

# V470 Solid Carbide Endmills with Unequal Spacing

2022.03

- EPSSVA 

P	M	K	N	S	H
●	○	●			○

  
30° helix angle for slot and side milling.
- EPSSVB 

P	M	K	N	S	H
●	●	●			○

  
35° helix angle for slot and side milling.
- EPSSVC 

P	M	K	N	S	H
●	●	●		○	

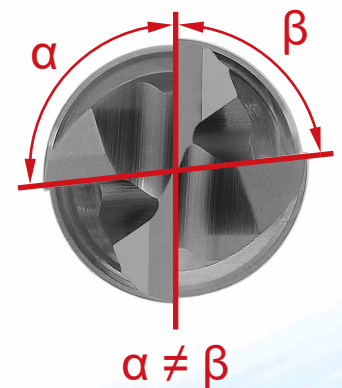
  
38° helix angle for slot and side milling.
- EPSSVD 

P	M	K	N	S	H
●	●	●		○	○

  
45° helix angle for side and trochoidal milling.



Unequal flute spacing

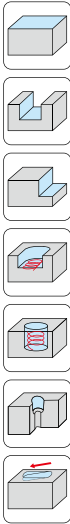
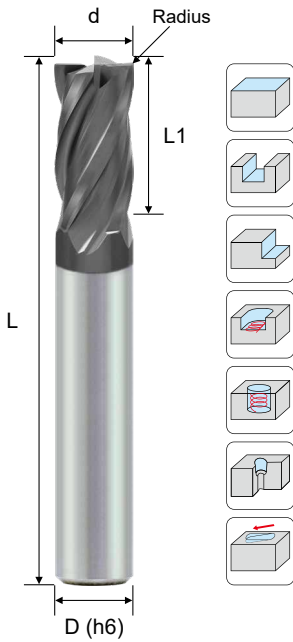
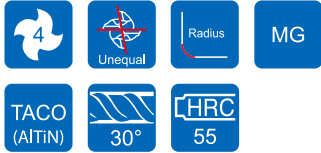


V470A - Unequal Flute Spacing · 4F

- Unequal flute spacing for anti-vibration.
- 30° helix angle design for alloy steel and hardened steel slot and side milling.
- TACO coating with Al, Ti, N elements provide superior wear resistance and extend tool life.



EPSSVA



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Radius	Flutes (Z)
EPSSVA444000T	4	10	50	4	-	4
EPSSVA444022T	4	8	50	4	0.2R	4
EPSSVA444052T	4	8	50	4	0.5R	4
EPSSVA405000T	5	13	50	6	-	4
EPSSVA406000T	6	13	50	6	-	4
EPSSVA406032T	6	13	50	6	0.3R	4
EPSSVA406052T	6	13	50	6	0.5R	4
EPSSVA406102T	6	13	50	6	1R	4
EPSSVA408000T	8	16	60	8	-	4
EPSSVA408052T	8	16	60	8	0.5R	4
EPSSVA408102T	8	16	60	8	1R	4
EPSSVA408152T	8	16	60	8	1.5R	4
EPSSVA410000T	10	20	75	10	-	4
EPSSVA410052T	10	20	75	10	0.5R	4
EPSSVA410102T	10	20	75	10	1R	4
EPSSVA410202T	10	20	75	10	2R	4
EPSSVA412000T	12	24	75	12	-	4
EPSSVA412052T	12	24	75	12	0.5R	4
EPSSVA412102T	12	24	75	12	1R	4
EPSSVA412202T	12	24	75	12	2R	4
EPSSVA416000T	16	30	100	16	-	4
EPSSVA416102T	16	30	100	16	1R	4
EPSSVA416202T	16	30	100	16	2R	4
EPSSVA416302T	16	30	100	16	3R	4

d	Tolerance
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	Ae×d	Ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C · S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 225	0.020	0.025	0.035	0.045	0.055	0.072
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	90 ~ 180	0.019	0.024	0.034	0.042	0.05	0.066
Stainless steel (SUS630)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 130	0.014	0.018	0.025	0.028	0.035	0.045
Hardened steel (HRC 40 ~ 55)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.014	0.018	0.024	0.028	0.034	0.045

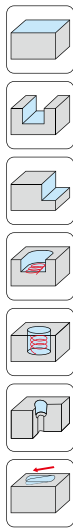
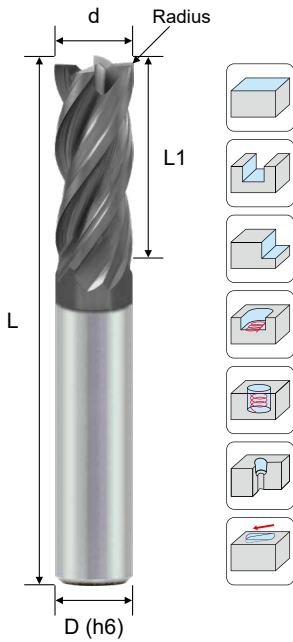
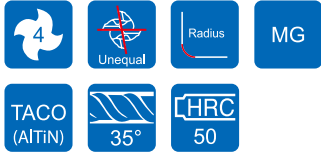
※If the machine not stable, please reduce the feed about 20%.

V470B - Unequal Flute Spacing · 4F

- Unequal flute spacing for anti-vibration.
- 35° helix angle design for alloy steel and stainless steel slot and side milling.
- TACO coating with Al, Ti, N elements provide superior wear resistance and extend tool life.



EPSSVB



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Radius	Flutes (Z)
EPSSVB444000T	4	10	50	4	-	4
EPSSVB444022T	4	8	50	4	0.2R	4
EPSSVB444052T	4	8	50	4	0.5R	4
EPSSVB406000T	6	15	50	6	-	4
EPSSVB406032T	6	12	50	6	0.3R	4
EPSSVB406052T	6	12	50	6	0.5R	4
EPSSVB406102T	6	12	50	6	1R	4
EPSSVB408000T	8	20	60	8	-	4
EPSSVB408052T	8	16	60	8	0.5R	4
EPSSVB408102T	8	16	60	8	1R	4
EPSSVB408152T	8	16	60	8	1.5R	4
EPSSVB410000T	10	25	75	10	-	4
EPSSVB410052T	10	20	75	10	0.5R	4
EPSSVB410102T	10	20	75	10	1R	4
EPSSVB410202T	10	20	75	10	2R	4
EPSSVB412000T	12	30	75	12	-	4
EPSSVB412052T	12	24	75	12	0.5R	4
EPSSVB412102T	12	24	75	12	1R	4
EPSSVB412202T	12	24	75	12	2R	4
EPSSVB416000T	16	35	100	16	-	4
EPSSVB416102T	16	32	100	16	1R	4
EPSSVB416202T	16	32	100	16	2R	4
EPSSVB416302T	16	32	100	16	3R	4

d	Tolerance
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	Ae×d	Ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C · S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 225	0.020	0.025	0.035	0.045	0.055	0.072
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	90 ~ 180	0.019	0.024	0.034	0.042	0.05	0.066
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 130	0.014	0.018	0.025	0.028	0.035	0.045
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.014	0.018	0.024	0.028	0.034	0.045

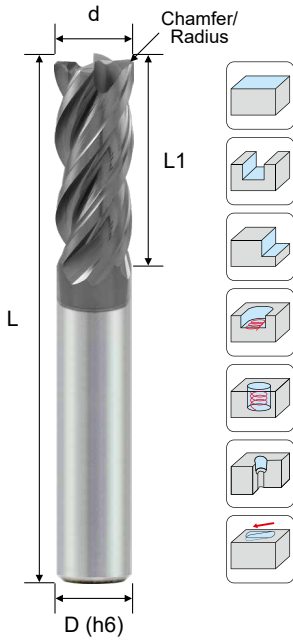
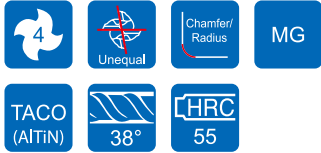
※If the machine not stable, please reduce the feed about 20%.

V470C - Unequal Flute Spacing · 4F

- Unequal flute spacing for anti-vibration.
- 38° helix angle design for alloy steel and stainless steel slot and side milling.
- TACO coating with Al, Ti, N elements provide superior wear resistance and extend tool life.



EPSSVC



d	Tolerance
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Chamfer / Radius	Flutes (Z)
EPSSVC443000T	3	8	50	4	-	4
EPSSVC443001T	3	8	50	4	0.05C	4
EPSSVC444000T	4	10	50	4	-	4
EPSSVC444001T	4	10	50	4	0.05C	4
EPSSVC444022T	4	8	50	4	0.2R	4
EPSSVC444052T	4	8	50	4	0.5R	4
EPSSVC406000T	6	15	50	6	-	4
EPSSVC406011T	6	15	50	6	0.10C	4
EPSSVC406032T	6	12	50	6	0.3R	4
EPSSVC406052T	6	12	50	6	0.5R	4
EPSSVC406102T	6	12	50	6	1R	4
EPSSVC408000T	8	20	60	8	-	4
EPSSVC408011T	8	20	60	8	0.15C	4
EPSSVC408052T	8	16	60	8	0.5R	4
EPSSVC408102T	8	16	60	8	1R	4
EPSSVC408152T	8	16	60	8	1.5R	4
EPSSVC410000T	10	25	75	10	-	4
EPSSVC410011T	10	25	75	10	0.15C	4
EPSSVC410052T	10	20	75	10	0.5R	4
EPSSVC410102T	10	20	75	10	1R	4
EPSSVC410202T	10	20	75	10	2R	4
EPSSVC412000T	12	30	75	12	-	4
EPSSVC412021T	12	30	75	12	0.20C	4
EPSSVC412052T	12	24	75	12	0.5R	4
EPSSVC412102T	12	24	75	12	1R	4
EPSSVC412202T	12	24	75	12	2R	4
EPSSVC416000T	16	35	100	16	-	4
EPSSVC416021T	16	35	100	16	0.25C	4
EPSSVC416102T	16	32	100	16	1R	4
EPSSVC416202T	16	32	100	16	2R	4
EPSSVC416302T	16	32	100	16	3R	4
EPSSVC420000T	20	45	100	20	-	4
EPSSVC420031T	20	45	100	20	0.30C	4

Working Material	Cutting Application	Ae×d	Ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C · S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 225	0.020	0.025	0.035	0.045	0.055	0.072
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	90 ~ 180	0.019	0.024	0.034	0.042	0.05	0.066
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 130	0.014	0.018	0.025	0.028	0.035	0.045
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.014	0.018	0.024	0.028	0.034	0.045

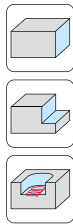
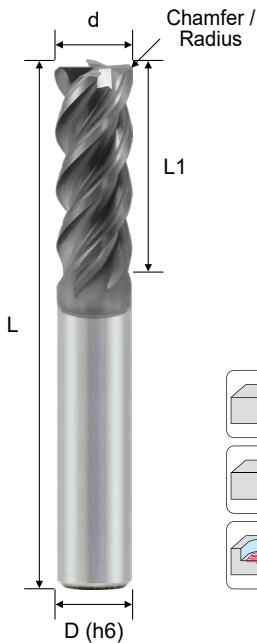
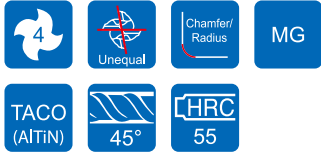
\*If the machine not stable, please reduce the feed about 20%.

V470D - Unequal Flute Spacing · 4F

- Unequal flute spacing for anti-vibration.
- 45° helix angle design for alloy steel and stainless steel side milling.
- TACO coating with Al, Ti, N elements provide superior wear resistance and extend tool life.



EPSSVD



d	Tolerance
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Chamfer	Flutes (Z)
EPSSVD444000T	4	10	50	4	-	4
EPSSVD444001T	4	10	50	4	0.05C	4
EPSSVD406000T	6	15	50	6	-	4
EPSSVD406011T	6	15	50	6	0.10C	4
EPSSVD406052T	6	12	50	6	0.5R	4
EPSSVD406102T	6	12	50	6	1R	4
EPSSVD408000T	8	20	60	8	-	4
EPSSVD408011T	8	20	60	8	0.15C	4
EPSSVD408052T	8	16	60	8	0.5R	4
EPSSVD408102T	8	16	60	8	1R	4
EPSSVD410000T	10	25	75	10	-	4
EPSSVD410011T	10	25	75	10	0.15C	4
EPSSVD410052T	10	20	75	10	0.5R	4
EPSSVD410102T	10	20	75	10	1R	4
EPSSVD410202T	10	20	75	10	2R	4
EPSSVD412000T	12	30	75	12	-	4
EPSSVD412021T	12	30	75	12	0.20C	4
EPSSVD412052T	12	24	75	12	0.5R	4
EPSSVD412102T	12	24	75	12	1R	4
EPSSVD412202T	12	24	75	12	2R	4
EPSSVD416000T	16	35	100	16	-	4
EPSSVD416021T	16	35	100	16	0.25C	4
EPSSVD416102T	16	32	100	16	1R	4
EPSSVD416202T	16	32	100	16	2R	4
EPSSVD416302T	16	32	100	16	3R	4

Working Material	Cutting Application	Ae×d	Ap×d	Vc	fz					
					4	6	8	10	12	16
Carbon steel (S45C · S55C)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.025	0.030	0.040	0.050	0.060	0.080
	Side finishing	0.05 ~ 0.1	0.7 ~ 1.5	120 ~ 180	0.020	0.025	0.035	0.045	0.055	0.072
Alloy steel / Tool steel (SK, SCM, SKD)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.022	0.027	0.036	0.047	0.056	0.074
	Side finishing	0.05 ~ 0.1	0.7 ~ 1.5	100 ~ 150	0.019	0.024	0.034	0.042	0.05	0.066
Stainless steel (SUS304, SUS316)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.015	0.020	0.030	0.035	0.040	0.056
	Side finishing	0.05 ~ 0.1	0.7 ~ 1.5	85 ~ 130	0.014	0.018	0.025	0.028	0.035	0.045
Hardened steel (HRC 40 ~ 50)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.015	0.020	0.025	0.030	0.035	0.048
	Side finishing	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.014	0.018	0.024	0.028	0.034	0.045

※If the machine not stable, please reduce the feed about 20%.