

SS4P *Easy Cut 4 Corners Shoulder Mill*

D25 mm ~ D40 mm

- Fits to Mild Steel ~
Hardened Steel ≥ 40 HRC
- Available Grades:
 - **GX2140** CVD · For heavy
roughing of mild steels
 - **JP4120** PVD · For
pre-hardened steels
or hardened steels



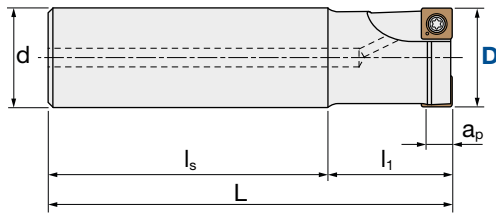
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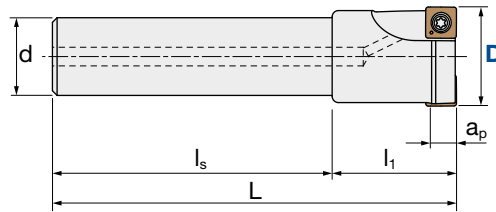
V max			HRC	No. of Teeth
High Speed	Roughing	Semi Finishing	40	2-4



A – Standard Type



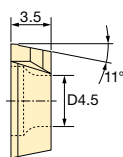
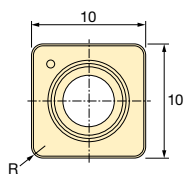
B – Undercut Type



Diameter Holder only [mm]	Fastening Torque [Nm]
0/-0.25 mm	2.9 Nm

ID Code	Item Code	Flutes	D	a _p	l ₁	l _s	L	d	Shape	Shank	Coolant Hole	Inserts
FH600	SS4P3025S25-2	2	25	8	35	85	120	25	A	Steel	•	SPMT10030...R-FW SPMT100308R-TFW
FH601	SS4P3032S32-3	3	32									
FH602	SS4P3040S32-4	4	40		45		130	32	B			

INSERTS SS4P | Easy Cut 4 Corners Shoulder Mill SS4P



Cross sections of cutting edges:

Fig.1: FW Type
General Purpose

Fig.2: TFW Type
Hardened surface milling;
Heavy interrupt milling

Inserts	Tolerance Class	Grade		Size (mm)			Cross Section Shape
		GX2140	JP4120	R	T	Inscribed Circle	
SPMT100304R-FW	M	WF775	WF772	0.4	3.5	10	Fig.1
SPMT100308R-FW		WF776	WF773	0.8			Fig.2
SPMT100308R-TFW		WF777	WF774				

GX2140

CVD - For heavy roughing of mild steels | Recommended for dry cutting

CVD - für große Schruppvolumina in Bau- sowie Vergütungsstählen
Trockenbearbeitung ist zu empfehlen.

CVD - Sgrossatura pesante di acciaio da costruzione | Raccomandato per taglio a secco

CVD - Grosse ébauche pour acier doux | Recommandé en usinage à sec

CVD - Para grandes desbastes de aceros blandos | Recomendado para el mecanizado en seco

CVD - Para desbaste pesado de aço macio | Recomendado para corte a seco

JP4120

PVD - Grade for pre-hardened steels or hardened steels | Employs a fine carbide substrate with an excellent balance between wear resistance and toughness and the new „AJ Coating“ to provide wear resistance and chipping resistance. Highly versatile with excellent wear resistance and chipping resistance when machining steel materials.

PVD - für vorgehärtete und gehärtete Stähle | Verbindet feinkörniges Hartmetall-Substrat mit der hervorragenden Balance zwischen Verschleißfestigkeit und Härte der neuen „AJ Beschichtung“. Vielseitige Beschichtung mit höchster Verschleißfestigkeit und Beständigkeit gegen Absplinterung für die Bearbeitung von Stählen.

PVD - Grado per acciai bonificati o temprati | Viene utilizzato un substrato in micro grana con un'eccellente bilanciamento tra resistenza all'usura e tenacità abbinato al nuovo rivestimento „AJ“ resistente ad usura e scheggiatura. Estremamente versatile nella lavorazione di acciaio.

PVD - Nuance pour les aciers pré-traités et les aciers trempés | Combinaison d'un substrat carbure apportant un bon équilibre résistance à l'usure/dureté et le nouveau revêtement „AJ“ apportant une grande résistance à l'usure et à l'écaillage. Très polyvalent, il est adapté aux aciers.

Calidad PVD para aceros templados o pre-templados | Tiene un sustrato de metal duro fino con una excelente equilibrio entre la resistencia al desgaste y la tenacidad y que junto al nuevo "Recubrimiento AJ" le proporciona una elevada resistencia al desgaste y a la micro-rotura. Altamente versátil, con excelente resistencia al desgaste y a la micro-rotura en el mecanizado de aceros.

PVD - Grau para aços pré-tratados ou temperados | Utiliza uma fina camada de substrato de carboneto com um equilíbrio excelente entre resistência ao desgaste e robustez e aplica o novo revestimento „AJ“ que proporciona resistência ao desgaste e facilita a remoção de aparas. Altamente versátil com excelente resistência ao desgaste e facilidade de remoção de aparas na maquinação de aço com durezas de 30 a 50 HRC.

SS4P | Recommended Cutting Conditions

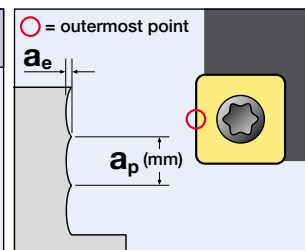
Work piece material		Recommend grade & Target hardness (HRC)				Emulsion	Mist	Air	Parameter	D 25 (Z2)	D 32 (Z3)	D 40 (Z4)
		30	40									
I	Mild steel/ Carbon steel <20 HRC								V _c m/min	200	200	200
									n min ⁻¹	2546	1989	1592
		GX2140						•	f _z mm/t	0.25	0.25	0.25
									V _f mm/min	1273	1492	1592
									a _p mm	2.5	3.0	3.0
									a _e mm	12.5	16.0	20.0
									Q cm ³ /min	40	72	95
II	Alloy steel <30 HRC								V _c m/min	170	170	170
									n min ⁻¹	2166	1692	1354
		GX2140						•	f _z mm/t	0.23	0.23	0.23
									V _f mm/min	996	1167	1245
									a _p mm	2.5	3.0	3.0
									a _e mm	12.5	16.0	20.0
									Q cm ³ /min	31	56	75
III	Alloy steel/ Tool steel 30 – 40 HRC								V _c m/min	140	140	140
									n min ⁻¹	1783	1393	1114
		GX2140						•	f _z mm/t	0.20	0.20	0.20
				JP4120	•	•	•	V _f mm/min	713	836	891	
								a _p mm	2.0	2.0	2.0	
								a _e mm	12.5	16.0	20.0	
								Q cm ³ /min	18	27	36	
VII	Cast Iron (GG) EN-JL10**/ EN-GJL-***								V _c m/min	180	180	180
									n min ⁻¹	2292	1790	1432
		GX2140						•	f _z mm/t	0.25	0.25	0.25
				JP4120	•	•	•	V _f mm/min	1146	1343	1432	
								a _p mm	2.0	2.5	2.5	
								a _e mm	12.5	16.0	20.0	
								Q cm ³ /min	29	54	72	
VIII	Cast Iron (GGG) EN-JS10/ 20**/ EN-GJS-***								V _c m/min	140	140	140
									n min ⁻¹	1783	1393	1114
		GX2140						•	f _z mm/t	0.2	0.2	0.2
				JP4120	•	•	•	V _f mm/min	713	836	891	
								a _p mm	2.0	2.5	2.5	
								a _e mm	12.5	16.0	20.0	
								Q cm ³ /min	18	33	45	
IX	Stainless steel (dry)								V _c m/min	250	250	250
									n min ⁻¹	3183	2487	1989
								•	f _z mm/t	0.2	0.2	0.2
		JP4120				•	•	•	V _f mm/min	1273	1492	1592
								a _p mm	2.0	2.5	2.5	
								a _e mm	12.5	16.0	20.0	
								Q cm ³ /min	32	60	80	
	Stainless steel (wet)								V _c m/min	120	120	120
									n min ⁻¹	1528	1194	955
								•	f _z mm/t	0.2	0.2	0.2
		JP4120				•	•	•	V _f mm/min	611	716	764
								a _p mm	2.0	2.5	2.5	
								a _e mm	12.5	16.0	20.0	
								Q cm ³ /min	15	29	38	
X	Titanium/ high alloy steel								V _c m/min	50	50	50
									n min ⁻¹	637	497	398
								•	f _z mm/t	0.18	0.18	0.18
		JP4120				•	•	•	V _f mm/min	223	261	279
								a _p mm	2.0	2.5	2.5	
								a _e mm	12.5	16.0	20.0	
								Q cm ³ /min	6	10	14	
										Maximum f _z (mm/t) < 0.3		
										Maximum a _p (mm) < 8		

INSERTS | Improved cutting surface | Fine Wall Type **SPMT...R-FW**

Querschnitt der Schneidkanten:
 Sezione trasversale del filo tagliente:
 Coupes transversales des dents:
 Las secciones transversales de los filos de corte:
 Diagrama de secção da aresta de corte:

Fig.1: FW Type
 Universal
 Impiego generico
 Usage général
 Uso general
 Uso Geral

Fig.2: FFW Type
 Für geschmiedete Oberflächen; stark unterbrochene Schnitte
 Superfici forgiate; Forte taglio interrotto
 Surface forgée; Usinage aux chocs élevé
 Capas superficial de la forja; Fuerte corte intermitente
 Corte de superficies forjadas; Forte corte intermitente



Parts	Clamp Screw			Wrench	
Shape					
	ID-Code	Item-Code	Fastening Torque [Nm]	ID-Code	Item-Code
	ET038	412-141	2.9 Nm	ET012	104-T15

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Attentions on Safety

1. Cautions regarding handling

- (1) When removing the tool from its case (packaging), be careful that the tool does not pop out or is dropped. Be particularly careful regarding contact with the tool flutes.
- (2) When handling tools with sharp cutting flutes, be careful not to touch the cutting flutes directly with your bare hands.

2. Cautions regarding mounting

- (1) Before use, check the outside appearance of the tool for scratches, cracks, etc. and that it is firmly mounted in the collet chuck, etc.
- (2) When preparing for use, be sure that the inserts are firmly mounted in place and that they are firmly mounted on the arbor, etc.
- (3) If abnormal chattering, etc. occurs during use, stop the machine immediately and remove the cause of the chattering.

3. Cautions during use

- (1) Before use, confirm the dimensions and direction of rotation of the tool and milling work material.
- (2) The numerical values in the standard cutting conditions table should be used as criteria when starting new work. The cutting conditions should be adjusted as appropriate when the cutting depth is large, the rigidity of the machine being used is low, or according to the conditions of the work material.
- (3) Cutting tools are made of a hard material. During use, they may break and fly off. In addition, cutting chips may also fly off. Since there is a danger of injury to workers, fire, or eye damage from such flying pieces, a safety cover should be attached when work is performed and safety equipment such as safety goggles should be worn to create a safe environment for work.
- (4) There is a risk of fire or inflammation due to sparks, heat due to breakage, and cutting chips. Do not use where there is a risk of fire or explosion. Please caution of fire while using oil base coolant, fire prevention is necessary.
- (5) Do not use the tool for any purpose other than that for which it is intended.

4. Cautions regarding regrinding

- (1) If regrinding is not performed at the proper time, there is a risk of the tool breaking. Replace the tool with one in good condition, or perform regrinding.
- (2) Grinding dust will be created when regrinding a tool. When regrinding, be sure to attach a safety cover over the work area and wear safety clothes such as safety goggles, etc.
- (3) This product contains the specified chemical substance cobalt and its inorganic compounds. When performing regrinding or similar processing, be sure to handle the processing in accordance with the local laws and regulations regarding prevention of hazards due to specified chemical substances.

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Specifications for the products listed in this catalog are subject to change without notice due to replacement or modification.

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