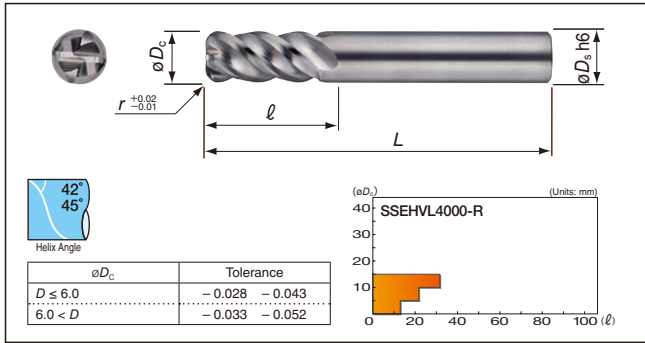


Radius Endmills for Exotic Alloys Anti-vibration Type (Uncoated)

SSEHVL 4000-R Type



Coated Carbide	Carbon Steel	Alloy Steel	Heat Resistant Steel	Hardened Steel	Stainless Steel	Ti Alloy	Cast Iron	Al Alloy	Copper Alloy	Graphite	CFRP
45 to 55 HRC	55 to 60 HRC	60 to 65 HRC	65 to 68 HRC	45 to 55 HRC	45 to 55 HRC	45 to 55 HRC	45 to 55 HRC	45 to 55 HRC	45 to 55 HRC	45 to 55 HRC	45 to 55 HRC
○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



Body

Cat. No.	Stock	Dimensions (mm)				
		ϕD_c	r	l	L	ϕD_s
SSEHVL 4045-R05	●	4.5	0.5	12	50	6
4045-R10	●	4.5	1.0	12	50	6
4050-R05	●	5.0	0.5	13	60	6
4050-R10	●	5.0	1.0	13	60	6
4060-R10	●	6.0	1.0	13	60	6
SSEHVL 4080-R10	●	8.0	1.0	19	80	8
4100-R10	●	10.0	1.0	22	90	10
4100-R30	●	10.0	3.0	22	90	10
4120-R10	●	12.0	1.0	26	90	12
4120-R30	●	12.0	3.0	26	90	12
SSEHVL 4160-R10	●	16.0	1.0	32	115	16
4160-R30	●	16.0	3.0	32	115	16

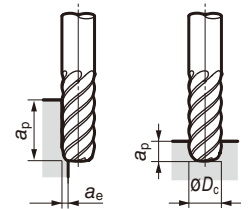
Grade: EH520

Diameter and Corner Radius Selection Range

D_c	$r0.5$	$r1.0$	$r3.0$
4.5	●	●	
5	●		
6		●	
8		●	
10		●	●
12		●	●
16		●	●

Recommended Cutting Conditions

- For stable machining, a high rigidity machine is recommended.
- Wet machining is recommended for stainless steel and heat resistant alloy applications.
- If cutting noise and vibration are present, please change the cutting conditions accordingly.



Side Milling

Work Material	Stainless Steel SUS304, SUS316		Titanium Alloy		Heat Resistant Steel	
	Spindle Speed (min ⁻¹)	Feed Rate (mm/min)	Spindle Speed (min ⁻¹)	Feed Rate (mm/min)	Spindle Speed (min ⁻¹)	Feed Rate (mm/min)
D_c (mm)						
4.5	2,300	120	4,600	370	1,600	130
5.0	2,000	130	4,100	410	1,500	150
6.0	1,700	130	3,400	400	1,200	140
8.0	1,300	130	2,600	360	900	130
10.0	1,000	130	2,100	340	700	110
12.0	800	110	1,700	300	600	100
16.0	600	90	1,300	260	500	100
Standard Depth-of-cut	a_p	$1.5D_c$	$1.5D_c$		$1.5D_c$	
	p_f	$0.1D_c$	$0.05D_c$		$0.05D_c$	

Groove Milling

Work Material	Stainless Steel SUS304, SUS316		Titanium Alloy		Heat Resistant Steel	
	Spindle Speed (min ⁻¹)	Feed Rate (mm/min)	Spindle Speed (min ⁻¹)	Feed Rate (mm/min)	Spindle Speed (min ⁻¹)	Feed Rate (mm/min)
D_c (mm)						
4.5	1,800	50	3,200	250	1,300	110
5.0	1,600	50	2,900	290	1,200	120
6.0	1,400	50	2,400	290	1,000	120
8.0	1,000	50	1,800	250	700	90
10.0	800	50	1,400	230	600	100
12.0	600	50	1,200	210	500	90
16.0	500	40	900	180	400	80
Standard Depth-of-cut	a_p	$0.3D_c$	$0.2D_c$		$0.15D_c$	

Solid Carbide Endmills

2 Flutes

3 Flutes

4 Flutes

6 Flutes

8 Flutes

Square

Radius

Ballnose

DLC

SUMIDIA Coat

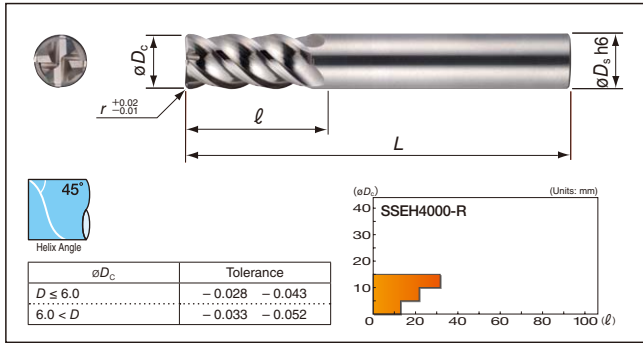
Long Neck

Uncoated

CBN PCD



Coated Carbide	Carbon Steel	Alloy Steel	Prehardened Steel	Hardened Steel	Stainless Steel	Ti Alloy	Cast Iron	Al Alloy	Copper Alloy	Graphite	CFRP
				45 to 55 HRC	55 to 60 HRC	60 to 65 HRC					



Body

Cat. No.	Stock	Dimensions (mm)				
		ϕD_c	r	l	L	ϕD_s
SSEH 4045-R05	●	4.5	0.5	12	50	6
4045-R10	●	4.5	1.0	12	50	6
4050-R05	●	5.0	0.5	13	60	6
4050-R10	●	5.0	1.0	13	60	6
4060-R10	●	6.0	1.0	13	60	6
SSEH 4080-R10	●	8.0	1.0	19	80	8
4100-R10	●	10.0	1.0	22	90	10
4100-R30	●	10.0	3.0	22	90	10
4120-R10	●	12.0	1.0	26	90	12
4120-R30	●	12.0	3.0	26	90	12
SSEH 4160-R10	●	16.0	1.0	32	115	16
4160-R30	●	16.0	3.0	32	115	16

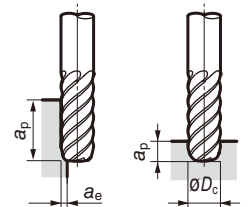
Grade: EH520

Diameter and Corner Radius Selection Range

D_c	$r0.5$	$r1.0$	$r3.0$
4.5	●	●	
5	●	●	
6		●	
8		●	
10		●	●
12		●	●
16		●	●

Recommended Cutting Conditions

- For stable machining, a high rigidity machine is recommended.
- Wet machining is recommended for stainless steel and heat resistant alloy applications.
- If cutting noise and vibration are present, please change the cutting conditions accordingly.



Side Milling

Work Material	Stainless Steel SUS304, SUS316		Titanium Alloy		Heat Resistant Steel	
	Spindle Speed (min ⁻¹)	Feed Rate (mm/min)	Spindle Speed (min ⁻¹)	Feed Rate (mm/min)	Spindle Speed (min ⁻¹)	Feed Rate (mm/min)
D_c (mm)						
4.5	1,800	90	3,500	280	1,400	110
5.0	1,600	100	3,200	320	1,300	130
6.0	1,300	100	2,700	320	1,100	130
8.0	1,000	100	2,000	280	800	110
10.0	800	100	1,600	260	600	100
12.0	700	100	1,300	230	500	90
16.0	500	80	1,000	200	400	80
Standard Depth-of-cut	a_p	$1.5D_c$	$1.5D_c$	$1.5D_c$	$1.5D_c$	$1.5D_c$
	a_e	$0.1D_c$	$0.05D_c$	$0.05D_c$	$0.05D_c$	$0.05D_c$

Groove Milling

Work Material	Stainless Steel SUS304, SUS316		Titanium Alloy		Heat Resistant Steel	
	Spindle Speed (min ⁻¹)	Feed Rate (mm/min)	Spindle Speed (min ⁻¹)	Feed Rate (mm/min)	Spindle Speed (min ⁻¹)	Feed Rate (mm/min)
D_c (mm)						
4.5	1,400	40	2,500	200	1,100	90
5.0	1,300	40	2,200	220	1,000	100
6.0	1,100	40	1,900	230	800	100
8.0	800	40	1,400	200	600	80
10.0	600	40	1,100	180	500	80
12.0	500	40	900	160	400	70
16.0	400	30	700	140	300	60
Standard Depth-of-cut	a_p	$0.3D_c$	$0.2D_c$	$0.15D_c$	$0.15D_c$	$0.15D_c$