

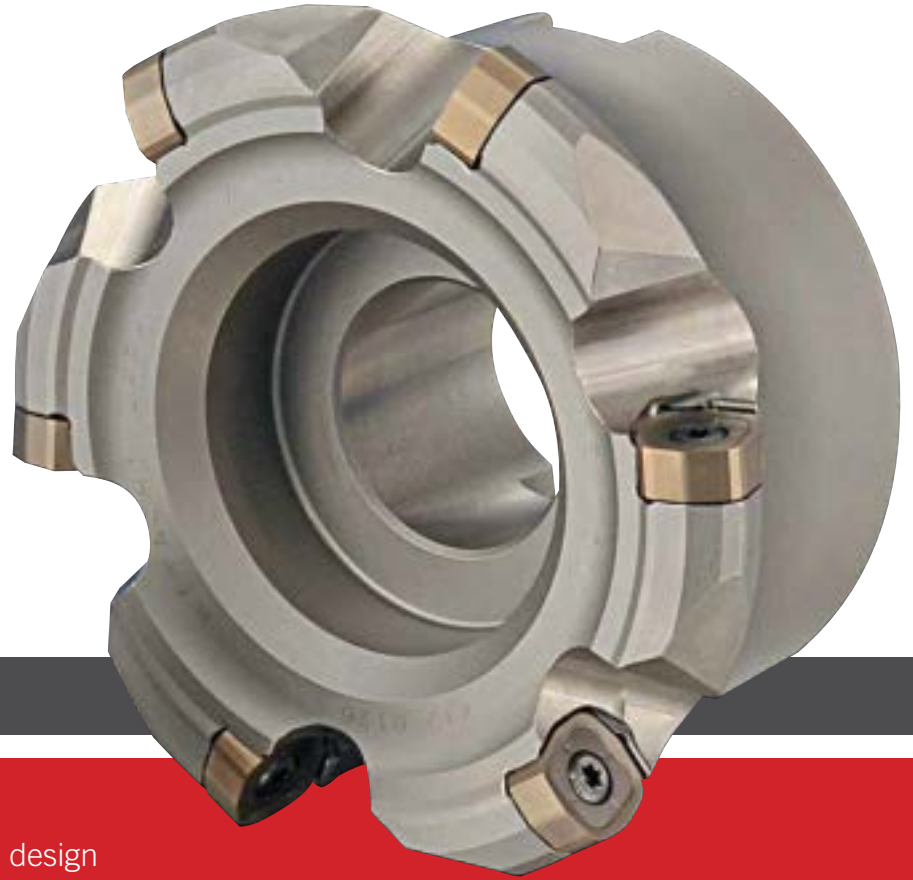
IASDF

Advanced Engineering

Face Mills Ideal for High-Feed Rate Machining



**FACE MILL
STYLE**



FEATURES

Inserts feature front/ back eight-corner design

One insert size fits all face mills from 2.5" to 6.0"

7mm thick inserts reduce breakage problems

Multiple insert coatings available for working in a wide range of materials

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Face Mill Style Inch

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50
HRC 50



Max ap
3mm (0.118")

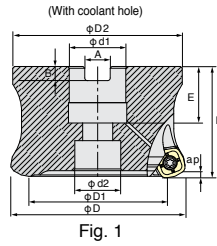


Fig. 1

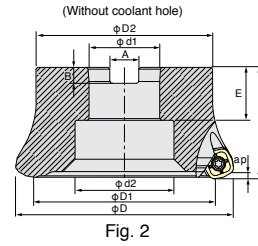


Fig. 2

D -0.15/-0.25

IASDF-Inch (Face Mill Style)

Part No.	Flutes	ϕD	$\phi D1$	H	$\phi d1$	$\phi d2$	$\phi D2$	E	A	B	Fig	Insert
IASDF5040R-4	4	2.5	1.690	1.969	0.75	0.630	2.362	1.024	0.32	0.197	1	SNMU1607EN-C
IASDF5048R-4	4	3.0	2.191	2.480	1.00	0.827	2.756	1.378	0.38	0.236	1	SNMU1607EN-C
IASDF5064R-5	5	4.0	3.190	2.756	1.50	1.240	3.543	1.378	0.63	0.394	1	SNMU1607EN-C
IASDF5080R-6	6	5.0	4.191	2.756	1.50	1.969	3.937	1.378	0.63	0.394	2	SNMU1607EN-C
IASDF5096R-8	8	6.0	5.192	2.756	1.50	2.165	4.134	1.378	0.63	0.394	2	SNMU1607EN-C



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Part No.

Clamp Screw

Wrench

Wrench

Screw Anti-
Seizure Agent

IASDF5○○○R-○



555-141



105-T20



105-T20L



P-37



Fig. 1 C Breaker

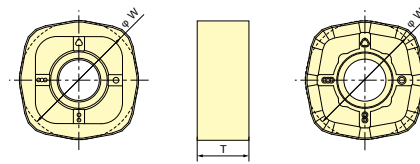


Fig. 2 B Breaker

Inserts

Part No.	JP4120	JM4160	JP4020	JS4045	GX2120	ØW(mm)	T(mm)	Fig
SNMU1607EN-C			•	•	•	16	7	1
SNMU1607EN-B	•	•		•		16	7	2

COATING MATERIALS FOR INSERTS

Material name ISO Classification	Coating Name Coating Type	Application	Features
JP4020 P10-M10-K10	JP Coating PVD	For pre-hardened steel (40-50HRC)	Uses coating with excellent shock resistance, making it superior for cutting prehardened steel.
JP4120 P10-M10-K10	AJ Coating PVD	For pre-hardened steel (35-50HRC) and alloy steel	Uses fine grain substrate and AJ coating. Suitable for cutting of common steels through pre-hardened steels.
JS4045 P30-K30	JS Coating PVD	General purpose for steel	Uses rough grain substrate and JS coating Suitable for general steel cutting
GX2120 K10	GX Coating CVD	For high-speed cutting of cast iron	Uses fine grain substrate and GX coating Suitable for the continuous cutting of cast iron.
JM4160 M40	AJ Coating PVD	General purpose for stainless steel	Uses high toughness substrate and AJ coating. Suitable for cutting of stainless steels.

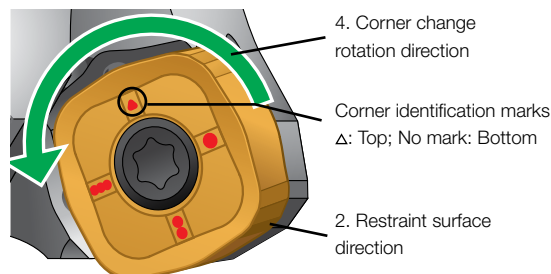
BREAKER SHAPES

B breaker for lower cutting force is now available.

- Positive edge geometry realizes 10% lower cutting force than before.
- B breaker has better performance in less rigidity set-up.

	Item Code	Breaker Shape	Cross-section Shape	Application
C Breaker	SNMU1607EN-C			<ul style="list-style-type: none"> • Suitable for general machining in steels • Interrupted machining
B Breaker	SNMU1607EN-B			<ul style="list-style-type: none"> • Machining with less rigidity set-up • Parts-making in less rigidity cramping • Suitable for stainless steel machining

Insert Replacement Procedure



1. Clean the place where the insert will be attached so that there are no foreign materials such as cutting chip stuck on.
2. Apply anti-seizure agent to the thread portion of the clamp screw, and while pressing the insert against the restraint surface, tighten the screw to the appropriate torque. (Recommended tightening torque: 4.9Nm)
3. After tightening, check that there are no gaps between the insert and the base or the restraint surface.
4. Change the insert corner by turning the insert in a counterclockwise direction.

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Cutting Conditions Inch

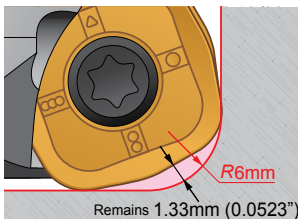
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INCH	No. of Flutes		2.5" 4		3" 4		4" 5		5" 6		6" 8	
	Cutting Speed Vc(sfm)	Feed Rate fz(in/t)	n(min-1)	Vf(in/min)	n(min-1)	Vf(in/min)	n(min-1)	Vf(in/min)	n(min-1)	Vf(in/min)	n(min-1)	Vf(in/min)
Mild Steel (200 HB or less) [JS4045]	492 ~656	0.039 ~0.079	810	191	640	150	510	150	410	144	320	150
Vc=525sfm fz=0.059in/t ap=0.059in ae=0.7xøDc												
Carbon Steel Alloy Steel (<30HRC) [JS4045]	328 ~590	0.039 ~0.079	710	167	560	131	450	131	360	126	280	131
Vc=525sfm fz=0.059in/t ap=0.059in ae=0.7xøDc												
Carbon Steel Alloy Steel (30-40HRC) [JP4045] [JP4020] [JP4120]	328 ~525	0.039 ~0.079	610	143	480	112	380	112	310	108	240	112
Vc=394sfm fz=0.059in/t ap=0.059in ae=0.7xøDc												
Carbon Steel Alloy Steel (40-45HRC) [JP4020] [JP4120] [JS4045]	262 ~394	0.016 ~0.031	460	57	360	45	290	45	230	43	180	45
Vc=328sfm fz=0.031in/t ap=0.039in ae=0.7xøDc												
Stainless Steel SUS [JM4160] [JP4120]	262 ~328	0.016 ~0.031	460	72	360	56	290	56	230	54	180	56
Vc=295sfm fz=0.039in/t ap=0.039in ae=0.7xøDc												
Cast Iron [GX2120] [JS4045] [JP4120] [JP4020]	328 ~590	0.039 ~0.079	810	191	640	150	510	150	410	144	320	150
Vc=406sfm fz=0.059in/t ap=0.059in ae=0.7xøDc												
Hardened Steel (45-50HRC) [JP4020] [JP4120]	197 ~328	197 ~328	350	22	280	18	220	18	180	17	140	18
Vc=229sfm fz=0.016in/t ap=0.031in ae=0.7xøDc												

Notes

- 1) GX2120 are non-conductive coating which will not cause a response in conductive touch sensors.
- 2) Use the appropriate coolant for the work material and machining shape.
- 3) These conditions are for general guidance; in actual machining conditions adjust the parameters according to your actual machine and work-piece conditions.
- 4) In order to avoid of insert breakage, please change insert earlier.
- 5) The steel chips may cause cuts, burns or damages to eyes. Be sure to install the safety cover around the tool and wear the safety glasses when carrying out any works.
- 6) Please don't use cutting oil as coolant. (It can cause a fire.)

Programming Radius



When using ASDF type for Shaping cutting refer to the following for the flute tip condition definitions for programming.

Approximate R definition = R6 (0.2362")
Remains 1.33mm (0.0523")

- For slanted cutting using ø2.5" or ø3", perform at 0.5° or less. Do not perform using ø4" or larger.
- When tool protrusion length is long ($L/\phi Dc \geq 3$), adjust ap.