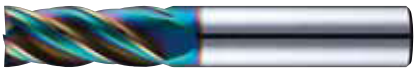
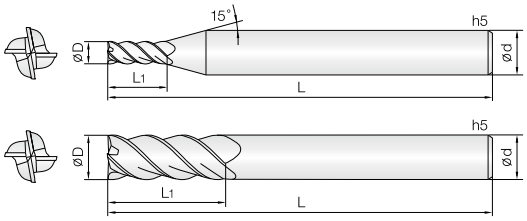
4VSE

4 Flutes Various Symmetry End Mills for Steels, Cast Irons & Stainless Steels

New





- Mid-low hardened steels(~HRc42), Mild steels, Cast irons, SUS
- HR coating reduces stress of flute and enhances wear resistance.
- Unequal pitch design and helix enable decrease of chattering.
- 4flutes and deep pocket enable chip evacuation and increase surface roughness.

Contact Trucut Tools to order
sales@trucuttools.co.uk
Tel. 01202 717 110

4 | WC | HR Coating | 38° Helix Angle | 35°/38° Helix Angle | Shield Edge

Ø 1~2.5 Ø 3 ~20

Condition	D Size	D Tolerance
ØD ≠ Ød	Ø 1 ~ 6	+0 ~ -0.01mm
	Ø 8 ~ 20	+0 ~ -0.015mm

Condition	D Size	D Tolerance
ØD =Ød	Ø 6	-0.005 ~ -0.015mm
	Ø 8 ~ 12	-0.01 ~ -0.025mm
	Ø 14 ~ 20	-0.015 ~ -0.03mm

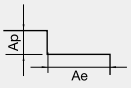
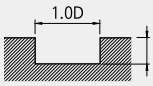
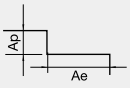
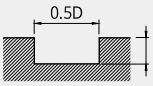
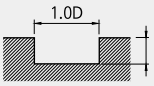
: mm

Order Number	Diameter D	Length of cut L1	Overall Length L	Shank Dia d
4VSE 010 025 S06	1	2.5	50	6
4VSE 010 035 S06	1	3.5	50	6
4VSE 012 030 S06	1.2	3	50	6
4VSE 012 045 S06	1.2	4.5	50	6
4VSE 015 040 S06	1.5	4	50	6
4VSE 015 060 S06	1.5	6	50	6
4VSE 020 060 S06	2	6	50	6
4VSE 020 090 S06	2	9	50	6
4VSE 025 070 S06	2.5	7	50	6
4VSE 025 100 S06	2.5	10	50	6
4VSE 030 080 S06	3	8	50	6
4VSE 030 120 S06	3	12	50	6
4VSE 035 090 S06	3.5	9	50	6
4VSE 035 130 S06	3.5	13	50	6
4VSE 040 100 S06	4	10	50	6
4VSE 040 150 S06	4	15	60	6
4VSE 045 120 S06	4.5	12	60	6
4VSE 045 180 S06	4.5	18	60	6
4VSE 050 150 S06	5	15	60	6
4VSE 050 200 S06	5	20	70	6
4VSE 060 150 S06	6	15	60	6
4VSE 060 200 S06	6	20	70	6
4VSE 080 200 S08	8	20	70	8
4VSE 080 300 S08	8	30	80	8
4VSE 100 250 S10	10	25	75	10
4VSE 100 400 S10	10	40	90	10
4VSE 120 300 S12	12	30	80	12
4VSE 120 450 S12	12	45	100	12
New 4VSE 140 350 S14	14	35	90	14
New 4VSE 140 500 S14	14	50	110	14
4VSE 160 400 S16	16	40	100	16
4VSE 160 600 S16	16	60	120	16
4VSE 200 450 S20	20	45	100	20
4VSE 200 650 S20	20	65	120	20

Order Number	Diameter D	Length of cut L1	Overall Length L	Shank Dia d

4VSE/4VCC/4VSC Cutting Condition

• RPM : rev./min• Feed : mm/min

Material	Structural steels / Carbon Steels /Gray cast irons SS/SC/FC				Tool steels / Mold steels SCM/HPM				Titanium alloy steels Ti6A				Heat Resistance Alloys				Stainless Steels SUS304/SUS316			
	~30HRc				30 ~ 40HRc				-				-				-			
mm Outside Diameter	RPM	FEED	Ap Axial	Ae Radial	RPM	FEED	Ap Axial	Ae Radial	RPM	FEED	Ap Axial	Ae Radial	RPM	FEED	Ap Axial	Ae Radial	RPM	FEED	Ap Axial	Ae Radial
Ø1	41,400	800	1.50	0.50	38,000	690	1.50	0.50	22,920	150	1.00	0.30	10,800	100	1.00	0.20	31,900	380	1.50	0.35
Ø1.2	34,500	700	3.00	0.60	32,000	600	1.80	0.60	19,104	120	1.20	0.36	8,951	80	1.20	0.24	26,500	300	1.80	0.42
Ø1.5	27,600	550	2.25	0.75	25,600	450	2.25	0.75	15,360	100	1.50	0.45	7,155	65	1.50	0.30	21,200	250	2.25	0.53
Ø2	20,700	400	3.00	1.00	19,100	330	3.00	1.00	11,460	80	2.00	0.60	5,400	65	2.00	0.40	15,600	200	3.00	0.70
Ø2.5	16,500	330	3.75	1.25	15,300	270	3.75	1.25	9,120	70	2.50	0.75	4,293	50	2.50	0.50	12,800	150	3.75	0.88
Ø3	13,800	330	4.50	1.50	12,740	240	4.50	1.50	7,644	100	3.00	0.90	3,578	50	3.00	0.60	10,600	210	4.50	1.05
Ø4	10,350	410	6.00	2.00	9,560	405	6.00	2.00	5,736	160	4.00	1.20	2,700	40	4.00	0.80	8,000	150	6.00	1.40
Ø5	8,280	430	7.50	2.50	7,600	450	7.50	2.50	4,584	230	5.00	1.50	2,160	60	5.00	1.00	6,380	250	7.50	1.75
Ø6	6,900	550	9.00	3.00	6,400	450	9.00	3.00	3,840	250	6.00	1.80	1,782	116	6.00	1.20	5,300	420	9.00	2.10
Ø8	5,180	600	12.00	4.00	4,780	420	12.00	4.00	2,868	320	8.00	2.40	1,350	116	8.00	1.60	4,000	180	12.00	2.80
Ø10	4,140	780	15.00	5.00	4,140	600	15.00	5.00	2,400	380	10.00	3.00	1,080	131	10.00	2.00	3,180	510	15.00	3.50
Ø12	3,450	800	18.00	6.00	3,440	600	18.00	6.00	1,920	400	12.00	3.60	891	145	12.00	2.40	2,650	530	18.00	4.20
Ø16	2,600	700	24.00	8.00	2,600	600	24.00	8.00	1,440	350	16.00	4.80	675	131	16.00	3.20	2,000	400	24.00	5.60
Ø20	2,000	700	30.00	10.00	2,000	540	30.00	10.00	1,200	320	20.00	6.00	540	116	20.00	4.00	1,600	320	30.00	7.00
Depth of Cut	Side Milling • Ap : Axial Depth • Ae : Radial Depth				Side Milling • Ap : Axial Depth • Ae : Radial Depth										

- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table.
- The edge the flute precisely grinded. If you want to measure the tool, and to avoid damaging on the flutes, use non-contact measuring method.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, or found red heat on the material, adjust RPM and feed in the same proportion.
- Use a machine with low vibration and good rigidity(1 or less, the vibration tolerance management should be within 5㎛)
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

NOTE - ABOVE ARE STARTING PARAMETERS ONLY. HIGHER RESULTS MAY BE ACHIEVED WITH OPTIMUM CONDITIONS.