

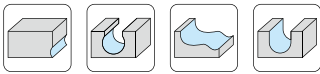
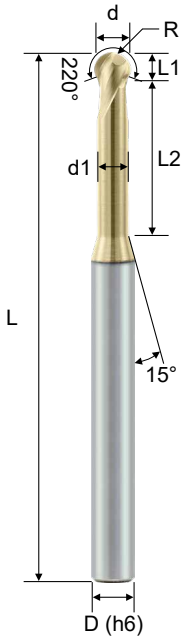
S950 - Spherical Ball 220° · 2F

球型銑刀 · 220°全球頭球型 · 2刃

- 220° spherical ball design.
- Suitable for undercutting, deburring and complex geometries machining in multi-axis machine.
- Excellent surface finishing of vertical machining.
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.



EHRRC

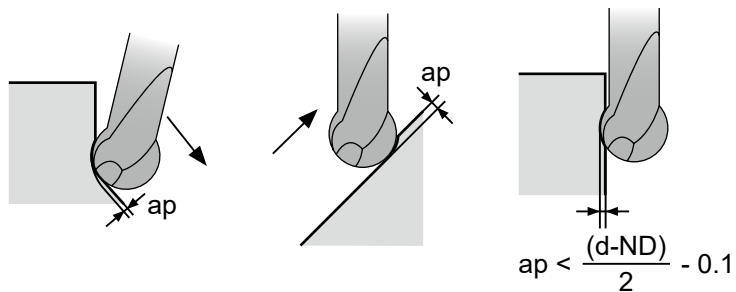


R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No.	Radius (R)	Dia. (d)	CL (L1)	ND (d1)	NL (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHRRC2020221S	1.0R	2	1.4	1.7	3.6	60	6	2
EHRRC2020222S	1.0R	2	1.4	1.7	8.6	60	6	2
EHRRC2030221S	1.5R	3	2.0	2.6	6	75	6	2
EHRRC2030222S	1.5R	3	2.0	2.6	13	75	6	2
EHRRC2040221S	2.0R	4	2.7	3.4	7.3	75	6	2
EHRRC2040222S	2.0R	4	2.7	3.4	17.3	75	6	2
EHRRC2050221S	2.5R	5	3.4	4.3	8.6	75	6	2
EHRRC2050222S	2.5R	5	3.4	4.3	21.6	75	6	2
EHRRC2060221S	3.0R	6	4.3	5.1	10.7	75	6	2
EHRRC2060222S	3.0R	6	4.3	5.1	25.7	75	6	2
EHRRC2080221S	4.0R	8	5.6	6.8	14.4	75	8	2
EHRRC2100221S	5.0R	10	7.0	8.5	18	75	10	2
EHRRC2120221S	6.0R	12	8.4	10.2	21.6	75	12	2

※ To choose uncoated tools for aluminum alloy machining.

Material	Carbon Steel / Alloy Steel / Cast iron			Alloy Steel / Tool Steel / Pre-Hardened Steel (SCM, SKT, SKD)			Stainless Steel (SUS304, SUS316)			Aluminum Alloy			Hardened Steel		
Hardness	HRC < 30			HRC 30 ~ 45			-			-			HRC 45 ~ 60		
VC	220 ~ 300 m/min			150 ~ 220 m/min			70 ~ 150 m/min			280 ~ 360 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)	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	51,000	2,400	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	34,000	2,880	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	25,500	2,880	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	20,400	2,880	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	17,000	2,880	0.12	8,000	960	0.12



Solid End Milling

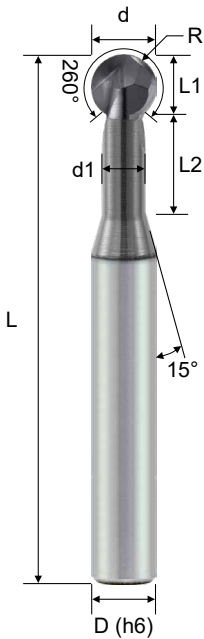
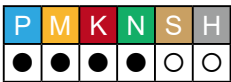
S950 - Spherical Ball 260° · 2F

球型銑刀 · 260°全球頭球型 · 2刃

- 260° spherical ball design.
- Suitable for undercutting, deburring and complex geometries machining in multi-axis machine.
- Excellent surface finishing of vertical machining.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.



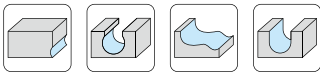
EPRRC



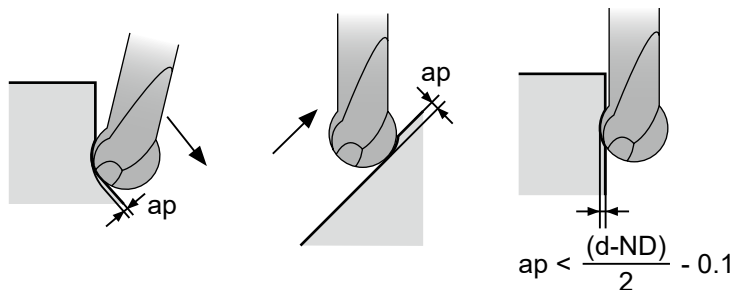
Order No.	Radius (R)	Dia. (d)	CL (L1)	ND (d1)	NL (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPRRC2420261A	1.0R	2	1.63	1.53	3	50	4	2
EPRRC2430261A	1.5R	3	2.46	2.3	3	50	4	2
EPRRC2440261A	2.0R	4	3.3	3.06	5	50	4	2
EPRRC2050261A	2.5R	5	4.1	3.83	5	50	6	2
EPRRC2060261A	3.0R	6	4.93	4.6	5	50	6	2
EPRRC2080261A	4.0R	8	6.58	6.11	6	60	8	2
EPRRC2100261A	5.0R	10	8.22	7.65	8	75	10	2
EPRRC2120261A	6.0R	12	9.86	9.2	10	75	12	2
EPRRC2160261A	8.0R	16	13.37	11.86	10	100	16	2

※ To choose uncoated tools for aluminum alloy machining.

Material	Carbon Steel / Alloy Steel / Cast iron			Alloy Steel / Tool Steel / Pre-Hardened Steel (SCM, SKT, SKD)			Stainless Steel (SUS304, SUS316)			Aluminum Alloy			Hardened Steel		
Hardness	HRC < 30			HRC 30 ~ 45			-			-			HRC 45 ~ 60		
VC	220 ~ 300 m/min			150 ~ 220 m/min			70 ~ 150 m/min			280 ~ 360 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)	RPM	Feed (mm/min)	ap (mm)
1.0R	40,000	1,200	0.04	30,000	900	0.04	24,000	720	0.04	51,000	1,800	0.04	24,000	720	0.04
1.5R	32,000	1,440	0.06	23,000	1,035	0.06	16,000	720	0.06	34,000	2,160	0.06	16,000	720	0.06
2.0R	24,000	1,440	0.08	17,000	1,020	0.08	12,000	720	0.08	25,500	2,160	0.08	12,000	720	0.08
2.5R	19,200	1,440	0.10	14,000	1,050	0.10	9,600	720	0.10	20,400	2,160	0.10	9,600	720	0.10
3.0R	16,000	1,440	0.12	12,000	1,080	0.12	8,000	720	0.12	17,000	2,160	0.12	8,000	720	0.12



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



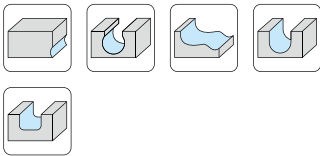
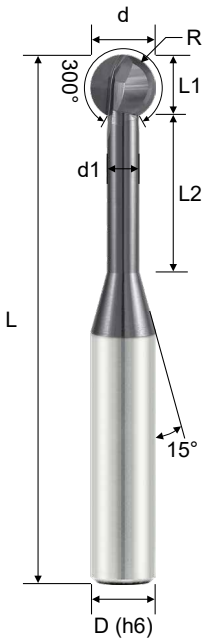
S950 - Spherical Ball 300° · 2F

球型銑刀 · 300°全球頭球型 · 2刃

- 300° spherical ball design.
- Suitable for undercutting, deburring and complex geometries machining in multi-axis machine.
- Excellent surface finishing of vertical machining.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

ASIA
(Metric)

EPRRC

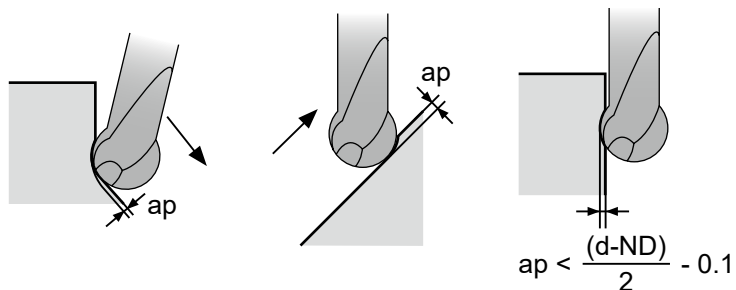


R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No.	Radius (R)	Dia. (d)	CL (L1)	ND (d1)	NL (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPRRC2420301A	1.0R	2	1.9	0.95	3	50	4	2
EPRRC2440301A	2.0R	4	3.7	1.9	6	50	4	2
EPRRC2060301A	3.0R	6	5.56	2.85	9	50	6	2
EPRRC2080301A	4.0R	8	7.4	3.8	12	100	8	2
EPRRC2100301A	5.0R	10	9.3	4.75	15	100	10	2
EPRRC2120301A	6.0R	12	11.1	5.7	18	100	12	2

※ To choose uncoated tools for aluminum alloy machining.

Material	Carbon Steel / Alloy Steel / Cast iron			Alloy Steel / Tool Steel / Pre-Hardened Steel (SCM, SKT, SKD)			Stainless Steel (SUS304, SUS316)			Aluminum Alloy			Hardened Steel		
Hardness	HRC < 30			HRC 30 ~ 45			-			-			HRC 45 ~ 60		
VC	220 ~ 300 m/min			150 ~ 220 m/min			70 ~ 150 m/min			280 ~ 360 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)	RPM	Feed (mm/min)	ap (mm)
1.0R	40,000	780	0.04	30,000	585	0.04	24,000	470	0.04	51,000	1170	0.04	24,000	470	0.04
1.5R	32,000	936	0.06	23,000	675	0.06	16,000	470	0.06	34,000	1400	0.06	16,000	470	0.06
2.0R	24,000	936	0.08	17,000	665	0.08	12,000	470	0.08	25,500	1400	0.08	12,000	470	0.08
2.5R	19,200	936	0.10	14,000	685	0.10	9,600	470	0.10	20,400	1400	0.10	9,600	470	0.10
3.0R	16,000	936	0.12	12,000	705	0.12	8,000	470	0.12	17,000	1400	0.12	8,000	470	0.12



Solid End Milling