

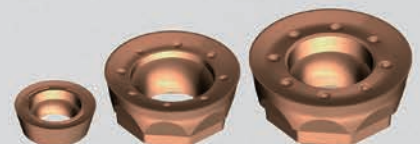
SEC-Wave Radius Mill **RSC** series / **RSE** series

Radius cutter for high-efficiency machining of stainless steel and exotic alloy

2021-023
JTA ECO PRODUCT
—社 日本機械工業会 (JTA)
環境貢献製品 ☆☆☆
(RSE series)



Small-diameter Cutter
New RSC series R3 Insert (Diameter $\phi 12$ to 25mm)
RSE series R5 Insert (Diameter $\phi 25$ to 50mm)
R6 Insert (Diameter $\phi 40$ to 80mm)





■ Features

- Uses new grades for exotic alloy machining
New ACS1000/ACS2500/ACS3000 grades achieve stable and long tool life in machining exotic alloys, such as titanium alloys and Ni-based heat-resistant alloys, as well as stainless steel

● RSC series

Small-diameter high-efficiency radius cutter
R3 Insert (Diameter ø12 to 25mm)
The use of 2 coolant holes realises high-efficiency milling while suppressing temperature rise in high-speed milling
General-purpose grade ACU2500 supports various forms of machining

● RSE series

High-efficiency, high-rigidity radius cutter
R5 Insert (Diameter ø25 to 50mm)
R6 Insert (Diameter ø40 to 80mm)
Special insert realising high-efficiency milling of exotic alloys, etc.
Seat surface design enables excellent durability

■ Product Range *New* RSC series

Type	Cat. No.	Max. Diameter (mm)			
		ø12	ø16	ø20	ø25
Shank	RSC 06000E00	2	3	4	5
Modular	RSC 06000M00	2	3	4	5

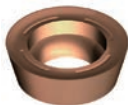
Number in ● shows the number of teeth

■ Product Range RSE series

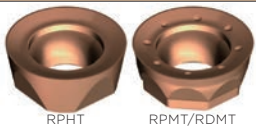
Type	Cat. No.	Max. Diameter (mm)							
		ø25	ø32	ø40	ø42	ø50	ø52	ø63	ø80
Shell	RSE 10000RS00			5		6			
	RSE 12000RS00			4	4	5 6	5	6	8
	RSE 12000R00 <i>Inch</i>								8
Shank	RSE 10000E00	2 3	3 4						

Number in ● shows the number of teeth *Inch* Bore

■ Chipbreaker Shape *New* RSC series

Work Material	P Steel, M Stainless Steel, S Exotic Alloy
Applications	General-purpose to Roughing
Features	Standard
Chipbreaker	G type
	
Cutting Edge Cross Section	

■ Chipbreaker Shape RSE series

Work Material	M Stainless Steel, S Exotic Alloy
Applications	General-purpose to Roughing
Features	Standard
Chipbreaker	G type
	
Cutting Edge Cross Section	

■ Grade Features **RSC series**

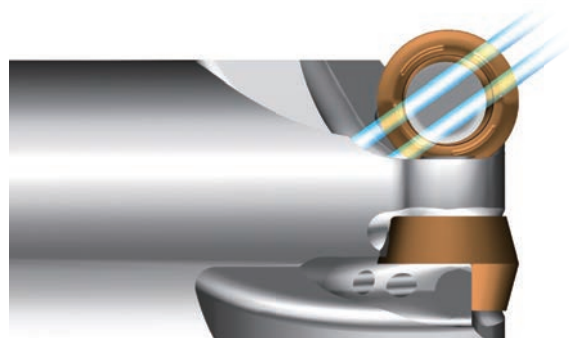
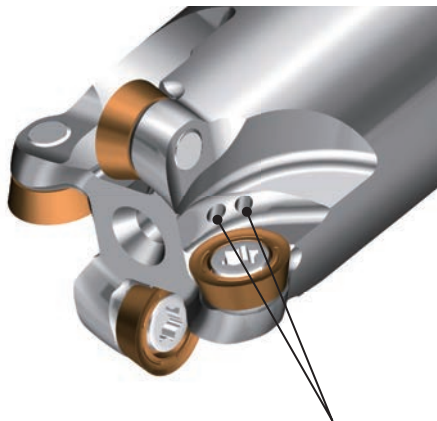
Work Material	Grade	Coating Thickness (μm)	Features
P Steel	ACU2500	3	General-purpose grade covering steel, stainless steel, and cast iron machining Adopts a carbide substrate with excellent fracture resistance and wear resistance, plus a new coating with excellent wear resistance and chipping resistance, realising stable long tool life on various work materials
<i>New</i> ACS1000	ACS1000	3	For high-efficiency milling of exotic alloys High-hardness carbide substrate coupled with a chipping-resistant coating provides long and stable tool life in high-speed, high-efficiency machining applications
M Stainless Steel S Exotic Alloy	ACS2500	3	Coating with excellent wear and adhesion resistance provides outstanding performance especially in machining titanium alloys
	ACS3000	3	High toughness carbide substrate and a coating with excellent chipping resistance provide outstanding stability in a wide range of work materials such as heat-resistant alloys, stainless steel, and titanium alloys

■ Grade Application Range **RSC series**

Lineup includes **ACS1000/ACS2500/ACS3000** grades, ideal for machining titanium alloys, heat-resistant alloys and stainless steel

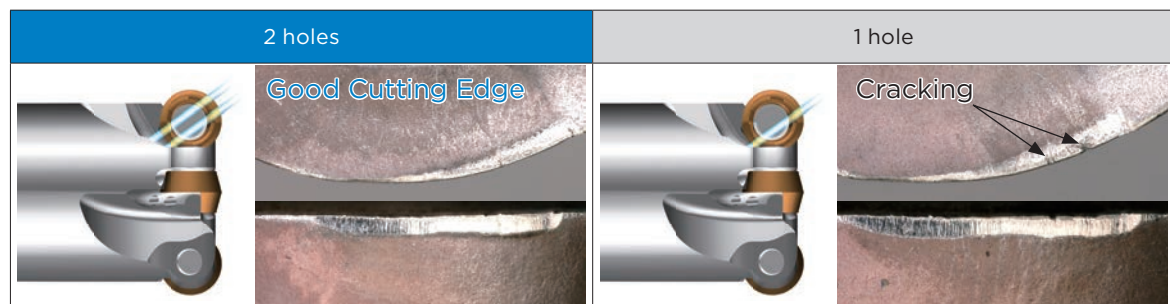
Work Material	Finishing to Light Cutting	Medium Cutting	Rough to Heavy Cutting
P Steel	ACU2500		
<i>New</i> ACS1000	ACS1000		
M Stainless Steel S Exotic Alloy	ACS2500		
	ACS3000		

The letter "P" at the end of each grade indicates the coating type. ▲: PVD

■ Optimal Coolant Hole Design **RSC series**

Coolant supply on insert rake face front and side suppresses cutting edge temperature rises and work material adhesion

After drilling for 30 minutes



Coating Layer Features

ABSOTECH

PVD

New Super Multi-Layered Structure
Higher hardness and twice the conventional wear resistance due to a fine crystal structure AlTiCrBN-based nano-layered coating

High Adhesion Strength
Significantly improved coating adhesion has more than twice the chipping resistance of conventional coatings

Applicable Grades: **ACU2500**

Ultra-fine Grained B Additive Coated Carbide
New AlTiBN coating, with an ultra-fine coating structure, achieves high strength and toughness. Outstanding balance of chipping resistance and wear resistance

High Adhesion Strength
Significantly improved coating adhesion has more than twice the chipping resistance of conventional coatings

Applicable Grades: **ACS1000, ACS2500, ACS3000**

■ Grade Features RSE series

Work Material	Grade	Coating Thickness (μm)	Features
New ACS1000	3		For high-efficiency milling of exotic alloys High-hardness carbide substrate coupled with a chipping-resistant coating provides long and stable tool life in high-speed, high-efficiency machining applications
M Stainless Steel S Exotic Alloy	ACS2500	3	Coating with excellent wear and adhesion resistance provides outstanding performance especially in machining titanium alloys
	ACS3000	3	High toughness carbide substrate and a coating with excellent chipping resistance provide outstanding stability in a wide range of work materials such as heat-resistant alloys, stainless steel, and titanium alloys

■ Grade Application Range RSE series

Lineup includes **ACS1000/ACS2500/ACS3000** grades, ideal for machining titanium alloys, heat-resistant alloys and stainless steel

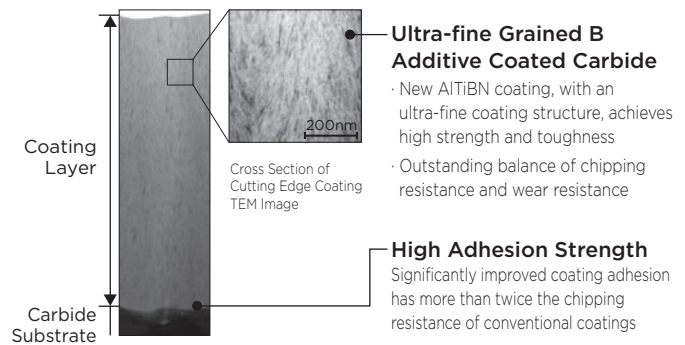
Work Material	Finishing to Light Cutting	Medium Cutting	Rough to Heavy Cutting
M Stainless Steel S Exotic Alloy	ACS1000	ACS2500	ACS3000

The letters "C" and "P" at the end of each grade indicate the coating type. ▲: PVD

Coating Layer Features

ABSOTECH

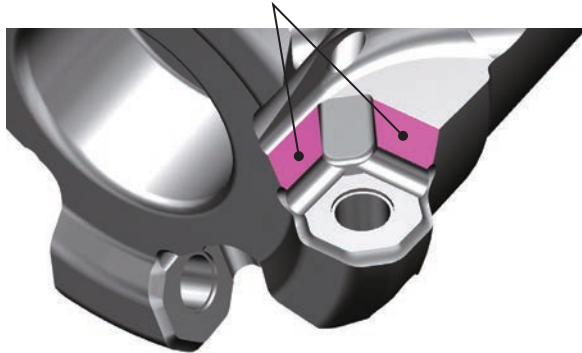
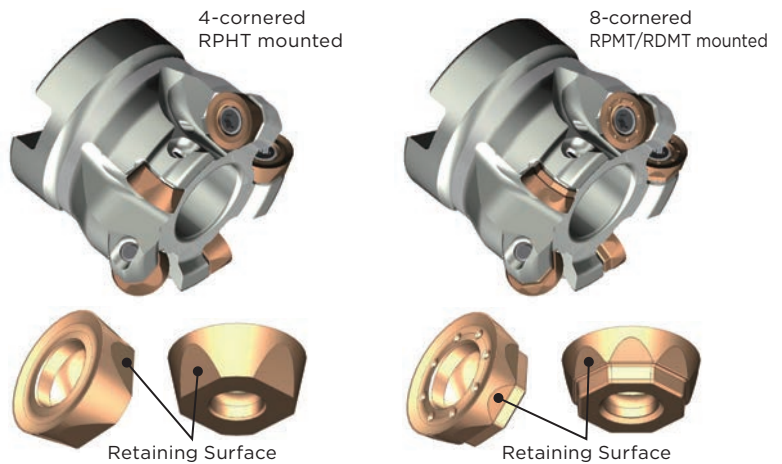
PVD



Applicable Grades: ACS1000, ACS2500, ACS3000

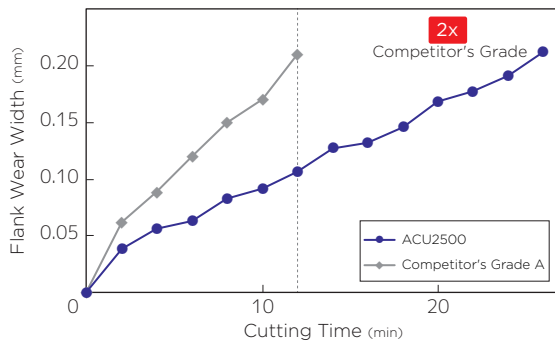
■ High-rigidity clamp design RSE series

Wide Insert Seat Surface Design

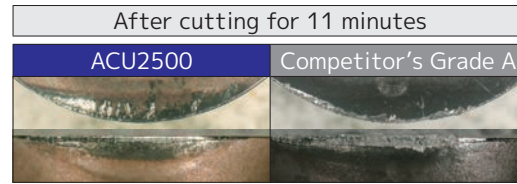
■ Cutter body can be shared by optimising the seat surface/retaining surface design RSE series

4-cornered ground type inserts or 8-cornered M Class inserts can be used on the same cutter body

■ Cutting Performance RSC series

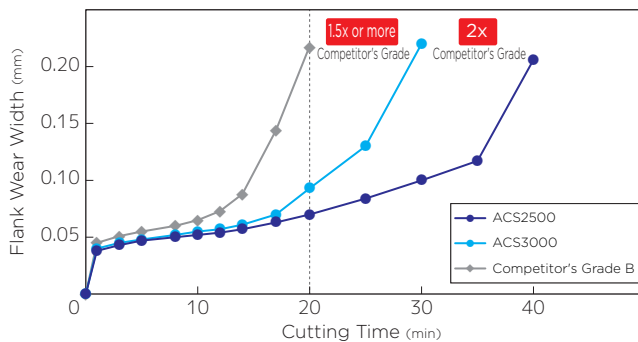


Machine: Vertical Machining Centre Work Material: SKD11 Mild Steel
 Tool: RSC 06012E02, Insert: RDMX0601M0EN-G
 Cutting Conditions: $vc = 200\text{m/min}$ $fz = 0.3\text{mm/t}$ $ap = 0.9\text{mm}$ $ae = 9\text{mm}$ Wet

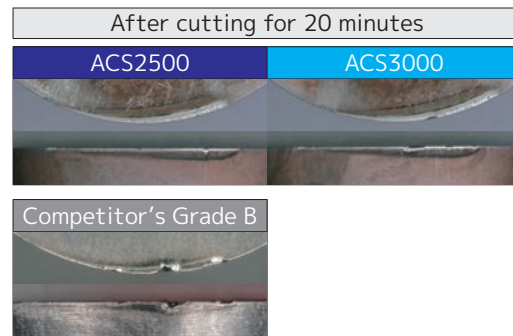


Superb wear resistance with 2 times longer tool life than competitor's grades

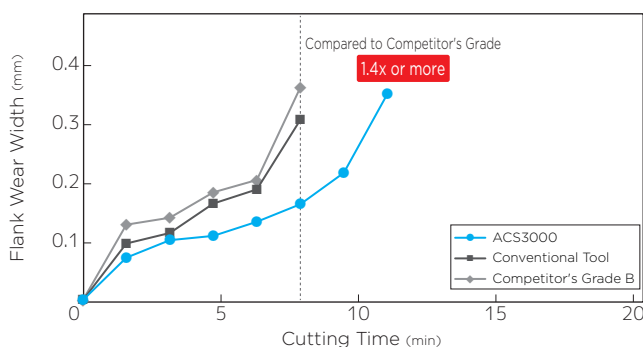
■ Cutting Performance RSE series



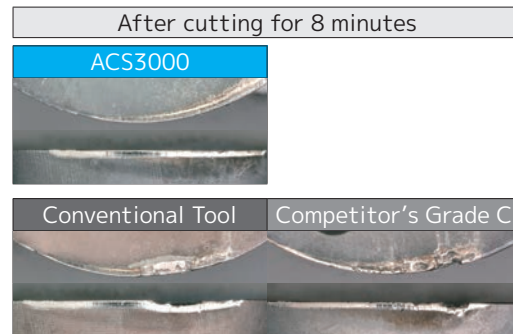
Machine: Vertical Machining Centre BT40, Work Material: Ti-6Al-4V
 Tool: RSE 12050RS05, Insert: RPHT1204M0EN-G
 Cutting Conditions: $vc = 70\text{m/min}$ $fz = 0.25\text{mm/t}$ $ap = 2\text{mm}$ $ae = 30\text{mm}$ Wet



Superb wear resistance with 1.5 times longer tool life than conventional grades and competitor's grades

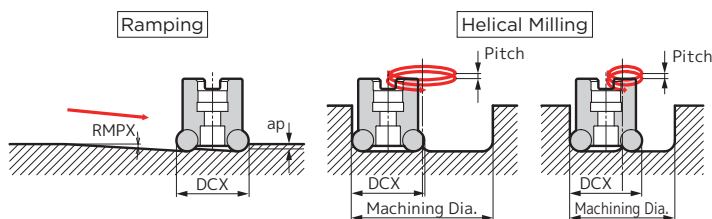


Machine: Vertical Machining Centre BT40, Work Material: Inconel 718 (44HRC)
 Tool: RSE 12050RS05, Insert: RPHT1204M0EN-G
 Cutting Conditions: $vc = 40\text{m/min}$ $fz = 0.3\text{mm/t}$ $ap = 2\text{mm}$ $ae = 30\text{mm}$ Wet



Superb fracture resistance 1.4 times longer tool life than conventional tools and competitor's grades

■ Ramping/Helical Milling Upper Limit



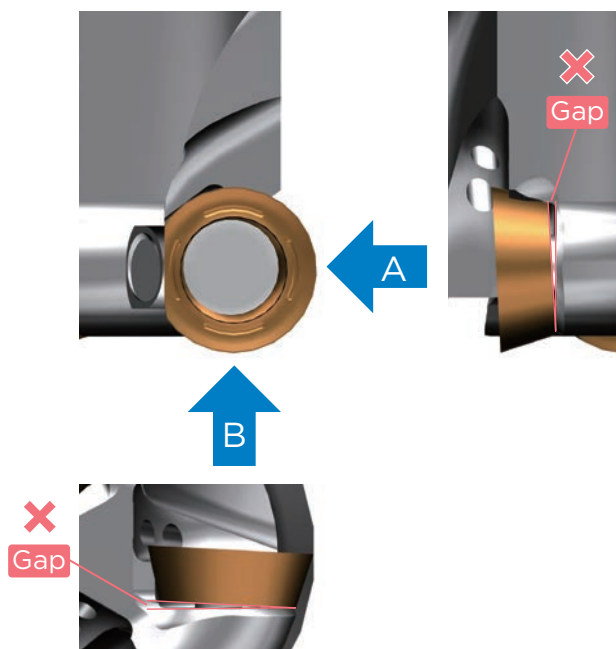
Precautions for Helical Milling

- Above the max. machining diameter, the centre uncut portion can be removed by traverse cutting with the same cutter.
- Below the min. machining diameter, the centre uncut portion cannot be removed with the same cutter.

Insert Cat. No.	Max. Dia. DCX (mm)	Ramping	Helical Milling					
		Max. Ramping Angle RMPX (°)	Max. Machining Dia. (mm)	Max. Pitch (mm/rev)	Standard Diameter (mm)	Max. Pitch (mm/rev)	Min. Machining Dia. (mm)	Max. Pitch (mm/rev)
RDMX06... RSC series	ø12	90	23.0	3.0	18.5	3.0	15.4	3.0
	ø16	14.8	30.8	3.0	26.3	3.0	23.2	3.0
	ø20	9.5	38.8	3.0	34.3	3.0	31.2	3.0
	ø25	6.5	48.8	3.0	44.3	3.0	41.2	3.0
ROOT10... RSE series	ø25	4.6	48.6	4.8	40.6	3.3	36.3	1.4
	ø32	2.8	62.6	4.6	54.6	2.9	50.3	1.4
	ø40	1.9	78.6	3.9	70.6	2.6	66.3	1.4
	ø50	1.3	98.6	3.4	90.6	2.5	86.3	1.4
ROOT12... RSE series	ø40	3.4	78.6	6.0	68.6	4.5	62.4	1.6
	ø42	3.1	82.6	6.0	72.6	4.4	66.4	1.6
	ø50	2.3	98.6	6.0	88.6	4.1	82.4	1.6
	ø52	2.2	102.6	6.0	92.6	4.1	86.4	1.6
	ø63	1.6	124.6	5.3	114.6	3.9	108.4	1.6
	ø80	1.1	158.6	4.8	148.6	3.7	142.4	1.6

■ Precautions for Mounting Inserts

- (1) Clean the mounting seat surface and fixing parts so that no foreign matter is adhered thereto.
- (2) Holding down the insert from the A and B directions, tighten the screw at the recommended torque.
- (3) After tightening, check that there are no gaps on the seat surface.



MEMO



Fig 1

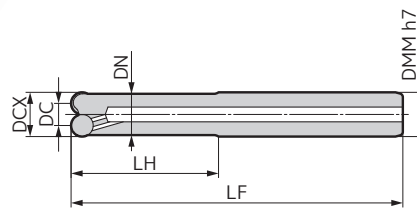
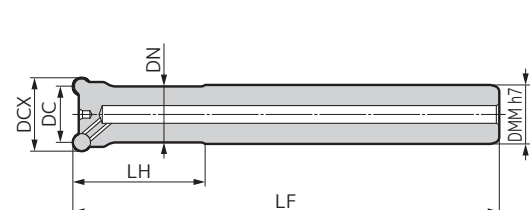


Fig 2



Body (Shank type)

Dimensions (mm)

Cat. No.	Stock	Max. Dia. DCX	Dia. DC	Shank DMM	Diameter DN	Head LH	Overall Length LF	No. of Teeth	Weight (kg)	Fig
RSC 06012E02	●	12	6	12	11.2	50	130	2	0.10	1
06016E03	●	16	10	16	13.3	50	160	3	0.20	1
06020E04	●	20	14	20	17.3	50	160	4	0.32	1
06025E05	●	25	19	20	19.0	50	160	5	0.35	2

Inserts are sold separately.

Identification Code

RSC 06 016 E 03

Series Code	Insert Size	Dia.	Shank	No. of Teeth
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Parts

Applicable Cutter	Flat Insert Screw		Wrench	Anti-seizure Cream
RSC06012E02	BFTX025381IP	1.2	TRDR08IP*	SUMI-P*
Other than above	BTFX025051IP			

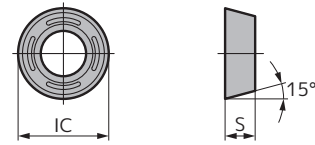
*Wrenches and anti-seizure cream are sold separately.

■ Insert

Dimensions (mm)

Grade Classification		Coated Carbide						
Applicable Process	High-speed/Light Cutting							
	Medium Cutting							
	Roughing							
Cat. No.		ACU2500	ACS1000	ACS2500	ACS3000	Inscribed Circle IC	Thickness S	Fig
RDMX0601M0EN-G		●	●	●	●	6	1.99	1

Fig 1



■ Recommended Cutting Conditions

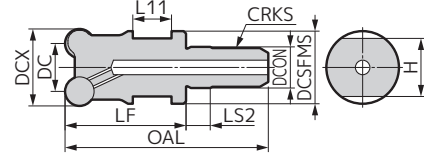
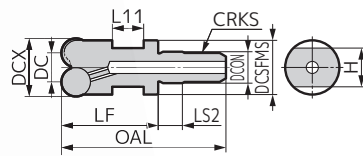
ISO	Work Material		Hardness	Chipbreaker	Cutting Speed vc (m/min) Min. - Optimum - Max.	Feed Rate fz (mm/t) Min. - Optimum - Max.	Grade
P	Steel	General Steel	280HB or less	G	150 - 180 - 220	0.20 - 0.35 - 0.50	ACU2500
		Alloy Steel	280HB or less	G	120 - 160 - 200	0.20 - 0.35 - 0.50	ACU2500
		Alloy Steel	42HRC or less	G	100 - 140 - 180	0.10 - 0.20 - 0.30	ACU2500
S	Exotic Alloy	Heat Resistant Alloys: Inconel 718, Inconel 713C, etc.	—	G	30 - 45 - 60	0.08 - 0.10 - 0.20	ACS1000/ACS2500/ACS3000
		Titanium Alloys: Pure Titanium, Ti-6Al-4V, etc.	—	G	30 - 70 - 100	0.10 - 0.15 - 0.20	ACS1000/ACS2500/ACS3000
M	Stainless Steel	Martensitic/Ferritic SUS430, etc.	200HB	G	120 - 150 - 180	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Martensitic Hardened SUS403, etc.	240HB	G	110 - 130 - 160	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Austenitic SUS304, SUS316	180HB	G	130 - 160 - 190	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Duplex Austenitic/Ferritic	230 to 270HB	G	70 - 110 - 180	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Precipitation Hardened Structures	330HB	G	50 - 90 - 160	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
H	Hardened Steel		52HRC or less	G	60 - 80 - 100	0.10 - 0.15 - 0.20	ACU2500

Note · The recommended cutting conditions may not be practical depending on the operating conditions (e.g. machine, work material shape, clamping system).
 · For groove milling, calculate the feed rate at around 70% of the above values.
 · The cutting conditions above are a guide. Actual conditions will need to be adjusted according to machine rigidity, work clamp rigidity, depth of cut and other factors.



Fig 1

Fig 2



Head

Dimensions (mm)

Cat. No.	Stock	Max. Dia. DCX	Dia. DC	Boss DCSFMS	Mounting Dia. DCON	Screw CRKS	Overall Length OAL	Effective Length LF	Length LS2	Side Lock Flat L11	Width H	No. of Teeth	Weight (kg)	Fig
RSC 06012M06Z2	●	12	6	11.2	6.5	M6	34	20	5	6.5	8	2	0.02	1
06016M08Z3	●	16	10	15	8.5	M8	42	25	5	8	12	3	0.03	2
06020M10Z4	●	20	14	19	10.5	M10	49	30	5	9	14	4	0.06	2
06025M12Z5	●	25	19	23.6	12.5	M12	56	35	5	10	17	5	0.11	2

Inserts are sold separately.

Identification Code

RSC 06 016 M08 Z3

Series Code	Insert Size	Dia.	Mounting Screw Size	No. of Teeth
RSC	06	016	M08	Z3

Parts

Applicable Cutter	Flat Insert Screw	Wrench	Anti-seizure Cream
RSC06012E02	BFTX025381IP	TRDR08IP*	SUMI-P*
Other than above	BTFX025051IP		

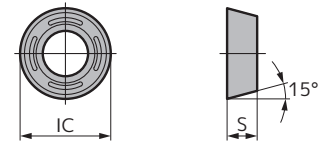
*Wrenches and anti-seizure cream are sold separately.

■ Insert

Dimensions (mm)

Grade Classification		Coated Carbide						
Applicable Process	High-speed/Light Cutting							
	Medium Cutting							
	Roughing							
Cat. No.		ACU2500	ACS1000	ACS2500	ACS3000	Inscribed Circle IC	Thickness S	Fig
RDMX0601M0EN-G		●	●	●	●	6	1.99	1

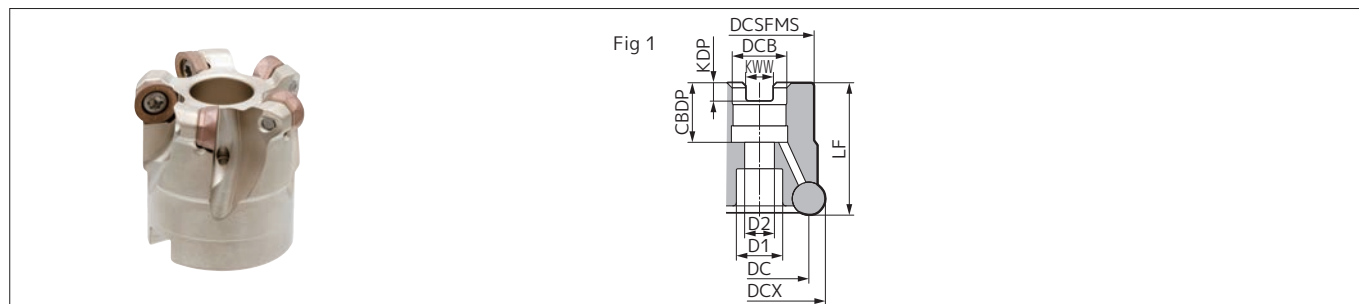
Fig 1



■ Recommended Cutting Conditions

ISO	Work Material		Hardness	Chipbreaker	Cutting Speed v_c (m/min) Min. - Optimum - Max.	Feed Rate f_z (mm/t) Min. - Optimum - Max.	Grade
P	Steel	General Steel	280HB or less	G	150 - 180 - 220	0.20 - 0.35 - 0.50	ACU2500
		Alloy Steel	280HB or less	G	120 - 160 - 200	0.20 - 0.35 - 0.50	ACU2500
		Alloy Steel	42HRC or less	G	100 - 140 - 180	0.10 - 0.20 - 0.30	ACU2500
S	Exotic Alloy	Heat Resistant Alloys: Inconel 718, Inconel 713C, etc.	—	G	30 - 45 - 60	0.08 - 0.10 - 0.20	ACS1000/ACS2500/ACS3000
		Titanium Alloys: Pure Titanium, Ti-6Al-4V, etc.	—	G	30 - 70 - 100	0.10 - 0.15 - 0.20	ACS1000/ACS2500/ACS3000
M	Stainless Steel	Martensitic/Ferritic SUS430, etc.	200HB	G	120 - 150 - 180	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Martensitic Hardened SUS403, etc.	240HB	G	110 - 130 - 160	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Austenitic SUS304, SUS316	180HB	G	130 - 160 - 190	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Duplex Austenitic/Ferritic	230 to 270HB	G	70 - 110 - 180	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Precipitation Hardened Structures	330HB	G	50 - 90 - 160	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
H	Hardened Steel		52HRC or less	G	60 - 80 - 100	0.10 - 0.15 - 0.20	ACU2500

Note · The recommended cutting conditions may not be practical depending on the operating conditions (e.g. machine, work material shape, clamping system).
 · For groove milling, calculate the feed rate at around 70% of the above values.
 · The cutting conditions above are a guide. Actual conditions will need to be adjusted according to machine rigidity, work clamp rigidity, depth of cut and other factors.



■ Body (Shell type)

Dimensions (mm)

Cat. No.	Stock	Max. Dia. DCX	Dia. DC	Boss DCSFMS	Height LF	Hole Dia. DCB	Keyway Width KWW	Keyway Depth KDP	Mounting Depth CDBP	Bolt D1	Bolt D2	No. of Teeth	Weight (kg)	Fig
RSE 10040RS05	●	40	30	33	40	16	8.4	5.6	18	14	9	5	0.16	1
10050RS06	●	50	40	41	40	22	10.4	6.3	20	18	11	6	0.27	1

Inserts are sold separately.

■ Identification Code

RSE 10 040 R S 05

Series Code Insert Size Dia. Feed Direction Metric Bore No. of Teeth

■ Parts

Flat Insert Screw		Detachable Wrench		Anti-seizure Cream
		Handle Grip	Bit	
BFTX03584IP	3.0	HPS1015	TRB15IP	SUMI-P

■ Insert

Dimensions (mm)

Grade Classification		Coated Carbide			Inscribed Circle IC	Thickness S	Fig
Applicable Process	High-speed/Light Cutting						
	Medium Cutting						
	Roughing						
Cat. No.			ACS1000	ACS2500	ACS3000		
RPHT10T3M0EN-G					10	3.97	1
RPMT10T3M0EN-G					10	3.97	2
RDMT10T3M0EN-G					10	3.97	3

Fig 1 4-cornered

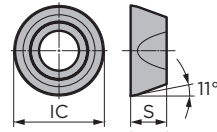


Fig 2 8-cornered

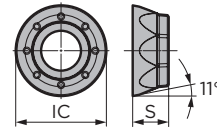
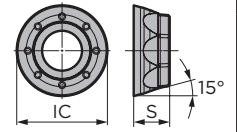


Fig 3 8-cornered



■ Recommended Cutting Conditions

ISO	Work Material		Hardness	Chipbreaker	Cutting Speed vc (m/min) Min. - Optimum - Max.	Feed Rate fz (mm/t) Min. - Optimum - Max.	Grade
S	Exotic Alloy	Heat Resistant Alloys: Inconel 718, Inconel 713C, etc.	—	G	25 - 35 - 50	0.08 - 0.10 - 0.20	ACS1000/ACS2500/ACS3000
		Titanium Alloys: Pure Titanium, Ti-6Al-4V, etc.	—	G	30 - 60 - 90	0.10 - 0.15 - 0.20	ACS1000/ACS2500/ACS3000
M	Stainless Steel	Martensitic/Ferritic SUS430, etc.	200HB	G	115 - 145 - 175	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Martensitic Hardened SUS403, etc.	240HB	G	105 - 130 - 155	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Austenitic SUS304, SUS316	180HB	G	125 - 155 - 190	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Duplex Austenitic/Ferritic	230 to 270HB	G	70 - 110 - 180	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Precipitation Hardened Structures	330HB	G	50 - 90 - 160	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000

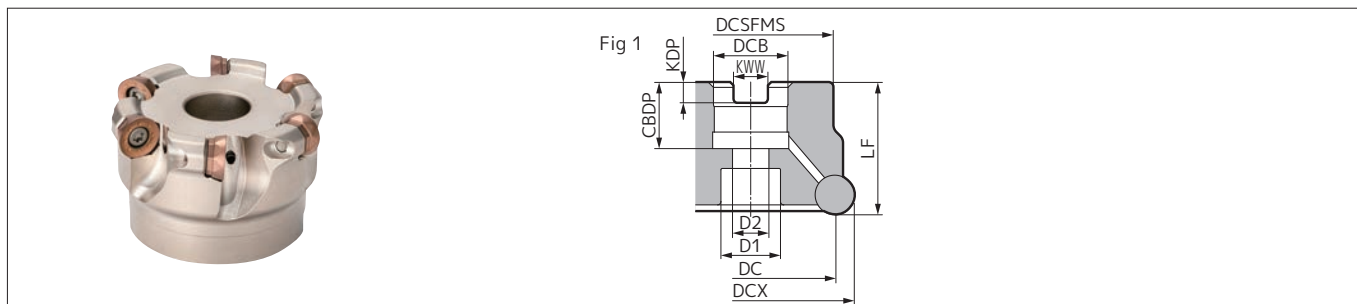
Note The recommended cutting conditions may not be practical depending on the operating conditions (e.g. machine, work material shape, clamping system).

· For groove milling, calculate the feed rate at around 70% of the above values.

· The cutting conditions above are a guide. Actual conditions will need to be adjusted according to machine rigidity, work clamp rigidity, depth of cut and other factors.



Recommended Tightening Torque (N·m) ● mark: Standard stocked item ● mark: Standard stocked item (new product/expanded item)



Body (Shell type)

Dimensions (mm)

Cat. No.	Stock	Max. Dia. DCX	Dia. DC	Boss DCSFMS	Height LF	Hole Dia. DCB	Keyway Width KWW	Keyway Depth KDP	Mounting Depth CDBP	Bolt D1	Bolt D2	No. of Teeth	Weight (kg)	Fig
RSE 12040RS04	●	40	28	33	40	16	8.4	5.6	18	13.5	9	4	0.15	1
12042RS04	●	42	30	33	40	16	8.4	5.6	18	14	9	4	0.17	1
12050RS05	●	50	38	41	40	22	10.4	6.3	20	18	11	5	0.24	1
12050RS06	●	50	38	41	40	22	10.4	6.3	20	18	11	6	0.23	1
12052RS05	●	52	40	41	40	22	10.4	6.3	20	18	11	5	0.26	1
12063RS06	●	63	51	50	40	22	10.4	6.3	20	18	11	6	0.47	1
12080RS08	●	*80	68	55	50	27	12.4	7	22	20	14	8	0.89	1
RSE 12080R08	●	*80	68	55	50	25.4	9.5	6	25	20	14	8	0.90	1

Inserts are sold separately.

 For mounting the ø80mm sized cutters marked with * to an arbor, use a JIS B1176 hexagonal socket bolt (M12 x 30 to 35mm).

Identification Code

RSE 12 050 R S 05

Series Code	Insert Size	Dia.	Feed Direction	Metric Bore	No. of Teeth
RSE	12	050	R	S	05

Parts

Flat Insert Screw		Detachable Wrench		Anti-seizure Cream
		Handle Grip	Bit	
				
BFTX03584IP	3.0	HPS1015	TRB15IP	SUMI-P

■ Insert

Dimensions (mm)

Grade Classification		Coated Carbide			Inscribed Circle IC	Thickness S	Fig
Applicable Process	High-speed/Light Cutting						
	Medium Cutting						
	Roughing						
Cat. No.		ACS1000	ACS2500	ACS3000	Inscribed Circle IC	Thickness S	Fig
RPHT1204M0EN-G							
RPMT1204M0EN-G							
RDMT1204M0EN-G							

Fig 1 4-cornered



Fig 2 8-cornered



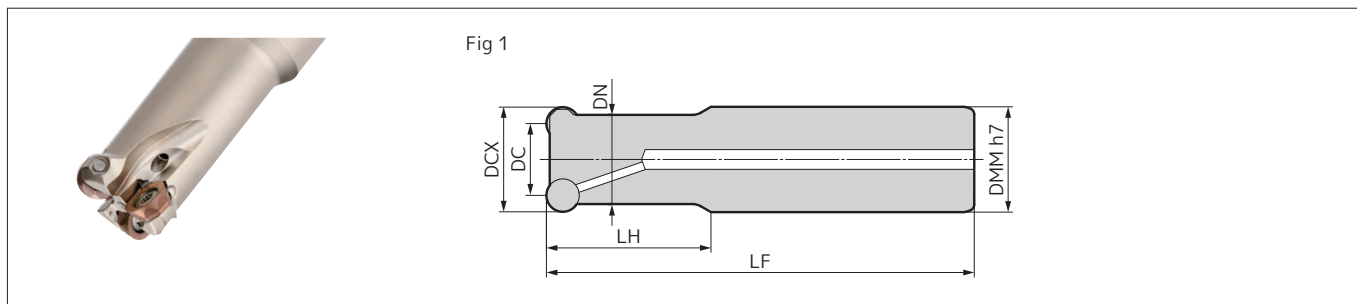
Fig 3 8-cornered



■ Recommended Cutting Conditions

ISO	Work Material		Hardness	Chipbreaker	Cutting Speed v_c (m/min) Min. - Optimum - Max.	Feed Rate f_z (mm/t) Min. - Optimum - Max.	Grade
S	Exotic Alloy	Heat Resistant Alloys: Inconel 718, Inconel 713C, etc.	—	G	25 - 35 - 50	0.08 - 0.10 - 0.20	ACS1000/ACS2500/ACS3000
		Titanium Alloys: Pure Titanium, Ti-6Al-4V, etc.	—	G	30 - 60 - 90	0.10 - 0.15 - 0.20	ACS1000/ACS2500/ACS3000
M	Stainless Steel	Martensitic/Ferritic SUS430, etc.	200HB	G	115 - 145 - 175	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Martensitic Hardened SUS403, etc.	240HB	G	105 - 130 - 155	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Austenitic SUS304, SUS316	180HB	G	125 - 155 - 190	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Duplex Austenitic/Ferritic	230 to 270HB	G	70 - 110 - 180	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Precipitation Hardened Structures	330HB	G	50 - 90 - 160	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000

Note · The recommended cutting conditions may not be practical depending on the operating conditions (e.g. machine, work material shape, clamping system).
 · For groove milling, calculate the feed rate at around 70% of the above values.
 · The cutting conditions above are a guide. Actual conditions will need to be adjusted according to machine rigidity, work clamp rigidity, depth of cut and other factors.



■ Body (Shank type)

Dimensions (mm)

Cat. No.	Stock	Max. Dia. DCX	Dia. DC	Shank DMM	Diameter DN	Head LH	Overall Length LF	No. of Teeth	Weight (kg)	Fig
RSE 10025E02	●	25	15	25	20.3	50	130	2	0.40	1
10025E03	●	25	15	25	20.3	50	130	3	0.39	1
10032E03	●	32	22	32	27.1	50	130	3	0.68	1
10032E04	●	32	22	32	27.1	50	130	4	0.67	1

Inserts are sold separately.

■ Identification Code

RSE 10 032 E 03

Series Code Insert Size Dia. Shank No. of Teeth

■ Parts

Flat Insert Screw	Wrench	Anti-seizure Cream
 BFTX03584IP 3.0	 TRDR15IP	 SUMI-P

■ Insert

Dimensions (mm)

Grade Classification		Coated Carbide			Inscribed Circle IC	Thickness S	Fig
Applicable Process	High-speed/Light Cutting						
	Medium Cutting						
	Roughing						
Cat. No.		 ACS1000	ACS2500	ACS3000	Inscribed Circle IC	Thickness S	Fig
RPHT10T3M0EN-G							
RPMT10T3M0EN-G							
RDMT10T3M0EN-G							

Fig 1 4-cornered



Fig 2 8-cornered



Fig 3 8-cornered



■ Recommended Cutting Conditions

ISO	Work Material		Hardness	Chipbreaker	Cutting Speed v_c (m/min) Min. - Optimum - Max.	Feed Rate f_z (mm/t) Min. - Optimum - Max.	Grade
S	Exotic Alloy	Heat Resistant Alloys: Inconel 718, Inconel 713C, etc.	—	G	25 - 35 - 50	0.08 - 0.10 - 0.20	ACS1000/ACS2500/ACS3000
		Titanium Alloys: Pure Titanium, Ti-6Al-4V, etc.	—	G	30 - 60 - 90	0.10 - 0.15 - 0.20	ACS1000/ACS2500/ACS3000
M	Stainless Steel	Martensitic/Ferritic SUS430, etc.	200HB	G	115 - 145 - 175	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Martensitic Hardened SUS403, etc.	240HB	G	105 - 130 - 155	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Austenitic SUS304, SUS316	180HB	G	125 - 155 - 190	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Duplex Austenitic/Ferritic	230 to 270HB	G	70 - 110 - 180	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000
		Precipitation Hardened Structures	330HB	G	50 - 90 - 160	0.10 - 0.20 - 0.30	ACS1000/ACS2500/ACS3000

Note The recommended cutting conditions may not be practical depending on the operating conditions (e.g. machine, work material shape, clamping system).

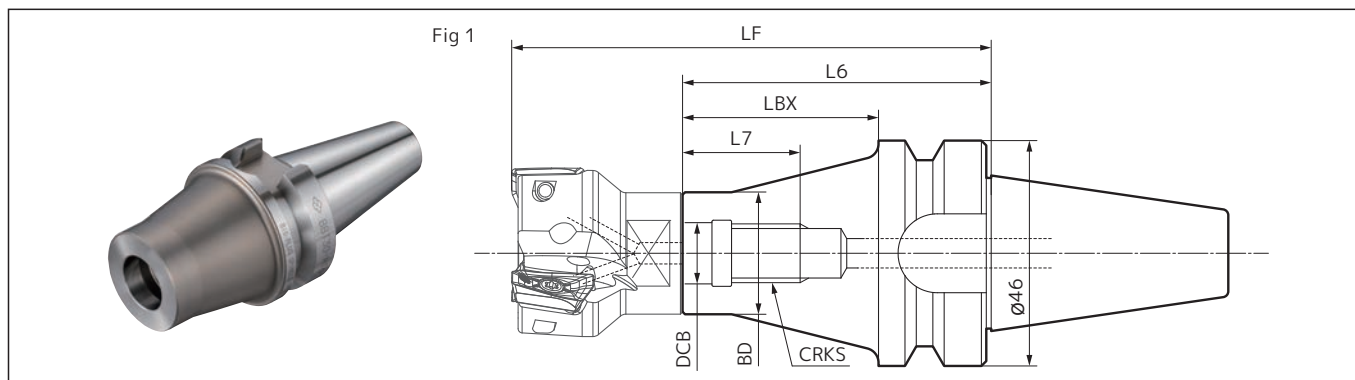
· For groove milling, calculate the feed rate at around 70% of the above values.

· The cutting conditions above are a guide. Actual conditions will need to be adjusted according to machine rigidity, work clamp rigidity, depth of cut and other factors.



Recommended Tightening Torque (N·m) ● mark: Standard stocked item ● mark: Standard stocked item (new product/expanded item)

■ BBT Integrated type - SEC-Modular Tools Special Arbors



■ BBT Integrated Arbor

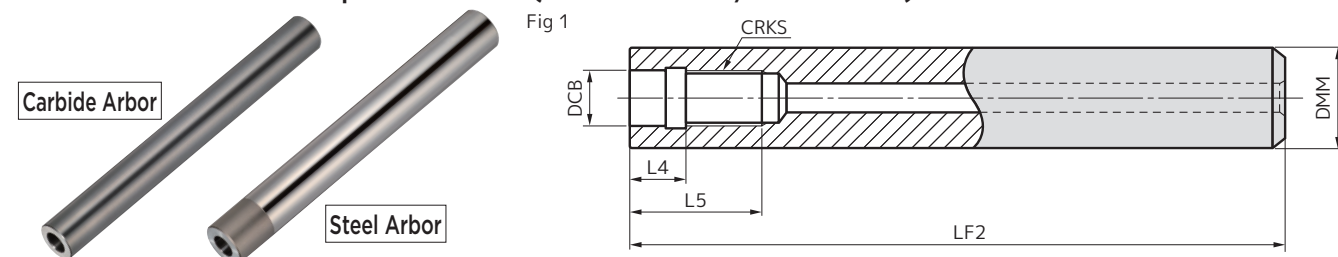
Dimensions (mm)

Cat. No.	Stock	Screw CRKS	Hole Dia. DCB	External Dia. BD	Body Overhang L6	Length LBX	Thread Depth L7	Overhang LF*1	Coolant Hole	Fig
BBT30-M8-50	●	M8	8.5	15.9	72	50	18	97	Yes	1
M10-45	●	M10	10.5	19.9	67	45	20	97	Yes	1
M12-40	●	M12	12.5	24.9	62	40	22	97	Yes	1

*1: Overhang length for LF is with head mounted.

Can also be used with BT30 spindle machines.

■ SEC-Modular Tools - Special Arbors (Carbide Arbor/Steel Arbor)



■ Carbide Arbor

Dimensions (mm)

Cat. No.	Stock	Screw CRKS	Hole Dia. DCB	Shank DMM	Overall Length LF2	Depth L4	Thread Depth L5	Overhang L6	Fig
MA10M06L100C	●	M6	6.5	10	100	9	15.5	120	1
12M06L100C	●	M6	6.5	12	100	9	15.5	120	1
MA15M08L120C	●	M8	8.5	15	120	10	18	145	1
15M08L160C	●	M8	8.5	15	160	10	18	185	1
16M08L120C	●	M8	8.5	16	120	10	18	145	1
16M08L160C	●	M8	8.5	16	160	10	18	185	1
MA18M10L150C	●	M10	10.5	18	150	10	20	180	1
18M10L200C	●	M10	10.5	18	200	10	20	230	1
20M10L150C	●	M10	10.5	20	150	10	20	180	1
20M10L200C	●	M10	10.5	20	200	10	20	230	1
MA23M12L200C	●	M12	12.5	23	200	10	22	235	1
23M12L250C	●	M12	12.5	23	250	10	22	285	1
25M12L200C	●	M12	12.5	25	200	10	22	235	1
25M12L250C	●	M12	12.5	25	250	10	22	285	1

■ Steel Arbor

Dimensions (mm)

Cat. No.	Stock	Screw CRKS	Hole Dia. DCB	Shank DMM	Overall Length LF2	Depth L4	Thread Depth L5	Overhang L6	Fig
MA16M08L120S	●	M8	8.5	16	120	10	18	145	1
20M10L150S	●	M10	10.5	20	150	10	20	180	1
25M12L200S	●	M12	12.5	25	200	10	22	235	1

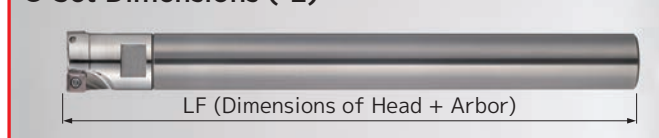
■ Identification Code

MA 15 M08 L120 C

Series Code Shank Dia. Mounting Screw Size Arbor Overall Length Arbor Material

(C: Carbide, S: Steel)

● Set Dimensions (*2)



■ Recommended Tightening Torque (N·m)

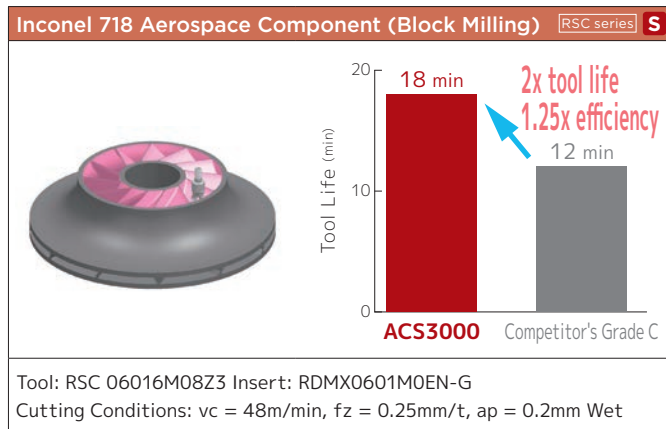
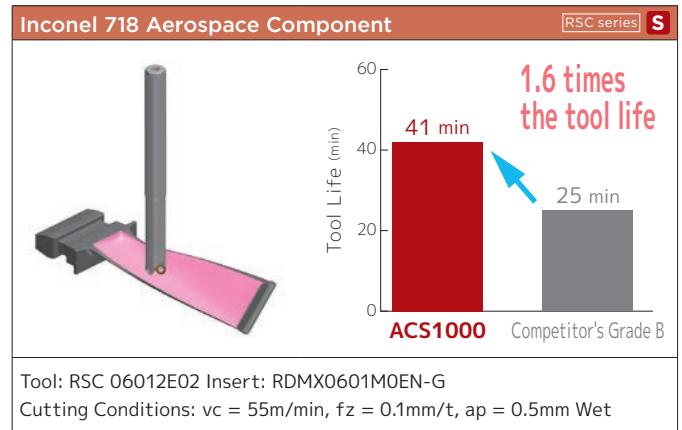
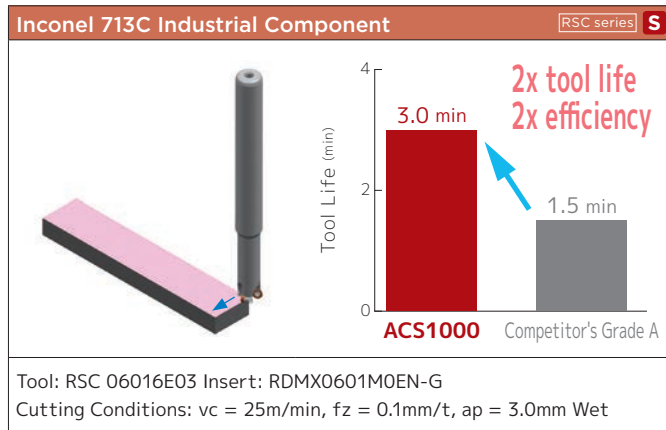
*Take care when tightening the head.

- When mounting the head to an arbor, follow the regulated tightening torque in the table below.
- Check the mounting screw size for the head and arbor beforehand.

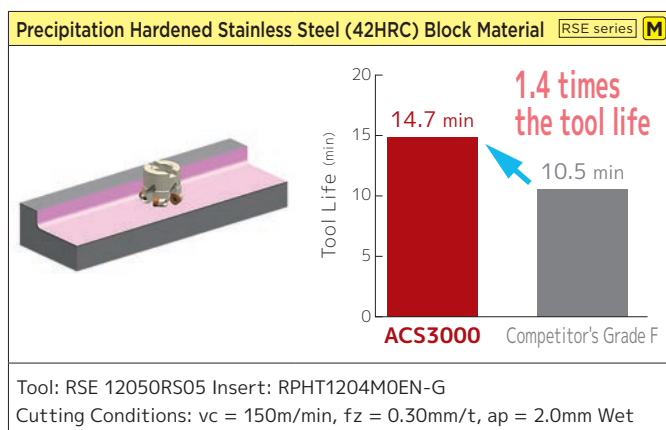
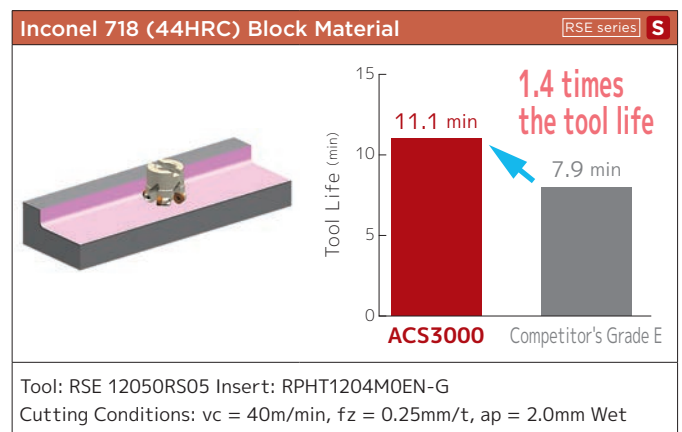
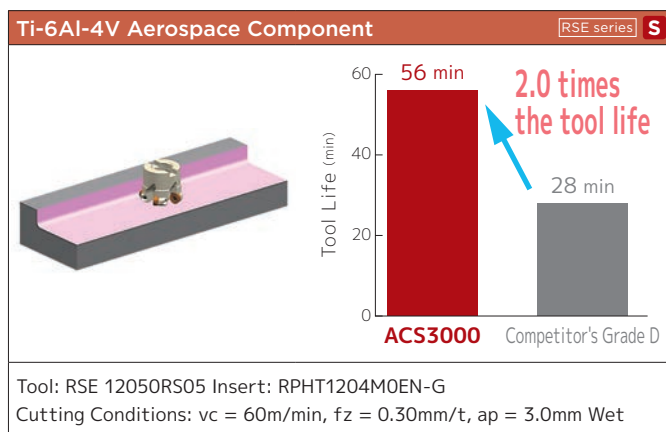
Screw Size	Regulated Tightening Torque (N·m)
M6	8
M8	23
M10	46
M12	60



■ Application Examples (RSC series)



■ Application Examples (RSE series)





- Very hot or lengthy chips may be discharged while the machine is in operation. Therefore, machine guards, safety goggles or other protective covers must be used. Fire safety precautions must also be considered.

< SAFETY NOTES >

- Please handle with care as this product has sharp edges.
- Improper cutting conditions or mis-handling of the tool may result in breakages or projectiles. Therefore, please use the tool within its recommended conditions.

- When using non-water soluble cutting oil, precautions against fire must be taken and please ensure that a fire extinguisher is placed near the machine.



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