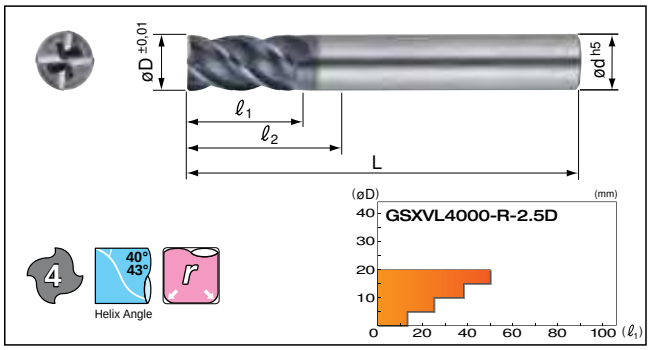
Anti-Vibration MILL with R. Corner

GSXVL 4000-R-2.5D Type

Coated Carbide Grades | GSX Coating

Structal Steel	Carbon Steel	Alloy Steel	Pre-hardened Steel	Tempered Die Steel	Hardened Steel 45~55 HRC	Hardened Steel 55~60 HRC	Hardened Steel 60~65 HRC	Stainless Steel	Ti Alloy / Heat Resistant Alloy	Cast iron	Al Alloy	Cu Alloy	Graphite
○	◎	◎	◎	◎	◎	○		◎	○	○			



Endmills

SAFE-LOCK™

Applicable Endmills

■ Endmills

(mm)

Cat. No.	Stock	øD	r	ℓ_1	ℓ_2	L	ød
GSXVL 4030-R02-2.5D	❑	3,0	0,2	8	9,5	50	6
GSXVL 4030-R05-2.5D	❑	3,0	0,5	8	9,5	50	6
GSXVL 4040-R02-2.5D	❑	4,0	0,2	10	11,5	50	6
GSXVL 4040-R05-2.5D	❑	4,0	0,5	10	11,5	50	6
GSXVL 4040-R10-2.5D	❑	4,0	1,0	10	11,5	50	6
GSXVL 4050-R02-2.5D	❑	5,0	0,2	13	14,5	60	6
GSXVL 4050-R05-2.5D	❑	5,0	0,5	13	14,5	60	6
GSXVL 4050-R10-2.5D	❑	5,0	1,0	13	14,5	60	6
GSXVL 4060-R03-2.5D	❑	6,0	0,3	15	–	60	6
GSXVL 4060-R05-2.5D	❑	6,0	0,5	15	–	60	6
GSXVL 4060-R10-2.5D	❑	6,0	1,0	15	–	60	6
GSXVL 4060-R15-2.5D	❑	6,0	1,5	15	–	60	6
GSXVL 4080-R03-2.5D	❑	8,0	0,3	20	–	80	8
GSXVL 4080-R05-2.5D	❑	8,0	0,5	20	–	80	8
GSXVL 4080-R10-2.5D	❑	8,0	1,0	20	–	80	8
GSXVL 4080-R15-2.5D	❑	8,0	1,5	20	–	80	8
GSXVL 4080-R20-2.5D	❑	8,0	2,0	20	–	80	8
GSXVL 4100-R03-2.5D	❑	10,0	0,3	25	–	90	10
GSXVL 4100-R05-2.5D	❑	10,0	0,5	25	–	90	10
GSXVL 4100-R10-2.5D	❑	10,0	1,0	25	–	90	10
GSXVL 4100-R15-2.5D	❑	10,0	1,5	25	–	90	10
GSXVL 4100-R20-2.5D	❑	10,0	2,0	25	–	90	10
GSXVL 4120-R05-2.5D	❑	12,0	0,5	30	–	90	12
GSXVL 4120-R10-2.5D	❑	12,0	1,0	30	–	90	12
GSXVL 4120-R15-2.5D	❑	12,0	1,5	30	–	90	12
GSXVL 4120-R20-2.5D	❑	12,0	2,0	30	–	90	12
GSXVL 4120-R30-2.5D	❑	12,0	3,0	30	–	90	12
GSXVL 4160-R10-2.5D	❑	16,0	1,0	40	–	115	16
GSXVL 4160-R15-2.5D	❑	16,0	1,5	40	–	115	16
GSXVL 4160-R20-2.5D	❑	16,0	2,0	40	–	115	16
GSXVL 4160-R30-2.5D	❑	16,0	3,0	40	–	115	16
GSXVL 4200-R10-2.5D	❑	20,0	1,0	50	–	125	20
GSXVL 4200-R15-2.5D	❑	20,0	1,5	50	–	125	20
GSXVL 4200-R20-2.5D	❑	20,0	2,0	50	–	125	20
GSXVL 4200-R30-2.5D	❑	20,0	3,0	50	–	125	20
GSXVL 4250-R10-2.5D	❑	25,0	1,0	63	–	140	25
GSXVL 4250-R15-2.5D	❑	25,0	1,5	63	–	140	25
GSXVL 4250-R20-2.5D	❑	25,0	2,0	63	–	140	25
GSXVL 4250-R30-2.5D	❑	25,0	3,0	63	–	140	25

Grade: ACF20

■ Endmills

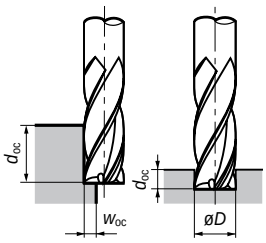
(mm)

Cat. No.	Stock	øD	r	ℓ_1	ℓ_2	L	ød
GSXVL 4120S-R05-2.5D	❑	12,0	0,5	30	–	90	12
GSXVL 4120S-R10-2.5D	❑	12,0	1,0	30	–	90	12
GSXVL 4120S-R15-2.5D	❑	12,0	1,5	30	–	90	12
GSXVL 4120S-R20-2.5D	❑	12,0	2,0	30	–	90	12
GSXVL 4120S-R30-2.5D	❑	12,0	3,0	30	–	90	12
GSXVL 4160S-R10-2.5D	❑	16,0	1,0	40	–	115	16
GSXVL 4160S-R15-2.5D	❑	16,0	1,5	40	–	115	16
GSXVL 4160S-R20-2.5D	❑	16,0	2,0	40	–	115	16
GSXVL 4160S-R30-2.5D	❑	16,0	3,0	40	–	115	16
GSXVL 4200S-R10-2.5D	❑	20,0	1,0	50	–	125	20
GSXVL 4200S-R15-2.5D	❑	20,0	1,5	50	–	125	20
GSXVL 4200S-R20-2.5D	❑	20,0	2,0	50	–	125	20
GSXVL 4200S-R30-2.5D	❑	20,0	3,0	50	–	125	20
GSXVL 4250S-R10-2.5D	❑	25,0	1,0	63	–	140	25
GSXVL 4250S-R15-2.5D	❑	25,0	1,5	63	–	140	25
GSXVL 4250S-R20-2.5D	❑	25,0	2,0	63	–	140	25
GSXVL 4250S-R30-2.5D	❑	25,0	3,0	63	–	140	25

Grade: ACF20

■ Recommended Cutting Conditions

1. For stable machining performance use rigid, high-precision machines and holders.
2. Use air blowing when dry machining.
3. Use wet machining for stainless steel, heat resistant alloy, and titanium alloy applications.
4. If the machine cannot achieve the recommended spindle speed, please use the max. spindle speed available.



● Shoulder Milling and Grooving

Work Material / Cond. / øD (mm)	Carbon Steel, Cast Iron (150 to 250HB)		Alloy Steel (25 to 35HRC)		Tempered Steel, Hardened Steel (40 to 50HRC)		Stainless Steel		Heat Resistive Steel, Titanium Alloy (20 to 45HRC)	
	Spindle Speed (rpm)	Feed Rate (mm/min)	Spindle Speed (rpm)	Feed Rate (mm/min)	Spindle Speed (rpm)	Feed Rate (mm/min)	Spindle Speed (rpm)	Feed Rate (mm/min)	Spindle Speed (rpm)	Feed Rate (mm/min)
2,0	9.000	720	6.000	430	4.000	320	5.500	320	2.600	120
4,0	6.600	800	4.500	450	3.000	380	4.000	320	2.000	120
6,0	4.800	960	3.000	480	2.500	380	3.000	480	1.200	120
8,0	3.600	1.000	2.200	610	2.000	400	2.000	520	1.000	140
10,0	2.800	1.000	1.800	610	1.500	400	1.700	550	800	160
12,0	2.400	950	1.500	550	1.200	380	1.500	500	700	140
14,0	2.200	880	1.300	490	1.000	360	1.200	430	600	130
16,0	1.800	650	1.100	420	800	300	1.000	360	500	120
18,0	1.600	580	1.000	360	750	270	900	340	450	110
20,0	1.400	500	900	330	700	250	820	300	400	100
Shoulder cutting d_{oc}	1,5 *D*									
Shoulder cutting w_{oc}	0,1 *D*				0,05 *D*		0,1 *D*		0,05 *D*	
Grooving d_{oc}	1,0 *D*				0,2 *D*		0,3 *D*		0,2 *D*	

■ Corner Radius Selection

øD	r0,2	r0,3	r0,5	r1,0	r1,5	r2,0	r3,0
ø3	❑		❑				
ø4	❑		❑	❑			
ø5	❑		❑	❑			
ø6		❑	❑	❑	❑		
ø8		❑	❑	❑	❑	❑	
ø10		❑	❑	❑	❑	❑	
ø12			❑	❑	❑	❑	❑
ø16				❑	❑	❑	❑
ø20				❑	❑	❑	❑
ø25				❑	❑	❑	❑