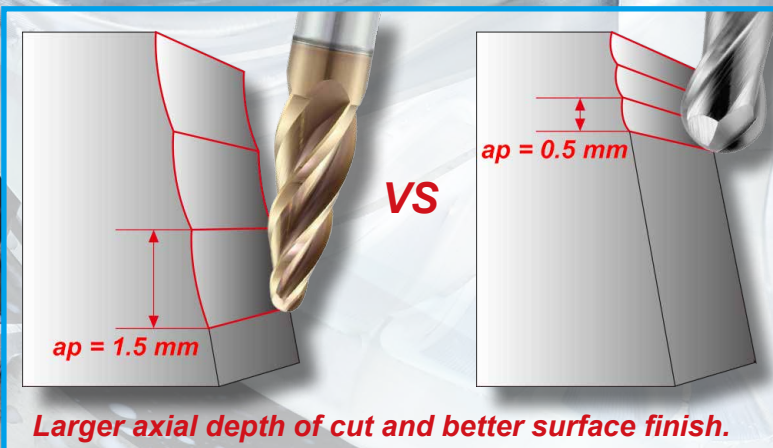
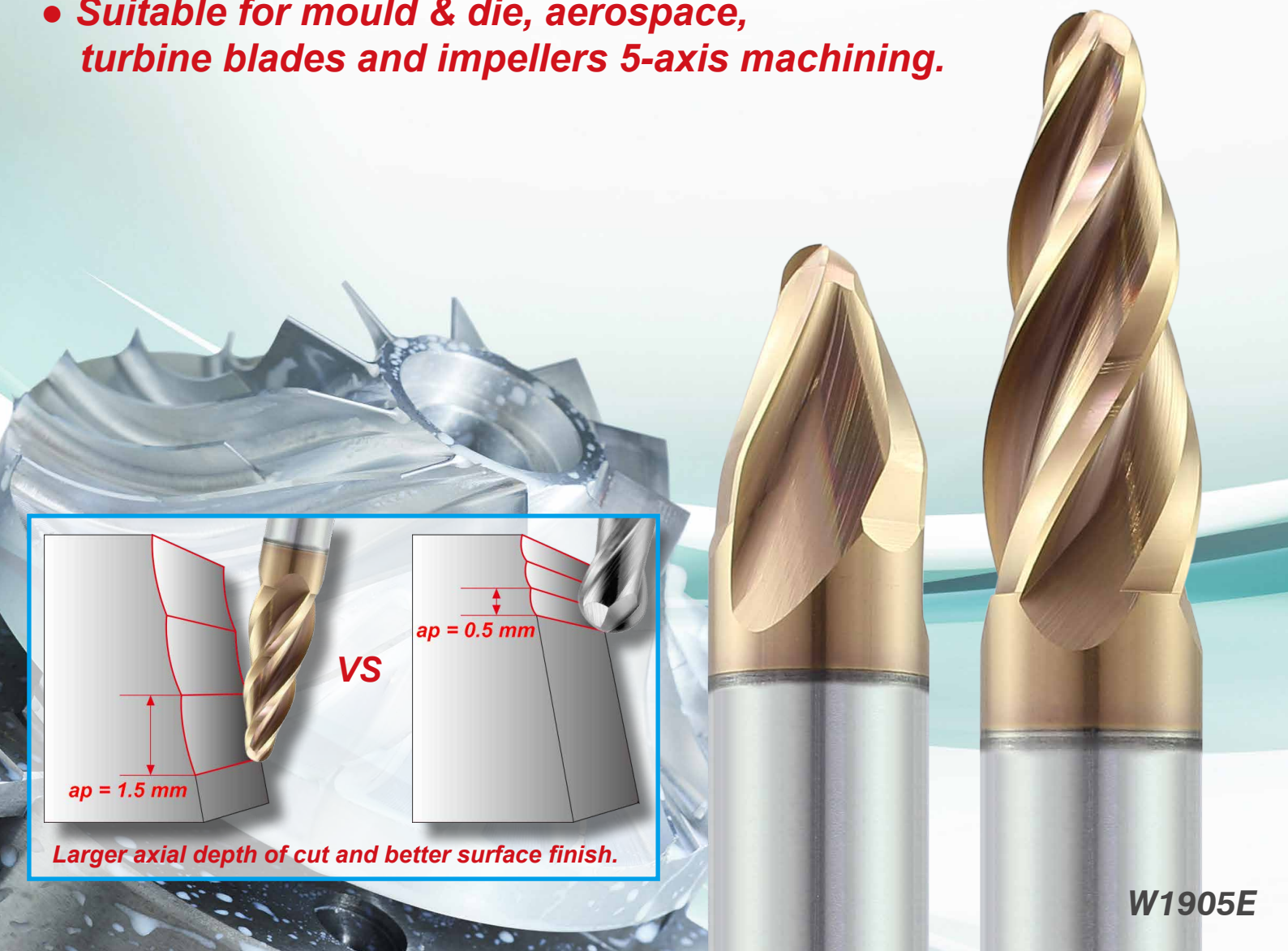


Hypex Series 5-Axis Solid Carbide Endmills

NEW

- *Designed for 5-axis machine.*
- *Provide larger axial depth of cut, improve machining efficiency.*
- *Optimal surface finish and tool life.*
- *Suitable for mould & die, aerospace, turbine blades and impellers 5-axis machining.*



W1905E

Hypex 5-Axis Solid Endmills

ERTSA Series

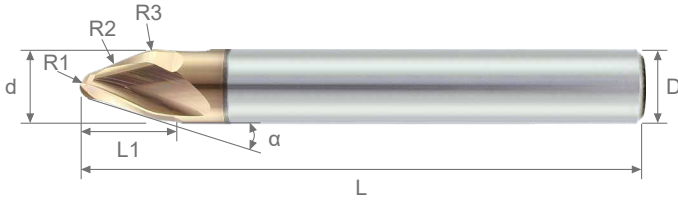


Fig 1



Fig 2

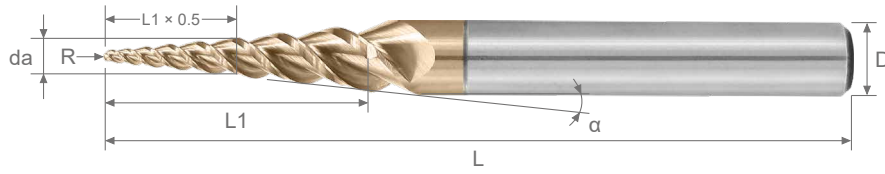
Order No.	α	d	R1	R2	R3	L1	L	D	Flute	Fig
ERTSA30815025S	20°	8	1.5R	250R	4.0R	10.5	75	8	3	1
ERTSA31020025S	20°	10	2.0R	250R	5.0R	12.5	75	10	3	
ERTSA21010020S	60°	10	1.0R	200R	1.5R	6.0	75	10	2	2

Recommended Cutting Conditions

Working Material	Cutting Application	aw (mm)	Vc (m/min)	fz (mm/z)	
				8 mm	10 mm
Carbon Steel (S45C)		0.05 ~ 0.1 mm	210 ~ 420	0.032 ~ 0.056	0.04 ~ 0.07
		0.1 ~ 0.2 mm	210 ~ 420	0.024 ~ 0.040	0.03 ~ 0.05
Carbon Steel (S50C)		0.05 ~ 0.1 mm	158 ~ 315	0.024 ~ 0.040	0.03 ~ 0.05
		0.1 ~ 0.2 mm	158 ~ 315	0.016 ~ 0.024	0.02 ~ 0.03
Tool Steel (SKD)		0.05 ~ 0.1 mm	135 ~ 270	0.024 ~ 0.032	0.03 ~ 0.04
		0.1 ~ 0.2 mm	135 ~ 270	0.016 ~ 0.024	0.02 ~ 0.03
Stainless Steel (SUS304, SUS316)		0.05 ~ 0.1 mm	100 ~ 150	0.024 ~ 0.032	0.03 ~ 0.04
		0.1 ~ 0.2 mm	100 ~ 150	0.016 ~ 0.024	0.02 ~ 0.03
Superalloy, Inconel		0.05 ~ 0.1 mm	30 ~ 60	0.016 ~ 0.024	0.02 ~ 0.03
		0.1 ~ 0.2 mm	30 ~ 60	0.008 ~ 0.016	0.01 ~ 0.02
Titanium	0.05 ~ 0.1 mm	60 ~ 80	0.024 ~ 0.032	0.03 ~ 0.04	
	0.1 ~ 0.2 mm	60 ~ 80	0.016 ~ 0.024	0.02 ~ 0.03	
Hardened Steel (HRC < 55)	0.05 ~ 0.1 mm	100 ~ 130	0.032 ~ 0.040	0.04 ~ 0.05	
	0.1 ~ 0.2 mm	100 ~ 130	0.024 ~ 0.032	0.03 ~ 0.04	

Hypex 5-Axis Solid Endmills

ERTSB Series



Order No.	R	α	L1	L	da	D	Flute
ERTSB30100620S	0.5R	6°	20	60	3.00	6	3
ERTSB30200619S	1.0R	6°	19	60	3.80	6	3
ERTSB30100818S	0.5R	8°	18	60	3.40	6	3
ERTSB30200815S	1.0R	8°	15	60	3.85	6	3

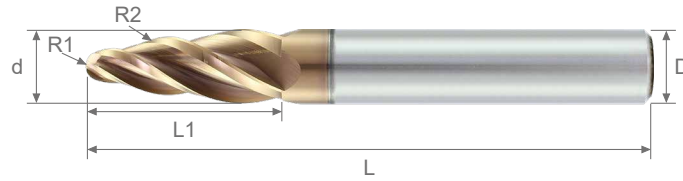
※ The da value is average diameter at 0.5*L1

Recommended Cutting Conditions

Working Material	Cutting Application	ae (mm)	ap (mm)	Vc (m/min)	fz (mm/z)
Carbon Steel (S45C)	<p> $da \approx 1.8R + ap \times \tan(\alpha)$ (※da : average diameter at 0.5*ap) </p> <p> $RPM = \frac{Vc \times 1000}{da \times \pi}$ </p>	0.1 ~ 0.2 mm	0.5 ~ 1.0 × L1	100 ~ 120	0.01 × R
Carbon Steel (S50C)		0.1 ~ 0.2 mm	0.5 ~ 1.0 × L1	70 ~ 90	0.008 × R
Tool Steel (SKD)		0.1 ~ 0.2 mm	0.5 ~ 1.0 × L1	50 ~ 60	0.006 × R
Stainless Steel (SUS304, SUS316)		0.1 ~ 0.2 mm	0.5 ~ 1.0 × L1	50 ~ 60	0.006 × R
Superalloy, Inconel		0.1 ~ 0.2 mm	0.5 ~ 1.0 × L1	15 ~ 20	0.004 × R
Titanium		0.1 ~ 0.2 mm	0.5 ~ 1.0 × L1	30 ~ 50	0.006 × R

Hypex 5-Axis Solid Endmills

ERTSC Series



Order No.	d	R1	R2	L1	L	D	Flute
ERTSC30810090S	8	1R	90R	25	75	8	3
ERTSC41020085S	10	2R	85R	26	75	10	4

Recommended Cutting Conditions

Working Material	Cutting Application	aw (mm)	Vc (m/min)	fz (mm/z)	
				8 mm	10 mm
Carbon Steel (S45C)		0.05 ~ 0.1 mm	210 ~ 420	0.032 ~ 0.064	0.04 ~ 0.08
		0.1 ~ 0.2 mm	210 ~ 420	0.024 ~ 0.056	0.03 ~ 0.07
		0.2 ~ 0.3 mm	210 ~ 420	0.024 ~ 0.048	0.03 ~ 0.06
Carbon Steel (S50C)		0.05 ~ 0.1 mm	158 ~ 315	0.024 ~ 0.048	0.03 ~ 0.06
		0.1 ~ 0.2 mm	158 ~ 315	0.024 ~ 0.040	0.03 ~ 0.05
		0.2 ~ 0.3 mm	158 ~ 315	0.016 ~ 0.032	0.02 ~ 0.04
Tool Steel (SKD)		0.05 ~ 0.1 mm	135 ~ 270	0.024 ~ 0.040	0.03 ~ 0.05
		0.1 ~ 0.2 mm	135 ~ 270	0.016 ~ 0.032	0.02 ~ 0.04
		0.2 ~ 0.3 mm	135 ~ 270	0.016 ~ 0.024	0.02 ~ 0.03
Stainless Steel (SUS304, SUS316)	0.05 ~ 0.1 mm	100 ~ 150	0.032 ~ 0.040	0.04 ~ 0.05	
	0.1 ~ 0.2 mm	100 ~ 150	0.024 ~ 0.032	0.03 ~ 0.04	
	0.2 ~ 0.3 mm	100 ~ 150	0.016 ~ 0.024	0.02 ~ 0.03	
Superalloy, Inconel	0.05 ~ 0.1 mm	30 ~ 60	0.024 ~ 0.032	0.03 ~ 0.04	
	0.1 ~ 0.2 mm	30 ~ 60	0.016 ~ 0.024	0.02 ~ 0.03	
	0.2 ~ 0.3 mm	30 ~ 60	0.008 ~ 0.016	0.01 ~ 0.02	
Titanium	0.05 ~ 0.1 mm	60 ~ 80	0.032 ~ 0.040	0.04 ~ 0.05	
	0.1 ~ 0.2 mm	60 ~ 80	0.024 ~ 0.032	0.03 ~ 0.04	
	0.2 ~ 0.3 mm	60 ~ 80	0.016 ~ 0.024	0.02 ~ 0.03	
Hardened Steel (HRC < 55)	0.05 ~ 0.1 mm	100 ~ 130	0.032 ~ 0.040	0.04 ~ 0.05	
	0.1 ~ 0.2 mm	100 ~ 130	0.024 ~ 0.032	0.03 ~ 0.04	
	0.2 ~ 0.3 mm	100 ~ 130	0.016 ~ 0.024	0.02 ~ 0.03	

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