

R8 (Ø16)
endmill
series
expansion

**Excellent in
rough and semi-
finishing of
medium and
large molds.**



■ Mitsubishi's unique inserts shape and arrangement.
High rigidity and good cutting performance.

■ New precision M-class inserts.
Precision and low price.

MIRACLE® Coated VP15TF

Superior welding and oxidation resistance and high adhesion strength. Used in a variety of workpiece materials from carbon steels to hardened steels.

Ball-nose Endmill for Rough to Medium Cutting

SRM2

Features

Cutting Edge Diameter

NEW

Ø16, Ø20, Ø25, Ø30

Application

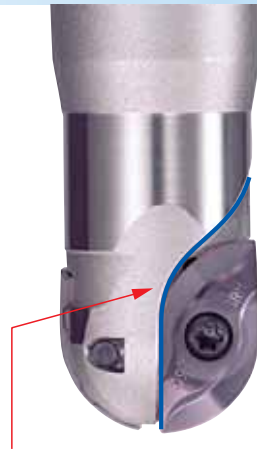
For roughing and semi-finishing of medium and large molds

High Rigidity

- Large insert thickness guards against fracture.
- Thick body core resists body web fracture.



- "Streamlined pocket" optimizes a balance of chips flow and body rigidity.



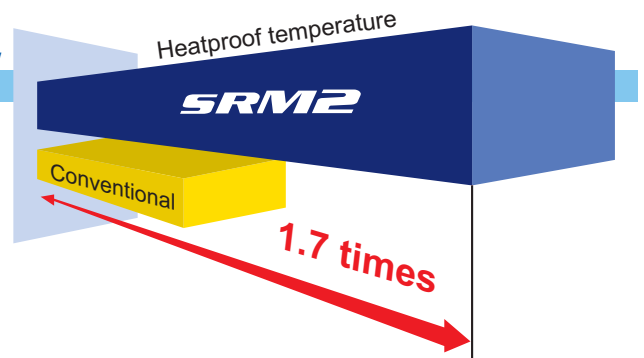
- "Heel cut" achieves high body rigidity and good chips control, avoiding damage and welding by chips to the body.

Heel cut



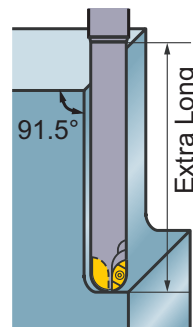
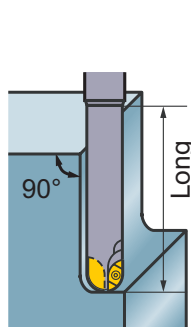
Highly Heat-resistant Body

- The body of the SRM2 is made of a special alloy steel with excellent high-temperature strength, enhanced by a corrosion-resistant surface treatment.



Series Expansion

- In addition to the standard and long cutting edge types, this series has been expanded with a long-neck type which can machine vertical faces. The series is now equipped with a coolant hole as standard, enabling it to tackle a wider range of die mold cutting applications.



Coolant Hole



High Precision, Low Resistance

- High rigidity means the body does not deform, even when cutting under large loads.
- Low resistance means high quality finished surfaces.
- The key-type clamp grips the insert securely.

Strong Cutting Edge Type Inserts

The peripheral grinding improves the precision of the insert.

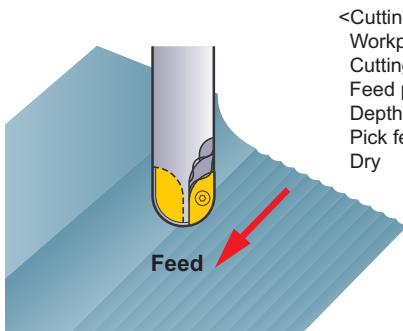


Sharp, Low-resistance Cutting Edge Type Inserts (With Breakers)

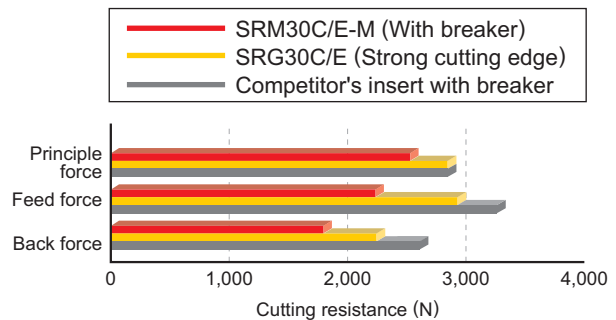
Tolerance close to that of G-class inserts at M-class prices.



■ Cutting resistance



<Cutting conditions>
 Workpiece : JIS SCM440
 Cutting speed : 160m/min
 Feed per tooth : 0.25mm/tooth
 Depth of cut : 10mm
 Pick feed : 2mm
 Dry



■ Radius tolerance and other dimensions when an insert is set in a body



<Radius tolerance>

Cutting Diameter	Nominal R	Tolerance	R min.	R max.
16	8	G	7.925	7.975
		M	7.910	7.970
20	10	G	9.925	9.975
		M	9.910	9.970
25	12.5	G	12.425	12.475
		M	12.410	12.470
30	15	G	14.925	14.975
		M	14.910	14.970

<Dimensions when an insert is set in a body>

Cutting Dia.	Tolerance	D ₁ min.	D ₁ max.
16	G	15.800	16.000
	M	15.770	15.990
20	G	19.800	20.000
	M	19.770	19.990
25	G	24.800	25.000
	M	24.770	24.990
30	G	29.800	30.000
	M	29.770	29.990

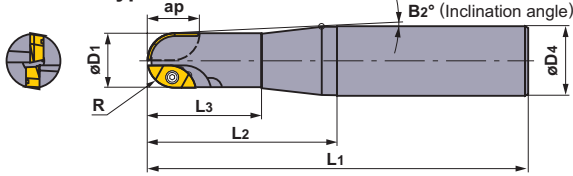
*M : Precision M class

Ball-nose Endmill for Rough to Medium Cutting

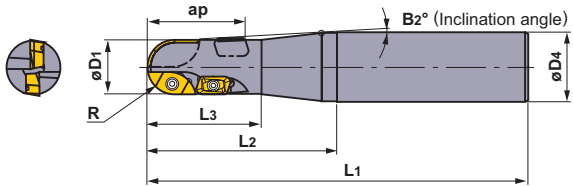
SRM2



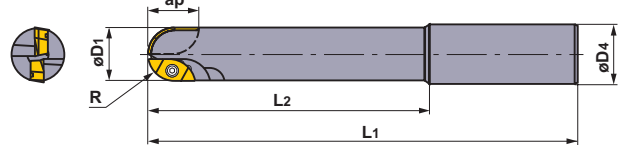
Standard type



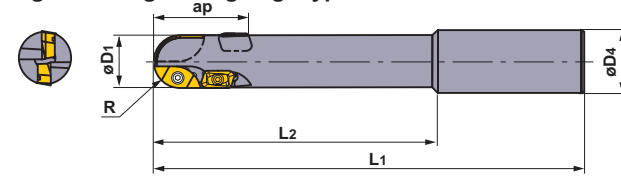
Long cutting edge type



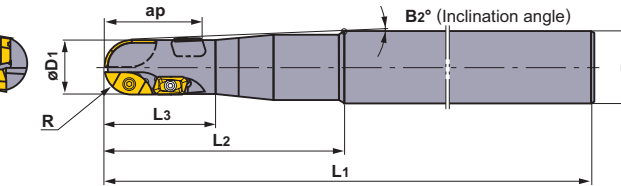
Long neck type



Long neck long cutting edge type



Extra long neck long cutting edge type



Right hand tool holder only.

Type	Order Number	Stock	Coolant Hole	Number of Tooth	Dimensions (mm)								Inner	Outer	Peripheral	Inner Outer	Peripheral	Wrench		
					R	D1	D4	L1	L2	L3	ap	B2°						Inner/Outer	Peripheral	③
Standard type	SRM2160SNM	●	—	2	8	16	20	130	50	25	12	1° 30'	SRG16C SRM16C-M	SRG16E SRM16E-M	—	TS25H	—	①TKY08D	—	
	2160SAM	●	○	2	8	16	20	130	50	25	12	1° 30'	SRG16C SRM16C-M	SRG16E SRM16E-M	—	TS25H	—	①TKY08D	—	
	2200SNM	●	—	2	10	20	25	150	70	35	14	1° 30'	SRG20C SRM20C-M	SRG20E SRM20E-M	—	TS32	—	①TKY08D	—	
	2200SAM	●	○	2	10	20	25	150	70	35	14	1° 30'	SRG20C SRM20C-M	SRG20E SRM20E-M	—	TS32	—	①TKY08D	—	
	2250SNM	●	—	2	12.5	25	32	180	80	40	19	1° 30'	SRG25C SRM25C-M	SRG25E SRM25E-M	—	TS43	—	②TKY15T	—	
	2250SAM	●	○	2	12.5	25	32	180	80	40	19	1° 30'	SRG25C SRM25C-M	SRG25E SRM25E-M	—	TS43	—	②TKY15T	—	
	2300SNM	●	—	2	15	30	32	200	100	50	24	0° 30'	SRG30C SRM30C-M	SRG30E SRM30E-M	—	TS55	—	②TKY25T	—	
	2300SAM	●	○	2	15	30	32	200	100	50	24	0° 30'	SRG30C SRM30C-M	SRG30E SRM30E-M	—	TS55	—	②TKY25T	—	
Long cutting edge type	SRM2200SNL	●	—	4	10	20	25	150	70	35	30	1° 30'	SRG20C SRM20C-M	SRG20E SRM20E-M	APMT1135 PDER-Ø2	TS32	TS25	①TKY08D	①TKY08D	
	2200SAL	●	○	4	10	20	25	150	70	35	30	1° 30'	SRG20C SRM20C-M	SRG20E SRM20E-M	APMT1135 PDER-Ø2	TS32	TS25	①TKY08D	①TKY08D	
	2250SNL	●	—	4	12.5	25	32	180	80	40	37	1° 30'	SRG25C SRM25C-M	SRG25E SRM25E-M	APMT1135 PDER-Ø2	TS43	TS25	②TKY15T	③TKY08F	
	2250SAL	●	○	4	12.5	25	32	180	80	40	37	1° 30'	SRG25C SRM25C-M	SRG25E SRM25E-M	APMT1135 PDER-Ø2	TS43	TS25	②TKY15T	③TKY08F	
	2300SNL	●	—	4	15	30	32	200	100	50	44	0° 30'	SRG30C SRM30C-M	SRG30E SRM30E-M	APMT1604 PDER-Ø2	TS55	TS43	②TKY25T	③TKY15F	
	2300SAL	●	○	4	15	30	32	200	100	50	44	0° 30'	SRG30C SRM30C-M	SRG30E SRM30E-M	APMT1604 PDER-Ø2	TS55	TS43	②TKY25T	③TKY15F	
Long neck type	SRM2160SNF	●	—	2	8	16	16	150	70	—	12	—	SRG16C SRM16C-M	SRG16E SRM16E-M	—	TS25H	—	①TKY08D	—	
	2160SAF	●	○	2	8	16	16	150	70	—	12	—	SRG16C SRM16C-M	SRG16E SRM16E-M	—	TS25H	—	①TKY08D	—	
	2200SNF	●	—	2	10	20	20	180	100	—	14	—	SRG20C SRM20C-M	SRG20E SRM20E-M	—	TS32	—	①TKY08D	—	
	2200SAF	●	○	2	10	20	20	180	100	—	14	—	SRG20C SRM20C-M	SRG20E SRM20E-M	—	TS32	—	①TKY08D	—	
	2250SNF	●	—	2	12.5	25	25	200	120	—	19	—	SRG25C SRM25C-M	SRG25E SRM25E-M	—	TS43	—	②TKY15T	—	
	2250SAF	●	○	2	12.5	25	25	200	120	—	19	—	SRG25C SRM25C-M	SRG25E SRM25E-M	—	TS43	—	②TKY15T	—	
	2300SNF	●	—	2	15	30	32	230	150	—	24	—	SRG30C SRM30C-M	SRG30E SRM30E-M	—	TS55	—	②TKY25T	—	
	2300SAF	●	○	2	15	30	32	230	150	—	24	—	SRG30C SRM30C-M	SRG30E SRM30E-M	—	TS55	—	②TKY25T	—	

● : Inventory maintained.

Type	Order Number	Stock	Coolant Hole	Number of Tooth	Dimensions (mm)																		
					R	D1	D4	L1	L2	L3	ap	B2°	Inner	Outer						Peripheral	Inner/Outer	Peripheral	Peripheral
					Insert															Clamp	Screw	Wrench	
Long neck long cutting edge type	SRM2200SNLF	●	—	4	10	20	20	180	100	—	30	—	SRG20C SRM20C-M	SRG20E SRM20E-M	APMT1135 PDER-02	TS32	TS25	①TKY08D	①TKY08D				
	2200SALF	●	○	4	10	20	20	180	100	—	30	—	SRG20C SRM20C-M	SRG20E SRM20E-M	APMT1135 PDER-02	TS32	TS25	①TKY08D	①TKY08D				
	2250SNLF	●	—	4	12.5	25	25	200	120	—	37	—	SRG25C SRM25C-M	SRG25E SRM25E-M	APMT1135 PDER-02	TS43	TS25	②TKY15T	③TKY08F				
	2250SALF	●	○	4	12.5	25	25	200	120	—	37	—	SRG25C SRM25C-M	SRG25E SRM25E-M	APMT1135 PDER-02	TS43	TS25	②TKY15T	③TKY08F				
	2300SNLF	●	—	4	15	30	32	230	150	—	44	—	SRG30C SRM30C-M	SRG30E SRM30E-M	APMT1604 PDER-02	TS55	TS43	②TKY25T	③TKY15F				
	2300SALF	●	○	4	15	30	32	230	150	—	44	—	SRG30C SRM30C-M	SRG30E SRM30E-M	APMT1604 PDER-02	TS55	TS43	②TKY25T	③TKY15F				
Extra long neck long cutting edge type	SRM2200SNLL	●	—	4	10	20	25	250	120	35	30	1° 30'	SRG20C SRM20C-M	SRG20E SRM20E-M	APMT1135 PDER-02	TS32	TS25	①TKY08D	①TKY08D				
	2200SALL	●	○	4	10	20	25	250	120	35	30	1° 30'	SRG20C SRM20C-M	SRG20E SRM20E-M	APMT1135 PDER-02	TS32	TS25	①TKY08D	①TKY08D				
	2250SNLL	●	—	4	12.5	25	32	300	170	37	37	1° 30'	SRG25C SRM25C-M	SRG25E SRM25E-M	APMT1135 PDER-02	TS43	TS25	②TKY15T	③TKY08F				
	2250SALL	●	○	4	12.5	25	32	300	170	37	37	1° 30'	SRG25C SRM25C-M	SRG25E SRM25E-M	APMT1135 PDER-02	TS43	TS25	②TKY15T	③TKY08F				
	2300SNLL	●	—	4	15	30	32	350	100	50	44	1° 30'	SRG30C SRM30C-M	SRG30E SRM30E-M	APMT1604 PDER-02	TS55	TS43	③TKY25T	③TKY15F				
	2300SALL	●	○	4	15	30	32	350	100	50	44	1° 30'	SRG30C SRM30C-M	SRG30E SRM30E-M	APMT1604 PDER-02	TS55	TS43	③TKY25T	③TKY15F				

INSERT

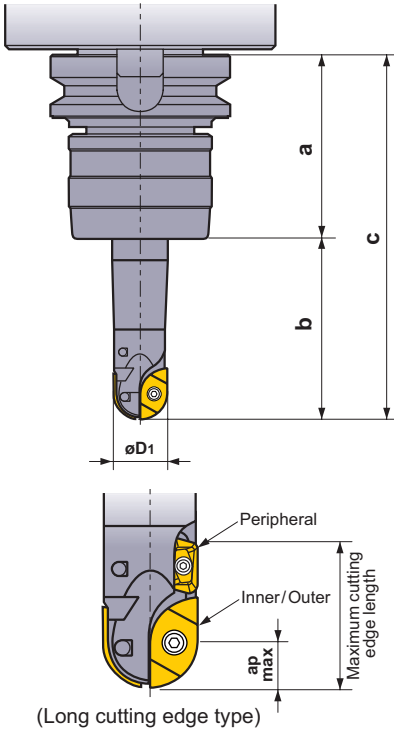
Type	Shape	Order Number	Class	Coated			Dimensions (mm)								Geometry	
				F7030	VP15TF		R	L1	L2	S1	F1	Re	B3	B9		
Inner		SRG16C <small>NEW</small>	G	●			8	16	8.2	3.5	—	—	11	—		
		20C	G	●	●			10	19	10.2	4.6	—	—	10		18
		25C	G	●	●			12.5	24	12.8	5.5	—	—	10		18
		30C	G	●	●			15	28	15.3	7	—	—	10		18
Outer		SRG16E <small>NEW</small>	G	●			8	13.5	6.7	3.5	—	—	11	—		
		20E	G	●	●			10	15.5	8.5	4.6	—	—	9		—
		25E	G	●	●			12.5	20.5	10.2	5.5	—	—	9		—
		30E	G	●	●			15	25.2	12.2	7	—	—	9		—
Inner		SRM16C-M <small>NEW</small>	M	●			8	16	8.2	3.5	—	—	11	—		
		20C-M	M	●	●			10	19	10.2	4.6	—	—	10		18
		25C-M	M	●	●			12.5	24	12.8	5.5	—	—	10		18
		30C-M	M	●	●			15	28	15.3	7	—	—	10		18
Outer		SRM16E-M <small>NEW</small>	M	●			8	13.5	6.7	3.5	—	—	11	—		
		20E-M	M	●	●			10	15.5	8.5	4.6	—	—	9		—
		25E-M	M	●	●			12.5	20.5	10.2	5.5	—	—	9		—
		30E-M	M	●	●			15	25.2	12.2	7	—	—	9		—
Peripheral*		APMT1135PDER-H2	M	●	●			—	11	6.35	3.5	1.2	0.8	—		
		1604PDER-H2	M	●	●			—	16.5	9.525	4.76	1.4	0.8	—		
Peripheral*		APMT1135PDER-M2	M	●	●			—	11	6.35	3.5	1.2	0.8	—		
		1604PDER-M2	M	●	●			—	16.5	9.525	4.76	1.4	0.8	—		

(Low-resistance inner or outer inserts are precision M class.)

*Selection guide for peripheral cutting edges : The first recommendation is the super sharp M breaker (APMT....PDERM2).

For cutting when cutting edge strength is particularly essential, use the H breaker (APMT....PDER-H2).

Recommended Cutting Conditions



Tool Overhang

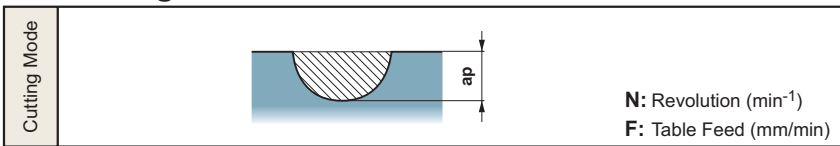
Recommended cutting conditions on this literature are chosen based on deflection, vibration and machined surface when using a BT50 arbor under the below conditions-"a," a length from a gage line to the arbor end face and "b," a neck length (a tool overhang from the arbor).

Cutting Diameter : $\phi D1$	Type	a	b	c
16	Standard type	105	50	155
	Long neck type		70	175
	Extra long neck type		—	—
20	Standard type		70	175
	Long neck type		100	205
	Extra long neck type		150	255
25	Standard type		80	185
	Long neck type		120	225
	Extra long neck type		200	305
30	Standard type		100	205
	Long neck type	150	255	
	Extra long neck type	250	355	

Recommended Depth of Cut for Long Cutting Edge Type

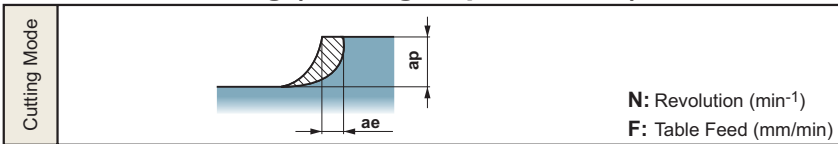
The maximum cutting edge length of the long cutting edge type with a peripheral insert is 1.4-1.5D₁. The peripheral insert is fit on the body to mainly remove unmachined portions of the upper machined surface. Recommended depth of cut: **Maximum ap** is 0.5D₁ or below.

Grooving



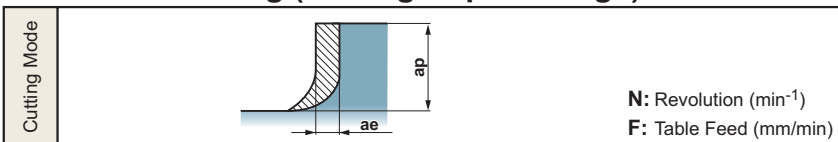
Workpiece	Hardness	Cutting Speed (m/min)	Grade	Type	$\phi 16$			$\phi 20$			$\phi 25$			$\phi 30$			
					N	F	ap	N	F	ap	N	F	ap	N	F	ap	
P Carbon Steel Alloy Steel (JIS S45C JIS SCM400)	180-280HB	160 (120-200)	VP15TF (with Breaker)	Standard type	3183	764	8	2546	611	10	2037	489	12.5	1698	407	15	
				Long neck type	3183	764	4	2546	611	5	2037	489	6	1698	407	7.5	
				Extra long neck type	—	—	—	2546	611	3	2037	489	4	1698	407	3	
	280-350HB	140 (120-160)	VP15TF (with Breaker)	Standard type	2785	668	8	2228	535	10	1783	428	12.5	1485	357	15	
				Long neck type	2785	668	4	2228	535	5	1783	428	6	1485	357	7.5	
				Extra long neck type	—	—	—	2228	535	3	1783	428	4	1485	357	3	
	Prehardened Steel (JIS NAK55)	35-45HRC	120 (100-160)	VP15TF (with Breaker)	Standard type	2387	573	6	1910	458	10	1528	367	12.5	1273	306	15
					Long neck type	2387	573	4	1910	458	5	1528	367	6	1273	306	7.5
					Extra long neck type	—	—	—	1910	458	3	1528	367	4	1273	306	3
Alloy Tool Steel (JIS SKD, JIS SKT)	≤ 350 HB	140 (120-160)	VP15TF (with Breaker)	Standard type	2785	557	6	2228	535	8	1783	535	10	1485	594	12	
				Long neck type	2785	557	4	2228	535	3	1783	535	5	1485	594	4.5	
				Extra long neck type	—	—	—	2228	535	2	1783	535	2.5	1485	594	1.5	
M Stainless Steel (JIS SUS420J2)	≤ 270 HB	200 (100-250)	VP15TF (with Breaker)	Standard type	3979	796	4	3183	764	5	2546	764	6	2122	849	7.5	
				Long neck type	3979	796	3	3183	764	3	2546	611	4	2122	637	4.5	
				Extra long neck type	—	—	—	3183	509	2	2546	509	1.5	2122	509	1.5	
K Grey Cast Iron (JIS FC250)	≤ 350 MPa	200 (150-300)	VP15TF (with Breaker)	Standard type	3979	1592	8	3183	1273	10	2546	1019	12.5	2122	849	15	
				Long neck type	3979	1592	4	3183	1273	5	2546	1019	7.5	2122	849	4.5	
				Extra long neck type	—	—	—	3183	1273	3	2546	1019	4	2122	849	3	
	≤ 500 MPa	180 (150-240)	VP15TF (with Breaker)	Standard type	3581	1432	8	2865	1146	10	2292	917	12.5	1910	764	15	
				Long neck type	3581	1432	4	2865	1146	5	2292	917	7.5	1910	764	4.5	
				Extra long neck type	—	—	—	2865	1146	3	2292	917	4	1910	764	1.5	
	≤ 800 MPa	160 (150-250)	VP15TF (with Breaker)	Standard type	3183	1273	8	2546	1019	10	2037	815	12.5	1698	679	15	
				Long neck type	3183	1273	4	2546	1019	5	2037	815	7.5	1698	679	4.5	
				Extra long neck type	—	—	—	2546	1019	3	2037	815	4	1698	679	1.5	
H Heat Treated Steel (JIS SKD61)	45-50HRC	100 (60-120)	VP15TF Strong Cutting Edge Type	Standard type	1989	398	6	1591	318	6	1273	255	6	1061	212	7.5	
				Long neck type	1989	398	3	1591	318	4	1273	255	4	1061	212	3	
				Extra long neck type	—	—	—	1591	318	2	1273	255	2.5	1061	212	1.5	
	50-60HRC	60 (40-100)	VP15TF Strong Cutting Edge Type	Standard type	1194	239	6	955	191	6	764	153	6	637	127	7.5	
				Long neck type	1194	239	3	955	191	4	764	153	4	637	127	3	
				Extra long neck type	—	—	—	955	191	2	764	153	2.5	637	127	1.5	

Shoulder Milling (Cutting Depth : Small)



Workpiece	Hardness	Cutting Speed (m/min)	Grade	Type	ø16				ø20				ø25				ø30			
					N	F	ap	ae	N	F	ap	ae	N	F	ap	ae	N	F	ap	ae
P Carbon Steel Alloy Steel (JIS S45C) (JIS SCM400)	180-280HB	200 (160-250)	VP15TF (with Breaker)	Standard type	3979	1592	4	6	3183	1273	5	8	2546	1273	6	10	2122	1273	7.5	10
				Long neck type	3979	1592	4	4	3183	1273	5	6	2546	1273	6	7.5	2122	1273	7.5	7.5
				Extra long neck type	-	-	-	-	3183	955	5	4	2546	1019	6	5	2122	637	7.5	3
	280-350HB	160 (120-200)	VP15TF (with Breaker)	Standard type	3183	955	4	6	2546	764	5	8	2037	815	6	10	1698	849	7.5	10
				Long neck type	3183	764	4	4	2546	611	5	6	2037	611	6	7.5	1698	509	7.5	7.5
				Extra long neck type	-	-	-	-	2546	509	5	4	2037	489	6	5	1698	407	7.5	3
Prehardened Steel (JIS NAK55)	35-45HRC	160 (120-200)	VP15TF (with Breaker)	Standard type	3183	955	4	6	2546	764	5	8	2037	815	6	10	1698	849	7.5	10
				Long neck type	3183	764	4	4	2546	611	5	6	2037	611	6	7.5	1698	679	7.5	7.5
				Extra long neck type	-	-	-	-	2546	509	5	4	2037	489	6	5	1698	509	7.5	3
Alloy Tool Steel (JIS SKD, JIS SKT)	≤350HB	160 (120-200)	VP15TF (with Breaker)	Standard type	3183	1273	4	6	2546	764	5	6	2037	815	6	10	1698	849	7.5	10
				Long neck type	3183	955	4	4	2546	611	5	4	2037	611	6	7.5	1698	509	7.5	7.5
				Extra long neck type	-	-	-	-	2546	509	5	2	2037	489	6	2.5	1698	407	7.5	1.5
M Stainless Steel (JIS SUS420J2)	≤270HB	200 (100-250)	VP15TF (with Breaker)	Standard type	3979	796	4	8	3183	764	5	8	2546	764	6	10	2122	849	7.5	10
				Long neck type	3979	796	4	6	3183	764	5	4	2546	611	6	7.5	2122	849	7.5	7.5
				Extra long neck type	-	-	-	-	3183	637	5	2	2546	509	6	5	2122	424	7.5	1.5
K Grey Cast Iron (JIS FC250)	≤350MPa	200 (150-300)	VP15TF (with Breaker)	Standard type	3979	1989	4	8	3183	1910	5	10	2546	1528	6	10	2122	1485	7.5	10
				Long neck type	3979	1989	4	6	3183	1910	5	8	2546	1528	6	10	2122	1485	7.5	6
				Extra long neck type	-	-	-	-	3183	1592	5	6	2546	1273	6	7.5	2122	1061	7.5	3
Ductile Cast Iron (JIS FCD450)	≤500MPa	200 (150-280)	VP15TF (with Breaker)	Standard type	3979	1989	4	8	3183	1910	5	10	2546	1528	6	10	2122	1273	7.5	10
				Long neck type	3979	1989	4	6	3183	1910	5	8	2546	1528	6	10	2122	1273	7.5	6
				Extra long neck type	-	-	-	-	3183	1592	5	6	2546	1273	6	7.5	2122	1061	7.5	3
Ductile Cast Iron (JIS FCD700)	≤800MPa	180 (150-250)	VP15TF (with Breaker)	Standard type	3581	1790	4	8	2865	1719	5	10	2292	1375	6	10	1910	1146	7.5	10
				Long neck type	3581	1790	4	6	2865	1719	5	8	2292	1375	6	10	1910	1146	7.5	6
				Extra long neck type	-	-	-	-	2865	1432	5	6	2292	1146	6	7.5	1910	955	7.5	3
H Heat Treated Steel (JIS SKD61)	45-50HRC	100 (60-120)	VP15TF Strong Cutting Edge Type	Standard type	1989	398	4	4	1591	318	5	5	1273	255	6	7.5	1061	212	7.5	3
				Long neck type	1989	398	4	2	1591	318	5	3	1273	255	6	4	1061	212	7.5	1.5
				Extra long neck type	-	-	-	-	1591	318	5	2	1273	204	6	1.5	1061	170	7.5	1
Heat Treated Steel (JIS SKD11)	50-60HRC	60 (40-100)	VP15TF Strong Cutting Edge Type	Standard type	1194	239	4	4	955	191	5	5	764	153	6	7.5	637	127	7.5	3
				Long neck type	1194	239	4	2	955	191	5	3	764	153	6	4	637	127	7.5	1.5
				Extra long neck type	-	-	-	-	955	191	5	2	764	122	6	1.5	637	102	7.5	1

Shoulder Milling (Cutting Depth : Large)



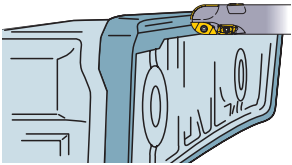
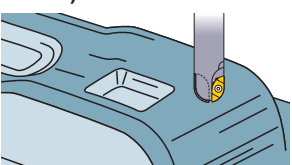
*Machining Stainless Steels

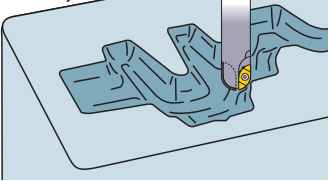
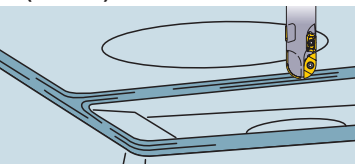
When up-cut milling stainless steels at large depth of cut, or ap, a machined surface is liable to burrs and welding due to chip jamming. For stainless steels, perform down-cut milling.

Workpiece	Hardness	Cutting Speed (m/min)	Grade	Type	ø16				ø20				ø25				ø30			
					N	F	ap	ae	N	F	ap	ae	N	F	ap	ae	N	F	ap	ae
P Carbon Steel Alloy Steel (JIS S45C) (JIS SCM400)	180-280HB	200 (160-250)	VP15TF (with Breaker)	Standard type	3979	1592	8	4	3183	1273	10	4	2546	1273	12.5	5	2122	1273	15	4.5
				Long neck type	3979	1194	8	3	3183	955	10	3	2546	1019	12.5	4	2122	849	15	3
				Extra long neck type	-	-	-	-	3183	955	10	2	2546	764	12.5	2.5	2122	849	15	1.5
	280-350HB	160 (120-200)	VP15TF (with Breaker)	Standard type	3183	955	8	4	2546	764	10	4	2037	815	12.5	5	1698	849	15	4.5
				Long neck type	3183	764	8	3	2546	611	10	3	2037	611	12.5	4	1698	509	15	3
				Extra long neck type	-	-	-	-	2546	611	10	2	2037	489	12.5	2.5	1698	407	15	1.5
Prehardened Steel (JIS NAK55)	35-45HRC	160 (120-200)	VP15TF (with Breaker)	Standard type	3183	955	8	4	2546	764	10	4	2037	815	12.5	5	1698	849	15	4.5
				Long neck type	3183	764	8	3	2546	611	10	3	2037	611	12.5	4	1698	509	15	3
				Extra long neck type	-	-	-	-	2546	611	10	2	2037	489	12.5	2.5	1698	407	15	1.5
Alloy Tool Steel (JIS SKD, JIS SKT)	≤350HB	160 (120-200)	VP15TF (with Breaker)	Standard type	3183	955	8	4	2546	509	10	3	2037	815	12.5	5	1698	849	15	4.5
				Long neck type	3183	764	8	3	2546	509	10	2	2037	611	12.5	2.5	1698	509	15	3
				Extra long neck type	-	-	-	-	2546	407	10	1	2037	489	12.5	1.5	1698	407	15	1.5
M Stainless Steel (JIS SUS420J2)	≤270HB	200 (100-250)	VP15TF (with Breaker)	Standard type	3979	796	8	8	3183	764	10	8	2546	764	12.5	10	2122	849	15	10
				Long neck type	3979	796	8	3	3183	764	10	3	2546	611	12.5	4	2122	509	15	4.5
				Extra long neck type	-	-	-	-	3183	637	10	2	2546	489	12.5	1.5	2122	340	15	1.5
K Grey Cast Iron (JIS FC250)	≤350MPa	200 (150-300)	VP15TF (with Breaker)	Standard type	3979	1989	8	8	3183	1592	10	8	2546	1273	12.5	10	2122	1485	15	10
				Long neck type	3979	1592	8	5	3183	1592	10	6	2546	1273	12.5	7.5	2122	1061	15	4.5
				Extra long neck type	-	-	-	-	3183	1273	10	4	2546	1019	12.5	1.5	2122	849	15	3
Ductile Cast Iron (JIS FCD450)	≤500MPa	200 (150-280)	VP15TF (with Breaker)	Standard type	3979	1989	8	8	3183	1592	10	8	2546	1273	12.5	10	2122	1273	15	10
				Long neck type	3979	1592	8	5	3183	1592	10	4	2546	1273	12.5	7.5	2122	849	15	4.5
				Extra long neck type	-	-	-	-	3183	1273	10	2	2546	1019	12.5	5	2122	849	15	1.5
Ductile Cast Iron (JIS FCD700)	≤800MPa	180 (150-250)	VP15TF (with Breaker)	Standard type	3581	1790	8	8	2865	1432	10	8	2292	1146	12.5	10	1910	1146	15	10
				Long neck type	3581	1432	8	5	2865	1432	10	4	2292	1146	12.5	7.5	1910	764	15	4.5
				Extra long neck type	-	-	-	-	2865	1146	10	2	2292	917	12.5	5	1910	764	15	1.5
H Heat Treated Steel (JIS SKD61)	45-50HRC	100 (60-120)	VP15TF Strong Cutting Edge Type	Standard type	1989	398	8	2	1591	318	10	3	1273	255	12.5	4	1061	212	15	3
				Long neck type	1989	398	8	1	1591	318	10	2	1273	204	12.5	1.5	1061	106	15	1.5
				Extra long neck type	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Treated Steel (JIS SKD11)	50-60HRC	60 (40-100)	VP15TF Strong Cutting Edge Type	Standard type	1194	239	8	2	955	191	10	3	764	153	12.5	4	637	127	15	3
				Long neck type	1194	239	8	1	955	191	10	2	764	122	12.5	1.5	637	64	15	1.5
				Extra long neck type	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SRM2

Application Examples

Tool	SRM2300SAL	SRM2250SNF
Insert	SRM30C-M, SRM30E-M	SRG25C, SRG25E
Grade	VP15TF	VP15TF
Machine	Horizontal machining center	Vertical machining center
Workpiece	JIS FC250 	JIS S55C(230HB) 
Component	Press mold	Plastic mold
Cutting Conditions	Cutting Speed (m/min)	141
	Table Feed (mm/min)	700
	Feed per Tooth (mm/tooth)	0.23
	Depth of Cut (mm)	5-8
	Width of Cut (mm)	5
Coolant	Air blow	Air blow
Results	Compared to a competitor's ball nose end mill, the SRM2 has offered better cutting performance, made smaller cutting noise and lengthen tool life 1.5 fold.	Compared to a competitor's ball nose end mill, the SRM2 has achieved better surface finish and about 2 times longer tool life.

Tool	SRM2300SNM	SRM2300SNL
Insert	SRM30C-M, SRM30E-M	SRM30C-M, SRM30E-M
Grade	VP15TF	VP15TF
Machine	Double housing planing machining center	Double housing planing machining center
Workpiece	JIS SKT4(380HB) 	Die steel(350HB) 
Component	Forging mold	Plastic mold
Cutting Conditions	Cutting Speed (m/min)	113
	Table Feed (mm/min)	300
	Feed per Tooth (mm/tooth)	0.125
	Depth of Cut (mm)	5.0
	Width of Cut (mm)	15.0
Coolant	Air blow	Air blow
Results	Compared to a competitor's ball nose end mill, the SRM2 has offered better cutting performance, made smaller cutting noise and lengthen tool life 1.3 fold.	A precision M-class insert has been sharper and made smaller cutting noise than Mitsubishi's G-class insert with all surfaces ground. Both have achieved the same good surface finish and long tool life. The low price of the precision M-class insert has made it possible to reduce machining costs.

Avoiding screws/bolts seizing

●In order to avoid screws/bolts seizing, the application of a special lubricant MK1K (separately sold) is recommended when setting inserts on end mills.

For Your Safety

●Don't touch breakers and chips without gloves. ●Please machine within recommended application range, and exchange expired tools with new parts in advance. ●Please use safety cover and wear safety glasses. ●When using compounded cutting oils, please take fire prevention. ●When attaching inserts or spare parts, please use the attached wrench or spanner. ●When using tools in revolution machining, please make a trial run to check run-out, vibration, abnormal sounds etc.

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(Tools specifications subject to change without notice.)