12.70	133	182	14
DPC71300070UX	13.00	133	182	14
DPC71350070UX	13.50	133	182	14
DPC71400070UX	14.00	133	182	14
DPC71410070UX	14.10	152	200	16
DPC71420070UX	14.20	152	200	16
DPC71450070UX	14.50	152	200	16
DPC71500070UX	15.00	152	200	16
DPC71550070UX	15.50	152	200	16
DPC71587070UX	15.87	152	200	16
DPC71600070UX	16.00	152	200	16

Cutting conditions : Page D040

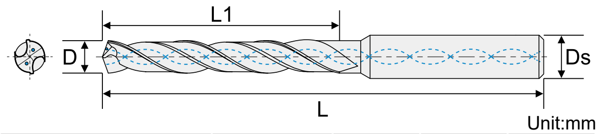
DPC - for Universal · Internal Coolant · 10D 高效能內冷鑽頭・10 倍深

P	M	K	N	S	H
●	●	●		●	○

- 10×D Cutting Depth
- 135° SX Tip
- Double Margin
- New UNIX Smooth Coating
- h8 Tolerance

※Require an initial pilot hole to guide the drill.

＊ Made to order 訂單式生產



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DPC90300100UX	3.00	48	100	4
DPC90350100UX	3.50	48	100	4
DPC90400100UX	4.00	48	100	4
DPC90450100UX	4.50	72	125	6
DPC90500100UX	5.00	72	125	6
DPC90550100UX	5.50	72	125	6
DPC90600100UX	6.00	72	125	6
DPC90650100UX	6.50	96	150	8
DPC90700100UX	7.00	96	150	8
DPC90750100UX	7.50	96	150	8
DPC90800100UX	8.00	96	150	8
DPC90850100UX	8.50	120	175	10
DPC90900100UX	9.00	120	175	10
DPC90950100UX	9.50	120	175	10
DPC91000100UX	10.00	120	175	10
DPC91100100UX	11.00	132	200	12
DPC91200100UX	12.00	144	200	12

Order No. 訂購編碼	D	L1	L	Ds

Holemaking

Cutting conditions : Page D040

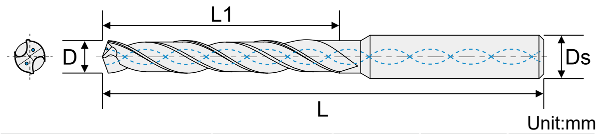
DPC - for Universal · Internal Coolant · 15D 高效能內冷鑽頭・15 倍深

P	M	K	N	S	H
●	●	●		●	○

- 15×D Cutting Depth
- 135° SX Tip
- Double Margin
- New UNIX Smooth Coating
- h8 Tolerance

※Require an initial pilot hole to guide the drill.

＊ Made to order 訂單式生產



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DPC90300150UX	3.00	55	100	4
DPC90350150UX	3.50	76	116	4
DPC90400150UX	4.00	76	116	4
DPC90450150UX	4.50	93	133	6
DPC90500150UX	5.00	93	133	6
DPC90550150UX	5.50	110	150	6
DPC90600150UX	6.00	110	150	6
DPC90650150UX	6.50	127	167	8
DPC90700150UX	7.00	127	167	8
DPC90750150UX	7.50	143	183	8
DPC90800150UX	8.00	143	183	8
DPC90850150UX	8.50	160	204	10
DPC90900150UX	9.00	160	204	10
DPC90950150UX	9.50	177	221	10
DPC91000150UX	10.00	177	221	10
DPC91100150UX	11.00	198	247	12
DPC91200150UX	12.00	214	263	12

Order No.	D	L1	L	Ds

Cutting conditions : Page D040

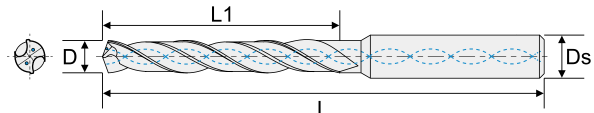
DPC - for Universal · Internal Coolant · 20D 高效能內冷鑽頭・20 倍深

P	M	K	N	S	H
●	●	●		●	○

- 20×D Cutting Depth
- 135° SX Tip
- Double Margin
- New UNIX Smooth Coating
- h8 Tolerance

※Require an initial pilot hole to guide the drill.

＊ Made to order 訂單式生產



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DPC90300200UX	3.00	70	110	4
DPC90350200UX	3.50	83	123	4
DPC90400200UX	4.00	96	136	4
DPC90450200UX	4.50	118	158	6
DPC90500200UX	5.00	118	158	6
DPC90550200UX	5.50	140	180	6
DPC90600200UX	6.00	140	180	6
DPC90650200UX	6.50	162	202	8
DPC90700200UX	7.00	162	202	8
DPC90750200UX	7.50	183	223	8
DPC90800200UX	8.00	183	223	8
DPC90850200UX	8.50	205	249	10
DPC90900200UX	9.00	205	249	10
DPC90950200UX	9.50	227	271	10
DPC91000200UX	10.00	227	271	10

Order No. 訂購編碼	D	L1	L	Ds

Cutting conditions : Page D040

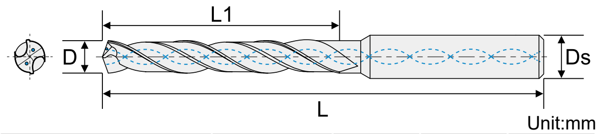
DPC - for Universal · Internal Coolant · 30D 高效能內冷鑽頭・30 倍深

P	M	K	N	S	H
●	●	●		●	○

・30×D Cutting Depth
・135° SX Tip
・Double Margin
・New UNIX Smooth Coating
・h8 Tolerance

※Require an initial pilot hole to guide the drill.

＊ Made to order 訂單式生產



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DPC90300300UX	3.00	100	140	4
DPC90350300UX	3.50	136	176	4
DPC90400300UX	4.00	136	176	4
DPC90450300UX	4.50	168	208	6
DPC90500300UX	5.00	168	208	6
DPC90550300UX	5.50	200	240	6
DPC90600300UX	6.00	200	240	6

Order No. 訂購編碼	D	L1	L	Ds

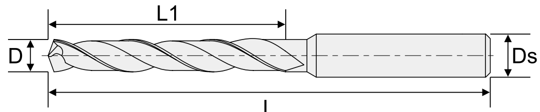
Cutting conditions : Page D040

WINSTAR

DPN - for Universal · External Coolant · 3D 高效能外冷鑽頭 · 3 倍深

P	M	K	N	S	H
●	●	●		○	○

- 3×D Cutting Depth
- New UNIX Smooth Coating
- SX Tip design, Tip Angle (D < 3 : 130°, D ≥ 3 : 140°)
- h8 Tolerance



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DPN30030033UX	0.30	2	38	3
DPN30050033UX	0.50	3	38	3
DPN30060033UX	0.60	3	38	3
DPN30070033UX	0.70	3	38	3
DPN30080033UX	0.80	4	38	3
DPN30090033UX	0.90	4	38	3
DPN30100033UX	1.00	4	38	3
DPN30110033UX	1.10	6	38	3
DPN30120033UX	1.20	6	38	3
DPN30130033UX	1.30	6	38	3
DPN30140033UX	1.40	6	38	3
DPN30150033UX	1.50	6	38	3
DPN30160033UX	1.60	8	38	3
DPN30170033UX	1.70	8	38	3
DPN30180033UX	1.80	10	50	3
DPN30190033UX	1.90	10	50	3
DPN30200033UX	2.00	10	50	3
DPN30210033UX	2.10	12	50	3
DPN30220033UX	2.20	12	50	3
DPN30230033UX	2.30	12	50	3
DPN30240033UX	2.40	12	50	3
DPN30250033UX	2.50	16	50	3
DPN30260033UX	2.60	16	50	3
DPN30270033UX	2.70	16	50	3
DPN30280033UX	2.80	16	50	3
DPN30290033UX	2.90	16	50	3
DPN30300034UX	3.00	20	60	4
DPN30310034UX	3.10	20	60	4
DPN30317034UX	3.17(1/8")	20	60	4
DPN30320034UX	3.20	20	60	4
DPN30325034UX	3.25(5/39")	20	60	4
DPN30330034UX	3.30	20	60	4
DPN30340034UX	3.40	20	60	4
DPN30350034UX	3.50	20	60	4
DPN30360034UX	3.60	20	60	4
DPN30370034UX	3.70	20	60	4
DPN30380034UX	3.80	24	60	4
DPN30390034UX	3.90	24	60	4
DPN30397034UX	3.97(5/32")	24	60	4
DPN30400034UX	4.00	24	60	4
DPN30300030UX	3.00	20	62	6
DPN30310030UX	3.10	20	62	6
DPN30317030UX	3.17(1/8")	20	62	6
DPN30320030UX	3.20	20	62	6
DPN30323030UX	3.23	20	62	6
DPN30325030UX	3.25(5/39")	20	62	6
DPN30330030UX	3.30	20	62	6
DPN30340030UX	3.40	20	62	6

Order No. 訂購編碼	D	L1	L	Ds
DPN30350030UX	3.50	20	62	6
DPN30360030UX	3.60	20	62	6
DPN30370030UX	3.70	20	62	6
DPN30380030UX	3.80	24	66	6
DPN30390030UX	3.90	24	66	6
DPN30397030UX	3.97(5/32")	24	66	6
DPN30400030UX	4.00	24	66	6
DPN30410030UX	4.10	24	66	6
DPN30420030UX	4.20	24	66	6
DPN30430030UX	4.30	24	66	6
DPN30440030UX	4.40	24	66	6
DPN30450030UX	4.50	24	66	6
DPN30460030UX	4.60	24	66	6
DPN30465030UX	4.65(13/71")	24	66	6
DPN30470030UX	4.70	24	66	6
DPN30476030UX	4.76(3/16")	28	66	6
DPN30480030UX	4.80	28	66	6
DPN30490030UX	4.90	28	66	6
DPN30500030UX	5.00	28	66	6
DPN30510030UX	5.10	28	66	6
DPN30520030UX	5.20	28	66	6
DPN30530030UX	5.30	28	66	6
DPN30540030UX	5.40	28	66	6
DPN30550030UX	5.50	28	66	6
DPN30556030UX	5.56(7/32")	28	66	6
DPN30560030UX	5.60	28	66	6
DPN30570030UX	5.70	28	66	6
DPN30580030UX	5.80	28	66	6
DPN30590030UX	5.90	28	66	6
DPN30600030UX	6.00	28	66	6
DPN30610030UX	6.10	34	79	8
DPN30620030UX	6.20	34	79	8
DPN30630030UX	6.30	34	79	8
DPN30635030UX	6.35(1/4")	34	79	8
DPN30640030UX	6.40	34	79	8
DPN30650030UX	6.50	34	79	8
DPN30660030UX	6.60	34	79	8
DPN30670030UX	6.70	34	79	8
DPN30680030UX	6.80	34	79	8
DPN30690030UX	6.90	34	79	8
DPN30700030UX	7.00	34	79	8
DPN30710030UX	7.10	41	79	8
DPN30720030UX	7.20	41	79	8
DPN30730030UX	7.30	41	79	8
DPN30740030UX	7.40	41	79	8
DPN30750030UX	7.50	41	79	8
DPN30760030UX	7.60	41	79	8
DPN30770030UX	7.70	41	79	8

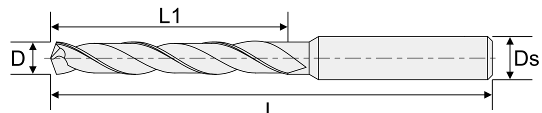
Cutting conditions : Page D040

WINSTAR

DPN - for Universal · External Coolant · 3D 高效能外冷鑽頭・3 倍深

P	M	K	N	S	H
●	●	●		○	○

- 3×D Cutting Depth
- h8 Tolerance
- 140° SX Tip
- New UNIX Smooth Coating



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DPN30780030UX	7.80	41	79	8
DPN30790030UX	7.90	41	79	8
DPN30794030UX	7.94(5/16")	41	79	8
DPN30800030UX	8.00	41	79	8
DPN30810030UX	8.10	47	89	10
DPN30820030UX	8.20	47	89	10
DPN30830030UX	8.30	47	89	10
DPN30840030UX	8.40	47	89	10
DPN30850030UX	8.50	47	89	10
DPN30860030UX	8.60	47	89	10
DPN30870030UX	8.70	47	89	10
DPN30880030UX	8.80	47	89	10
DPN30890030UX	8.90	47	89	10
DPN30900030UX	9.00	47	89	10
DPN30910030UX	9.10	47	89	10
DPN30920030UX	9.20	47	89	10
DPN30925030UX	9.25(23/64")	47	89	10
DPN30930030UX	9.30	47	89	10
DPN30940030UX	9.40	47	89	10
DPN30950030UX	9.50	47	89	10
DPN30952030UX	9.52(3/8")	47	89	10
DPN30960030UX	9.60	47	89	10
DPN30970030UX	9.70	47	89	10
DPN30980030UX	9.80	47	89	10
DPN30990030UX	9.90	47	89	10
DPN31000030UX	10.00	47	89	10
DPN31010030UX	10.10	55	102	12
DPN31020030UX	10.20	55	102	12
DPN31030030UX	10.30	55	102	12
DPN31040030UX	10.40	55	102	12
DPN31050030UX	10.50	55	102	12
DPN31060030UX	10.60	55	102	12
DPN31070030UX	10.70	55	102	12
DPN31080030UX	10.80	55	102	12
DPN31090030UX	10.90	55	102	12
DPN31100030UX	11.00	55	102	12
DPN31110030UX	11.10	55	102	12
DPN31111030UX	11.11(7/16")	55	102	12
DPN31120030UX	11.20	55	102	12
DPN31130030UX	11.30	55	102	12
DPN31140030UX	11.40	55	102	12
DPN31150030UX	11.50	55	102	12
DPN31160030UX	11.60	55	102	12
DPN31170030UX	11.70	55	102	12
DPN31180030UX	11.80	55	102	12
DPN31190030UX	11.90	55	102	12
DPN31200030UX	12.00	55	102	12
DPN31210030UX	12.10	60	107	14

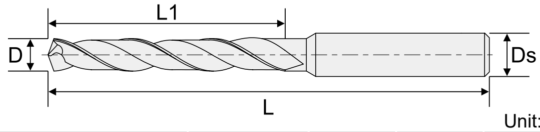
Order No. 訂購編碼	D	L1	L	Ds
DPN31220030UX	12.20	60	107	14
DPN31230030UX	12.30	60	107	14
DPN31240030UX	12.40	60	107	14
DPN31250030UX	12.50	60	107	14
DPN31260030UX	12.60	60	107	14
DPN31270030UX	12.70(1/2")	60	107	14
DPN31280030UX	12.80	60	107	14
DPN31290030UX	12.90	60	107	14
DPN31300030UX	13.00	60	107	14
DPN31320030UX	13.20	60	107	14
DPN31330030UX	13.30	60	107	14
DPN31350030UX	13.50	60	107	14
DPN31370030UX	13.70	60	107	14
DPN31380030UX	13.80	60	107	14
DPN31400030UX	14.00	60	107	14
DPN31420030UX	14.20	65	115	16
DPN31429030UX	14.29(9/16")	65	115	16
DPN31430030UX	14.30	65	115	16
DPN31440030UX	14.40	65	115	16
DPN31450030UX	14.50	65	115	16
DPN31470030UX	14.70	65	115	16
DPN31500030UX	15.00	65	115	16
DPN31520030UX	15.20	65	115	16
DPN31550030UX	15.50	65	115	16
DPN31560030UX	15.60	65	115	16
DPN31570030UX	15.70	65	115	16
DPN31580030UX	15.80	65	115	16
DPN31587030UX	15.87(5/8")	65	115	16
DPN31600030UX	16.00	65	115	16
DPN31650030UX	16.50	73	123	18
DPN31700030UX	17.00	73	123	18
DPN31750030UX	17.50	73	123	18
DPN31800030UX	18.00	73	123	18
DPN31850030UX	18.50	79	131	20
DPN31900030UX	19.00	79	131	20
DPN31905030UX	19.05(3/4")	79	131	20
DPN31950030UX	19.50	79	131	20
DPN32000030UX	20.00	79	131	20

Cutting conditions : Page D040

DPN - for Universal · External Coolant · 5D 高效能外冷鑽頭・5 倍深

P	M	K	N	S	H
●	●	●		○	○

- 5×D Cutting Depth
- h8 Tolerance
- 140° SX Tip
- New UNIX Smooth Coating



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DPN50300050UX	3.00	28	66	6
DPN50317050UX	3.17(1/8")	28	66	6
DPN50325050UX	3.25	28	66	6
DPN50330050UX	3.30	28	66	6
DPN50340050UX	3.40	28	66	6
DPN50350050UX	3.50	28	66	6
DPN50357050UX	3.57	28	66	6
DPN50360050UX	3.60	28	66	6
DPN50370050UX	3.70	28	66	6
DPN50380050UX	3.80	36	74	6
DPN50390050UX	3.90	36	74	6
DPN50397050UX	3.97(5/32")	36	74	6
DPN50400050UX	4.00	36	74	6
DPN50410050UX	4.10	36	74	6
DPN50420050UX	4.20	36	74	6
DPN50430050UX	4.30	36	74	6
DPN50440050UX	4.40	36	74	6
DPN50450050UX	4.50	36	74	6
DPN50460050UX	4.60	36	74	6
DPN50465050UX	4.65(13/71")	36	74	6
DPN50470050UX	4.70	36	74	6
DPN50476050UX	4.76(3/16")	44	82	6
DPN50480050UX	4.80	44	82	6
DPN50490050UX	4.90	44	82	6
DPN50500050UX	5.00	44	82	6
DPN50510050UX	5.10	44	82	6
DPN50520050UX	5.20	44	82	6
DPN50530050UX	5.30	44	82	6
DPN50540050UX	5.40	44	82	6
DPN50550050UX	5.50	44	82	6
DPN50555050UX	5.55	44	82	6
DPN50556050UX	5.56(7/32")	44	82	6
DPN50560050UX	5.60	44	82	6
DPN50570050UX	5.70	44	82	6
DPN50580050UX	5.80	44	82	6
DPN50590050UX	5.90	44	82	6
DPN50600050UX	6.00	44	82	6
DPN50610050UX	6.10	53	91	8
DPN50620050UX	6.20	53	91	8
DPN50630050UX	6.30	53	91	8
DPN50635050UX	6.35(1/4")	53	91	8
DPN50640050UX	6.40	53	91	8
DPN50650050UX	6.50	53	91	8
DPN50660050UX	6.60	53	91	8
DPN50670050UX	6.70	53	91	8
DPN50680050UX	6.80	53	91	8
DPN50690050UX	6.90	53	91	8
DPN50700050UX	7.00	53	91	8

Order No. 訂購編碼	D	L1	L	Ds
DPN50710050UX	7.10	53	91	8
DPN50720050UX	7.20	53	91	8
DPN50730050UX	7.30	53	91	8
DPN50740050UX	7.40	53	91	8
DPN50750050UX	7.50	53	91	8
DPN50760050UX	7.60	53	91	8
DPN50770050UX	7.70	53	91	8
DPN50780050UX	7.80	53	91	8
DPN50790050UX	7.90	53	91	8
DPN50794050UX	7.94(5/16")	53	91	8
DPN50800050UX	8.00	53	91	8
DPN50810050UX	8.10	61	103	10
DPN50820050UX	8.20	61	103	10
DPN50830050UX	8.30	61	103	10
DPN50840050UX	8.40	61	103	10
DPN50850050UX	8.50	61	103	10
DPN50860050UX	8.60	61	103	10
DPN50870050UX	8.70	61	103	10
DPN50880050UX	8.80	61	103	10
DPN50890050UX	8.90	61	103	10
DPN50900050UX	9.00	61	103	10
DPN50910050UX	9.10	61	103	10
DPN50920050UX	9.20	61	103	10
DPN50925050UX	9.25(23/64")	61	103	10
DPN50930050UX	9.30	61	103	10
DPN50940050UX	9.40	61	103	10
DPN50950050UX	9.50	61	103	10
DPN50952050UX	9.52(3/8")	61	103	10
DPN50960050UX	9.60	61	103	10
DPN50970050UX	9.70	61	103	10
DPN50980050UX	9.80	61	103	10
DPN50990050UX	9.90	61	103	10
DPN51000050UX	10.00	61	103	10
DPN51010050UX	10.10	71	118	12
DPN51020050UX	10.20	71	118	12
DPN51030050UX	10.30	71	118	12
DPN51040050UX	10.40	71	118	12
DPN51050050UX	10.50	71	118	12
DPN51060050UX	10.60	71	118	12
DPN51070050UX	10.70	71	118	12
DPN51080050UX	10.80	71	118	12
DPN51090050UX	10.90	71	118	12
DPN51100050UX	11.00	71	118	12
DPN51110050UX	11.10	71	118	12
DPN51111050UX	11.11(7/16")	71	118	12
DPN51120050UX	11.20	71	118	12
DPN51130050UX	11.30	71	118	12
DPN51140050UX	11.40	71	118	12

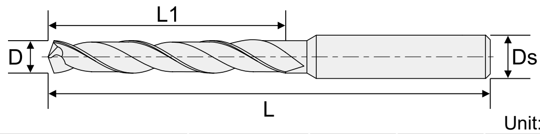
Cutting conditions : Page D040

WINSTAR

DPN - for Universal · External Coolant · 5D 高效能外冷鑽頭 · 5 倍深

P	M	K	N	S	H
●	●	●		○	○

- 5×D Cutting Depth
- h8 Tolerance
- 140° SX Tip
- New UNIX Smooth Coating



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DPN51150050UX	11.50	71	118	12
DPN51160050UX	11.60	71	118	12
DPN51170050UX	11.70	71	118	12
DPN51180050UX	11.80	71	118	12
DPN51190050UX	11.90	71	118	12
DPN51200050UX	12.00	71	118	12
DPN51210050UX	12.10	77	124	14
DPN51220050UX	12.20	77	124	14
DPN51230050UX	12.30	77	124	14
DPN51240050UX	12.40	77	124	14
DPN51250050UX	12.50	77	124	14
DPN51260050UX	12.60	77	124	14
DPN51270050UX	12.70(1/2")	77	124	14
DPN51280050UX	12.80	77	124	14
DPN51290050UX	12.90	77	124	14
DPN51300050UX	13.00	77	124	14
DPN51310050UX	13.10	77	124	14
DPN51330050UX	13.30	77	124	14
DPN51340050UX	13.40	77	124	14
DPN51350050UX	13.50	77	124	14
DPN51360050UX	13.60	77	124	14
DPN51370050UX	13.70	77	124	14
DPN51380050UX	13.80	77	124	14
DPN51390050UX	13.90	77	124	14
DPN51400050UX	14.00	77	124	14
DPN51410050UX	14.10	83	133	16
DPN51420050UX	14.20	83	133	16
DPN51429050UX	14.29(9/16")	83	133	16
DPN51430050UX	14.30	83	133	16
DPN51440050UX	14.40	83	133	16
DPN51450050UX	14.50	83	133	16
DPN51460050UX	14.60	83	133	16
DPN51470050UX	14.70	83	133	16
DPN51480050UX	14.80	83	133	16
DPN51490050UX	14.90	83	133	16
DPN51500050UX	15.00	83	133	16
DPN51510050UX	15.10	83	133	16
DPN51520050UX	15.20	83	133	16
DPN51530050UX	15.30	83	133	16
DPN51540050UX	15.40	83	133	16
DPN51550050UX	15.50	83	133	16
DPN51560050UX	15.60	83	133	16
DPN51570050UX	15.70	83	133	16
DPN51580050UX	15.80	83	133	16
DPN51587050UX	15.87(5/8")	83	133	16
DPN51590050UX	15.90	83	133	16
DPN51600050UX	16.00	83	133	16
DPN51650050UX	16.50	93	143	18

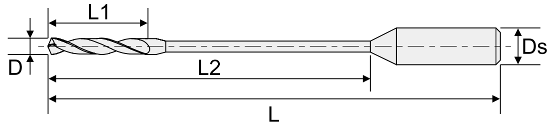
Order No. 訂購編碼	D	L1	L	Ds
DPN51700050UX	17.00	93	143	18
DPN51750050UX	17.50	93	143	18
DPN51800050UX	18.00	93	143	18
DPN52000050UX	20.00	101	153	20

Cutting conditions : Page D040

DPN - for Universal · Micro Hole · External Coolant · 10D~50D 微小徑深孔鑽・10~50 倍深 (啄鑽專用)

P	M	K	N	S	H
●	●	●		○	○

- 10~50D for Peck drilling
- 130° Tip Angle
- D Tolerance : ±0.005
- New UNIX Smooth Coating



LD = L2 / D

Unit:mm

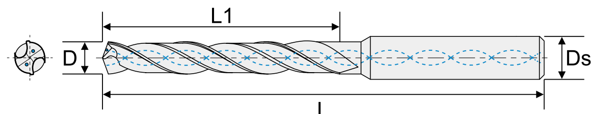
Order No. 訂購編碼	D	L1	L2	LD	L	Ds
DPN90010104UX	0.10	0.5	1	10	50	4
DPN90010304UX	0.10	0.5	3	30	50	4
DPN90010504UX	0.10	0.5	5	50	50	4
DPN90015104UX	0.15	0.75	1.5	10	50	4
DPN90015304UX	0.15	0.75	4.5	30	50	4
DPN90015504UX	0.15	0.75	7.5	50	50	4
DPN90020104UX	0.20	1	2	10	50	4
DPN90020304UX	0.20	1	6	30	50	4
DPN90020504UX	0.20	1	10	50	50	4
DPN90030104UX	0.30	1.5	3	10	50	4
DPN90030304UX	0.30	1.5	9	30	50	4
DPN90030504UX	0.30	1.5	15	50	50	4
DPN90040104UX	0.40	2	4	10	50	4
DPN90040304UX	0.40	2	12	30	50	4
DPN90040504UX	0.40	2	20	50	50	4
DPN90050104UX	0.50	2.5	5	10	50	4
DPN90050304UX	0.50	2.5	15	30	50	4
DPN90050504UX	0.50	2.5	25	50	50	4
DPN90060104UX	0.60	3	6	10	60	4
DPN90060304UX	0.60	3	18	30	60	4
DPN90060504UX	0.60	3	30	50	75	4
DPN90070104UX	0.70	3.5	7	10	60	4
DPN90070304UX	0.70	3.5	21	30	60	4
DPN90070504UX	0.70	3.5	35	50	75	4
DPN90080104UX	0.80	4	8	10	60	4
DPN90080304UX	0.80	4	24	30	75	4
DPN90080504UX	0.80	4	40	50	75	4
DPN90090104UX	0.90	4.5	9	10	60	4
DPN90090304UX	0.90	4.5	27	30	60	4
DPN90090504UX	0.90	4.5	45	50	75	4
DPN90100104UX	1.00	5	10	10	75	4
DPN90100304UX	1.00	5	30	30	75	4
DPN90100504UX	1.00	5	50	50	100	4

Cutting conditions : Page D041

DMC - for Exotic Material · Internal Coolant · 3D 高效能內冷鑽頭 (難切削材用) · 3 倍深

P	M	K	N	S	H
●	●	●		●	○

- 3×D Cutting Depth
- 140° NR Tip
- Double Margin
- New SINIX Smooth Coating
- h8 Tolerance



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DMC30390034SX	3.90	24	66	4
DMC30400030SX	4.00	24	66	6
DMC30410030SX	4.10	24	66	6
DMC30420030SX	4.20	24	66	6
DMC30430030SX	4.30	24	66	6
DMC30440030SX	4.40	24	66	6
DMC30450030SX	4.50	24	66	6
DMC30460030SX	4.60	24	66	6
DMC30465030SX	4.65	24	66	6
DMC30470030SX	4.70	24	66	6
DMC30476030SX	4.76(3/16")	24	66	6
DMC30480030SX	4.80	28	66	6
DMC30490030SX	4.90	28	66	6
DMC30500030SX	5.00	28	66	6
DMC30510030SX	5.10	28	66	6
DMC30520030SX	5.20	28	66	6
DMC30530030SX	5.30	28	66	6
DMC30540030SX	5.40	28	66	6
DMC30550030SX	5.50	28	66	6
DMC30556030SX	5.56(7/32")	28	66	6
DMC30560030SX	5.60	28	66	6
DMC30570030SX	5.70	28	66	6
DMC30580030SX	5.80	28	66	6
DMC30590030SX	5.90	28	66	6
DMC30600030SX	6.00	28	66	6
DMC30610030SX	6.10	34	79	8
DMC30620030SX	6.20	34	79	8
DMC30630030SX	6.30	34	79	8
DMC30635030SX	6.35(1/4")	34	79	8
DMC30640030SX	6.40	34	79	8
DMC30650030SX	6.50	34	79	8
DMC30660030SX	6.60	34	79	8
DMC30670030SX	6.70	34	79	8
DMC30680030SX	6.80	34	79	8
DMC30690030SX	6.90	34	79	8
DMC30700030SX	7.00	34	79	8
DMC30710030SX	7.10	41	79	8
DMC30714030SX	7.14(9/32")	41	79	8
DMC30720030SX	7.20	41	79	8
DMC30730030SX	7.30	41	79	8
DMC30740030SX	7.40	41	79	8
DMC30750030SX	7.50	41	79	8
DMC30760030SX	7.60	41	79	8
DMC30770030SX	7.70	41	79	8
DMC30780030SX	7.80	41	79	8
DMC30790030SX	7.90	41	79	8
DMC30794030SX	7.94(5/16")	41	79	8
DMC30800030SX	8.00	41	79	8

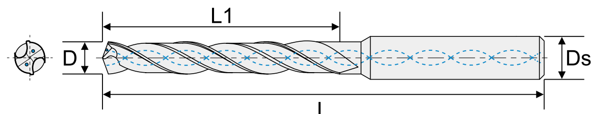
Order No. 訂購編碼	D	L1	L	Ds
DMC30810030SX	8.10	47	89	10
DMC30820030SX	8.20	47	89	10
DMC30830030SX	8.30	47	89	10
DMC30840030SX	8.40	47	89	10
DMC30850030SX	8.50	47	89	10
DMC30860030SX	8.60	47	89	10
DMC30870030SX	8.70	47	89	10
DMC30880030SX	8.80	47	89	10
DMC30890030SX	8.90	47	89	10
DMC30900030SX	9.00	47	89	10
DMC30910030SX	9.10	47	89	10
DMC30920030SX	9.20	47	89	10
DMC30925030SX	9.25	47	89	10
DMC30930030SX	9.30	47	89	10
DMC30940030SX	9.40	47	89	10
DMC30950030SX	9.50	47	89	10
DMC30952030SX	9.52(3/8")	47	89	10
DMC30960030SX	9.60	47	89	10
DMC30970030SX	9.70	47	89	10
DMC30980030SX	9.80	47	89	10
DMC30990030SX	9.90	47	89	10
DMC31000030SX	10.00	47	89	10
DMC31020030SX	10.20	55	102	12
DMC31050030SX	10.50	55	102	12
DMC31070030SX	10.70	55	102	12
DMC31100030SX	11.00	55	102	12
DMC31120030SX	11.20	55	102	12
DMC31150030SX	11.50	55	102	12
DMC31170030SX	11.70	55	102	12
DMC31200030SX	12.00	55	102	12
DMC31250030SX	12.50	60	107	14
DMC31270030SX	12.70(1/2")	60	107	14
DMC31300030SX	13.00	60	107	14
DMC31350030SX	13.50	60	107	14
DMC31370030SX	13.70	60	107	14
DMC31400030SX	14.00	60	107	14
DMC31450030SX	14.50	65	115	16
DMC31470030SX	14.70	65	115	16
DMC31500030SX	15.00	65	115	16
DMC31550030SX	15.50	65	115	16
DMC31570030SX	15.70	65	115	16
DMC31600030SX	16.00	65	115	16
DMC31800030SX	18.00	73	123	18
DMC31900030SX	19.00	79	131	20
DMC32000030SX	20.00	79	131	20

Cutting conditions : Page D042

DMC - for Exotic Material · Internal Coolant · 5D　高效能內冷鑽頭 (難切削材用) · 5 倍深

P	M	K	N	S	H
●	●	●		●	○

- 5×D Cutting Depth
- 140° NR Tip
- Double Margin
- New SINIX Smooth Coating
- h8 Tolerance



Unit:mm

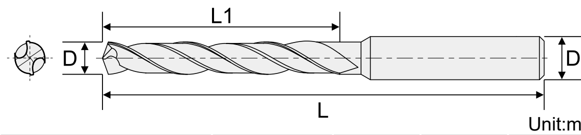
Order No. 訂購編碼	D	L1	L	Ds
DMC50340054SX	3.40	28	60	4
DMC50350054SX	3.50	28	60	4
DMC50370054SX	3.70	28	60	4
DMC50380054SX	3.80	36	74	4
DMC50400050SX	4.00	36	74	6
DMC50410050SX	4.10	36	74	6
DMC50420050SX	4.20	36	74	6
DMC50430050SX	4.30	36	74	6
DMC50440050SX	4.40	36	74	6
DMC50450050SX	4.50	36	74	6
DMC50460050SX	4.60	36	74	6
DMC50465050SX	4.65	36	74	6
DMC50470050SX	4.70	36	74	6
DMC50476050SX	4.76(3/16")	36	74	6
DMC50480050SX	4.80	44	82	6
DMC50490050SX	4.90	44	82	6
DMC50500050SX	5.00	44	82	6
DMC50510050SX	5.10	44	82	6
DMC50520050SX	5.20	44	82	6
DMC50530050SX	5.30	44	82	6
DMC50540050SX	5.40	44	82	6
DMC50550050SX	5.50	44	82	6
DMC50555050SX	5.55(7/32")	44	82	6
DMC50560050SX	5.60	44	82	6
DMC50570050SX	5.70	44	82	6
DMC50580050SX	5.80	44	82	6
DMC50590050SX	5.90	44	82	6
DMC50600050SX	6.00	44	82	6
DMC50610050SX	6.10	53	91	8
DMC50620050SX	6.20	53	91	8
DMC50630050SX	6.30	53	91	8
DMC50635050SX	6.35(1/4")	53	91	8
DMC50640050SX	6.40	53	91	8
DMC50650050SX	6.50	53	91	8
DMC50660050SX	6.60	53	91	8
DMC50670050SX	6.70	53	91	8
DMC50680050SX	6.80	53	91	8
DMC50690050SX	6.90	53	91	8
DMC50700050SX	7.00	53	91	8
DMC50710050SX	7.10	53	91	8
DMC50714050SX	7.14(9/32")	53	91	8
DMC50720050SX	7.20	53	91	8
DMC50730050SX	7.30	53	91	8
DMC50740050SX	7.40	53	91	8
DMC50750050SX	7.50	53	91	8
DMC50760050SX	7.60	53	91	8
DMC50770050SX	7.70	53	91	8
DMC50780050SX	7.80	53	91	8
DMC50790050SX	7.90	53	91	8
DMC50794050SX	7.94(5/16")	53	91	8
DMC50800050SX	8.00	53	91	8
DMC50810050SX	8.10	61	103	10
DMC50820050SX	8.20	61	103	10
DMC50830050SX	8.30	61	103	10
DMC50840050SX	8.40	61	103	10
DMC50850050SX	8.50	61	103	10
DMC50860050SX	8.60	61	103	10
DMC50870050SX	8.70	61	103	10
DMC50880050SX	8.80	61	103	10
DMC50890050SX	8.90	61	103	10
DMC50900050SX	9.00	61	103	10
DMC50910050SX	9.10	61	103	10
DMC50920050SX	9.20	61	103	10
DMC50925050SX	9.25	61	103	10
DMC50930050SX	9.30	61	103	10
DMC50940050SX	9.40	61	103	10
DMC50950050SX	9.50	61	103	10
DMC50952050SX	9.52(3/8")	61	103	10
DMC50960050SX	9.60	61	103	10
DMC50970050SX	9.70	61	103	10
DMC50980050SX	9.80	61	103	10
DMC50990050SX	9.90	61	103	10
DMC51000050SX	10.00	61	103	10
DMC51020050SX	10.20	71	118	12
DMC51050050SX	10.50	71	118	12
DMC51070050SX	10.70	71	118	12
DMC51100050SX	11.00	71	118	12
DMC51120050SX	11.20	71	118	12
DMC51150050SX	11.50	71	118	12
DMC51170050SX	11.70	71	118	12
DMC51200050SX	12.00	71	118	12
DMC51250050SX	12.50	77	124	14
DMC51270050SX	12.70(1/2")	77	124	14
DMC51300050SX	13.00	77	124	14
DMC51350050SX	13.50	77	124	14
DMC51370050SX	13.70	77	124	14
DMC51400050SX	14.00	77	124	14
DMC51450050SX	14.50	83	133	16
DMC51470050SX	14.70	83	133	16
DMC51500050SX	15.00	83	133	16
DMC51550050SX	15.50	83	133	16
DMC51570050SX	15.70	83	133	16
DMC51600050SX	16.00	83	133	16
DMC51800050SX	18.00	93	143	18
DMC51900050SX	19.00	101	153	20
DMC52000050SX	20.00	101	153	20

Cutting conditions : Page D042

DMN - for Exotic Material · External Coolant · 3D 高效能外冷鑽頭 (難切削材用) · 3 倍深

P	M	K	N	S	H
●	●	●		●	

- 3×D Cutting Depth
- 140° NR Tip
- Double Margin
- New SINIX Smooth Coating
- h8 Tolerance



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DMN30400030SX	4.00	24	66	6
DMN30410030SX	4.10	24	66	6
DMN30420030SX	4.20	24	66	6
DMN30430030SX	4.30	24	66	6
DMN30440030SX	4.40	24	66	6
DMN30450030SX	4.50	24	66	6
DMN30460030SX	4.60	24	66	6
DMN30465030SX	4.65	24	66	6
DMN30470030SX	4.70	24	66	6
DMN30476030SX	4.76(3/16")	24	66	6
DMN30480030SX	4.80	28	66	6
DMN30490030SX	4.90	28	66	6
DMN30500030SX	5.00	28	66	6
DMN30510030SX	5.10	28	66	6
DMN30520030SX	5.20	28	66	6
DMN30530030SX	5.30	28	66	6
DMN30540030SX	5.40	28	66	6
DMN30550030SX	5.50	28	66	6
DMN30556030SX	5.56(7/32")	28	66	6
DMN30560030SX	5.60	28	66	6
DMN30570030SX	5.70	28	66	6
DMN30580030SX	5.80	28	66	6
DMN30590030SX	5.90	28	66	6
DMN30600030SX	6.00	28	66	6
DMN30610030SX	6.10	34	79	8
DMN30620030SX	6.20	34	79	8
DMN30630030SX	6.30	34	79	8
DMN30635030SX	6.35(1/4")	34	79	8
DMN30640030SX	6.40	34	79	8
DMN30650030SX	6.50	34	79	8
DMN30660030SX	6.60	34	79	8
DMN30670030SX	6.70	34	79	8
DMN30680030SX	6.80	34	79	8
DMN30690030SX	6.90	34	79	8
DMN30700030SX	7.00	34	79	8
DMN30710030SX	7.10	41	79	8
DMN30714030SX	7.14(9/32")	41	79	8
DMN30720030SX	7.20	41	79	8
DMN30730030SX	7.30	41	79	8
DMN30740030SX	7.40	41	79	8
DMN30750030SX	7.50	41	79	8
DMN30760030SX	7.60	41	79	8
DMN30770030SX	7.70	41	79	8
DMN30780030SX	7.80	41	79	8
DMN30790030SX	7.90	41	79	8
DMN30794030SX	7.94(5/16")	41	79	8
DMN30800030SX	8.00	41	79	8
DMN30810030SX	8.10	47	89	10

Order No. 訂購編碼	D	L1	L	Ds
DMN30820030SX	8.20	47	89	10
DMN30830030SX	8.30	47	89	10
DMN30840030SX	8.40	47	89	10
DMN30850030SX	8.50	47	89	10
DMN30860030SX	8.60	47	89	10
DMN30870030SX	8.70	47	89	10
DMN30880030SX	8.80	47	89	10
DMN30890030SX	8.90	47	89	10
DMN30900030SX	9.00	47	89	10
DMN30910030SX	9.10	47	89	10
DMN30920030SX	9.20	47	89	10
DMN30925030SX	9.25	47	89	10
DMN30930030SX	9.30	47	89	10
DMN30940030SX	9.40	47	89	10
DMN30950030SX	9.50	47	89	10
DMN30952030SX	9.52(3/8")	47	89	10
DMN30960030SX	9.60	47	89	10
DMN30970030SX	9.70	47	89	10
DMN30980030SX	9.80	47	89	10
DMN30990030SX	9.90	47	89	10
DMN31000030SX	10.00	47	89	10
DMN31020030SX	10.20	55	102	12
DMN31050030SX	10.50	55	102	12
DMN31070030SX	10.70	55	102	12
DMN31100030SX	11.00	55	102	12
DMN31110030SX	11.10	55	102	12
DMN31120030SX	11.20	55	102	12
DMN31150030SX	11.50	55	102	12
DMN31170030SX	11.70	55	102	12
DMN31190030SX	11.90	55	102	12
DMN31200030SX	12.00	55	102	12
DMN31250030SX	12.50	60	107	14
DMN31270030SX	12.70(1/2)	60	107	14
DMN31300030SX	13.00	60	107	14
DMN31400030SX	14.00	60	107	14
DMN31600030SX	16.00	65	115	16
DMN31800030SX	18.00	73	123	18

Cutting conditions : Page D042

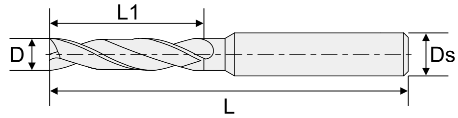
WINSTAR

DFN - Flat Point · External Coolant · 3D

平底外冷鑽頭 · 3 倍深

P	M	K	N	S	H
●	○	●			

· 3×D Cutting Depth
· h8 Tolerance
· FX Flat Tip
· New UNIX Smooth Coating



Unit:mm

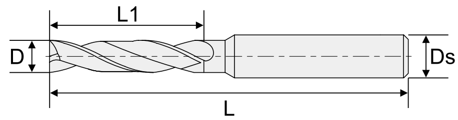
Order No. 訂購編碼	D	L1	L	Ds	Order No. 訂購編碼	D	L1	L	Ds
DFN30220034UX	2.20	13	60	4	DFN30580030UX	5.80	28	66	6
DFN30260034UX	2.60	15	60	4	DFN30590030UX	5.90	28	66	6
DFN30270034UX	2.70	15	60	4	DFN30600030UX	6.00	28	66	6
DFN30300034UX	3.00	20	60	4	DFN30610030UX	6.10	34	79	8
DFN30310034UX	3.10	20	60	4	DFN30620030UX	6.20	34	79	8
DFN30317034UX	3.17(1/8")	20	60	4	DFN30630030UX	6.30	34	79	8
DFN30320034UX	3.20	20	60	4	DFN30635030UX	6.35	34	79	8
DFN30325034UX	3.25(5/39")	20	60	4	DFN30640030UX	6.40	34	79	8
DFN30330034UX	3.30	20	60	4	DFN30650030UX	6.50	34	79	8
DFN30340034UX	3.40	20	60	4	DFN30660030UX	6.60	34	79	8
DFN30350034UX	3.50	20	60	4	DFN30670030UX	6.70	34	79	8
DFN30360034UX	3.60	20	60	4	DFN30680030UX	6.80	34	79	8
DFN30370034UX	3.70	20	60	4	DFN30690030UX	6.90	34	79	8
DFN30380034UX	3.80	24	60	4	DFN30700030UX	7.00	34	79	8
DFN30390034UX	3.90	24	60	4	DFN30710030UX	7.10	41	79	8
DFN30397034UX	3.97(5/32")	24	60	4	DFN30720030UX	7.20	41	79	8
DFN30300030UX	3.00	20	62	6	DFN30730030UX	7.30	41	79	8
DFN30310030UX	3.10	20	62	6	DFN30740030UX	7.40	41	79	8
DFN30320030UX	3.20	20	62	6	DFN30750030UX	7.50	41	79	8
DFN30325030UX	3.25(5/39")	20	62	6	DFN30760030UX	7.60	41	79	8
DFN30330030UX	3.30	20	62	6	DFN30770030UX	7.70	41	79	8
DFN30340030UX	3.40	20	62	6	DFN30780030UX	7.80	41	79	8
DFN30350030UX	3.50	20	62	6	DFN30790030UX	7.90	41	79	8
DFN30360030UX	3.60	20	62	6	DFN30800030UX	8.00	41	79	8
DFN30370030UX	3.70	20	62	6	DFN30810030UX	8.10	47	89	10
DFN30380030UX	3.80	24	66	6	DFN30820030UX	8.20	47	89	10
DFN30390030UX	3.90	24	66	6	DFN30830030UX	8.30	47	89	10
DFN30397030UX	3.97(5/32")	24	66	6	DFN30840030UX	8.40	47	89	10
DFN30400030UX	4.00	24	66	6	DFN30850030UX	8.50	47	89	10
DFN30410030UX	4.10	24	66	6	DFN30860030UX	8.60	47	89	10
DFN30420030UX	4.20	24	66	6	DFN30870030UX	8.70	47	89	10
DFN30430030UX	4.30	24	66	6	DFN30880030UX	8.80	47	89	10
DFN30440030UX	4.40	24	66	6	DFN30890030UX	8.90	47	89	10
DFN30450030UX	4.50	24	66	6	DFN30900030UX	9.00	47	89	10
DFN30460030UX	4.60	24	66	6	DFN30910030UX	9.10	47	89	10
DFN30465030UX	4.65(13/71")	24	66	6	DFN30920030UX	9.20	47	89	10
DFN30470030UX	4.70	24	66	6	DFN30925030UX	9.25(23/64")	47	89	10
DFN30480030UX	4.80	28	66	6	DFN30930030UX	9.30	47	89	10
DFN30490030UX	4.90	28	66	6	DFN30940030UX	9.40	47	89	10
DFN30500030UX	5.00	28	66	6	DFN30950030UX	9.50	47	89	10
DFN30510030UX	5.10	28	66	6	DFN30960030UX	9.60	47	89	10
DFN30520030UX	5.20	28	66	6	DFN30970030UX	9.70	47	89	10
DFN30530030UX	5.30	28	66	6	DFN30980030UX	9.80	47	89	10
DFN30540030UX	5.40	28	66	6	DFN30990030UX	9.90	47	89	10
DFN30550030UX	5.50	28	66	6	DFN31000030UX	10.00	47	89	10
DFN30556030UX	5.56(7/32")	28	66	6	DFN31010030UX	10.10	55	102	12
DFN30560030UX	5.60	28	66	6	DFN31020030UX	10.20	55	102	12
DFN30570030UX	5.70	28	66	6	DFN31030030UX	10.30	55	102	12

Cutting conditions : Page D040

DFN - Flat Point · External Coolant · 3D 平底外冷鑽頭・3 倍深

P	M	K	N	S	H
●	○	●			

- 3×D Cutting Depth
- h8 Tolerance
- FX Flat Tip
- New UNIX Smooth Coating



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DFN31040030UX	10.40	55	102	12
DFN31050030UX	10.50	55	102	12
DFN31060030UX	10.60	55	102	12
DFN31070030UX	10.70	55	102	12
DFN31080030UX	10.80	55	102	12
DFN31090030UX	10.90	55	102	12
DFN31100030UX	11.00	55	102	12
DFN31110030UX	11.10	55	102	12
DFN31120030UX	11.20	55	102	12
DFN31130030UX	11.30	55	102	12
DFN31140030UX	11.40	55	102	12
DFN31150030UX	11.50	55	102	12
DFN31160030UX	11.60	55	102	12
DFN31170030UX	11.70	55	102	12
DFN31180030UX	11.80	55	102	12
DFN31190030UX	11.90	55	102	12
DFN31200030UX	12.00	55	102	12
DFN31210030UX	12.10	60	107	14
DFN31220030UX	12.20	60	107	14
DFN31230030UX	12.30	60	107	14
DFN31240030UX	12.40	60	107	14
DFN31250030UX	12.50	60	107	14
DFN31260030UX	12.60	60	107	14
DFN31270030UX	12.70(1/2")	60	107	14
DFN31280030UX	12.80	60	107	14
DFN31290030UX	12.90	60	107	14
DFN31300030UX	13.00	60	107	14
DFN31320030UX	13.20	60	107	14
DFN31330030UX	13.30	60	107	14
DFN31350030UX	13.50	60	107	14
DFN31370030UX	13.70	60	107	14
DFN31380030UX	13.80	60	107	14
DFN31400030UX	14.00	60	107	14
DFN31420030UX	14.20	65	115	16
DFN31430030UX	14.30	65	115	16
DFN31440030UX	14.40	65	115	16
DFN31450030UX	14.50	65	115	16
DFN31470030UX	14.70	65	115	16
DFN31500030UX	15.00	65	115	16
DFN31520030UX	15.20	65	115	16
DFN31550030UX	15.50	65	115	16
DFN31560030UX	15.60	65	115	16
DFN31570030UX	15.70	65	115	16
DFN31580030UX	15.80	65	115	16
DFN31600030UX	16.00	65	115	16
DFN31650030UX	16.50	73	123	18
DFN31700030UX	17.00	73	123	18
DFN31750030UX	17.50	73	123	18
DFN31800030UX	18.00	73	123	18
DFN31850030UX	18.50	79	131	20
DFN31900030UX	19.00	79	131	20
DFN31950030UX	19.50	79	131	20
DFN32000030UX	20.00	79	131	20

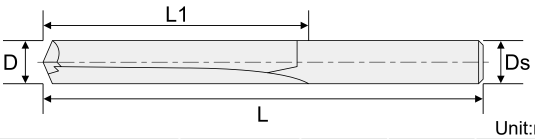
Cutting conditions : Page D040

WINSTAR

DAN - Straight Flute · External Coolant · 3D 直刃外冷鑽鉸刀 · 3 倍深

P	M	K	N	S	H
○		●	●		

- 3×D Cutting Depth
- h8 Tolerance
- 130° Tip
- New UNIX Smooth Coating



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DAN30400034UX	4.00	24	75	4
DAN30450030UX	4.50	24	75	6
DAN30500030UX	5.00	28	75	6
DAN30550030UX	5.50	28	75	6
DAN30600030UX	6.00	28	75	6
DAN30650030UX	6.50	34	100	8
DAN30700030UX	7.00	34	100	8
DAN30750030UX	7.50	41	100	8
DAN30800030UX	8.00	41	100	8
DAN30850030UX	8.50	47	100	10
DAN30900030UX	9.00	47	100	10
DAN30950030UX	9.50	47	100	10
DAN31000030UX	10.00	47	100	10
DAN31200030UX	12.00	55	100	12
DAN31400030UX	14.00	60	100	14
DAN31600030UX	16.00	65	107	16

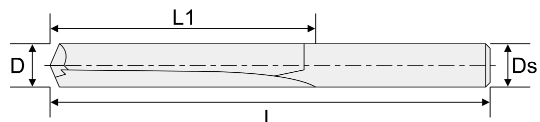
Order No. 訂購編碼	D	L1	L	Ds

WINSTAR

DAN - Straight Flute · External Coolant · 5D 直刃外冷鑽鉸刀・5 倍深

P	M	K	N	S	H
○		●	●		

- 5×D Cutting Depth
- h8 Tolerance
- 130° Tip
- New UNIX Smooth Coating



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DAN50400054UX	4.00	36	100	4
DAN50450050UX	4.50	36	100	6
DAN50500050UX	5.00	44	100	6
DAN50550050UX	5.50	44	100	6
DAN50600050UX	6.00	44	100	6
DAN50650050UX	6.50	53	100	8
DAN50700050UX	7.00	53	100	8
DAN50750050UX	7.50	53	100	8
DAN50800050UX	8.00	53	100	8
DAN50850050UX	8.50	61	107	10
DAN50900050UX	9.00	61	107	10
DAN50950050UX	9.50	61	107	10
DAN51000050UX	10.00	61	107	10
DAN51200050UX	12.00	71	150	12
DAN51400050UX	14.00	77	150	14
DAN51600050UX	16.00	83	150	16

Order No. 訂購編碼	D	L1	L	Ds

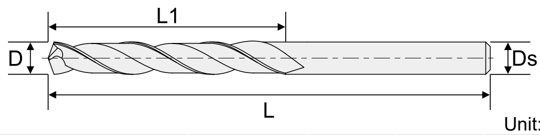
WINSTAR

DGN - for Universal · External Coolant · 3D 泛用外冷鑽頭・3 倍深

P	M	K	N	S	H
●	○	●			

Product Specs

- 3×D Cutting depth
- Straight Shank
- 130° NX Tip
- External Coolant
- UNICO Coating
- Tolerance h8



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds	Order No. 訂購編碼	D	L1	L	Ds
DGN30200030U	2.00	12	38	2.00	DGN30610030U	6.10	31	70	6.10
DGN30210030U	2.10	12	38	2.10	DGN30620030U	6.20	31	70	6.20
DGN30220030U	2.20	13	40	2.20	DGN30630030U	6.30	31	70	6.30
DGN30230030U	2.30	13	40	2.30	DGN30635030U	6.35(1/4")	31	70	6.35
DGN30238030U	2.38(3/32")	14	43	2.38	DGN30640030U	6.40	31	70	6.40
DGN30240030U	2.40	14	43	2.40	DGN30650030U	6.50	31	70	6.50
DGN30250030U	2.50	14	43	2.50	DGN30660030U	6.60	31	70	6.60
DGN30260030U	2.60	14	43	2.60	DGN30670030U	6.70	31	70	6.70
DGN30270030U	2.70	16	46	2.70	DGN30680030U	6.80	34	74	6.80
DGN30278030U	2.78(7/64")	16	46	2.78	DGN30690030U	6.90	34	74	6.90
DGN30280030U	2.80	16	46	2.80	DGN30700030U	7.00	34	74	7.00
DGN30290030U	2.90	16	46	2.90	DGN30710030U	7.10	34	74	7.10
DGN30300030U	3.00	16	46	3.00	DGN30714030U	7.14(9/32")	34	74	7.14
DGN30310030U	3.10	18	49	3.10	DGN30720030U	7.20	34	74	7.20
DGN30317030U	3.17(1/8")	18	49	3.17	DGN30730030U	7.30	34	74	7.30
DGN30320030U	3.20	18	49	3.20	DGN30740030U	7.40	34	74	7.40
DGN30330030U	3.30	18	49	3.30	DGN30750030U	7.50	34	74	7.50
DGN30340030U	3.40	20	52	3.40	DGN30760030U	7.60	37	79	7.60
DGN30350030U	3.50	20	52	3.50	DGN30770030U	7.70	37	79	7.70
DGN30357030U	3.57(9/64")	20	52	3.57	DGN30780030U	7.80	37	79	7.80
DGN30360030U	3.60	20	52	3.60	DGN30790030U	7.90	37	79	7.90
DGN30370030U	3.70	20	52	3.70	DGN30794030U	7.94(5/16")	37	79	7.94
DGN30380030U	3.80	22	55	3.80	DGN30800030U	8.00	37	79	8.00
DGN30390030U	3.90	22	55	3.90	DGN30810030U	8.10	37	79	8.10
DGN30397030U	3.97(5/32")	22	55	3.97	DGN30820030U	8.20	37	79	8.20
DGN30400030U	4.00	22	55	4.00	DGN30830030U	8.30	37	79	8.30
DGN30410030U	4.10	22	55	4.10	DGN30840030U	8.40	37	79	8.40
DGN30420030U	4.20	24	58	4.20	DGN30850030U	8.50	37	79	8.50
DGN30430030U	4.30	24	58	4.30	DGN30860030U	8.60	37	79	8.60
DGN30437030U	4.37(11/64")	24	58	4.37	DGN30870030U	8.70	37	79	8.70
DGN30440030U	4.40	24	58	4.40	DGN30873030U	8.73(11/32")	40	84	8.73
DGN30450030U	4.50	24	58	4.50	DGN30880030U	8.80	40	84	8.80
DGN30460030U	4.60	24	58	4.60	DGN30890030U	8.90	40	84	8.90
DGN30470030U	4.70	24	58	4.70	DGN30900030U	9.00	40	84	9.00
DGN30476030U	4.76(3/16")	26	62	4.76	DGN30910030U	9.10	40	84	9.10
DGN30480030U	4.80	26	62	4.80	DGN30920030U	9.20	40	84	9.20
DGN30490030U	4.90	26	62	4.90	DGN30930030U	9.30	40	84	9.30
DGN30500030U	5.00	26	62	5.00	DGN30940030U	9.40	40	84	9.40
DGN30510030U	5.10	26	62	5.10	DGN30950030U	9.50	40	84	9.50
DGN30520030U	5.20	26	62	5.20	DGN30970030U	9.70	43	89	9.70
DGN30530030U	5.30	26	62	5.30	DGN30980030U	9.80	43	89	9.80
DGN30540030U	5.40	28	66	5.40	DGN30990030U	9.90	43	89	9.90
DGN30550030U	5.50	28	66	5.50	DGN31000030U	10.00	43	89	10.00
DGN30560030U	5.60	28	66	5.60	DGN31010030U	10.10	43	89	10.10
DGN30570030U	5.70	28	66	5.70	DGN31020030U	10.20	43	89	10.20
DGN30580030U	5.80	28	66	5.80	DGN31030030U	10.30	43	89	10.30
DGN30590030U	5.90	28	66	5.90	DGN31040030U	10.40	43	89	10.40
DGN30600030U	6.00	28	66	6.00	DGN31050030U	10.50	43	89	10.50

Cutting conditions : Page D040

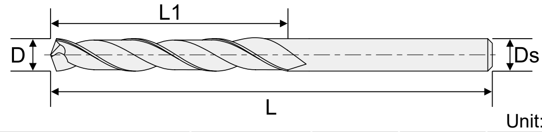
WINSTAR

DGN - for Universal · External Coolant · 3D 泛用外冷鑽頭・3 倍深

P	M	K	N	S	H
●	○	●			

Product Specs

- 3×D Cutting depth
- UNICO Coating
- Straight Shank
- Tolerance h8
- 130° NX Tip
- External Coolant



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DGN31060030U	10.60	43	89	10.60
DGN31080030U	10.80	47	95	10.80
DGN31090030U	10.90	47	95	10.90
DGN31100030U	11.00	47	95	11.00
DGN31110030U	11.10	47	95	11.10
DGN31120030U	11.20	47	95	11.20
DGN31150030U	11.50	47	95	11.50
DGN31160030U	11.60	47	95	11.60
DGN31180030U	11.80	47	95	11.80
DGN31190030U	11.90	51	102	11.90
DGN31200030U	12.00	51	102	12.00
DGN31250030U	12.50	51	102	12.50
DGN31270030U	12.70	51	102	12.70
DGN31300030U	13.00	51	102	13.00
DGN31350030U	13.50	54	107	13.50
DGN31400030U	14.00	54	107	14.00
DGN31450030U	14.50	56	111	14.50
DGN31500030U	15.00	56	111	15.00
DGN31550030U	15.50	58	115	15.50
DGN31600030U	16.00	58	115	16.00

Order No. 訂購編碼	D	L1	L	Ds

Cutting conditions : Page D040

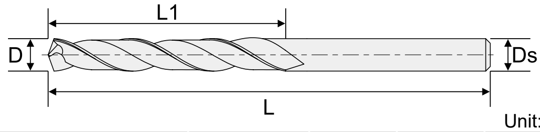
DGN - for Universal · External Coolant · 5D 泛用外冷鑽頭・5 倍深

P	M	K	N	S	H
●	○	●			

Product Specs

- 5×D Cutting depth
- UNICO Coating
- Straight Shank
- Tolerance h8
- 130° NX Tip
- External Coolant

* Made to order 訂單式生產



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DGN50500050U	5.00	34	73	5.00
DGN50510050U	5.10	38	76	5.10
DGN50520050U	5.20	38	76	5.20
DGN50530050U	5.30	38	76	5.30
DGN50540050U	5.40	38	76	5.40
DGN50550050U	5.50	38	76	5.50
DGN50560050U	5.60	41	81	5.60
DGN50570050U	5.70	41	81	5.70
DGN50580050U	5.80	41	81	5.80
DGN50590050U	5.90	41	81	5.90
DGN50600050U	6.00	41	81	6.00
DGN50610050U	6.10	41	81	6.10
DGN50620050U	6.20	41	81	6.20
DGN50630050U	6.30	41	81	6.30
DGN50640050U	6.40	41	81	6.40
DGN50650050U	6.50	41	81	6.50
DGN50660050U	6.60	43	83	6.60
DGN50670050U	6.70	43	83	6.70
DGN50680050U	6.80	43	83	6.80
DGN50690050U	6.90	43	83	6.90
DGN50700050U	7.00	43	83	7.00
DGN50710050U	7.10	45	87	7.10
DGN50720050U	7.20	45	87	7.20
DGN50730050U	7.30	45	87	7.30
DGN50740050U	7.40	45	87	7.40
DGN50750050U	7.50	45	87	7.50
DGN50760050U	7.60	48	90	7.60
DGN50770050U	7.70	48	90	7.70
DGN50780050U	7.80	48	90	7.80
DGN50790050U	7.90	48	90	7.90
DGN50800050U	8.00	48	90	8.00
DGN50810050U	8.10	53	96	8.10
DGN50820050U	8.20	53	96	8.20
DGN50830050U	8.30	53	96	8.30
DGN50840050U	8.40	53	96	8.40
DGN50850050U	8.50	53	96	8.50
DGN50860050U	8.60	55	98	8.60
DGN50870050U	8.70	55	98	8.70
DGN50880050U	8.80	55	98	8.80
DGN50900050U	9.00	55	98	9.00
DGN50910050U	9.10	58	102	9.10
DGN50920050U	9.20	58	102	9.20
DGN50930050U	9.30	58	102	9.30
DGN50950050U	9.50	58	102	9.50
DGN50960050U	9.60	60	105	9.60
DGN50970050U	9.70	60	105	9.70
DGN50980050U	9.80	60	105	9.80
DGN51000050U	10.00	60	105	10.00

Order No. 訂購編碼	D	L1	L	Ds
DGN51020050U	10.20	66	112	10.20
DGN51030050U	10.30	66	112	10.30
DGN51040050U	10.40	66	112	10.40
DGN51050050U	10.50	66	112	10.50
DGN51060050U	10.60	68	114	10.60
DGN51070050U	10.70	68	114	10.70
DGN51080050U	10.80	68	114	10.80
DGN51090050U	10.90	68	114	10.90
DGN51100050U	11.00	68	114	11.00
DGN51110050U	11.10	71	118	11.10
DGN51120050U	11.20	71	118	11.20
DGN51140050U	11.40	71	118	11.40
DGN51150050U	11.50	71	118	11.50
DGN51160050U	11.60	73	121	11.60
DGN51170050U	11.70	73	121	11.70
DGN51180050U	11.80	73	121	11.80
DGN51190050U	11.90	73	121	11.90
DGN51200050U	12.00	73	121	12.00
DGN51250050U	12.50	76	135	12.50
DGN51270050U	12.70	78	137	12.70
DGN51300050U	13.00	78	137	13.00
DGN51350050U	13.50	84	144	13.50
DGN51400050U	14.00	86	147	14.00
DGN51450050U	14.50	89	151	14.50
DGN51500050U	15.00	91	153	15.00
DGN51550050U	15.50	94	157	15.50
DGN51600050U	16.00	96	160	16.00

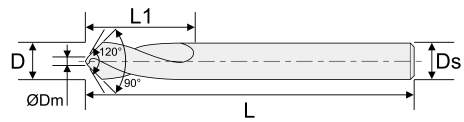
Cutting conditions : Page D040

WINSTAR

DTN - for Spotting · External Coolant · Tip angle 90° 定位外冷鑽頭・鑽尖 90°

P	M	K	N	S	H
●	●	●	○	●	●

- 90° Tip Angle
- h8 Tolerance
- 45° Chamfer Angle
- 90˚ & 120˚ double angle tip design, reduces drill tip cracking.
- UNICO Coating



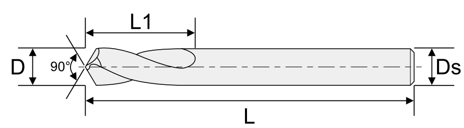
Unit:mm

Order No. 訂購編碼	ØDm	D	L1	L	Ds
DTN0130090U	0.3	1.30	4	50	3
DTN0170090U	0.4	1.70	5	50	3
DTN0300090U	0.8	3.00	8	50	3
DTN0400090U	1.0	4.00	10	50	4
DTN0500090U	1.3	5.00	13	50	5
DTN0600090U	1.5	6.00	15	50	6
DTN0800090U	2.0	8.00	20	60	8
DTN1000090U	2.5	10.00	25	75	10
DTN1200090U	3.0	12.00	30	75	12
DTN1600090U	4.0	16.00	35	100	16

Order No. 訂購編碼	ØDm	D	L1	L	Ds
＊ Long Shank Type					
DTN0400091U	1.0	4.00	10	75	4
DTN0500091U	1.3	5.00	13	75	5
DTN0600091U	1.5	6.00	15	100	6
DTN0800091U	2.0	8.00	20	100	8
DTN1000091U	2.5	10.00	25	150	10
DTN1200091U	3.0	12.00	30	150	12
DTN1600091U	4.0	16.00	35	150	16

P	M	K	N	S	H
●	●	●	○	○	●

- 90° Tip Angle
- h8 Tolerance
- 45° Chamfer Angle
- 90˚ single angle tip design.
- UNICO Coating



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DTN0130095U	1.30	4	50	3
DTN0170095U	1.70	5	50	3
DTN0300095U	3.00	8	50	3
DTN0400095U	4.00	10	50	4
DTN0500095U	5.00	13	50	5
DTN0600095U	6.00	15	50	6
DTN0800095U	8.00	20	60	8
DTN1000095U	10.00	25	75	10
DTN1200095U	12.00	30	75	12
DTN1600095U	16.00	35	100	16

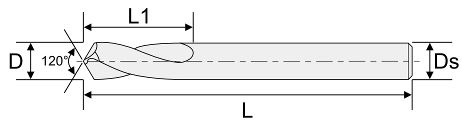
Order No. 訂購編碼	D	L1	L	Ds
＊ Long Shank Type				
DTN0400096U	4.00	10	75	4
DTN0500096U	5.00	13	75	5
DTN0600096U	6.00	15	100	6
DTN0800096U	8.00	20	100	8
DTN1000096U	10.00	25	150	10
DTN1200096U	12.00	30	150	12
DTN1600096U	16.00	35	150	16

Cutting conditions : Page D043

DTN - for Spotting · External Coolant · Tip angle 120° 定位外冷鑽頭・鑽尖 120°

P	M	K	N	S	H
●	●	●	○	●	●

- 120° Tip Angle
- h8 Tolerance
- 60° Chamfer Angle
- UNICO Coating



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DTN0300120U	3.00	8	50	3
DTN0400120U	4.00	10	50	4
DTN0500120U	5.00	13	50	5
DTN0600120U	6.00	15	50	6
DTN0800120U	8.00	20	60	8
DTN1000120U	10.00	25	75	10
DTN1200120U	12.00	30	75	12
DTN1600120U	16.00	35	100	16

Order No. 訂購編碼	D	L1	L	Ds
∗ Long Shank Type				
DTN0400121U	4.00	10	75	4
DTN0500121U	5.00	13	75	5
DTN0600121U	6.00	15	100	6
DTN0800121U	8.00	20	100	8
DTN1000121U	10.00	25	150	10
DTN1200121U	12.00	30	150	12
DTN1600121U	16.00	35	150	16

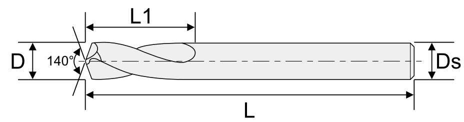
Cutting conditions : Page D043

WINSTAR

DTN - for Spotting · External Coolant · Tip angle 142° 定位外冷鑽頭・鑽尖 142°

P	M	K	N	S	H
●	●	●	○	●	●

- 142° Tip Angle
- UNICO Coating
- h8 Tolerance



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
DTN0300140U	3.00	8	50	3
DTN0400140U	4.00	10	50	4
DTN0500140U	5.00	13	50	5
DTN0600140U	6.00	15	50	6
DTN0800140U	8.00	20	60	8
DTN1000140U	10.00	25	75	10
DTN1200140U	12.00	30	75	12
DTN1600140U	16.00	35	100	16

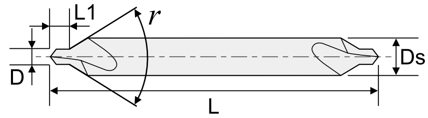
Order No. 訂購編碼	D	L1	L	Ds
∗ Long Shank Type				
DTN0400141U	4.00	10	75	4
DTN0500141U	5.00	13	75	5
DTN0600141U	6.00	15	100	6
DTN0800141U	8.00	20	100	8
DTN1000141U	10.00	25	150	10
DTN1200141U	12.00	30	150	12
DTN1600141U	16.00	35	150	16

Cutting conditions : Page D043

DCN - for Centering · External Coolant 中心外冷鑽頭

P	M	K	N	S	H
●	○	●			

· 120° Tip Angle · UNICO Coating · h8 Tolerance



Unit:mm

Order No. 訂購編碼	D	L1	L	Ds
60° Countersink Angle (r)				
DCN0100060U	1.00	1.6	38	3
DCN0125060U	1.25	1.9	38	3
DCN0160060U	1.60	2.4	42	4
DCN0200060U	2.00	2.9	50	5
DCN0250060U	2.50	3.6	50	6
DCN0300060U	3.00	3.9	60	8
DCN0315060U	3.15	3.9	60	8
DCN0400060U	4.00	5.0	75	10
DCN0500060U	5.00	6.3	75	12

Order No. 訂購編碼	D	L1	L	Ds
90° Countersink Angle (r)				
DCN0100090U	1.00	1.6	38	3
DCN0125090U	1.25	1.9	38	3
DCN0160090U	1.60	2.4	42	4
DCN0200090U	2.00	2.9	50	5
DCN0250090U	2.50	3.6	50	6
DCN0300090U	3.00	3.9	60	8
DCN0315090U	3.15	3.9	60	8
DCN0400090U	4.00	5.0	75	10
DCN0500090U	5.00	6.3	75	12

WINSTAR

Recommended Cutting Conditions 建議切削數據

DPC Series (Internal Coolant 內冷)

	Work Material	Drill Diameter	Ø3-6mm		Ø6.1~10mm		Ø10.1-16mm	
		Hardness	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)
P	Mild Steel	(<180HB)	70~120	0.06~0.2	90~130	0.12~0.3	110~150	0.2~0.4
	Cabon Steel	(180~280HB)	70~110	0.06~0.2	90~120	0.12~0.3	110~140	0.2~0.4
	Alloy Steel	(280~350HB)	60~100	0.06~0.18	65~110	0.12~0.27	80~120	0.2~0.35
M	Stainless Steel	(<200HB)	35~60	0.05~0.15	45~80	0.1~0.25	55~100	0.15~0.3
K	Cast Iron	(<350Mpa)	70~100	0.6~0.2	80~120	0.12~0.3	90~140	0.2~0.4
	Ductile Cast Iron	(<450Mpa)	50~80	0.6~0.2	60~90	0.12~0.3	70~110	0.2~0.4
N	Aluminum <12% Si	-	80~140	0.1~0.25	100~160	0.15~0.35	110~180	0.3~0.45
	Aluminum >12% Si	-	70~120	0.1~0.25	90~130	0.15~0.35	100~150	0.3~0.45
S	Heat Resistant Alloy	-	15~30	0.02~0.08	20~40	0.04~0.1	25~45	0.06~0.12
H	Hardened Material	40~60HRC	10~25	0.02~0.08	15~35	0.04~0.1	20~40	0.06~0.12

Warning :
For deep hole drills(10xD~30xD), need reduce the Vc to 90% and require an initial pilot hole to help guide the drill.

DPN, DGN, DFN Series (External Coolant 外冷)

	Work Material	Drill Diameter	Ø3-6mm		Ø6.1~10mm		Ø10.1-16mm	
		Hardness	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P	Mild Steel	(<180HB)	45~75	0.06~0.2	55~85	0.12~0.3	60~100	0.2~0.4
	Cabon Steel	(180~280HB)	40~70	0.06~0.2	50~80	0.12~0.3	55~90	0.2~0.4
	Alloy Steel	(280~350HB)	35~65	0.06~0.18	40~75	0.12~0.27	50~85	0.2~0.35
M	Stainless Steel	(<200HB)	25~45	0.05~0.15	25~50	0.1~0.25	30~60	0.15~0.3
K	Cast Iron	(<350Mpa)	45~65	0.06~0.2	50~75	0.12~0.3	55~85	0.2~0.4
	Ductile Cast Iron	(<450Mpa)	40~60	0.06~0.2	45~70	0.12~0.3	50~80	0.2~0.4
N	Aluminum <12% Si	-	65~105	0.1~0.25	65~115	0.15~0.35	70~130	0.3~0.45
	Aluminum >12% Si	-	55~95	0.1~0.25	60~110	0.15~0.35	65~120	0.3~0.45
S	Heat Resistant Alloy	-	15~30	0.02~0.08	20~40	0.04~0.1	25~45	0.06~0.12
H	Hardened Material	40~60HRC	10~25	0.02~0.08	15~35	0.04~0.1	20~40	0.06~0.12

Warning :For slope drilling, please adjust cutting data acording to inclined angle
1. For inclined angle under 20 degree, reduce the feed to 50%
2. For inclined angle between 20 to 50 degree, reduce the feed to 40%, and reduce rotation to 70%
3. For inclined angle between 50 to 65 degree, reduce the feed to 30%, and reduce rotation to 70%
4. Not recommend to side milling

DPN Series for 10D~50D (External Coolant 外冷)

Dia. (D)	EFF-L (L2)	LD	Carbon steels (180~250HB)			Pre-hardened steels (35~45HRC)			Stainless steels (25~35HRC)			Hardened steels (45~55HRC)		
			RPM	Feed (mm/rev)	Step Feed (mm)	RPM	Feed (mm/rev)	Step Feed (mm)	RPM	Feed (mm/rev)	Step Feed (mm)	RPM	Feed (mm/rev)	Step Feed (mm)
0.1	1	10	25,465	76	0.01	22,282	67	0.007	23,873	72	0.01	20,690	41	0.005
0.1	3	30	25,465	76	0.01	22,282	67	0.007	23,873	72	0.01	20,690	41	0.005
0.1	5	50	20,372	61	0.01	17,825	53	0.007	19,099	57	0.01	16,552	33	0.005
0.15	1.5	10	23,343	70	0.015	20,160	60	0.0105	21,221	64	0.015	19,099	38	0.0075
0.15	4.5	30	23,343	70	0.015	20,160	60	0.0105	21,221	64	0.015	19,099	38	0.0075
0.15	7.5	50	18,674	56	0.015	16,128	48	0.0105	16,977	51	0.015	15,279	31	0.0075
0.2	2	10	20,690	83	0.02	17,507	70	0.014	19,099	76	0.02	16,711	50	0.01
0.2	6	30	20,690	83	0.02	17,507	70	0.014	19,099	76	0.02	16,711	50	0.01
0.2	10	50	16,552	66	0.02	14,006	56	0.014	15,279	61	0.02	13,369	40	0.01
0.3	3	10	14,854	59	0.03	12,732	51	0.021	13,793	55	0.03	12,202	37	0.015
0.3	9	30	14,854	59	0.03	12,732	51	0.021	13,793	55	0.03	12,202	37	0.015
0.3	15	50	11,884	48	0.03	10,186	41	0.021	11,035	44	0.03	9,762	29	0.015
0.4	4	10	12,335	49	0.04	11,539	46	0.028	11,937	48	0.04	10,743	43	0.02
0.4	12	30	12,335	49	0.04	11,539	46	0.028	11,937	48	0.04	10,743	43	0.02
0.4	20	50	9,868	39	0.04	9,231	37	0.028	9,549	38	0.04	8,594	34	0.02
0.5	5	10	9,868	49	0.05	9,231	46	0.035	9,549	48	0.05	8,594	43	0.025
0.5	15	30	9,868	49	0.05	9,231	46	0.035	9,549	48	0.05	8,594	43	0.025
0.5	25	50	7,894	39	0.05	7,385	37	0.035	7,639	38	0.05	6,875	34	0.025
0.6	6	10	8,223	49	0.06	7,692	46	0.042	7,958	48	0.06	7,162	43	0.03
0.6	18	30	8,223	49	0.06	7,692	46	0.042	7,958	48	0.06	7,162	43	0.03
0.6	30	50	6,578	39	0.06	6,154	37	0.042	6,366	38	0.06	5,730	34	0.03
0.7	7	10	7,048	49	0.07	6,594	46	0.049	6,821	48	0.07	6,139	43	0.035
0.7	21	30	7,048	49	0.07	6,594	46	0.049	6,821	48	0.07	6,139	43	0.035
0.7	35	50	5,639	39	0.07	5,275	37	0.049	5,457	38	0.07	4,911	34	0.035
0.8	8	10	6,167	49	0.08	5,769	46	0.056	5,968	48	0.08	5,371	43	0.04
0.8	24	30	6,167	49	0.08	5,769	46	0.056	5,968	48	0.08	5,371	43	0.04
0.8	40	50	4,934	39	0.08	4,615	37	0.056	4,775	38	0.08	4,297	34	0.04
0.9	9	10	5,482	49	0.09	5,128	46	0.063	5,305	48	0.09	4,775	43	0.045
0.9	27	30	5,482	49	0.09	5,128	46	0.063	5,305	48	0.09	4,775	43	0.045
0.9	45	50	4,386	39	0.09	4,103	37	0.063	4,244	38	0.09	3,820	34	0.045
1	10	10	4,934	49	0.1	4,615	46	0.07	4,775	48	0.1	4,297	43	0.05
1	30	30	4,934	49	0.1	4,615	46	0.07	4,775	48	0.1	4,297	43	0.05
1	50	50	3,947	39	0.1	3,692	37	0.07	3,820	38	0.1	3,438	34	0.05

Warning :
1. Always use Peck drilling (G83 program).
2. Use water-soluble or oil-based coolant should be to ensure chip removal.

注意：
1. 使用啄鑽方式鑽孔（G83 程序）
2. 請使用水溶性或油性冷卻液以確保排屑

WINSTAR

Recommended Cutting Conditions 建議切削數據

DMC Series (Internal Coolant 內冷)

Material	Stainless Steel				Titanium Alloy		Nickel Alloy		Carbon Steel / Alloy Steel	
Hardness	< HRC 20		≥ HRC 20		HRC 33 ~ 45		HRC 33 ~ 45		< HRC 35	
Vc	50 ~ 90 m/min		40 ~ 80 m/min		20 ~ 40 m/min		18 ~ 30 m/min		60 ~ 100 m/min	
Dia (mm)	RPM	fr (mm/rev)	RPM	fr (mm/rev)	RPM	fr (mm/rev)	RPM	fr (mm/rev)	RPM	fr (mm/rev)
4	4000 ~ 7200	0.04 ~ 0.11	3200 ~ 6400	0.04 ~ 0.11	1600 ~ 3200	0.04 ~ 0.08	1400 ~ 2400	0.04 ~ 0.08	4800 ~ 8000	0.04 ~ 0.12
6	2700 ~ 4800	0.06 ~ 0.17	2100 ~ 4200	0.06 ~ 0.17	1000 ~ 2100	0.06 ~ 0.12	1000 ~ 1600	0.06 ~ 0.12	3200 ~ 5300	0.06 ~ 0.18
8	2000 ~ 3600	0.08 ~ 0.22	1600 ~ 3200	0.08 ~ 0.22	800 ~ 1600	0.08 ~ 0.16	700 ~ 1200	0.08 ~ 0.16	2400 ~ 4000	0.08 ~ 0.24
10	1600 ~ 2900	0.10 ~ 0.28	1300 ~ 2500	0.10 ~ 0.28	600 ~ 1300	0.10 ~ 0.20	600 ~ 1000	0.10 ~ 0.20	1900 ~ 3200	0.10 ~ 0.30
12	1300 ~ 2400	0.12 ~ 0.33	1000 ~ 2100	0.12 ~ 0.33	500 ~ 1100	0.12 ~ 0.24	500 ~ 800	0.12 ~ 0.24	1600 ~ 2700	0.12 ~ 0.36
16	1000 ~ 1800	0.16 ~ 0.32	800 ~ 1600	0.16 ~ 0.32	400 ~ 800	0.16 ~ 0.32	400 ~ 600	0.16 ~ 0.32	1200 ~ 2000	0.16 ~ 0.40
20	800 ~ 1400	0.20 ~ 0.40	600 ~ 1300	0.20 ~ 0.40	300 ~ 600	0.20 ~ 0.40	300 ~ 500	0.20 ~ 0.40	1000 ~ 1600	0.20 ~ 0.50

DMN Series (External Coolant 外冷)

Material	Stainless Steel				Titanium Alloy		Nickel Alloy		Carbon Steel / Alloy Steel	
Hardness	< HRC 20		≥ HRC 20		HRC 33 ~ 45		HRC 33 ~ 45		< HRC 35	
Vc	50 ~ 90 m/min		40 ~ 80 m/min		20 ~ 40 m/min		18 ~ 30 m/min		60 ~ 100 m/min	
Dia (mm)	RPM	fr (mm/rev)	RPM	fr (mm/rev)	RPM	fr (mm/rev)	RPM	fr (mm/rev)	RPM	fr (mm/rev)
4	4000 ~ 7200	0.04 ~ 0.08	3200 ~ 6400	0.04 ~ 0.08	1600 ~ 3200	0.04 ~ 0.07	1400 ~ 2400	0.04 ~ 0.07	4800 ~ 8000	0.04 ~ 0.10
6	2700 ~ 4800	0.06 ~ 0.12	2100 ~ 4200	0.06 ~ 0.12	1000 ~ 2100	0.06 ~ 0.11	1000 ~ 1600	0.06 ~ 0.11	3200 ~ 5300	0.06 ~ 0.15
8	2000 ~ 3600	0.08 ~ 0.16	1600 ~ 3200	0.08 ~ 0.16	800 ~ 1600	0.08 ~ 0.14	700 ~ 1200	0.08 ~ 0.14	2400 ~ 4000	0.08 ~ 0.20
10	1600 ~ 2900	0.10 ~ 0.20	1300 ~ 2500	0.10 ~ 0.20	600 ~ 1300	0.10 ~ 0.18	600 ~ 1000	0.10 ~ 0.18	1900 ~ 3200	0.10 ~ 0.25
12	1300 ~ 2400	0.12 ~ 0.24	1000 ~ 2100	0.12 ~ 0.24	500 ~ 1100	0.12 ~ 0.22	500 ~ 800	0.12 ~ 0.22	1600 ~ 2700	0.12 ~ 0.30
16	1000 ~ 1800	0.16 ~ 0.32	800 ~ 1600	0.16 ~ 0.32	400 ~ 800	0.16 ~ 0.29	400 ~ 600	0.16 ~ 0.29	1200 ~ 2000	0.16 ~ 0.40
20	800 ~ 1400	0.20 ~ 0.40	600 ~ 1300	0.20 ~ 0.40	300 ~ 600	0.20 ~ 0.36	300 ~ 500	0.20 ~ 0.36	1000 ~ 1600	0.20 ~ 0.50

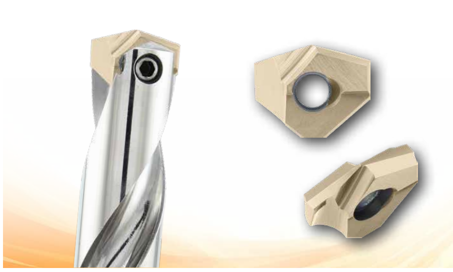
Recommended Cutting Conditions 建議切削數據

DTN Series (External Coolant 外冷)

Work Material		VC (m/min)		Fr (mm/rev)
		DTN 90° & DTN 120°	DTN 140°	
P	Carbon steel	55 ~ 75	60 ~ 90	0.04 ~ 0.14
	Alloy steel	50 ~ 70	55 ~ 85	0.03 ~ 0.10
M	Stainless steel	20 ~ 40	22 ~ 50	0.02 ~ 0.10
K	Cast iron	50 ~ 80	55 ~ 95	0.04 ~ 0.13
H	Hardened steel	20 ~ 40	22 ~ 50	0.02 ~ 0.06

Indexable Drilling Tool Series Introduction 捨棄式鑽頭系列介紹

DMU Series

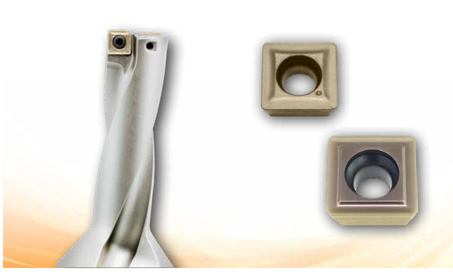


- Use DMUA inserts.
- Various diameter size inserts can fit in one tool.
- Hole diameter 13~25.4mm, drilling depth 3D~10D.

- 使用 DMUA 刀片
- 各種尺寸的刀片可以安裝在一個刀桿
- 適用 13 ~ 25.4mm 孔徑加工 , 3~10 倍徑鑽孔深度

→ Page D045

DSP Series



- Use SPMG inserts with 4 sides cutting edge.
- 2D, 3D, 4D, 5D drills.
- Hole diameter 12.5 ~ 41mm.

- 使用含有 4 個切削角的 SPMG 刀片
- 2、3、4、5 倍徑鑽孔深度
- 適用 12.5 ~ 41mm 孔徑加工

→ Page D049

DWC Series

- Use WCMT inserts with 3 sides cutting edge.
- 2D, 3D, 4D, 5D drills.
- Hole diameter 14 ~ 60mm.

- 使用含有 4 個切削角的 WCMT 刀片
- 2、3、4、5 倍徑鑽孔深度
- 適用 14 ~ 60mm 孔徑加工

→ Page D058

DWD Series

- Use WDXT inserts with 4 sides cutting edge.
- 3D, 4D, 5D drills.
- Hole diameter 8 ~ 25mm.

- 使用含有 4 個切削角的 WDXT 刀片
- 3、4、5 倍徑鑽孔深度
- 適用 8 ~ 25mm 孔徑加工

→ Page D067

DTS Series

- Use DCEX, SCGX, SCMX, SDMX, TCMX inserts.
- Suitable for spotting, chamfering, countersinking, grooving and engraving.

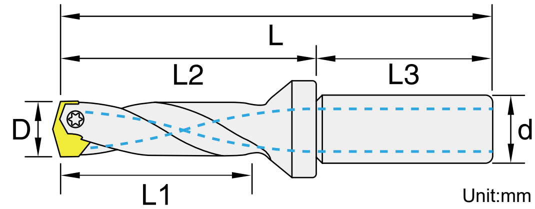
- 使用 DCEX, SCGX, SCMX, SDMX, TCMX 刀片
- 適用於定位 , 倒角 , 埋頭孔 , 開槽及雕刻加工

→ Page D072

DMU - Modular Drills · 3D ~ 5D　模組化鑽頭・3 ~ 5 倍深

Specification
- 3×D ~ 5×D Cutting depth
- Internal Coolant
- High durable SKD holder body
- Use DMUA series inserts

規　格
- 3 ~ 5 倍深
- 內冷卻孔
- SKD 高耐久性刀體
- 使用 DMUA 刀片



Unit:mm

3D

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	Dimensions, mm D (Applicable Insert Dia.)	L1	L2	L3	L	d	Insert	Screw	Wrench	Stock
IDMU3130020	13.0 ~ 13.99	46	65	50	115	20	DMUA13 □□	IWCS2510	IPL20	○
IDMU3140020	14.0 ~ 14.99	49	70	50	120	20	DMUA14 □□	IWCS3013	IPL25	○
IDMU3150020	15.0 ~ 15.99	52	73	50	123	20	DMUA15 □□			○
IDMU3160020	16.0 ~ 16.99	56	77	50	127	20	DMUA16 □□	IWCS3014	IPL25	○
IDMU3170020	17.0 ~ 17.99	60	81	50	131	20	DMUA17 □□			○
IDMU3180020	18.0 ~ 18.99	63	86	50	136	20	DMUA18 □□	IWCS4016	IPL30	○
IDMU3190020	19.0 ~ 19.99	67	90	50	140	20	DMUA19 □□			○
IDMU3200020	20.0 ~ 20.99	72	98	56	154	25	DMUA20 □□	IWCS4018	IPL30	○
IDMU3210020	21.0 ~ 21.99	75	101	56	157	25	DMUA21 □□			○
IDMU3220020	22.0 ~ 22.99	79	105	56	161	25	DMUA22 □□			○
IDMU3240020	24.0 ~ 25.40	86	114	56	170	25	DMUA2□□□	IWCS5020	IPL35	○

5D

Order No. 訂購編碼	Dimensions, mm D (Applicable Insert Dia.)	L1	L2	L3	L	d	Insert	Screw	Wrench	Stock
IDMU5130020	13.0 ~ 13.99	72	91	50	141	20	DMUA13 □□	IWCS2510	IPL20	●
IDMU5140020	14.0 ~ 14.99	77	98	50	148	20	DMUA14 □□	IWCS3013	IPL25	●
IDMU5150020	15.0 ~ 15.99	82	103	50	153	20	DMUA15 □□			●
IDMU5160020	16.0 ~ 16.99	88	109	50	159	20	DMUA16 □□	IWCS3014	IPL25	●
IDMU5170020	17.0 ~ 17.99	94	115	50	165	20	DMUA17 □□			●
IDMU5180020	18.0 ~ 18.99	99	122	50	172	20	DMUA18 □□	IWCS4016	IPL30	●
IDMU5190020	19.0 ~ 19.99	105	128	50	178	20	DMUA19 □□			●
IDMU5200020	20.0 ~ 20.99	112	138	56	194	25	DMUA20 □□	IWCS4018	IPL30	●
IDMU5210020	21.0 ~ 21.99	117	143	56	199	25	DMUA21 □□			●
IDMU5220020	22.0 ~ 22.99	123	149	56	205	25	DMUA22 □□			●
IDMU5240020	24.0 ~ 25.40	134	162	56	218	25	DMUA2□□□	IWCS5020	IPL35	●

● stock　○ by inquiry

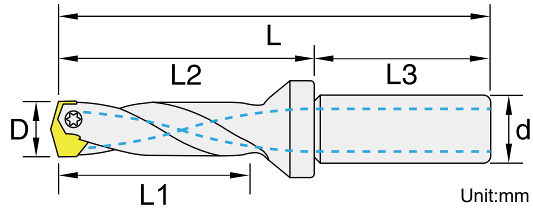
DMU - Modular Drills · 7D ~ 10D 模組化鑽頭・7 ~ 10 倍深

Specification

- 7×D ~ 10×D Cutting depth
- Internal Coolant
- High durable SKD holder body
- Use DMUA series inserts

規　格

- 7 ~ 10 倍深
- 內冷卻孔
- SKD 高耐久性刀體
- 使用 DMUA 刀片



Unit:mm

7D

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	Dimensions, mm						Insert	Screw	Wrench	Stock
	D (Applicable Insert Dia.)	L1	L2	L3	L	d				
IDMU7130020	13.0 ~ 13.99	98	117	50	167	20	DMUA13 □□	IWCS2510	IPL20	○
IDMU7140020	14.0 ~ 14.99	105	126	50	176	20	DMUA14 □□	IWCS3013	IPL25	○
IDMU7150020	15.0 ~ 15.99	112	133	50	183	20	DMUA15 □□			○
IDMU7160020	16.0 ~ 16.99	120	141	50	191	20	DMUA16 □□	IWCS3014	IPL25	○
IDMU7170020	17.0 ~ 17.99	128	149	50	199	20	DMUA17 □□			○
IDMU7180020	18.0 ~ 18.99	135	158	50	208	20	DMUA18 □□	IWCS4016	IPL30	○
IDMU7190020	19.0 ~ 19.99	143	166	50	216	20	DMUA19 □□			○
IDMU7200020	20.0 ~ 20.99	152	178	56	234	25	DMUA20 □□	IWCS4018	IPL30	○
IDMU7210020	21.0 ~ 21.99	159	185	56	241	25	DMUA21 □□			○
IDMU7220020	22.0 ~ 22.99	167	190	56	246	25	DMUA22 □□			○
IDMU7240020	24.0 ~ 25.40	182	210	56	266	25	DMUA2□□□	IWCS5020	IPL35	○

10D

Order No. 訂購編碼	Dimensions, mm						Insert	Screw	Wrench	Stock
	D (Applicable Insert Dia.)	L1	L2	L3	L	d				
IDMU9130020	13.0 ~ 13.99	137	156	50	206	20	DMUA13 □□	IWCS2510	IPL20	○
IDMU9140020	14.0 ~ 14.99	147	168	50	218	20	DMUA14 □□	IWCS3013	IPL25	○
IDMU9150020	15.0 ~ 15.99	157	178	50	228	20	DMUA15 □□			○
IDMU9160020	16.0 ~ 16.99	159	189	50	239	20	DMUA16 □□	IWCS3014	IPL25	○
IDMU9170020	17.0 ~ 17.99	179	200	50	250	20	DMUA17 □□			○
IDMU9180020	18.0 ~ 18.99	189	212	50	262	20	DMUA18 □□	IWCS4016	IPL30	○
IDMU9190020	19.0 ~ 19.99	200	223	50	273	20	DMUA19 □□			○
IDMU9200020	20.0 ~ 20.99	212	238	56	294	25	DMUA20 □□	IWCS4018	IPL30	○
IDMU9210020	21.0 ~ 21.99	222	248	56	304	25	DMUA21 □□			○
IDMU9220020	22.0 ~ 22.99	233	259	56	315	25	DMUA22 □□			○
IDMU9240020	24.0 ~ 25.40	254	282	56	338	25	DMUA2□□□	IWCS5020	IPL35	○

● stock　○ by inquiry

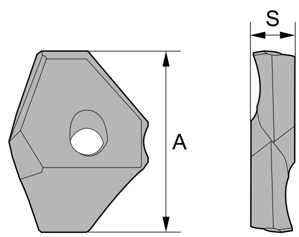
DMU - Modular Drill Inserts 模組化鑽頭刀片

Recommended Cutting Conditions 建議切削數據

	Work Material	Vc (m/min)	fr (mm/rev)		
			13.0 ≤ ØD ≤ 15.9	16.0 ≤ ØD ≤ 19.9	20.0 ≤ ØD ≤ 25.4
P	Carbon Steel	70 - 95 - 120	0.15 - 0.24 - 0.32	0.18 - 0.27 - 0.35	0.20 - 0.29 - 0.38
P	Alloy Steel	60 - 85 - 110	0.15 - 0.23 - 0.30	0.17 - 0.25 - 0.32	0.20 - 0.28 - 0.35
M	Stainless Steel	55 - 68 - 80	0.11 - 0.17 - 0.23	0.13 - 0.19 - 0.25	0.15 - 0.23 - 0.30
K	Cast Iron	70 - 95 - 120	0.15 - 0.24 - 0.32	0.18 - 0.27 - 0.35	0.20 - 0.29 - 0.38
S	High Temperature Alloy	35 - 50 - 65	0.08 - 0.13 - 0.18	0.10 - 0.15 - 0.20	0.12 - 0.17 - 0.22

Insert Specifications 刀片規格

Insert	Dimensions (mm)	
	A	S
DMUA1300	13.00	3.6
DMUA1350	13.50	3.6
DMUA1400	14.00	4.0
DMUA1450	14.50	4.0
DMUA1500	15.00	4.0
DMUA1550	15.50	4.0
DMUA1587	15.875 (5/8")	4.0
DMUA1600	16.00	4.0
DMUA1630	16.30	4.0
DMUA1650	16.50	4.0
DMUA1700	17.00	4.0
DMUA1800	18.00	5.0
DMUA1900	19.00	5.0
DMUA1905	19.05 (3/4")	5.0
DMUA2000	20.00	5.0
DUMA2100	21.00	6.0
DMUA2200	22.00	6.0
DMUA2222	22.225 (7/8")	6.0
DMUA2400	24.00	7.0
DMUA2500	25.00	7.0
DMUA2540	25.40 (1")	7.0



※ Customized sizes (two decimal places) are acceptable. 客製化尺寸可至小數點後 2 位

Insert Geometry 刀片幾何

Shape 形狀	Tip Design 鑽尖設計	Application 應　用
	**SX**	● Tip Angle : 140°, Universal ● Low cutting force for steel, stainless steel, cast iron and high temperature alloy. ● 鑽尖：140°, 泛用 ● 低切削阻力的刀口設計，適用於鋼件、不鏽鋼、鑄鐵和高溫合金加工

DMU - Modular Drill Inserts 模組化鑽頭刀片

Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IDMUA1300SX33TX	DMUA1300-SX-CX33TX	●	●	●		○	○
	IDMUA1350SX33TX	DMUA1350-SX-CX33TX	●	●	●		○	○
	IDMUA1400SX33TX	DMUA1400-SX-CX33TX	●	●	●		○	○
	IDMUA1450SX33TX	DMUA1450-SX-CX33TX	●	●	●		○	○
	IDMUA1500SX33TX	DMUA1500-SX-CX33TX	●	●	●		○	○
	IDMUA1550SX33TX	DMUA1550-SX-CX33TX	●	●	●		○	○
	IDMUA1587SX33TX	DMUA1587-SX-CX33TX	●	●	●		○	○
	IDMUA1600SX33TX	DMUA1600-SX-CX33TX	●	●	●		○	○
	IDMUA1630SX33TX	DMUA1630-SX-CX33TX	●	●	●		○	○
	IDMUA1650SX33TX	DMUA1650-SX-CX33TX	●	●	●		○	○
	IDMUA1700SX33TX	DMUA1700-SX-CX33TX	●	●	●		○	○
	IDMUA1800SX33TX	DMUA1800-SX-CX33TX	●	●	●		○	○
	IDMUA1900SX33TX	DMUA1900-SX-CX33TX	●	●	●		○	○
	IDMUA1905SX33TX	DMUA1905-SX-CX33TX	●	●	●		○	○
	IDMUA2000SX33TX	DMUA2000-SX-CX33TX	●	●	●		○	○
	IDUMA2100SX33TX	DUMA2100-SX-CX33TX	●	●	●		○	○
	IDMUA2200SX33TX	DMUA2200-SX-CX33TX	●	●	●		○	○
	IDMUA2222SX33TX	DMUA2222-SX-CX33TX	●	●	●		○	○
	IDMUA2400SX33TX	DMUA2400-SX-CX33TX	●	●	●		○	○
	IDMUA2500SX33TX	DMUA2500-SX-CX33TX	●	●	●		○	○
	IDMUA2540SX33TX	DMUA2540-SX-CX33TX	●	●	●		○	○

Special Insert Order No. 刀片特殊規格訂購編碼

Order No. 訂購編碼

IDMUA □□□□ SX33TX ⟶ IDMUA1510SX33TX

EX: Insert Dia. = 15.1mm
刀片直徑 = 15.1mm

WINSTAR

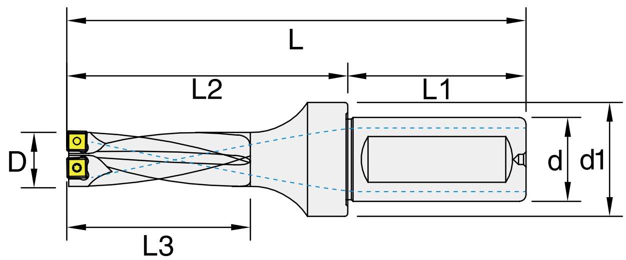
DSP - Indexable Drills · 2D 捨棄式鑽頭・2 倍深

Specification

- 2×D Cutting depth
- High durable SKD holder body
- Internal Coolant
- Use SPMG series inserts
- Indexable Insert with 4 sides cutting edge

規 格

- 2 倍深
- SKD 高耐久性刀體
- 內冷卻孔
- 使用 SPMG 刀片
- 刀片含有 4 個切削角



Insert Brand 建議刀片 : Winstar, Taegutec, ...

Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP125220T205	12.5	20	27	94	26	44	50	2	SPMG0502	ITS2003	ITK06	○
IDSP130220T205	13							2				●
IDSP135220T205	13.5			96	28	46		2				○
IDSP140220T205	14							2				●
IDSP145220T205	14.5			99	30	49		2				○
IDSP150220T205	15							2				●
IDSP155225T206	15.5	25	33	108	32	52	56	2	SPMG0602	ITS2205	ITK06	○
IDSP160225T206	16							2				●
IDSP165225T206	16.5			110	34	54		2				○
IDSP170225T206	17							2				●
IDSP175225T206	17.5			113	36	57		2				○
IDSP180225T206	18							2				●
IDSP185225T206	18.5			115	38	59		2				○
IDSP190225T206	19							2				●
IDSP195225T206	19.5			119	40	63		2				○
IDSP200225T206	20							2				●
IDSP205225T206	20.5			121	42	65		2				○
IDSP210225T206	21							2				●
IDSP215225T206	21.5			123	44	67		2				○
IDSP220225T207	22							2	SPMG07T308	ITS2511	ITK08	●
IDSP225232T207	22.5	32	43	131	46	71	60	2				○
IDSP230232T207	23							2				●
IDSP235232T207	23.5			134	48	74		2				○
IDSP240232T207	24							2				●
IDSP245232T207	24.5			137	50	77		2				○
IDSP250232T207	25							2				●
IDSP255232T207	25.5			139	52	79		2				○
IDSP260232T207	26							2				●
IDSP265232T207	26.5			142	54	81		2				○
IDSP270232T207	27							2				●
IDSP275232T207	27.5			144	56	84		2				○

● stock ○ by inquiry

Holemaking

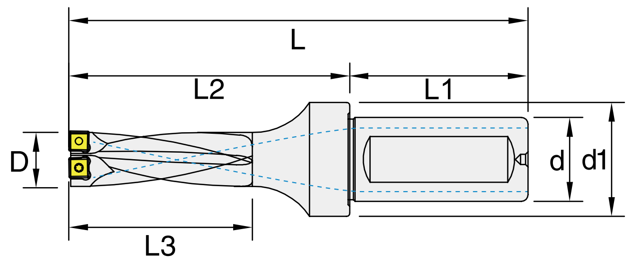
DSP - Indexable Drills · 2D 捨棄式鑽頭・2 倍深

Specification

- 2×D Cutting depth
- High durable SKD holder body
- Internal Coolant
- Use SPMG series inserts
- Indexable Insert with 4 sides cutting edge

規　格

- 2 倍深
- SKD 高耐久性刀體
- 內冷卻孔
- 使用 SPMG 刀片
- 刀片含有 4 個切削角



Insert Brand 建議刀片：Winstar, Taegutec, ...

<table>
<tr><th rowspan="2">Order No.
訂購編碼</th><th colspan="7">Dimensions, mm</th><th rowspan="2">T</th><th rowspan="2">Insert</th><th rowspan="2">Screw</th><th rowspan="2">Wrench</th><th rowspan="2">Stock</th></tr>
<tr><th>D</th><th>d</th><th>d1</th><th>L</th><th>L3</th><th>L2</th><th>L1</th></tr>
<tr><td>IDSP280232T209</td><td>28</td><td rowspan="17">32</td><td rowspan="17">43</td><td>144</td><td>56</td><td>84</td><td rowspan="19">60</td><td>2</td><td rowspan="11">SPMG090408</td><td rowspan="11">ITS3504</td><td rowspan="11">ITK15</td><td>●</td></tr>
<tr><td>IDSP285232T209</td><td>28.5</td><td rowspan="2">146</td><td rowspan="2">58</td><td rowspan="2">86</td><td>2</td><td>○</td></tr>
<tr><td>IDSP290232T209</td><td>29</td><td>2</td><td>●</td></tr>
<tr><td>IDSP295232T209</td><td>29.5</td><td rowspan="2">148</td><td rowspan="2">60</td><td rowspan="2">88</td><td>2</td><td>○</td></tr>
<tr><td>IDSP300232T209</td><td>30</td><td>2</td><td>●</td></tr>
<tr><td>IDSP305232T209</td><td>30.5</td><td rowspan="2">150</td><td rowspan="2">62</td><td rowspan="2">90</td><td>2</td><td>○</td></tr>
<tr><td>IDSP310232T209</td><td>31</td><td>2</td><td>●</td></tr>
<tr><td>IDSP315232T209</td><td>31.5</td><td rowspan="2">152</td><td rowspan="2">64</td><td rowspan="2">92</td><td>2</td><td>○</td></tr>
<tr><td>IDSP320232T209</td><td>32</td><td>2</td><td>●</td></tr>
<tr><td>IDSP325232T209</td><td>32.5</td><td rowspan="2">154</td><td rowspan="2">66</td><td rowspan="2">94</td><td>2</td><td>○</td></tr>
<tr><td>IDSP330232T209</td><td>33</td><td>2</td><td>●</td></tr>
<tr><td>IDSP340232T211</td><td>34</td><td>156</td><td>68</td><td>96</td><td>2</td><td rowspan="8">SPMG110408</td><td rowspan="8">ITS4006</td><td rowspan="8">ITK15</td><td>●</td></tr>
<tr><td>IDSP350232T211</td><td>35</td><td>158</td><td>70</td><td>98</td><td>2</td><td>●</td></tr>
<tr><td>IDSP360232T211</td><td>36</td><td>160</td><td>72</td><td>100</td><td>2</td><td>●</td></tr>
<tr><td>IDSP370232T211</td><td>37</td><td>162</td><td>74</td><td>102</td><td>2</td><td>●</td></tr>
<tr><td>IDSP380232T211</td><td>38</td><td>164</td><td>76</td><td>104</td><td>2</td><td>●</td></tr>
<tr><td>IDSP390232T211</td><td>39</td><td>166</td><td>78</td><td>106</td><td>2</td><td>●</td></tr>
<tr><td>IDSP400240T211</td><td>40</td><td rowspan="2">40</td><td rowspan="2">53</td><td>185</td><td>80</td><td>115</td><td>2</td><td>●</td></tr>
<tr><td>IDSP410240T211</td><td>41</td><td>187</td><td>82</td><td>117</td><td>2</td><td>○</td></tr>
</table>

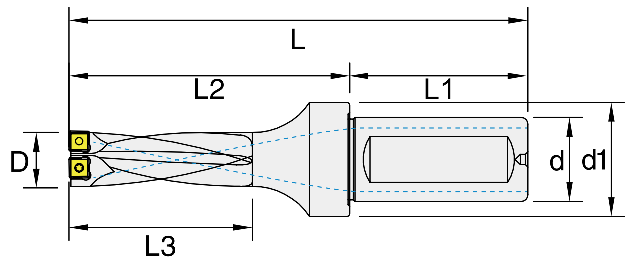
● stock　○ by inquiry

DSP - Indexable Drills · 3D 捨棄式鑽頭 · 3 倍深

Specification 規 格

- 3×D Cutting depth
- High durable SKD holder body
- Internal Coolant
- Use SPMG series inserts
- Indexable Insert with 4 sides cutting edge

- 3 倍深
- SKD 高耐久性刀體
- 內冷卻孔
- 使用 SPMG 刀片
- 刀片含有 4 個切削角



Insert Brand 建議刀片 : Winstar, Taegutec, ...

Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP125320T205	12.5	20	25	107	39	57	50	2	SPMG0502	ITS2003	ITK06	○
IDSP130320T205	13							2				●
IDSP135320T205	13.5			110	42	60		2				○
IDSP140320T205	14							2				●
IDSP145320T205	14.5			114	45	64		2				○
IDSP150320T205	15							2				●
IDSP155325T206	15.5	25	33	124	48	68	56	2	SPMG0602	ITS2205	ITK06	○
IDSP160325T206	16							2				●
IDSP165325T206	16.5			127	51	71		2				○
IDSP170325T206	17							2				●
IDSP175325T206	17.5			131	54	75		2				○
IDSP180325T206	18							2				●
IDSP185325T206	18.5			134	57	78		2				○
IDSP190325T206	19							2				●
IDSP195325T206	19.5			139	60	83		2				○
IDSP200325T206	20							2				●
IDSP205325T206	20.5			142	63	86		2				○
IDSP210325T206	21							2				●
IDSP215325T206	21.5			145	66	89		2				○
IDSP220325T207	22							2	SPMG07T3	ITS2511	ITK08	●
IDSP225332T207	22.5	32	43	154	69	94	60	2				○
IDSP230332T207	23							2				●
IDSP235332T207	23.5			158	72	98		2				○
IDSP240332T207	24							2				●
IDSP245332T207	24.5			162	75	102		2				○
IDSP250332T207	25							2				●
IDSP255332T207	25.5			165	78	105		2				○
IDSP260332T207	26							2				●
IDSP265332T207	26.5			169	81	108		2				○
IDSP270332T207	27							2				●
IDSP275332T207	27.5			172	84	112		2				○

● stock ○ by inquiry

Holemaking

DSP - Indexable Drills · 3D

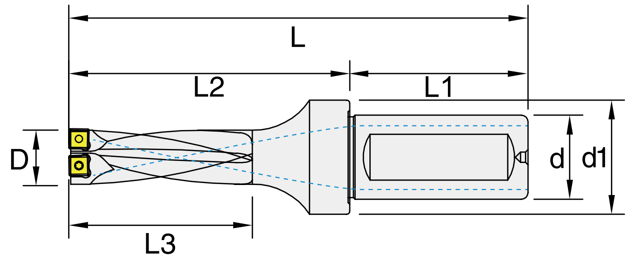
捨棄式鑽頭 · 3 倍深

Specification

- 3×D Cutting depth
- High durable SKD holder body
- Internal Coolant
- Use SPMG series inserts
- Indexable Insert with 4 sides cutting edge

規　格

- 3 倍深
- SKD 高耐久性刀體
- 內冷卻孔
- 使用 SPMG 刀片
- 刀片含有 4 個切削角



Insert Brand 建議刀片 : Winstar, Taegutec, ...

Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP280332T209	28	32	43	172	84	112	60	2	SPMG0904	ITS3504	ITK15	●
IDSP285332T209	28.5			175	87	115		2				○
IDSP290332T209	29							2				●
IDSP295332T209	29.5			178	90	118		2				○
IDSP300332T209	30							2				●
IDSP305332T209	30.5			181	93	121		2				○
IDSP310332T209	31							2				●
IDSP315332T209	31.5			184	96	124		2				○
IDSP320332T209	32							2				●
IDSP325332T209	32.5			187	99	127		2				○
IDSP330332T209	33							2				●
IDSP340332T211	34			190	102	130		2	SPMG1104	ITS4006	ITK15	●
IDSP350332T211	35			193	105	133		2				●
IDSP360332T211	36			196	108	136		2				●
IDSP370332T211	37			199	111	139		2				●
IDSP380332T211	38			202	114	142		2				●
IDSP390332T211	39			205	117	145		2				●
IDSP400340T211	40	40	53	225	120	155		2				●
IDSP410340T211	41			228	123	158		2				○

● stock　○ by inquiry

WINSTAR

DSP - Indexable Drills · 4D

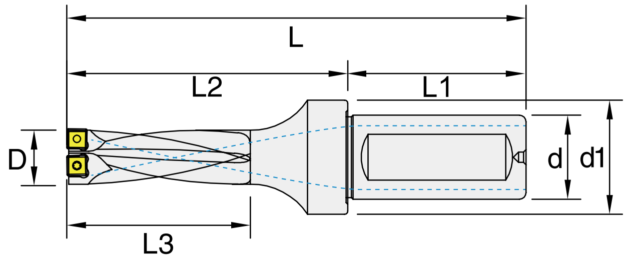
捨棄式鑽頭 · 4 倍深

Specification

· 4×D Cutting depth
· High durable SKD holder body
· Internal Coolant
· Use SPMG series inserts
· Indexable Insert with 4 sides cutting edge

規　格

· 4 倍深
· SKD 高耐久性刀體
· 內冷卻孔
· 使用 SPMG 刀片
· 刀片含有 4 個切削角



Insert Brand 建議刀片 : Winstar, Taegutec, ...

Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP125420T205	12.5	20	27	120	52	70	50	2	SPMG0502	ITS2003	ITK06	○
IDSP130420T205	13							2				●
IDSP135420T205	13.5			124	56	74		2				○
IDSP140420T205	14							2				●
IDSP145420T205	14.5			129	60	79		2				○
IDSP150420T205	15							2				●
IDSP155425T206	15.5	25	33	140	64	84	56	2	SPMG0602	ITS2205	ITK06	○
IDSP160425T206	16							2				●
IDSP165425T206	16.5			144	68	88		2				○
IDSP170425T206	17							2				●
IDSP175425T206	17.5			148	72	92		2				○
IDSP180425T206	18							2				●
IDSP185425T206	18.5			152	76	96		2				○
IDSP190425T206	19							2				●
IDSP195425T206	19.5			156	80	100		2				○
IDSP200425T206	20							2				●
IDSP205425T206	20.5			160	84	104		2				○
IDSP210425T206	21							2				●
IDSP215425T206	21.5			164	88	108		2				○
IDSP220425T207	22							2	SPMG07T3	ITS2511	ITK08	●
IDSP225432T207	22.5	32	43	177	92	117	60	2				○
IDSP230432T207	23							2				●
IDSP235432T207	23.5			181	96	121		2				○
IDSP240432T207	24							2				●
IDSP245432T207	24.5			185	100	125		2				○
IDSP250432T207	25							2				●
IDSP255432T207	25.5			189	104	129		2				○
IDSP260432T207	26							2				●
IDSP265432T207	26.5			196	108	136		2				○
IDSP270432T207	27							2				●
IDSP275432T207	27.5			200	112	140		2				○

● stock　○ by inquiry

DSP - Indexable Drills · 4D

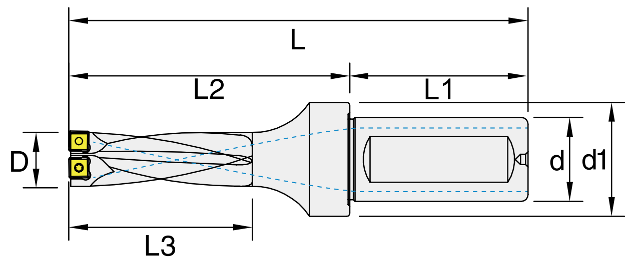
捨棄式鑽頭 · 4 倍深

Specification

- 4×D Cutting depth
- High durable SKD holder body
- Internal Coolant
- Use SPMG series inserts
- Indexable Insert with 4 sides cutting edge

規　格

- 4 倍深
- SKD 高耐久性刀體
- 內冷卻孔
- 使用 SPMG 刀片
- 刀片含有 4 個切削角



Insert Brand 建議刀片 : Winstar, Taegutec, ...

Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP280432T209	28	32	43	200	112	140	60	2	SPMG0904	TS3504	TK15	●
IDSP285432T209	28.5			204	116	144		2				○
IDSP290432T209	29							2				●
IDSP295432T209	29.5			208	120	148		2				○
IDSP300432T209	30							2				●
IDSP305432T209	30.5			212	124	152		2				○
IDSP310432T209	31							2				●
IDSP315432T209	31.5			216	128	156		2				○
IDSP320432T209	32							2				●
IDSP325432T209	32.5			220	132	160		2				○
IDSP330432T209	33							2				●
IDSP340432T211	34			224	136	164		2	SPMG1104	TS4006	TK15	●
IDSP350432T211	35			228	140	168		2				●
IDSP360432T211	36			232	144	172		2				●
IDSP370432T211	37			236	148	176		2				●
IDSP380432T211	38			240	152	180		2				●
IDSP390432T211	39			244	156	184		2				●
IDSP400440T211	40	40	53	265	160	195		2				●
IDSP410440T211	41			269	164	199		2				○

● stock　○ by inquiry

WINSTAR

DSP - Indexable Drills · 5D

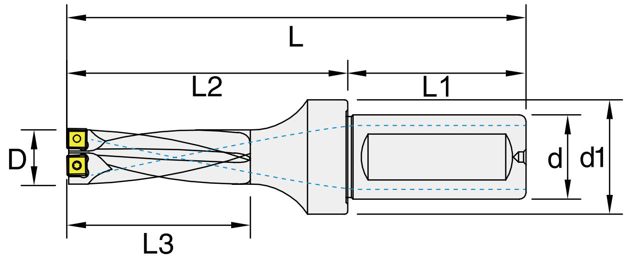
捨棄式鑽頭 · 5 倍深

Specification

· 5×D Cutting depth
· High durable SKD holder body
· Internal Coolant
· Use SPMG series inserts
· Indexable Insert with 4 sides cutting edge

規　格

· 5 倍深
· SKD 高耐久性刀體
· 內冷卻孔
· 使用 SPMG 刀片
· 刀片含有 4 個切削角



Insert Brand 建議刀片 : Winstar, Taegutec, ...

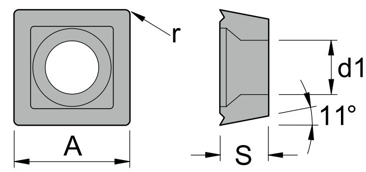
Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP130520T205	13			133	65	83		2				○
IDSP140520T205	14	20	27	138	70	88	50	2	SPMG0502	ITS2003	ITK06	○
IDSP150520T205	15			144	75	94		2				○
IDSP160525T206	16			156	80	100		2				○
IDSP170525T206	17			161	85	105		2				○
IDSP180525T206	18			166	90	110		2	SPMG0602	ITS2205	ITK06	○
IDSP190525T206	19	25	33	171	95	115	56	2				○
IDSP200525T206	20			176	100	120		2				○
IDSP210525T206	21			181	105	125		2				○
IDSP220525T207	22			186	110	130		2				○
IDSP230532T207	23			200	115	140		2				○
IDSP240532T207	24			205	120	145		2	SPMG07T3	ITS2511	ITK08	○
IDSP250532T207	25			210	125	150		2				○
IDSP260532T207	26			215	130	155		2				○
IDSP270532T207	27			223	135	163		2				○
IDSP280532T209	28			228	140	168		2				○
IDSP290532T209	29			233	145	173		2				○
IDSP300532T209	30	32	43	238	150	178	60	2	SPMG0904	ITS3504	ITK15	○
IDSP310532T209	31			243	155	183		2				○
IDSP320532T209	32			248	160	188		2				○
IDSP330532T209	33			253	165	193		2				○
IDSP340532T211	34			258	170	198		2				○
IDSP350532T211	35			263	175	203		2	SPMG1104	ITS4006	ITK15	○
IDSP360532T211	36			268	180	208		2				○

● stock　○ by inquiry

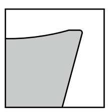
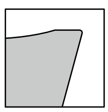
DSP - Indexable Drill Inserts 捨棄式鑽頭刀片

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
SPMG050204	5.00	2.38	0.4	2.30	2.8
SPMG060204	6.00	2.38	0.4	2.65	3.0
SPMG07T308	7.94	3.97	0.8	2.85	3.4
SPMG090408	9.80	4.3	0.8	4.05	4.0
SPMG110408	11.50	4.8	0.8	4.45	4.3



Insert Geometry 刀片幾何

Shape 形狀	Chipbreaker 斷屑槽		Application 應　用
		MG	Low cutting force for medium cutting in steel, stainless steel and cast iron. 低切削阻力的刀口設計，適用於鋼件、不鏽鋼和鑄鐵的中加工應用
		RG	Strong geometry design for rough cutting in steel, alloy steel and hardened steel. 強壯的刀口設計，適用於鋼件、合金鋼、預硬鋼的粗加工應用

Recommended Cutting Conditions 建議切削數據

DSP Series (2×D, 3×D)

	Work Material	Hardness	Vc (m/min)	Feed Rate (mm/rev)				
				SPMG05 Ø13-Ø15	SPMG06 Ø16-Ø21	SPMG07 Ø22-Ø27	SPMG09 Ø28-Ø33	SPMG11 Ø34-Ø41
P	Mild Steel	(<180HB)	120~250	0.04~0.08	0.05~0.10	0.06~0.13	0.07~0.15	0.08~0.18
P	Cabon Steel	(180~280HB)	100~150	0.04~0.08	0.05~0.09	0.06~0.12	0.07~0.13	0.08~0.15
P	Alloy Steel	(280~350HB)	80~140	0.04~0.07	0.05~0.08	0.05~0.09	0.06~0.12	0.07~0.14
M	Stainless Steel	(<200HB)	80~180	0.04~0.08	0.05~0.09	0.05~0.10	0.06~0.12	0.07~0.14
K	Cast Iron	(<350Mpa)	110~190	0.05~0.09	0.07~0.12	0.08~0.15	0.09~0.17	0.12~0.20
K	Ductile Cast Iron	(<450Mpa)	100~160	0.05~0.08	0.06~0.11	0.07~0.13	0.08~0.15	0.10~0.18
N	Aluminum <12% Si	-	300~400	0.05~0.11	0.07~0.13	0.08~0.15	0.09~0.20	0.12~0.25
N	Aluminum >12% Si	-	200~330	0.04~0.08	0.05~0.10	0.06~0.13	0.07~0.15	0.08~0.18
S	Heat Resistant Alloy	-	30~60	0.02~0.04	0.03~0.05	0.03~0.05	0.04~0.06	0.05~0.08
H	Hardened Material	40~60HRC	30~60	0.02~0.04	0.03~0.05	0.03~0.05	0.04~0.06	0.05~0.08

Apply for 4×D reduce 10%, 5×D reduce 15%.

WINSTAR

DSP - Indexable Drill Inserts 捨棄式鑽頭刀片

Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material P	M	K	N	S	H
	ISPMG050204MG32HS	SPMG050204-MG-CX32HS	●	●	●		○	○
	ISPMG050204MG33TX	SPMG050204-MG-CX33TX	●	●	●		●	●
	ISPMG050204MG43TX	SPMG050204-MG-CX43TX	●	●	●		●	
	ISPMG060204MG32HS	SPMG060204-MG-CX32HS	●	●	●		○	○
	ISPMG060204MG33TX	SPMG060204-MG-CX33TX	●	●	●		●	●
	ISPMG060204MG43TX	SPMG060204-MG-CX43TX	●	●	●		●	
	ISPMG07T308MG32HS	SPMG07T308-MG-CX32HS	●	●	●		○	○
	ISPMG07T308MG33TX	SPMG07T308-MG-CX33TX	●	●	●		●	●
	ISPMG07T308MG43TX	SPMG07T308-MG-CX43TX	●	●	●		●	
	ISPMG090408MG32HS	SPMG090408-MG-CX32HS	●	●	●		○	○
	ISPMG090408MG33TX	SPMG090408-MG-CX33TX	●	●	●		●	●
	ISPMG090408MG43TX	SPMG090408-MG-CX43TX	●	●	●		●	
	ISPMG090408RG32HS	SPMG090408-RG-CX32HS	●	●	●		○	○
	ISPMG090408RG33TX	SPMG090408-RG-CX33TX	●	●	●		●	●
	ISPMG090408RG43TX	SPMG090408-RG-CX43TX	●	●	●		●	
	ISPMG110408MG32HS	SPMG110408-MG-CX32HS	●	●	●		○	○
	ISPMG110408MG33TX	SPMG110408-MG-CX33TX	●	●	●		●	●
	ISPMG110408MG43TX	SPMG110408-MG-CX43TX	●	●	●		●	
	ISPMG110408RG32HS	SPMG110408-RG-CX32HS	●	●	●		○	○
	ISPMG110408RG33TX	SPMG110408-RG-CX33TX	●	●	●		●	●
	ISPMG110408RG43TX	SPMG110408-RG-CX43TX	●	●	●		●	

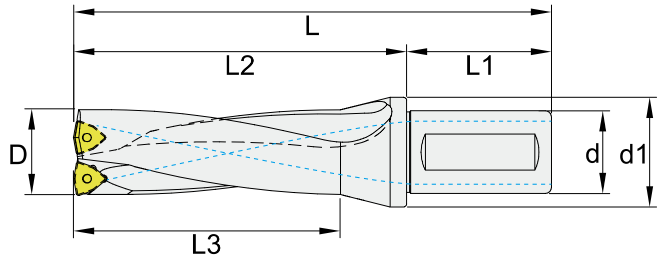
DWC - Indexable Drills · 2D 捨棄式鑽頭 · 2 倍深

Specification

- 2×D Cutting depth
- High durable SKD holder body
- Internal Coolant
- Use WCMT series inserts
- Indexable Insert with 3 sides cutting edge

規 格

- 2 倍深
- SKD 高耐久性刀體
- 內冷卻孔
- 使用 WCMT 刀片
- 刀片含有 3 個切削角



Insert Brand 建議刀片 : Winstar, Sandvik, Korloy, ...

Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC140225T203	14	25	38	114	28	58	56	2	WCMT0302	ITS2502	ITK08	●
IDWC145225T203	14.5							2				○
IDWC150225T203	15			116	30	60		2		ITS2507		●
IDWC155225T203	15.5							2				○
IDWC160225T203	16			119	32	63		2				●
IDWC165225T203	16.5							2				○
IDWC170225T203	17			120	34	64		2				●
IDWC175225T203	17.5							2				○
IDWC180225T203	18			122	36	66		2				●
IDWC185225T203	18.5							2				○
IDWC190225T203	19			124	38	68		2				●
IDWC195225T203	19.5							2				○
IDWC200225T203	20			126	40	70		2				●
IDWC205225T203	20.5							2				○
IDWC210225T204	21			128	42	72		2	WCMT0402			●
IDWC215225T204	21.5							2				○
IDWC220232T204	22	32	43	136	44	76	60	2				●
IDWC225232T204	22.5							2				○
IDWC230232T204	23			138	46	78		2				●
IDWC235232T204	23.5							2				○
IDWC240232T204	24			141	48	81		2				●
IDWC245232T204	24.5							2				○
IDWC250232T204	25			142	50	82		2				●
IDWC255232T204	25.5							2				○
IDWC260232T205	26			144	52	84		2	WCMT0503	ITS3007	ITK10	●
IDWC270232T205	27			146	54	86		2				●
IDWC280232T205	28			148	56	88		2				●
IDWC290232T205	29			150	58	90		2				●
IDWC300232T205	30			152	60	92		2				●

● stock ○ by inquiry

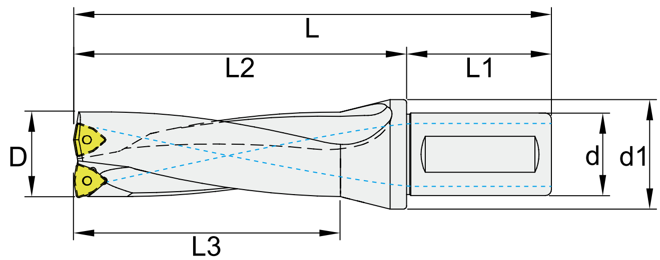
DWC - Indexable Drills · 2D 捨棄式鑽頭・2 倍深

Specification

- 2×D Cutting depth
- High durable SKD holder body
- Internal Coolant
- Use WCMT series inserts
- Indexable Insert with 3 sides cutting edge

規 格

- 2 倍深
- SKD 高耐久性刀體
- 內冷卻孔
- 使用 WCMT 刀片
- 刀片含有 3 個切削角



Insert Brand 建議刀片 : Winstar, Sandvik, Korloy, ...

Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC310232T206	31			154	62	94		2				●
IDWC320232T206	32			156	64	96		2				●
IDWC330232T206	33			159	66	99		2				●
IDWC340232T206	34			160	68	100		2				●
IDWC350232T206	35	32	43	162	70	102	60	2				●
IDWC360232T206	36			164	72	104		2	WCMT06T3	ITS3504		●
IDWC370232T206	37			166	74	106		2				●
IDWC380232T206	38			168	76	106		2				●
IDWC390232T206	39			170	78	110		2				●
IDWC400240T206	40			185	80	115		2				●
IDWC410240T206	41			187	82	117		2				○
IDWC420240T208	42			189	84	119		2				○
IDWC430240T208	43			191	86	121		2				○
IDWC440240T208	44			194	88	124		2				○
IDWC450240T208	45			195	90	125		2			ITK15	○
IDWC460240T208	46			197	92	127		2				○
IDWC470240T208	47		54	199	94	129		2				○
IDWC480240T208	48			201	96	131		2				○
IDWC490240T208	49			202	98	132		2				○
IDWC500240T208	50	40		204	100	134	70	2				○
IDWC510240T208	51			206	102	136		2	WCMT0804	ITS4004		○
IDWC520240T208	52			208	104	138		2				○
IDWC530240T208	53			210	106	140		2				○
IDWC540240T208	54			212	108	142		2				○
IDWC550240T208	55			215	110	145		2				○
IDWC560240T208	56		58	217	112	147		2				○
IDWC570240T208	57			219	114	149		2				○
IDWC580240T208	58		59	221	116	151		2				○
IDWC590240T208	59			223	118	153		2				○
IDWC600240T208	60		63	225	120	155		2				○

● stock ○ by inquiry

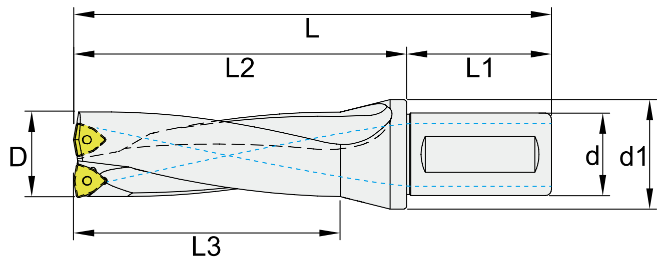
DWC - Indexable Drills · 3D 捨棄式鑽頭 · 3 倍深

Specification

- 3×D Cutting depth
- Internal Coolant
- Indexable Insert with 3 sides cutting edge
- High durable SKD holder body
- Use WCMT series inserts

規 格

- 3 倍深
- 內冷卻孔
- 刀片含有 3 個切削角
- SKD 高耐久性刀體
- 使用 WCMT 刀片



Insert Brand 建議刀片 : Winstar, Sandvik, Korloy, ...

Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC140325T203	14	25	38	128	42	72	56	2	WCMT0302	ITS2502	ITK08	●
IDWC145325T203	14.5							2				○
IDWC150325T203	15			131	45	75		2		ITS2507		●
IDWC155325T203	15.5							2				○
IDWC160325T203	16			134	48	78		2				●
IDWC165325T203	16.5							2				○
IDWC170325T203	17			137	51	81		2				●
IDWC175325T203	17.5							2				○
IDWC180325T203	18			140	54	84		2				●
IDWC185325T203	18.5							2				○
IDWC190325T203	19			143	57	87		2				●
IDWC195325T203	19.5							2				○
IDWC200325T203	20			146	60	90		2				●
IDWC205325T203	20.5							2				○
IDWC210325T204	21			149	63	93		2	WCMT0402			●
IDWC215325T204	21.5			151	64	95		2				○
IDWC220332T204	22	32	43	158	66	98	60	2				●
IDWC225332T204	22.5							2				○
IDWC230332T204	23			161	69	101		2				●
IDWC235332T204	23.5							2				○
IDWC240332T204	24			164	72	104		2				●
IDWC245332T204	24.5							2				○
IDWC250332T204	25			167	75	107		2				●
IDWC255332T204	25.5							2				○
IDWC260332T205	26			170	78	110		2	WCMT0503	ITS3007	ITK10	●
IDWC270332T205	27			173	81	113		2				●
IDWC280332T205	28			176	84	116		2				●
IDWC290332T205	29			179	87	119		2				●
IDWC300332T205	30			182	90	122		2				●
IDWC305332T206	30.5			182	93	125		2	WCMT06T3	ITS3504	ITK15	○
IDWC310332T206	31			185	93	125		2				●

● stock ○ by inquiry

WINSTAR

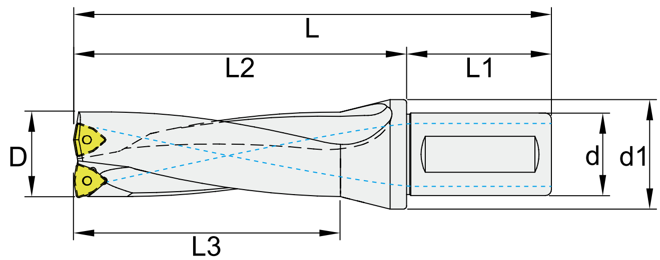
DWC - Indexable Drills · 3D 捨棄式鑽頭 · 3 倍深

Specification

- 3×D Cutting depth
- Internal Coolant
- Indexable Insert with 3 sides cutting edge
- High durable SKD holder body
- Use WCMT series inserts

規　格

- 3 倍深
- 內冷卻孔
- 刀片含有 3 個切削角
- SKD 高耐久性刀體
- 使用 WCMT 刀片



Insert Brand 建議刀片 : Winstar, Sandvik, Korloy, ...

Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC315332T206	31.5	32	43	185	93	125	60	2	WCMT06T3	ITS3504	ITK15	○
IDWC320332T206	32			188	96	128		2				●
IDWC325332T206	32.5			188	96	128		2				○
IDWC330332T206	33			191	99	131		2				●
IDWC340332T206	34			194	102	134		2				●
IDWC350332T206	35			197	105	137		2				●
IDWC360332T206	36			200	108	140		2				●
IDWC370332T206	37			203	111	143		2				●
IDWC380332T206	38			206	114	146		2				●
IDWC390332T206	39			209	117	149	70	2				●
IDWC400340T206	40	40	54	225	120	155		2				●
IDWC410340T206	41			228	123	158		2				○
IDWC420340T208	42			231	126	161		2	WCMT0804	ITS4004		○
IDWC430340T208	43			234	129	164		2				○
IDWC440340T208	44			238	132	168		2				○
IDWC450340T208	45			240	135	170		2				○
IDWC460340T208	46			243	138	173		2				○
IDWC470340T208	47			246	141	176		2				○
IDWC480340T208	48			249	144	179		2				○
IDWC490340T208	49			253	147	182		2				○
IDWC500340T208	50			254	150	184		2				○
IDWC510340T208	51			257	153	187		2				○
IDWC520340T208	52			260	156	190		2				○
IDWC530340T208	53			263	159	193		2				○
IDWC540340T208	54			266	162	196		2				○
IDWC550340T208	55		58	270	165	200		2				○
IDWC560340T208	56			273	168	203		2				○
IDWC570340T208	57			276	171	205		2				○
IDWC580340T208	58		59	279	174	209		2				○
IDWC590340T208	59			282	177	212		2				○
IDWC600340T208	60		63	285	180	215		2				○

● stock　○ by inquiry

Holemaking

WINSTAR

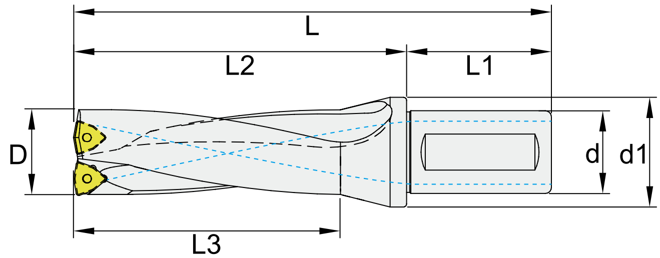
DWC - Indexable Drills · 4D 捨棄式鑽頭 · 4 倍深

Specification

- 4×D Cutting depth
- High durable SKD holder body
- Internal Coolant
- Use WCMT series inserts
- Indexable Insert with 3 sides cutting edge

規 格

- 4 倍深
- SKD 高耐久性刀體
- 內冷卻孔
- 使用 WCMT 刀片
- 刀片含有 3 個切削角



Insert Brand 建議刀片 : Winstar, Sandvik, Korloy, ...

Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC140425T203	14			142	56	86		2		ITS2502		●
IDWC150425T203	15			146	60	90		2				●
IDWC160425T203	16			150	64	94		2				●
IDWC170425T203	17	25	38	154	68	98	56	2	WCMT0302	ITS2507		●
IDWC180425T203	18			158	72	102		2				●
IDWC190425T203	19			162	76	106		2				●
IDWC200425T203	20			166	80	110		2			ITK08	●
IDWC210425T204	21			170	84	114		2				●
IDWC220432T204	22			180	88	120		2				●
IDWC230432T204	23			184	92	124		2	WCMT0402	ITS2507		●
IDWC240432T204	24			188	96	128		2				●
IDWC250432T204	25			192	100	132		2				●
IDWC260432T205	26			196	104	136		2				●
IDWC270432T205	27			200	108	140		2				●
IDWC280432T205	28			204	112	144		2	WCMT0503	ITS3007	ITK10	●
IDWC290432T205	29			208	116	148		2				●
IDWC300432T205	30	32	43	212	120	152	60	2				●
IDWC310432T206	31			216	124	156		2				●
IDWC320432T206	32			220	128	160		2				●
IDWC330432T206	33			224	132	164		2				●
IDWC340432T206	34			228	136	168		2				●
IDWC350432T206	35			232	140	172		2				●
IDWC360432T206	36			236	144	176		2	WCMT06T3	ITS3504	ITK15	●
IDWC370432T206	37			240	148	180		2				●
IDWC380432T206	38			244	152	184		2				●
IDWC390432T206	39			248	156	188		2				●
IDWC400440T206	40	40	54	265	160	195	70	2				●
IDWC410440T206	41			269	164	199		2				○

● stock ○ by inquiry

WINSTAR

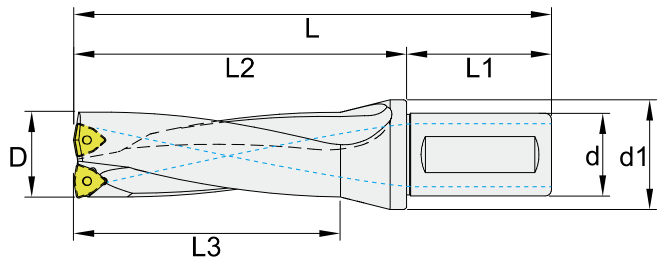
DWC - Indexable Drills · 4D　捨棄式鑽頭・4 倍深

Specification

- 4×D Cutting depth
- Internal Coolant
- Indexable Insert with 3 sides cutting edge
- High durable SKD holder body
- Use WCMT series inserts

規　格

- 4 倍深
- 內冷卻孔
- 刀片含有 3 個切削角
- SKD 高耐久性刀體
- 使用 WCMT 刀片



Insert Brand 建議刀片 : Winstar, Sandvik, Korloy, ...

Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC420440T208	42	40	54	273	168	203	70	2	WCMT0804	ITS4004	ITK15	○
IDWC430440T208	43			277	172	207		2				○
IDWC440440T208	44			282	176	212		2				○
IDWC450440T208	45			285	180	215		2				○
IDWC460440T208	46			289	184	219		2				○
IDWC470440T208	47			293	188	223		2				○
IDWC480440T208	48			297	192	227		2				○
IDWC490440T208	49			301	196	231		2				○
IDWC500440T208	50			305	200	235		2				○
IDWC510440T208	51			309	204	239		2				○
IDWC520440T208	52			313	208	243		2				○
IDWC530440T208	53			317	212	247		2				○
IDWC540440T208	54			320	216	250		2				○
IDWC550440T208	55			325	220	255		2				○
IDWC560440T208	56		58	329	224	259		2				○
IDWC570440T208	57			333	228	263		2				○
IDWC580440T208	58		59	337	232	267		2				○
IDWC590440T208	59			341	236	271		2				○
IDWC600440T208	60		63	345	240	275		2				○

● stock　○ by inquiry

Holemaking

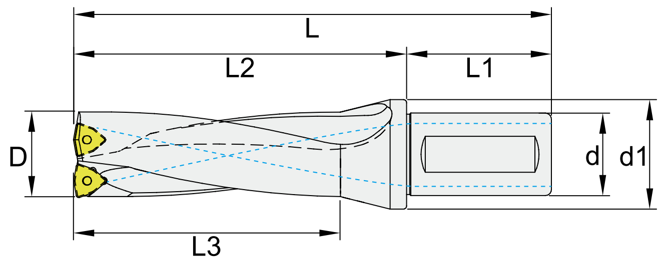
DWC - Indexable Drills · 5D 捨棄式鑽頭 · 5 倍深

Specification

- 5×D Cutting depth
- High durable SKD holder body
- Internal Coolant
- Use WCMT series inserts
- Indexable Insert with 3 sides cutting edge

規 格

- 5 倍深
- SKD 高耐久性刀體
- 內冷卻孔
- 使用 WCMT 刀片
- 刀片含有 3 個切削角



Insert Brand 建議刀片 : Winstar, Sandvik, Korloy, ...

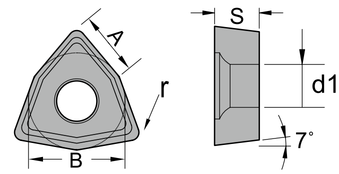
Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC160525T203	16	25	38	166	80	110	56	2				○
IDWC170525T203	17	25	38	171	85	115	56	2				○
IDWC180525T203	18	25	38	176	90	120	56	2				○
IDWC190525T203	19	25	38	181	95	125	56	2	WCMT0302	ITS2507	ITK08	○
IDWC200525T203	20	25	38	186	100	130	56	2				○
IDWC210525T203	21	25	38	191	105	135	56	2				○
IDWC220525T203	22	25	38	196	110	140	56	2				○
IDWC230532T204	23	32	43	207	115	147	60	2				○
IDWC240532T204	24	32	43	212	120	152	60	2	WCMT0402	ITS2507	ITK08	○
IDWC250532T204	25	32	43	217	125	157	60	2				○
IDWC260532T205	26	32	43	222	130	162	60	2				○
IDWC270532T205	27	32	43	227	135	167	60	2				○
IDWC280532T205	28	32	43	232	140	172	60	2	WCMT0503	ITS3007	ITK10	○
IDWC290532T205	29	32	43	237	145	177	60	2				○
IDWC300532T205	30	32	43	242	150	182	60	2				○
IDWC310532T206	31	32	43	247	155	187	60	2				○
IDWC320532T206	32	32	43	252	160	192	60	2				○
IDWC330532T206	33	32	43	257	165	197	60	2	WCMT06T3	ITS3504	ITK15	○
IDWC340532T206	34	32	43	262	170	202	60	2				○
IDWC350532T206	35	32	43	267	175	207	60	2				○
IDWC360532T206	36	32	43	272	180	212	60	2				○
IDWC440540T208	44	40	54	326	220	256	70	2	WCMT0804	ITS4004	ITK15	○

● stock ○ by inquiry

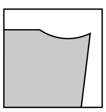
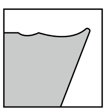
DWC - Indexable Drill Inserts 捨棄式鑽頭刀片

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	r	d1
WCMT030208	3.8	5.56	2.38	0.8	2.8
WCMT040208	4.3	6.35	2.38	0.8	3.0
WCMT050308	5.4	7.94	3.18	0.8	3.4
WCMT06T308	6.5	9.53	3.97	0.8	4.0
WCMT080412	8.7	12.7	4.76	1.2	4.3



Insert Geometry 刀片幾何

Shape 形狀	Chipbreaker 斷屑槽		Application 應　用
		SG	Sharp geometric design, easy to chip breaking, for steel, stainless steel and cast iron. 鋒利的刀口設計，易於斷屑，適用於鋼件、不鏽鋼和鑄鐵加工
		MM	Low cutting force for medium cutting in steel, stainless steel and cast iron. 低切削阻力的刀口設計，適用於鋼件、不鏽鋼和鑄鐵的中加工應用

Recommended Cutting Conditions 建議切削數據

DWC Series (2×D, 3×D)

	Work Material	Hardness	Vc (m/min)	Feed Rate (mm/rev)				
				WCMT03 Ø14-Ø20.5	WCMT04 Ø22-Ø25.5	WCMT05 Ø26-Ø30	WCMT06 Ø31-Ø39	WCMT08 Ø40-Ø60
P	Mild Steel	(<180HB)	110~220	0.06~0.09	0.06~0.11	0.07~0.13	0.08~0.18	0.10~0.25
	Cabon Steel	(180~280HB)	90~140	0.06~0.09	0.06~0.11	0.07~0.13	0.08~0.18	0.10~0.25
	Alloy Steel	(280~350HB)	70~120	0.05~0.07	0.05~0.09	0.06~0.11	0.07~0.14	0.08~0.17
M	Stainless Steel	(<200HB)	60~140	0.05~0.09	0.05~0.10	0.06~0.13	0.07~0.15	0.08~0.18
K	Cast Iron	(<350Mpa)	100~160	0.07~0.11	0.07~0.13	0.08~0.15	0.09~0.18	0.11~0.22
	Ductile Cast Iron	(<450Mpa)	90~120	0.06~0.10	0.06~0.12	0.07~0.14	0.08~0.16	0.10~0.20
N	Aluminum <12% Si	-	200~360	0.06~0.11	0.08~0.13	0.09~0.15	0.11~0.18	0.12~0.25
	Aluminum >12% Si	-	150~250	0.06~0.11	0.08~0.13	0.09~0.15	0.11~0.18	0.12~0.25
S	Heat Resistant Alloy	-	25~50	0.03~0.05	0.03~0.06	0.04~0.08	0.05~0.10	0.06~0.12
H	Hardened Material	-	-	-	-	-	-	-

Apply for 4×D reduce 10%, 5×D reduce 15%.

DWC - Indexable Drill Inserts 捨棄式鑽頭刀片

Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IWCMT030208MM32HS	WCMT030208-MM-CX32HS	●	●	●		○	○
	IWCMT030208MM33TX	WCMT030208-MM-CX33TX	●	●	●		●	●
	IWCMT030208MM43TX	WCMT030208-MM-CX43TX	●	●	●		●	
	IWCMT040208SG32HS	WCMT040208-SG-CX32HS	●	●	●		○	○
	IWCMT040208SG33TX	WCMT040208-SG-CX33TX	●	●	●		●	●
	IWCMT040208SG43TX	WCMT040208-SG-CX43TX	●	●	●		●	
	IWCMT040208MM32HS	WCMT040208-MM-CX32HS	●	●	●		○	○
	IWCMT040208MM33TX	WCMT040208-MM-CX33TX	●	●	●		●	●
	IWCMT040208MM43TX	WCMT040208-MM-CX43TX	●	●	●		●	
	IWCMT050308SG32HS	WCMT050308-SG-CX32HS	●	●	●		○	○
	IWCMT050308SG33TX	WCMT050308-SG-CX33TX	●	●	●		●	●
	IWCMT050308SG43TX	WCMT050308-SG-CX43TX	●	●	●		●	
	IWCMT050308MM32HS	WCMT050308-MM-CX32HS	●	●	●		○	○
	IWCMT050308MM33TX	WCMT050308-MM-CX33TX	●	●	●		●	●
	IWCMT050308MM43TX	WCMT050308-MM-CX43TX	●	●	●		●	
	IWCMT06T308SG32HS	WCMT06T308-SG-CX32HS	●	●	●		○	○
	IWCMT06T308SG33TX	WCMT06T308-SG-CX33TX	●	●	●		●	●
	IWCMT06T308SG43TX	WCMT06T308-SG-CX43TX	●	●	●		●	
	IWCMT06T308MM32HS	WCMT06T308-MM-CX32HS	●	●	●		○	○
	IWCMT06T308MM33TX	WCMT06T308-MM-CX33TX	●	●	●		●	●
	IWCMT06T308MM43TX	WCMT06T308-MM-CX43TX	●	●	●		●	
	IWCMT080412SG32HS	WCMT080412-SG-CX32HS	●	●	●		○	○
	IWCMT080412SG33TX	WCMT080412-SG-CX33TX	●	●	●		●	●
	IWCMT080412SG43TX	WCMT080412-SG-CX43TX	●	●	●		●	
	IWCMT080412MM32HS	WCMT080412-MM-CX32HS	●	●	●		○	○
	IWCMT080412MM33TX	WCMT080412-MM-CX33TX	●	●	●		●	●
	IWCMT080412MM43TX	WCMT080412-MM-CX43TX	●	●	●		●	

DWD - Indexable Drills · 3D 捨棄式鑽頭 · 3 倍深

Specification

- 3×D Cutting depth
- High durable SKD holder body
- Internal Coolant
- Use WDXT series inserts
- Indexable Insert with 4 sides cutting edge

規 格

- 3 倍深
- SKD 高耐久性刀體
- 內冷卻孔
- 使用 WDXT 刀片
- 刀片含有 4 個切削角

Fig. 1

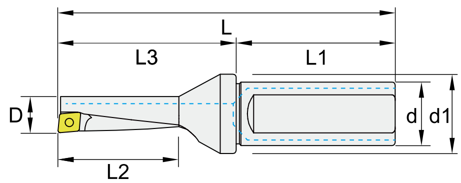
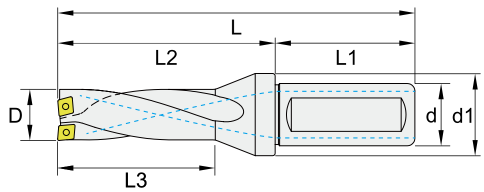


Fig. 2



Insert Brand 建議刀片 : Winstar, Sumitomo, ...

Order No. 訂購編碼	Dimensions, mm							T	Fig	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1						
DWD100320T105	10	20	27	101	51	30	50	1	1	WDXT0525	ITS2003	ITK06	●
DWD120320T106	12			107	57	36				WDXT0630	ITS2205	ITK07	●
DWD130320T204	13	20	27	107	39	57	50	2	2	WDXT0420	ITS1801	ITK06	●
DWD135320T204	13.5			110	42	60							○
DWD140320T204	14												●
DWD145320T204	14.5			114	45	64							○
DWD150320T204	15												●
DWD155320T205	15.5			117	48	67				WDXT0525	ITS2003	ITK06	○
DWD160320T205	16												●
DWD165320T205	16.5			120	51	70							○
DWD170320T205	17												●
DWD175320T205	17.5			123	54	73							○
DWD180320T205	18												●
DWD185320T206	18.5			126	57	76				WDXT0630	ITS2203	ITK07	○
DWD190320T206	19												●
DWD195320T206	19.5			129	60	79							○
DWD200320T206	20												●
DWD205325T206	20.5	25	33	143	63	87	56						○
DWD210325T206	21												●
DWD215325T206	21.5			146	66	90							○
DWD220325T206	22												●
DWD225332T206	22.5	32	43	149	69	93							○
DWD230332T207	23									WDXT0735	ITS2511	ITK08	●
DWD235332T207	23.5			152	72	96							○
DWD240332T207	24												●
DWD245332T207	24.5			155	75	99							○
DWD250332T207	25												●

● stock ○ by inquiry

Holemaking

DWD - Indexable Drills · 4D

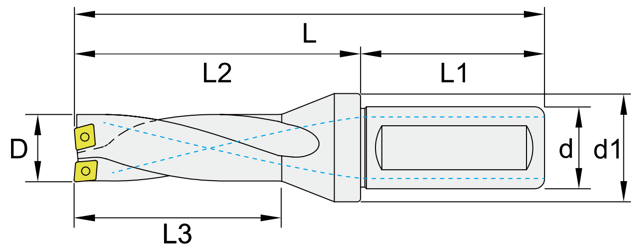
捨棄式鑽頭 · 4 倍深

Specification

- 4×D Cutting depth
- High durable SKD holder body
- Internal Coolant
- Use WDXT series inserts
- Indexable Insert with 4 sides cutting edge

規 格

- 4 倍深
- SKD 高耐久性刀體
- 內冷卻孔
- 使用 WDXT 刀片
- 刀片含有 4 個切削角



Insert Brand 建議刀片 : Winstar, Sumitomo, ...

Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
DWD130420T204	13	20	27	120	52	70	50	2	WDXT0420	ITS1801	ITK06	●
DWD135420T204	13.5			124	56	74						○
DWD140420T204	14											●
DWD145420T204	14.5			129	60	79						○
DWD150420T204	15											●
DWD155420T205	15.5			133	64	83			WDXT0525	ITS2003	ITK06	○
DWD160420T205	16											●
DWD165420T205	16.5			137	68	87						○
DWD170420T205	17											●
DWD175420T205	17.5			141	72	91						○
DWD180420T205	18											●
DWD185420T206	18.5			145	76	95			WDXT0630	ITS2203	ITK07	○
DWD190420T206	19											●
DWD195420T206	19.5			149	80	99						○
DWD200420T206	20											●
DWD205425T206	20.5	25	33	164	63	108	56					○
DWD210425T206	21											●
DWD215425T206	21.5			168	66	112						○
DWD220425T206	22											●
DWD225425T206	22.5			172	69	116						○
DWD230425T207	23								WDXT0735	ITS2511	ITK08	●
DWD235425T207	23.5			176	72	120						○
DWD240425T207	24											●
DWD245425T207	24.5			180	75	124						○
DWD250425T207	25											●

● stock ○ by inquiry

DWD - Indexable Drills · 5D

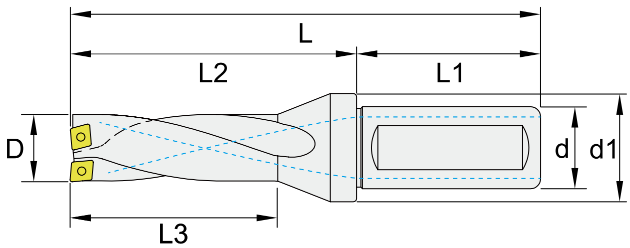
捨棄式鑽頭・5 倍深

Specification

- 5×D Cutting depth
- High durable SKD holder body
- Internal Coolant
- Use WDXT series inserts
- Indexable Insert with 4 sides cutting edge

規　格

- 5 倍深
- SKD 高耐久性刀體
- 內冷卻孔
- 使用 WDXT 刀片
- 刀片含有 4 個切削角



Insert Brand 建議刀片 : Winstar, Sumitomo, ...

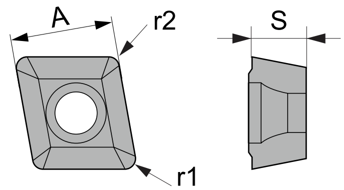
Order No. 訂購編碼	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
DWD130520T204	13	20	25	133	65	83	50	2	WDXT0420	ITS1801	ITK06	●
DWD140520T204	14			138	70	88						●
DWD150520T204	15			144	75	94						●
DWD160520T205	16			149	80	100			WDXT0525	ITS2003	ITK06	●
DWD170520T205	17			154	85	105						●
DWD180520T205	18			159	90	110						●
DWD190520T206	19			164	95	115			WDXT0630	ITS2203	ITK07	●
DWD200520T206	20			169	100	120						●
DWD210525T206	21	25	33	185	105	125	56					●
DWD220525T206	22			190	110	130						●
DWD230525T207	23			195	115	140			WDXT0735	ITS2511	ITK08	●
DWD240525T207	24			200	120	145						●
DWD250525T207	25			205	125	150						●

● stock　○ by inquiry

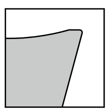
DWD - Indexable Drill Inserts 捨棄式鑽頭刀片

Insert Specifications 刀片規格

Insert	Dimensions (mm)			
	A	r1	r2	S
WDXT042004	4.2	0.4	0.4	2.0
WDXT052504	5.0	0.4	0.4	2.5
WDXT063006	6.0	0.6	0.6	3.0
WDXT073506	7.5	0.6	0.6	3.5



Insert Geometry 刀片幾何

Shape 形狀	Chipbreaker 斷屑槽	Application 應　用
	 MG	Low cutting force for medium cutting in steel, stainless steel and cast iron. 低切削阻力的刀口設計，適用於鋼件、不鏽鋼和鑄鐵的中加工應用

Recommended Cutting Conditions 建議切削數據

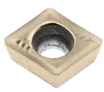
DWD Series (3×D)

Work Material		Hardness	Vc (m/min)	Feed Rate (mm/rev)	
				Ø13-Ø18	Ø18.5-Ø25
P	Mild Steel	(<180HB)	100~200	0.08~0.20	0.08~0.20
P	Cabon Steel	(180~280HB)	120~240	0.06~0.14	0.06~0.14
P	Alloy Steel	(280~350HB)	85~210	0.05~0.11	0.05~0.11
M	Stainless Steel	(<200HB)	120~180	0.06~0.15	0.06~0.15
K	Cast Iron	(<350Mpa)	120~200	0.09~0.27	0.10~0.30
K	Ductile Cast Iron	(<450Mpa)	90~150	0.09~0.27	0.10~0.30
N	Aluminum <12% Si	-	200~320	0.06~0.17	0.06~0.17
N	Aluminum >12% Si	-	180~280	0.06~0.17	0.06~0.17
S	Heat Resistant Alloy	-	25~70	0.06~0.15	0.06~0.15

Apply for 4×D reduce 10%, 5×D reduce 15%.

DWD - Indexable Drill Inserts 捨棄式鑽頭刀片

Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	Working Material					
			P	M	K	N	S	H
	IWDXT042004MG33TX	WDXT042004-MG-CX33TX	●	●	●		●	●
	IWDXT052504MG33TX	WDXT052504-MG-CX33TX	●	●	●		●	●
	IWDXT063006MG33TX	WDXT063006-MG-CX33TX	●	●	●		●	●
	IWDXT073506MG33TX	WDXT073506-MG-CX33TX	●	●	●		●	●

DTS60 - Indexable Spotting Drills 60° 捨棄式定位鑽頭

DTS60 - Spotting Drills 定位鑽頭

Fig.1

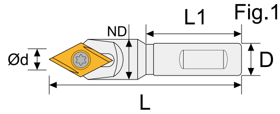
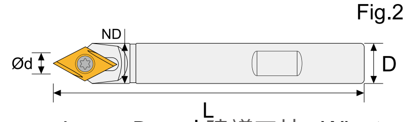


Fig.2



DTS 60 - DCEX11T3

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	ND	L	L1	Fig	Insert	Screw	Wrench	Stock
IDTS1006006011	10	12	60	30	1	DCEX11T3	ITS3520	ITK15	●
IDTS1210006011	12	12	100	-	2				●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

DTS 60 Chamfering / Countersinking

Material	Vc (m/min)	fr (mm/rev)
Carbon steel	12 ~ 180	0.05 ~ 0.15
Alloy steel	12 ~ 180	0.05 ~ 0.15
Stainless steel	12 ~ 180	0.05 ~ 0.15
Cast iron	12 ~ 180	0.05 ~ 0.15
Aluminum	12 ~ 180	0.10 ~ 0.20
Hardened steel	12 ~ 180	0.03 ~ 0.10

DTS 60 Grooving / Engraving

Material	Vc (m/min)	fr (mm/rev)
Carbon steel	10 ~ 170	0.005 ~ 0.05
Alloy steel	10 ~ 170	0.005 ~ 0.03
Stainless steel	10 ~ 170	0.005 ~ 0.05
Cast iron	10 ~ 170	0.005 ~ 0.03
Aluminum	10 ~ 170	0.005 ~ 0.08
Hardened steel	10 ~ 170	0.005 ~ 0.02

DTS 60 Cutting Depth of Passes

No. of Passes	ap of one pass (mm)					
	Aluminum	Cast iron	Carbon steel	Alloy steel	Stainless steel	Hardened steel
1	1.0	0.8	0.8	0.6	0.5	0.2
2	0.8	0.7	0.6	0.5	0.4	0.2
3	0.2	0.3	0.3	0.3	0.3	0.15
4		0.2	0.2	0.3	0.3	0.15
5			0.1	0.2	0.2	0.1
6				0.1	0.2	0.1
7					0.1	0.1

※ Max ap is 2mm

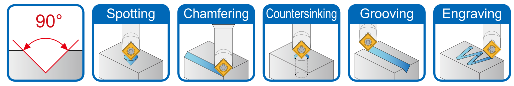
DTS60 - Indexable Spotting Drills 60° 捨棄式定位鑽頭

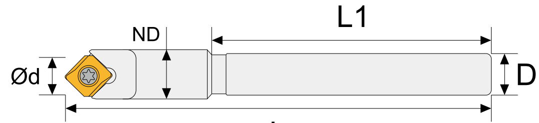
Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	r	Engraving Ød	P	M	K	N	S	H
	IDCEX11T301SG32HS	DCEX11T301-SG-CX32HS	0.1	0.2 ~ 1	●	●	●	●	●	
	IDCEX11T302SG32HS	DCEX11T302-SG-CX32HS	0.2	0.4 ~ 2	●	●	●	●	●	
	IDCEX11T304SG32HS	DCEX11T304-SG-CX32HS	0.4	0.8 ~ 3	●	●	●	●	●	
	IDCEX11T30132HS	DCEX11T301-CX32HS	0.1	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30232HS	DCEX11T302-CX32HS	0.2	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30432HS	DCEX11T304-CX32HS	0.4	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30832HS	DCEX11T308-CX32HS	0.8	0.8 ~ 3	●	●	●		●	●

DTS90 - Indexable Spotting Drills 90° 捨棄式定位鑽頭

DTS90 - Spotting Drills 定位鑽頭





DTS90 - SDMX05T1 (for small lathe 適用於小型車床)

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS0604009005	6	40	7	20	1 ~ 5	0.8 ~ 1.5	SDMX05T1	ITS1801	ITK06	●
IDTS0606009005	6	60	7	40						●

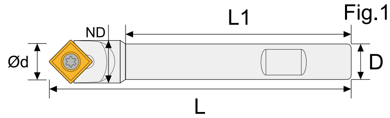


Fig.1

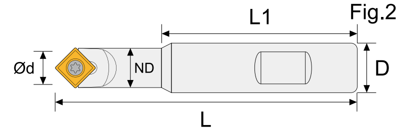
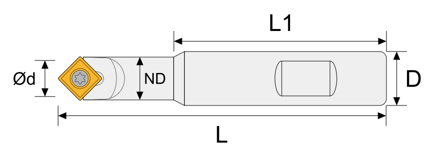


Fig.2

DTS90 - SCGX09T3, SCMX09T3

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	L	ND	L1	Fig	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS1010009009	10	100	12.2	71	1	2 ~ 11	0.8 ~ 2.5	SCGX09T3 SCMX09T3	ITS3520	ITK15	●
IDTS1210009009	12	100	12.2	71							●
IDTS1610009009	16	100	12.2	71	2						●
IDTS1613009009	16	130	12.2	101							●

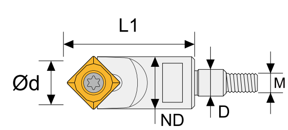


DTS90 - SDMX11T3

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS1610009011	16	100	14.1	71	3 ~ 14	1.6 ~ 4.0	SDMX11T3	ITS3521	ITK15	●

DTS90 - Modular Spotting Drill Heads 定位鑽刀頭



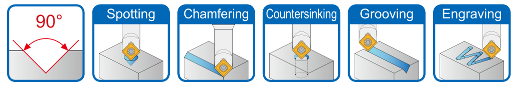
Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	L1	ND	D	M	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTSM603009009	30	12.4	6.5	M6	2 ~ 11	0.8 ~ 2.5	SCMX09T3	ITS3520	ITK15	○

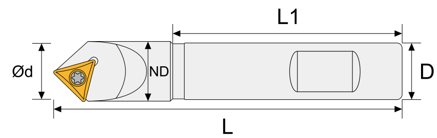
● stock ○ by inquiry

DTS90 - Indexable Spotting Drills 90° 捨棄式定位鑽頭

DTS90 - Spotting Drills 定位鑽頭



DTS90 - TCMX16T3



Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS2012009016	20	120	21.2	78	3 ~ 20	1.6 ~ 4.0	TCMX16T3	ITS3521	ITK15	●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

DTS 90 Spotting

Material	Vc (m/min)		Fr (mm/rev)	
	Ød = 2 ~ 4.9 mm	Ød ≥ 5 mm	Ød = 2 ~ 4.9 mm	Ød ≥ 5 mm
Carbon steel	60 ~ 120	90 ~ 220	0.04 ~ 0.08	0.06 ~ 0.10
Alloy steel	50 ~ 100	75 ~ 180	0.03 ~ 0.06	0.05 ~ 0.08
Stainless steel	30 ~ 60	45 ~ 120	0.02 ~ 0.04	0.04 ~ 0.06
Cast iron	40 ~ 80	60 ~ 130	0.04 ~ 0.08	0.06 ~ 0.10
Hardened steel	20 ~ 40	30 ~ 60	0.02 ~ 0.04	0.04 ~ 0.08

DTS 90 Chamfering / Countersinking

Material	Vc (m/min)	Fr (mm/rev)
Carbon steel	60 ~ 270	0.15 ~ 0.24
Alloy steel	50 ~ 220	0.12 ~ 0.20
Stainless steel	35 ~ 120	0.10 ~ 0.20
Cast iron	60 ~ 220	0.15 ~ 0.25
Hardened steel	20 ~ 60	0.03 ~ 0.08

DTS 90 Grooving / Engraving

Material	Vc (m/min)	Fr (mm/rev)
Carbon steel	40 ~ 140	0.12 ~ 0.18
Alloy steel	35 ~ 120	0.10 ~ 0.14
Stainless steel	25 ~ 70	0.08 ~ 0.12
Cast iron	30 ~ 100	0.12 ~ 0.18
Hardened steel	20 ~ 50	0.02 ~ 0.04

DTS90 - Indexable Spotting Drills 90° 捨棄式定位鑽頭

Insert Designation 刀片型號

Insert	Order No. 訂購編碼	Designation	r	Spotting Ød	Engraving Ød	P	M	K	N	S	H
	ISCGX09T304AG10	SCGX09T304-AG-CX10	0.4	2 ~ 11	0.8 ~ 2.5				●		
	ISCGX09T304FG13TX	SCGX09T304-FG-CX13TX	0.4	2 ~ 11	0.8 ~ 2.5	●	●	●	○	●	●
	ISCMX09T304SM32HS	SCMX09T304-SM-CX32HS	0.4	2 ~ 11	0.8 ~ 2.5	●	●	●	○	●	○
	ISDMX05T104FG13TX	SDMX05T104-FG-CX13TX	0.4	1 ~ 5	0.8 ~ 1.5	●	●	●	○	●	●
	ISDMX05T104FG33TX	SDMX05T104-FG-CX33TX	0.4	1 ~ 5	0.8 ~ 1.5	●	●	●	○	●	●
	ISDMX11T308SG33TX	SDMX11T308-SG-CX33TX	0.8	3 ~ 14	1.6 ~ 4.0	●	●	●		●	●
	ITCMX16T308SM32HS	TCMX16T308-SM-CX32HS	0.8	3 ~ 20	1.6 ~ 4.0	●	●	●	○	●	●

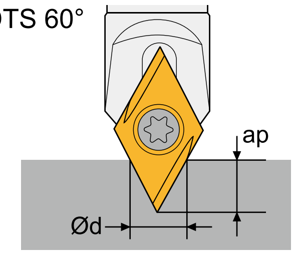
How to calculate Ød ,RPM and Feed 如何計算 Ød ,RPM 和 Feed

Formula :

$$RPM = \frac{Vc \times 1000}{Ød \times \pi}$$

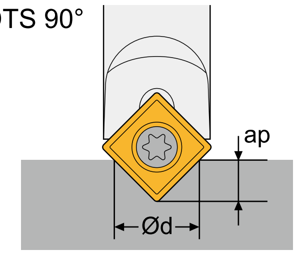
Feed = RPM × fr

DTS 60°



Ød ≒ (0.577 × (ap + r) + 0.05) × 2

DTS 90°



Ød ≒ (0.4r + ap + 0.05) × 2

EX :

Working Material : Cast iron
Insert : SCGX09T304
Application : 90° Spotting
ap : 2.5mm

Ød = (0.4r + ap + 0.05) × 2 = (0.4 × 0.4 + 2.5 + 0.05) × 2 = 5.42 mm

Reference conditions table get Vc ≒ 85 m/min and fr ≒ 0.075 mm/rev

RPM = (Vc × 1000) / (Ød × π) = (85 × 1000) / (5.42 × π) ≒ 5000

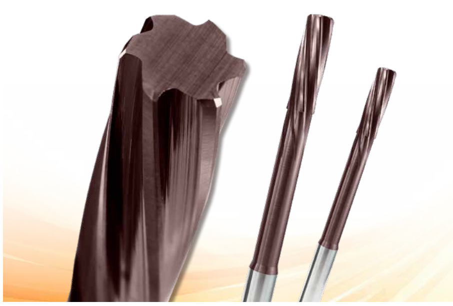
Feed = RPM × fr = 5000 × 0.075 = 375 mm/min

Working Demonstration 加工實例

Cutting parameter	
Tools	DTS 90° with SCMX09T304-SP CX32HS
Material	Cast Iron
Coolant	Dry
Application	Spotting
Vc	85 m/min
S	4800 rpm
Feed	360 mm/min
ap	2.5 mm

Solid Carbide Reamer Series Introduction 全鎢鋼鉸刀系列介紹

DRM Series



- DRM machine reamer suitable for through hole.
- Specially for high accurate hole machining.
- UNIX smooth coating.

- 左螺旋，右切設計螺旋機械鉸刀適用於通孔加工
- 高精度孔加工專用
- 高鋁鈦平滑塗層

→ Page D079

DRSC Series

- DRSC straight flute reamer with internal coolant.
- Suitable for blind / through hole.
- Specially for high accurate hole machining.
- UNIX smooth coating.

- 直刃內冷鉸刀
- 適用於盲孔 / 通孔加工
- 高精度孔加工專用
- 高鋁鈦平滑塗層

→ Page D080

DRSN Series

- DRSM straight flute reamer with external coolant.
- Suitable for blind / through hole.
- Specially for high accurate hole machining.
- UNIX smooth coating.

- 直刃外冷鉸刀
- 適用於盲孔 / 通孔加工
- 高精度孔加工專用
- 高鋁鈦平滑塗層

→ Page D081

WINSTAR

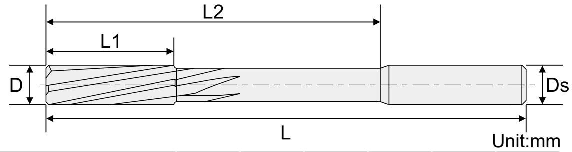
DRMN - Left spiral flute · External Coolant

螺旋機械外冷鉸刀

P	M	K	N	S	H
●		●	●		

Specification

- External
- Left spiral flute
- New UNIX Smooth Coating
- Tolerance H7
- Provide high degree of accuracy to leave smooth sides.
- For through hole



Unit:mm

Order No. 訂購編碼	D	L1	L2	L	Ds	F
DRMN0299090UX	2.99	15	35	60	4	4
DRMN0300090UX	3.00	15	35	60	4	4
DRMN0301090UX	3.01	15	35	60	4	4
DRMN0302090UX	3.02	15	35	60	4	4
DRMN0310090UX	3.10	15	35	60	4	4
DRMN0320090UX	3.20	15	35	60	4	4
DRMN0330090UX	3.30	15	35	60	4	4
DRMN0340090UX	3.40	15	35	60	4	4
DRMN0350090UX	3.50	18	35	60	4	4
DRMN0360090UX	3.60	18	35	60	4	4
DRMN0370090UX	3.70	18	35	60	4	4
DRMN0380090UX	3.80	18	35	60	4	4
DRMN0390090UX	3.90	18	35	60	4	4
DRMN0399090UX	3.99	19	50	75	4	4
DRMN0400090UX	4.00	19	50	75	4	4
DRMN0401090UX	4.01	19	50	75	4	4
DRMN0402090UX	4.02	19	50	75	4	4
DRMN0410090UX	4.10	19	50	75	6	4
DRMN0420090UX	4.20	19	50	75	6	4
DRMN0430090UX	4.30	19	50	75	6	4
DRMN0440090UX	4.40	19	50	75	6	4
DRMN0450090UX	4.50	21	50	75	6	4
DRMN0460090UX	4.60	21	50	75	6	4
DRMN0470090UX	4.70	21	50	75	6	4
DRMN0480090UX	4.80	21	50	75	6	4
DRMN0490090UX	4.90	21	50	75	6	4
DRMN0499090UX	4.99	23	50	75	6	6
DRMN0500090UX	5.00	23	50	75	6	6
DRMN0501090UX	5.01	23	50	75	6	6
DRMN0502090UX	5.02	23	50	75	6	6
DRMN0510090UX	5.10	23	50	75	6	6
DRMN0520090UX	5.20	23	50	75	6	6
DRMN0530090UX	5.30	23	50	75	6	6
DRMN0540090UX	5.40	23	50	75	6	6
DRMN0550090UX	5.50	26	50	75	6	6
DRMN0560090UX	5.60	26	50	75	6	6
DRMN0570090UX	5.70	26	50	75	6	6
DRMN0580090UX	5.80	26	50	75	6	6
DRMN0590090UX	5.90	26	50	75	6	6
DRMN0599090UX	5.99	26	65	100	6	6
DRMN0600090UX	6.00	26	65	100	6	6
DRMN0601090UX	6.01	26	65	100	6	6
DRMN0602090UX	6.02	26	65	100	6	6
DRMN0650090UX	6.50	28	65	100	8	6
DRMN0699090UX	6.99	31	70	109	8	6
DRMN0700090UX	7.00	31	70	109	8	6
DRMN0701090UX	7.01	31	70	109	8	6
DRMN0702090UX	7.02	31	70	109	8	6

Order No. 訂購編碼	D	L1	L2	L	Ds	F
DRMN0750090UX	7.50	31	70	109	8	6
DRMN0799090UX	7.99	33	80	109	8	6
DRMN0800090UX	8.00	33	80	109	8	6
DRMN0801090UX	8.01	33	80	109	8	6
DRMN0802090UX	8.02	33	80	109	8	6
DRMN0850090UX	8.50	33	80	125	10	6
DRMN0899090UX	8.99	36	85	125	10	6
DRMN0900090UX	9.00	36	85	125	10	6
DRMN0901090UX	9.01	36	85	125	10	6
DRMN0902090UX	9.02	36	85	125	10	6
DRMN0950090UX	9.50	36	85	125	10	6
DRMN0999090UX	9.99	38	85	125	10	6
DRMN1000090UX	10.00	38	85	125	10	6
DRMN1001090UX	10.01	38	85	125	10	6
DRMN1002090UX	10.02	38	85	125	10	6
DRMN1050090UX	10.50	38	85	125	12	6
DRMN1099090UX	10.99	41	100	150	12	6
DRMN1100090UX	11.00	41	100	150	12	6
DRMN1101090UX	11.01	41	100	150	12	6
DRMN1102090UX	11.02	41	100	150	12	6
DRMN1150090UX	11.50	41	100	150	12	6
DRMN1199090UX	11.99	44	100	150	12	6
DRMN1200090UX	12.00	44	100	150	12	6
DRMN1201090UX	12.01	44	100	150	12	6
DRMN1202090UX	12.02	44	100	150	12	6

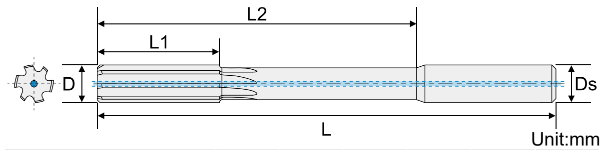
WINSTAR

DRSC - Straight flute · Internal Coolant 直刃內冷鉸刀

P	M	K	N	S	H
●	○	●	●	○	

Specification

- Internal
- Unequal flute spacing
- Straight flute
- Provides high degree of accuracy of leave smooth sides
- New UNIX Smooth Coating
- Tolerance H7
- For blind hole / through hole



Unit:mm

Order No. 訂購編碼	D	L1	L2	L	Ds	F
DRSC0300090UX	3.00	15	35	60	4	4
DRSC0310090UX	3.10	15	35	60	4	4
DRSC0320090UX	3.20	15	35	60	4	4
DRSC0330090UX	3.30	15	35	60	4	4
DRSC0340090UX	3.40	15	35	60	4	4
DRSC0350090UX	3.50	18	35	60	4	4
DRSC0360090UX	3.60	18	35	60	4	4
DRSC0370090UX	3.70	18	35	60	4	4
DRSC0380090UX	3.80	18	35	60	4	4
DRSC0390090UX	3.90	18	35	60	4	4
DRSC0400090UX	4.00	19	50	75	4	4
DRSC0410090UX	4.10	19	50	75	6	4
DRSC0420090UX	4.20	19	50	75	6	4
DRSC0430090UX	4.30	19	50	75	6	4
DRSC0440090UX	4.40	19	50	75	6	4
DRSC0450090UX	4.50	21	50	75	6	4
DRSC0460090UX	4.60	21	50	75	6	4
DRSC0470090UX	4.70	21	50	75	6	4
DRSC0480090UX	4.80	21	50	75	6	4
DRSC0490090UX	4.90	21	50	75	6	4
DRSC0500090UX	5.00	23	50	75	6	6
DRSC0510090UX	5.10	23	50	75	6	6
DRSC0520090UX	5.20	23	50	75	6	6
DRSC0530090UX	5.30	23	50	75	6	6
DRSC0540090UX	5.40	23	50	75	6	6
DRSC0550090UX	5.50	26	50	75	6	6
DRSC0560090UX	5.60	26	50	75	6	6
DRSC0570090UX	5.70	26	50	75	6	6
DRSC0580090UX	5.80	26	50	75	6	6
DRSC0590090UX	5.90	26	50	75	6	6
DRSC0600090UX	6.00	26	65	100	6	6
DRSC0650090UX	6.50	28	65	100	8	6
DRSC0700090UX	7.00	31	70	109	8	6
DRSC0750090UX	7.50	31	70	109	8	6
DRSC0800090UX	8.00	33	80	109	8	6
DRSC0850090UX	8.50	33	80	125	10	6
DRSC0900090UX	9.00	36	85	125	10	6
DRSC0950090UX	9.50	36	85	125	10	6
DRSC1000090UX	10.00	38	85	125	10	6
DRSC1050090UX	10.50	38	85	125	12	6
DRSC1100090UX	11.00	41	100	150	12	6
DRSC1150090UX	11.50	41	100	150	12	6
DRSC1200090UX	12.00	44	100	150	12	6

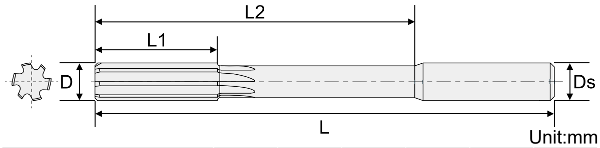
Order No. 訂購編碼	D	L1	L2	L	Ds	F

DRSN - Straight flute · External Coolant 直刃外冷鉸刀

P	M	K	N	S	H
●	○	●	●	○	

Specification

- External
- Straight flute
- New UNIX Smooth Coating
- Tolerance H7
- Unequal flute spacing
- Provides high degree of accuracy of leave smooth sides
- For blind hole / through hole



Unit:mm

Order No. 訂購編碼	D	L1	L2	L	Ds	F
DRSN0299090UX	2.99	15	35	60	4	4
DRSN0300090UX	3.00	15	35	60	4	4
DRSN0301090UX	3.01	15	35	60	4	4
DRSN0302090UX	3.02	15	35	60	4	4
DRSN0310090UX	3.10	15	35	60	4	4
DRSN0320090UX	3.20	15	35	60	4	4
DRSN0330090UX	3.30	15	35	60	4	4
DRSN0340090UX	3.40	15	35	60	4	4
DRSN0350090UX	3.50	18	35	60	4	4
DRSN0360090UX	3.60	18	35	60	4	4
DRSN0370090UX	3.70	18	35	60	4	4
DRSN0380090UX	3.80	18	35	60	4	4
DRSN0390090UX	3.90	18	35	60	4	4
DRSN0399090UX	3.99	19	50	75	4	4
DRSN0400090UX	4.00	19	50	75	4	4
DRSN0401090UX	4.01	19	50	75	4	4
DRSN0402090UX	4.02	19	50	75	4	4
DRSN0410090UX	4.10	19	50	75	6	4
DRSN0420090UX	4.20	19	50	75	6	4
DRSN0430090UX	4.30	19	50	75	6	4
DRSN0440090UX	4.40	19	50	75	6	4
DRSN0450090UX	4.50	21	50	75	6	4
DRSN0460090UX	4.60	21	50	75	6	4
DRSN0470090UX	4.70	21	50	75	6	4
DRSN0480090UX	4.80	21	50	75	6	4
DRSN0490090UX	4.90	21	50	75	6	4
DRSN0499090UX	4.99	23	50	75	6	6
DRSN0500090UX	5.00	23	50	75	6	6
DRSN0501090UX	5.01	23	50	75	6	6
DRSN0502090UX	5.02	23	50	75	6	6
DRSN0510090UX	5.10	23	50	75	6	6
DRSN0520090UX	5.20	23	50	75	6	6
DRSN0530090UX	5.30	23	50	75	6	6
DRSN0540090UX	5.40	23	50	75	6	6
DRSN0550090UX	5.50	26	50	75	6	6
DRSN0560090UX	5.60	26	50	75	6	6
DRSN0570090UX	5.70	26	50	75	6	6
DRSN0580090UX	5.80	26	50	75	6	6
DRSN0590090UX	5.90	26	50	75	6	6
DRSN0599090UX	5.99	26	65	100	6	6
DRSN0600090UX	6.00	26	65	100	6	6
DRSN0601090UX	6.01	26	65	100	6	6
DRSN0602090UX	6.02	26	65	100	6	6
DRSN0650090UX	6.50	28	65	100	8	6
DRSN0699090UX	6.99	31	70	109	8	6
DRSN0700090UX	7.00	31	70	109	8	6
DRSN0701090UX	7.01	31	70	109	8	6
DRSN0702090UX	7.02	31	70	109	8	6

Order No. 訂購編碼	D	L1	L2	L	Ds	F
DRSN0750090UX	7.50	31	70	109	8	6
DRSN0799090UX	7.99	33	80	109	8	6
DRSN0800090UX	8.00	33	80	109	8	6
DRSN0801090UX	8.01	33	80	109	8	6
DRSN0802090UX	8.02	33	80	109	8	6
DRSN0850090UX	8.50	33	80	125	10	6
DRSN0899090UX	8.99	36	85	125	10	6
DRSN0900090UX	9.00	36	85	125	10	6
DRSN0901090UX	9.01	36	85	125	10	6
DRSN0902090UX	9.02	36	85	125	10	6
DRSN0950090UX	9.50	36	85	125	10	6
DRSN0999090UX	9.99	38	85	125	10	6
DRSN1000090UX	10.00	38	85	125	10	6
DRSN1001090UX	10.01	38	85	125	10	6
DRSN1002090UX	10.02	38	85	125	10	6
DRSN1050090UX	10.50	38	85	125	12	6
DRSN1099090UX	10.99	41	100	150	12	6
DRSN1100090UX	11.00	41	100	150	12	6
DRSN1101090UX	11.01	41	100	150	12	6
DRSN1102090UX	11.02	41	100	150	12	6
DRSN1150090UX	11.50	41	100	150	12	6
DRSN1199090UX	11.99	44	100	150	12	6
DRSN1200090UX	12.00	44	100	150	12	6
DRSN1201090UX	12.01	44	100	150	12	6
DRSN1202090UX	12.02	44	100	150	12	6

DRMN, DRSN Series (External Coolant 外冷)

Work Material		Drill Diameter	Ø3-6mm		Ø6.1~10mm		Ø10.1-12mm	
		Hardness	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)
P	Mild Steel	(<180HB)	10~20	0.03~0.12	10~20	0.06~0.2	10~20	0.1~0.22
	Cabon Steel	(180~280HB)	10~16	0.03~0.12	10~16	0.06~0.2	10~16	0.1~0.22
	Alloy Steel	(280~350HB)	8~12	0.03~0.12	8~12	0.06~0.2	8~12	0.1~0.22
M	Stainless Steel	-	-	-	-	-	-	-
K	Cast Iron	(<350Mpa)	8~16	0.03~0.12	8~16	0.06~0.02	8~16	0.1~0.22
	Ductile Cast Iron	(<450Mpa)	8~16	0.03~0.12	8~16	0.06~0.02	8~16	0.1~0.22
N	Aluminum <12% Si	-	20~30	0.03~0.13	20~30	0.07~0.23	20~30	0.1~0.28
	Aluminum >12% Si	-	20~30	0.03~0.13	20~30	0.07~0.23	20~30	0.1~0.28
S	Heat Resistant Alloy	-	-	-	-	-	-	-
H	Hardened Material	-	-	-	-	-	-	-

DRSC Series (Internal Coolant 內冷)

Work Material		Drill Diameter	Ø3-6mm		Ø6.1~10mm		Ø10.1-12mm	
		Hardness	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)
P	Mild Steel	(<180HB)	40~70	0.1~0.2	40~70	0.1~0.24	40~70	0.1~0.3
	Cabon Steel	(180~280HB)	25~50	0.1~0.2	25~50	0.1~0.24	25~50	0.1~0.3
	Alloy Steel	(280~350HB)	15~25	0.08~0.16	15~25	0.08~0.2	15~25	0.08~0.24
M	Stainless Steel	(<200HB)	8~15	0.08~0.16	8~15	0.08~0.18	8~15	0.08~0.2
K	Cast Iron	(<350Mpa)	35~60	0.1~0.32	35~60	0.1~0.36	35~60	0.1~0.4
	Ductile Cast Iron	(<450Mpa)	20~45	0.1~0.24	20~45	0.1~0.28	20~45	0.1~0.32
N	Aluminum <12% Si	-	110~195	0.12~0.32	110~195	0.12~0.36	110~195	0.12~0.4
	Aluminum >12% Si	-	105~180	0.12~0.32	105~180	0.12~0.36	105~180	0.12~0.4
S	Heat Resistant Alloy	-	8~15	0.08~0.16	8~15	0.08~0.18	8~15	0.08~0.2
H	Hardened Material	-	-	-	-	-	-	-

Indexable Boring Tool Series Introduction 捨棄式搪孔刀系列介紹

DBP Finsih Boring

- Single bit finsih boring head.
- Easy to adjust boring diameter.
- Boring Range 20 ~ 202mm.

- 單刃精搪頭使用 1 片刀片
- 易於調整加工孔徑
- 精搪孔範圍 20~202mm

→ Page D084

DBR Rough Boring

- Twin bit rough boring head.
- Easy to adjust boring diameter.
- Boring Range 25 ~ 204mm.

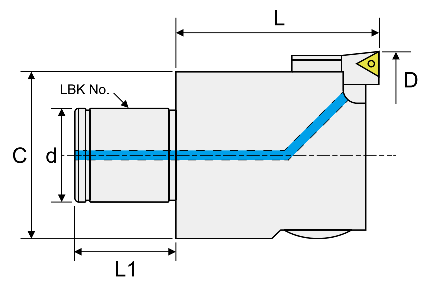
- 雙刃粗搪頭使用 2 片刀片
- 易於調整加工孔徑
- 粗搪孔範圍 25~204mm

→ Page D085

WINSTAR

DBP Finsih Boring Head · Internal Coolant 捨棄式單刃精搪刀

- Finish boring head is suitable for finish boring
- Coolant nozzle easily cools the insert, elongating its working life.
- Boring diameter from 20mm to 202mm.

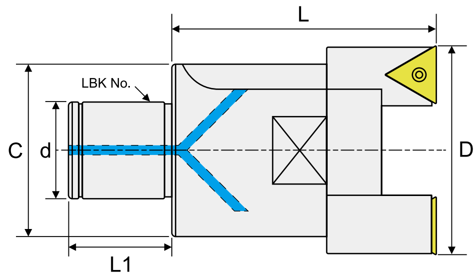


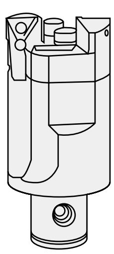
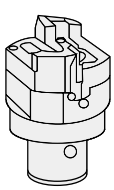
Order No. 訂購編碼	LBK No.	D (Boring Range)	C	d	L1	L	Insert
IDBCBH20TC09	LBK1	20~26	19	11	13	35	TC..0902
IDBCBH25TC09	LBK2	25~33	24	14	16	40	
IDBCBH32TC09	LBK3	32~42	31	18	20	40	
IDBCBH40TC09	LBK4	40~55	39	22	24	50	
IDBCBH52TC11	LBK5	52~75	50	28	30	60	TC..1102
IDBCBH68TC11	LBK6	68~102	64	36	40	70	
IDBCBH100TC11	LBK6	100~152	90	36	40	70	
IDBCBH150TC11	LBK6	150~202	140	36	40	70	
IDBCBH100ATC11	LBK7	100~152	90	58	50	70	
IDBCBH150ATC11	LBK7	150~202	140	58	50	70	

※ For inserts, please refer to turning inserts 搭配刀片，請參考車刀片

DBR Rough Boring Head · Internal Coolant 捨棄式雙刃粗搪刀

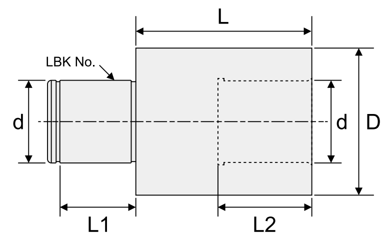
- Thickened cartridge with higher rigidity.
- Coolant nozzle easily cools the insert, elongating its working life.
- The design of chip pocket, improving chip flow of deep boring.
- Clamp plate solidifies cartridges and head, upgrading cutting rigidity.
- Patented step boring design; suitable for both level boring and step boring.



	Order No. 訂購編碼	LBK No.	D (Boring Range)	C	d	L1	L	Insert
	IDBRBH25LACC06	LBK2	25~35	24	14	16	50	CC..06
	IDBRBH32LACC06	LBK3	32~45	31	18	20	60	CC..06
	IDBRBH32LATC11	LBK3	32~45	31	18	20	60	TC..11
	IDBRBH40LACC09	LBK4	40~55	39	22	24	74	CC..09
	IDBRBH40LATC16	LBK4	40~55	39	22	24	74	TC..16
	IDBRBH40LASC09	LBK4	40~55	39	22	24	74	SC..09
	IDBRBH52LACC09	LBK5	52~75	50	28	30	80	CC..09
	IDBRBH52LATC16	LBK5	52~75	50	28	30	80	TC..16
	IDBRBH52LASC09	LBK5	52~75	50	28	30	80	SC..09
	IDBRBH68LACC12	LBK6	68~100	66	36	40	90	CC..12
	IDBRBH68LATC16	LBK6	68~100	66	36	40	90	TC..16
	IDBRBH90LACC12	LBK6	90~130	88	36	40	100	CC..12
	IDBRBH90LATC16	LBK6	90~130	88	36	40	100	TC..16
	IDBRBH90ALACC12	LBK7	90~130	88	58	50	100	CC..12
	IDBRBH90ALATC16	LBK7	90~130	88	58	50	100	TC..16
	IDBRBH120ALACC12	LBK7	120~164	100	58	50	95	CC..12
	IDBRBH160ALACC12	LBK7	160~204	130	58	50	95	CC..12

※ For inserts, please refer to turning inserts 搭配刀片，請參考車刀片

DBE Constant Diameter Extension 等徑搪刀延長桿



Order No. 訂購編碼	LBK No.	d	D	L	L1	L2	Applicable Boring Heads
IDBELBK1130L	LBK1	11	19	30	13	15	IDBCBH20
IDBELBK2230L	LBK2	18	24	30	16	18	IDBCBH25; IDBRBH25
IDBELBK3330L	LBK3	22	31	30	20	22	IDBCBH32; IDBRBH32
IDBELBK4445L	LBK4	28	39	45	24	32	IDBCBH40; IDBRBH40
IDBELBK5560L	LBK5	36	50	60	30	42	IDBCBH52; IDBRBH52
IDBELBK6660L	LBK6	58	64	60	40	52	IDBCBH68; IDBCBH100; IDBCBH150; IDBRBH68; IDBRBH90
IDBELBK77105L	LBK7	14	88	105	50	26	IDBCBH100; IDBCBH150; IDBRBH90; IDBRBH120; IDBRBH160

Recommended Cutting Conditions 建議切削數據

Work Material		Hardness	Vc (m/min)	fr (mm/rev)
P	Mild Steel	(<180HB)	90~200	0.04~0.14
	Cabon Steel	(180~280HB)	60~180	0.04~0.15
	Alloy Steel	(280~350HB)	50~150	0.04~0.15
M	Stainless Steel	(<200HB)	60~230	0.07~0.12
K	Cast Iron	(<350Mpa)	120~230	0.04~0.13
	Ductile Cast Iron	(<450Mpa)	120~230	0.04~0.13
N	Aluminum <12% Si	-	120~700	0.04~0.25
	Aluminum >12% Si	-	120~700	0.04~0.25
S	Heat Resistant Alloy	-	20~80	0.04~0.05
H	Hardened Material	-	20~70	0.04~0.05

DBBT Boring Taper Shank for DBP, DB Heads 捨棄式搪刀刀柄

Fig. 1

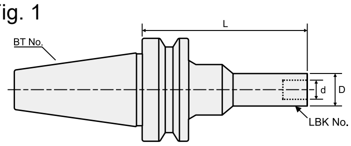
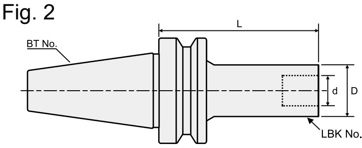


Fig. 2



Order No. 訂購編碼	Fig	LBK No.	L	D	d	Applicable Boring Heads
IDBBT30LBK1070L		LBK1	70	19	11	IDBCBH20
IDBBT30LBK2080L		LBK2	80	24	14	IDBCBH25; IDBRBH25
IDBBT30LBK3080L		LBK3	80	31	18	IDBCBH32; IDBRBH32
IDBBT30LBK4070L		LBK4	70	39	22	IDBCBH40; IDBRBH40
IDBBT30LBK5060L		LBK5	60	50	28	IDBCBH52; IDBRBH52
IDBBT30LBK6060L		LBK6	60	64	36	IDBCBH68; IDBRBH68; IDBRBH90
IDBBT40LBK1075L		LBK1	75			
IDBBT40LBK1090L		LBK1	90	19	11	IDBCHB20
IDBBT40LBK1105L		LBK1	105			
IDBBT40LBK2085L		LBK2	85			
IDBBT40LBK2100L		LBK2	100	24	14	IDBCBH25; IDBRBH25
IDBBT40LBK2115L		LBK2	115			
IDBBT40LBK3095L	2	LBK3	95			
IDBBT40LBK3125L		LBK3	125	31	18	IDBCBH32; IDBRBH32
IDBBT40LBK3155L		LBK3	155			
IDBBT40LBK4085L		LBK4	85			
IDBBT40LBK4130L		LBK4	130	39	22	IDBCBH40; IDBRBH40
IDBBT40LBK4175L		LBK4	175			
IDBBT40LBK5075L		LBK5	75			
IDBBT40LBK5125L		LBK5	125	50	28	IDBCBH52; IDBRBH52
IDBBT40LBK5175L		LBK5	175			
IDBBT40LBK6065L		LBK6	65			
IDBBT40LBK6115L		LBK6	115	64	36	IDBCBH68; IDBCBH100; IDBCBH150; IDBRBH68; IDBRBH90
IDBBT40LBK6165L		LBK6	165			
IDBBT40LBK7100L		LBK7	100	88	58	IDBCBH100; IDBCBH150; IDBRBH90; IDBRBH120; IDBRBH160
IDBBT50LBK1115L		LBK1	115	Ø31(L30) / Ø19	11	IDBCBH20
IDBBT50LBK1145L	1	LBK1	145			
IDBBT50LBK2125L		LBK2	125	Ø39(L15) / Ø24	14	IDBCBH25; RBH25
IDBBT50LBK2155L		LBK2	155			
IDBBT50LBK3125L		LBK3	125	31	18	IDBCBH32; RBH32
IDBBT50LBK3155L		LBK3	155			
IDBBT50LBK4115L	2	LBK4	115			
IDBBT50LBK4145L		LBK4	145	39	22	IDBCBH40; RBH40
IDBBT50LBK4175L		LBK4	175			
IDBBT50LBK4215L	1	LBK4	215	Ø50(L10) / Ø39		
IDBBT50LBK5105L		LBK5	105			
IDBBT50LBK5180L	2	LBK5	180	50	28	IDBCBH52; RBH52
IDBBT50LBK5240L		LBK5	240			
IDBBT50LBK5300L	1	LBK5	300	Ø64(L60) / Ø50		
IDBBT50LBK6095L		LBK6	95			
IDBBT50LBK6170L	2	LBK6	170	64	36	IDBCBH68; IDBCBH100; IDBCBH150; IDBRBH68; IDBRBH90
IDBBT50LBK6230L		LBK6	230			
IDBBT50LBK6290L		LBK6	290			
IDBBT50LBK6350L	1	LBK6	350	Ø90(L120) / Ø64		
IDBBT50LBK7100L		LBK7	100			
IDBBT50LBK7150L		LBK7	150			
IDBBT50LBK7200L		LBK7	200			
IDBBT50LBK7250L		LBK7	250			
IDBBT50LBK7300L	2	LBK7	300	88	58	IDBCBH100; IDBCBH150; IDBRBH90; IDBRBH120; IDBRBH160
IDBBT50LBK7350L		LBK7	350			
IDBBT50LBK7400L		LBK7	400			
IDBBT50LBK7450L		LBK7	450			
IDBBT50LBK7500L		LBK7	500			
IDBBT50LBK7550L		LBK7	550			

Solid Carbide Tap Series Introduction 全鎢鋼絲攻系列介紹

TFM Series

- Forming Taps.
- Do not produce chips.
- For non-ferrous metal (Aluminum).

・全鎢鋼無屑絲攻
・攻牙時不會產生切屑
・適合非鐵金屬（鋁）

→ Page D089

TST Series

- Straight Fluted Taps.
- Strong cutting edges.
- For hardened steel (HRC 40 ~ 60).

・全鎢鋼直刃絲攻
・強狀的切削刃
・適合高硬度鋼加工

→ Page D090

TFMN - Forming Taps 全鎢鋼無屑絲攻

P	M	K	N	S	H
			●		

Specification

- Thread type : ISO M
- Chamfer Length(LC) 4P for through holes, 2P for blind holes
- For non-ferrous metal (Aluminum)
- Vc = 15~30 m/min

Fig. 1

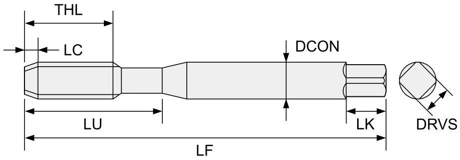
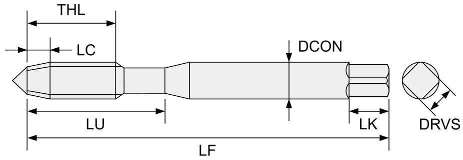


Fig. 2



Unit:mm

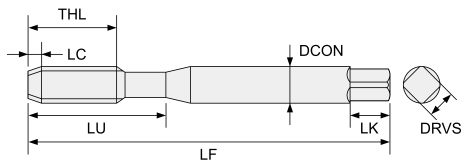
Order No. 訂購編碼	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Fig	TAP Limit	Drill Hole
TFMNM01002541	M1×0.25	4P	6	-	50	3	5	2.5	2	RH4	0.92
TFMNM01202541	M1.2×0.25	4P	6	-	50	3	5	2.5	2	RH4	1.12
TFMNM01403041	M1.4×0.3	4P	6	-	50	3	5	2.5	2	RH4	1.29
TFMNM02004021	M2×0.4	2P	8	-	50	3	5	2.5	1	RH4	1.85
TFMNM02004041	M2×0.4	4P	8	-	50	3	5	2.5	2	RH4	1.85
TFMNM03005021	M3×0.5	2P	11	19	50	4	6	3.2	1	RH5	2.8
TFMNM03005041	M3×0.5	4P	11	19	50	4	6	3.2	2	RH5	2.8
TFMNM04007021	M4×0.7	2P	13	21	50	5	7	4	1	RH6	3.7
TFMNM04007041	M4×0.7	4P	13	21	50	5	7	4	2	RH6	3.7
TFMNM05008021	M5×0.8	2P	16	24	60	6	7	4.5	1	RH7	4.65
TFMNM05008041	M5×0.8	4P	16	24	60	6	7	4.5	2	RH7	4.65
TFMNM06010021	M6×1.0	2P	19	29	60	6	7	4.5	1	RH7	5.55
TFMNM06010041	M6×1.0	4P	19	29	60	6	7	4.5	2	RH7	5.55

TSTN - Straight Fluted Taps 全鎢鋼直刃絲攻

P	M	K	N	S	H
					●

Specification

- Thread type : ISO M
- For hardened steel (HRC 40 ~ 60)
- New UNIX Smooth Coating
- Vc = 2~4 m/min

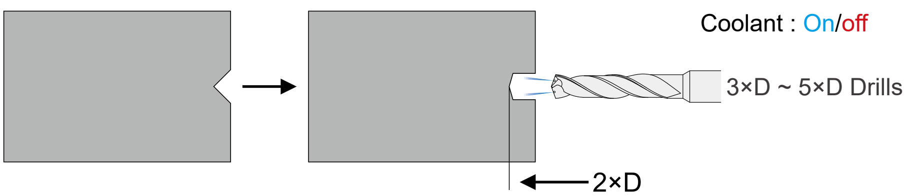


Unit:mm

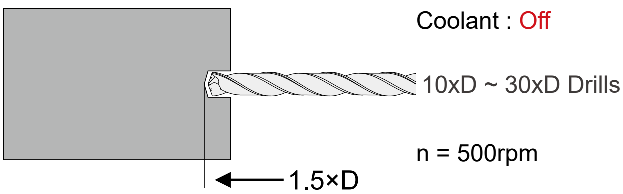
Order No. 訂購編碼	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
TSTNM04007031UX	M4×0.7	2.5~3P	13	21	50	5	7	4	4	OH3	3.3
TSTNM05008031UX	M5×0.8	2.5~3P	16	24	60	6	7	4.5	4	OH3	4.2
TSTNM06010031UX	M6×1.0	2.5~3P	19	29	60	6	7	4.5	5	OH3	5.0
TSTNM08012531UX	M8×1.25	2.5~3P	20	35	75	8	9	6	5	OH3	6.75
TSTNM10012531UX	M10×1.25	2.5~3P	22	39	75	10	11	8	5	OH3	8.75

Deep Hole Drilling Application Guide 深孔鑽應用指南

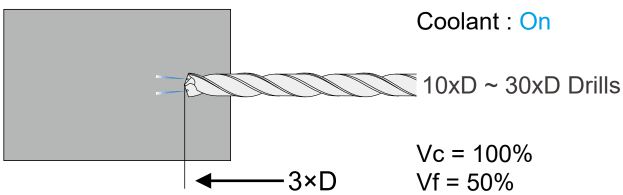
1 Spotting & piloting 定位及導引孔加工



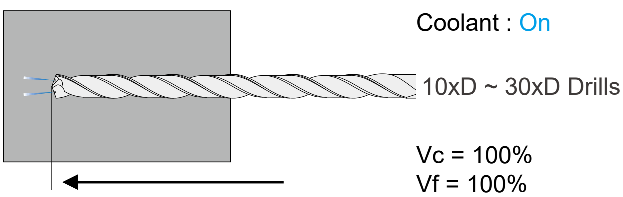
2 Long drill into pilot hole 深孔鑽頭進入導引孔



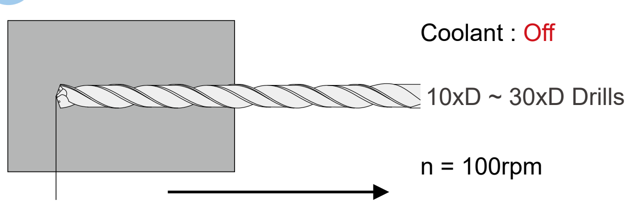
3 Spotting 深孔定位加工



4 Deep Hole drilling 深孔加工



5 Retracting 鑽頭退出



Troubleshooting 鑽削加工異常原因及對策

Trouble 情況	Occurrences 原因	Countermeasures 對策
Deformation of hole 鑽孔成橢圓	Becoming thread scratch in the hole 形成螺紋刮痕	1.Check for suitable guide-bush 使用適合之鑽套 2.Reduce relief angle 減少間隙角度 3.Check for proper point angle & length of lips 檢查鑽頭尖端角度及兩邊長度是否對稱
	Generation of chattering & vibration 產生顫動、振動	1.Reduce relief angle 減少間隙角度 2.Grind web thinning 腹板削薄 3.Shortening length of drill 縮短鑽頭長度，增加剛性 4.Check for proper drill 檢查鑽頭角度研磨是否正確 5.Check for chuck & collet & socket 檢查夾具與鑽頭接觸情形 6.Pre-centering 預先鑽好中心孔 7.Inspect rigidity of the drill machine 提高工作機械的剛性
	Poor chip evacuation 切屑排出不易	1.Increase feed 加大每週進給量 2.Check for proper helix angle 選擇正確螺旋角 3.Check for proper chip space 加大槽寬比 4.Using step feed 採用間歇式進給
Deflection of hole 鑽孔傾斜	Drill won't enter work 剛切入時不良	1.Check for suitable guide-bush 使用適合之鑽套 2.Reduce feed 減少切入時之每週進給量 3.Pre-centering 預先鑽好中心孔
	Insufficient rigidity of drill 鑽頭剛性不良	Shortening length of drill 縮短鑽頭長度，增加剛性
	Unsuitable angle 鑽頭角度不對	Regrinding 再研磨
Excessive wear of cutting edge 外角磨損	Cutting speed too high 切削速度太快	1.Reduce cutting speed 降低切削速度 2.Check lip relief 加大間隙角 3.Increase coolant flow 充分供給切削液 4.Check for proper material 提高鑽頭之材質

Troubleshooting 鑽削加工異常原因及對策

Trouble 情況	Occurrences 原因	Countermeasures 對策
Poor surface conditions of work piece 孔壁粗糙	Excessive wear of cutting edge 刀刃磨損太大	Regrinding 再研磨
	Too much feed 進刀速度太大	Decrease feed 降低進刀速度
	Chips clog in hole 切削阻塞	Add number of exit 增加退刀次數
	The others 其他	1.Thin web 腹板削薄 2.Check for proper guide-bush 使用適合導套 3.Use the highly rigid spindle 採用高剛性主軸
Breakage 切削中鑽頭折斷	Feed too heavy 進給量太大	Decrease feed rate 減少每週進給量
	Chips clog in hole 切削阻塞	1.Check for proper chip space 加大槽寬比 2.Check for proper helix angle 選擇適當之螺旋角度
	Insufficient rigidity of drill 鑽頭剛性不足	1.Reduce feed 減少每週進告量 2.Shortening length of drill 縮短鑽頭長度，增加剛性 3.Increasing web thickness 腹板厚度加大
	Unstable in throughout hole drilling 貫穿時安定性不夠 (工件不完全被夾住)	1.Reduce feed while throughout drilling 降低貫穿時的每週進給量 2.Check set up rigidity 工作保持固定 3.Use the highly rigid spindle 採用高剛性主軸
Chipping 切唇崩刃	Feed speed too high 進給速度太快	Decrease feed rate 減少每週進給量
	Tool high lip relief angle 切刃強度不足 (過度的間隙角度)	1.Reduce lip relief angle 減少間隙角度 2.Reduce feed in drilling 降低貫空時的每週進給量 3.Check set up rigidity 工作保持固定
	During oversize operation 使用在擴孔作業時	1.Properly grind point angle 加大尖端角度 2.Reduce cutting speed 降低切削速度
Hole oversize 孔徑擴大	Point angle is not properly, large chip of one flute; small chip of other flute 尖端角度未對稱或刃大小不一	1.Regrinding 再研磨 2.Thin web 腹板削薄 3.Properly grind point angle 減少尖端角度 4.Guide-bush 使用鑽套

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DIN Material Chart

Material Group	Description	Content	Tensile Strength RM (MPa)*	Hardness (HB)	Hardness (HRC)	DIN Standards
P1	Low-Carbon Steels	C < 0.25%	< 530	< 125	-	C15, Ck22, ST37-2, S235JR, 9SMnPb28, GS38
P2	Medium-Carbon Steels, High-Carbon Steels	C > 0.25%	> 530	< 220	< 25	ST52, S355JR, C35, GS60, Cf53
P3	Alloy Steels, Tool Steels	C > 0.25%	600 ~ 850	< 330	< 35	16MnCr5, Ck45, 21CrMoV5-7, 38SMn28
P4	Alloy Steels, Tool Steels	C > 0.25%	800 ~ 1000	350 ~ 450	35 ~ 48	100Cr6, 105MnCr4, 51CrMnV4, 105WCr6, 100Cr2
P5	Ferritic, Martensitic, PH Stainless Steels	C = 0~0.4%	600 ~ 850	< 330	< 35	X6Cr13, X10Cr13, X20Cr13, X12CrMoS17, X20CrMo13
P6	High-Strength Ferritic, Martensitic, PH Stainless Steels	C = 0.1~0.6%	900 ~ 1350	350 ~ 450	35 ~ 48	X40CrMoV51, H1, X155CrVMo121, S6-5-2-5, X45Cr13, X120Mn12
M1	Austenitic Stainless Steel	C = 0.05~0.15%	< 650	130 ~ 200	-	X5CrNi1810, GX6CrNiMo1810, X6CrNiMoTi17122, X8CrNiMoAl1572
M2	High-Strength Austenitic Stainless and Cast Stainless Steels	C = 0.05~0.15%	500 ~ 700	150 ~ 230	< 25	X2CrNiMo134, X10CrNi189, X5CrNiCuNb1744
M3	Duplex Stainless Steel	C = 0.05~0.2%	< 900	135 ~ 275	< 30	X2CrNiMoN2315, X20CrNiSi254, GX40CrNiSi274, X2CrNiMoN2253
K1	Grey Cast Iron	-	150 ~ 400	120 ~ 290	< 32	GG10, GG15, GG20, GG25, GG40
K2	Low- and Medium-Strength Ductile Irons and Compacted Graphite Irons (CGI)	-	400 ~ 600	130 ~ 260	< 28	GGG35.3, GGG40.3, GGG70
K3	High-Strength Ductile Irons and Austempered Ductile Iron (ADI)	-	600 ~ 900	180 ~ 350	< 43	GTW-35-04, GTW-65, GTS-35-10, GTS-45-06
N1	Wrought Aluminium	-	< 520	60 ~ 90	-	AlMg1, Al99.5, AlCuMg1, AlCuBiPb, AlMgSi1, ALMgSiPb
N2	Low-Silicon Aluminium Alloys	Si < 12.2%	< 350	70 ~ 120	-	GAlSiCu4, GDAlSi10Mg
N3	High-Silicon Aluminium Alloys	Si > 12.2%	200 ~ 320	60 ~ 120	-	G-ALSi12, G-AlSi17Cu4, G-AlSi21CuNiMg
N4	Copper and Copper Alloys	-	200 ~ 650	60 ~ 200	-	CuZn40, Ms60, G-CuSn5ZnPb, CuZn37, CuSi3Mn
N5	Nylon, Plastics	-	-	-	-	Lexan, Hostalen, Polystyrol, Makrolon
N6	Carbon, Graphite Composites, CFRP	-	600 ~ 1500	-	-	CFRP, CFK, GFK
S1	Iron-Based, Heat-Resistant Alloys	-	500 ~ 1200	160 ~ 260	25 ~ 48	X1NiCrMoCu32287, X12NiCrSi3616, X5NiCrAlTi3120, X40CoCrNi20 20
S2	Cobalt-Based, Heat-Resistant Alloys	-	1000 ~ 1450	250 ~ 450	25 ~ 48	Haynes 188, Stellite 6, 21, 31
S3	Nickel-Based, Heat-Resistant Alloys	-	600 ~ 1700	160 ~ 450	33 ~ 48	NiCr29Fe, NiCr22Mo9Nb, NiCr20Mo, NiCr19FeNbMo, NiCr16Fe7TiAl
S4	Titanium and Titanium Alloys	-	900 ~ 1600	300 ~ 400	33 ~ 48	Ti1, TiAl5Sn2, TiAl6V4, TiAl4Mo4Sn2
H1	Hardened Materials	-	-	< 460	< 48	GX260NiCr42, GX330NiCr42, GX300CrNiSi952, GX300CrMo153
H2	Hardened Materials	-	-	460 ~ 560	48 ~ 55	-
H3	Hardened Materials	-	-	560 ~ 650	56 ~ 60	-
H4	Hardened Materials	-	-	> 650	> 60	-

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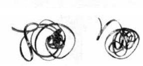
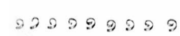
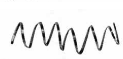
Cutting Tools Evaluation Report 刀具切削報告

Company 公司名		Department 部門		Name of Contact 聯絡人	
Address 地址		TEL 電話		Date 測試日期	

Material 工件	Material Name 材質名稱		Remark: 備註
	Hardness 硬度		
	Quantity 加工數量		
Machine 機械	Machine No. 機台型號		
	Power 主軸出力		

Tools 工具	Brand Name 品牌				
	Part Number 型號				
	Tool Diameter 刀具刃徑				
	Tool tooth 刀具齒數				
	External / Internal Coolant 外冷 / 內冷				
Cutting Conditions 切削條件	Vc (m/min) 切削速度				
	fz (mm/tooth) for Milling 每刃進給量 (銑削)				
	fz (mm/rev) for Turning or Drilling 每轉進給量 (車削或鑽削)				
	ap (mm) 切深				
	ae (mm) 切寬				
	Cutting time or pcs 加工時間或件數				
	Wet / Dry 濕式 / 乾式				
Results 結果	Tool Life Criterion 壽命判定標準				
	Chips Types 切屑類型				
Appraise 綜合評價	Overall Rating 性能、成本等總體評價				
	Accept 接受	☐ Yes 是 ☐ No 否	☐ Yes 是 ☐ No 否	☐ Yes 是 ☐ No 否	☐ Yes 是 ☐ No 否

Tool Life Criterion 壽命判斷標準	① Change constant 加工數量 ② Surface roughness 表面粗糙度 ③ Dimensional change 加工精度 ④ Happen burr 產生毛邊 ⑤ Spindle load 主軸負載 ⑥ Situation of tip control 尖點損耗 ⑦ Tool wear 刀具磨損 ⑧ Chipping, breaks 刀具崩刃、碎裂

Chips Types 切屑類型	① 	⑥ 
	② 	⑦ 
	③ 	⑧
	④ 	⑨ 
	⑤ 	

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