

2 Flute IMPACT MIRACLE Long Neck End Mill

VF-2XL

2 flute long neck square type, a new addition to the IMPACT MIRACLE end mill series.

- Varied neck lengths available to suit machining of deep and complex parts.



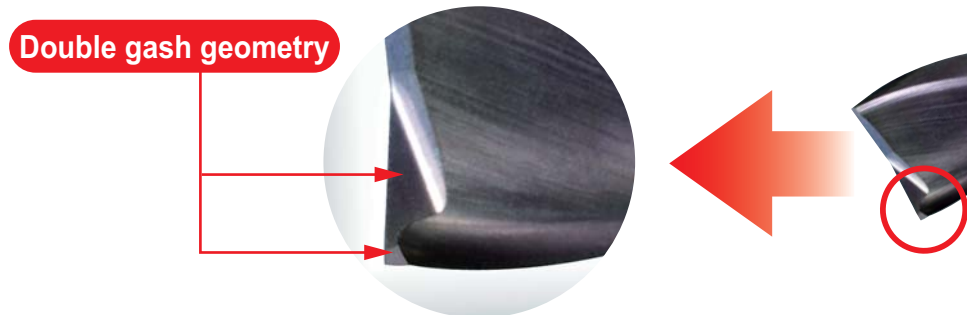
IMPACT MIRACLE end mill series

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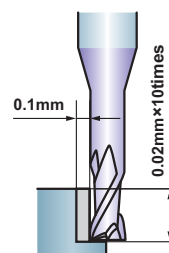
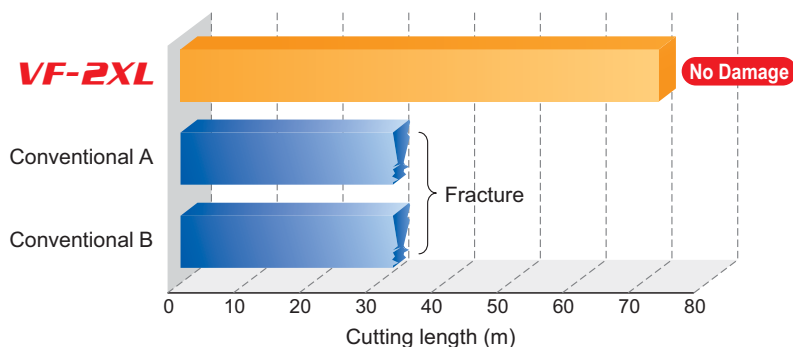
Features

- Newly developed end cutting edge geometry improves the corner fracture resistance. (Double gash geometry)
- IMPACT MIRACLE coating with high heat resistance is used enabling the machining of hardened steels (over 60HRC) through to general steels.
- Varied neck lengths available to suit machining of deep and complex parts.

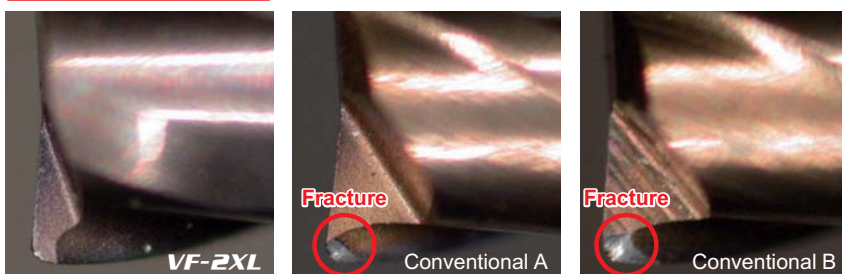


Fracture resistance comparison when machining hardened steels

Excellent fracture resistance when machining hardened steels!



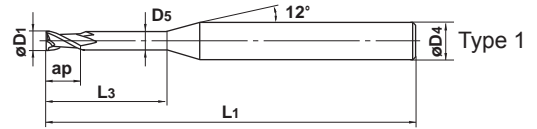
SKD61(52HRC) Cutting edges after machining 32m



End mill	VF-2XL $\phi 1 \times 8$
Workpiece	JIS SKD61 (52HRC)
Revolution	30,000min ⁻¹ (94m/min)
Feed rate	600mm/min (0.01mm/tooth)
Machining method	Climb cut, Mist blow

VF-2XL

End mill, Long cut length, 2 flute



D1<3



D1=3

● 2 flute long neck end mill for high-speed machining of hardened steels.

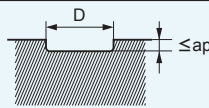
Unit : mm

Order Number	Dia. D1	Length of Cut ap	Neck Length L3	Neck Dia D5	Overall Length L1	Shank Dia. D4	No. of Flute N	Stock	Type
VF2XLD0020N006	0.2	0.3	0.6	0.17	45	4	2	●	1
D0020N010	0.2	0.3	1	0.17	45	4	2	●	1
D0020N015	0.2	0.3	1.5	0.17	45	4	2	●	1
D0030N010	0.3	0.5	1	0.27	45	4	2	●	1
D0030N020	0.3	0.5	2	0.27	45	4	2	●	1
D0030N030	0.3	0.5	3	0.27	45	4	2	●	1
D0040N010	0.4	0.6	1	0.36	45	4	2	●	1
D0040N020	0.4	0.6	2	0.36	45	4	2	●	1
D0040N040	0.4	0.6	4	0.36	45	4	2	●	1
D0050N020	0.5	0.8	2	0.46	45	4	2	●	1
D0050N040	0.5	0.8	4	0.46	45	4	2	●	1
D0050N060	0.5	0.8	6	0.46	45	4	2	●	1
D0060N020	0.6	0.9	2	0.56	45	4	2	●	1
D0060N040	0.6	0.9	4	0.56	45	4	2	●	1
D0060N060	0.6	0.9	6	0.56	45	4	2	●	1
D0080N040	0.8	1.2	4	0.76	45	4	2	●	1
D0080N060	0.8	1.2	6	0.76	45	4	2	●	1
D0080N080	0.8	1.2	8	0.76	50	4	2	●	1
D0080N100	0.8	1.2	10	0.76	50	4	2	●	1
D0100N040	1	1.5	4	0.94	50	4	2	●	1
D0100N060	1	1.5	6	0.94	50	4	2	●	1
D0100N080	1	1.5	8	0.94	50	4	2	●	1
D0100N100	1	1.5	10	0.94	50	4	2	●	1
D0100N120	1	1.5	12	0.94	50	4	2	●	1
D0150N060	1.5	2.3	6	1.44	50	4	2	●	1
D0150N080	1.5	2.3	8	1.44	50	4	2	●	1
D0150N100	1.5	2.3	10	1.44	50	4	2	●	1
D0150N120	1.5	2.3	12	1.44	50	4	2	●	1
D0150N160	1.5	2.3	16	1.44	60	4	2	●	1
D0200N060	2	3	6	1.9	50	4	2	●	1
D0200N080	2	3	8	1.9	50	4	2	●	1
D0200N100	2	3	10	1.9	50	4	2	●	1
D0200N120	2	3	12	1.9	50	4	2	●	1
D0200N160	2	3	16	1.9	60	4	2	●	1
D0200N200	2	3	20	1.9	60	4	2	●	1
D0300N120	3	4.5	12	2.9	50	6	2	●	1
D0300N160	3	4.5	16	2.9	60	6	2	●	1
D0300N200	3	4.5	20	2.9	60	6	2	●	1

● : Inventory maintained.

IMPACT MIRACLE END MILL

Work material		Hardened steel (40—55HRC) NAK, JIS SKD61, STAVAX			Hardened steel (55—62HRC) JIS SKD11, HSS		
Dia. (mm)	Neck length (mm)	Revolution (min ⁻¹)	Feed rate (mm/min)	Depth of cut ap (mm)	Revolution (min ⁻¹)	Feed rate (mm/min)	Depth of cut ap (mm)
0.2	0.6	40,000	400	0.004	40,000	360	0.004
	1	40,000	300	0.003	40,000	250	0.002
	1.5	40,000	200	0.002	40,000	150	0.001
0.3	1	40,000	500	0.006	40,000	450	0.004
	2	40,000	400	0.003	38,000	350	0.002
	3	38,000	250	0.002	36,000	200	0.001
0.4	1	40,000	800	0.008	36,000	500	0.006
	2	40,000	500	0.007	30,000	350	0.005
	4	36,000	300	0.004	27,000	200	0.003
0.5	2	40,000	800	0.01	30,000	600	0.009
	4	36,000	600	0.008	27,000	450	0.007
	6	30,000	400	0.005	22,000	300	0.004
0.6	2	40,000	1,000	0.015	30,000	700	0.012
	4	36,000	800	0.01	27,000	500	0.01
	6	30,000	600	0.006	22,000	350	0.006
0.8	4	36,000	1,200	0.03	27,000	900	0.02
	6	30,000	900	0.02	22,000	650	0.015
	8	24,000	600	0.01	18,000	450	0.008
	10	20,000	400	0.008	15,000	300	0.005
1	4	32,000	1,600	0.05	24,000	1,100	0.04
	6	32,000	1,400	0.04	24,000	1,000	0.03
	8	28,000	1,000	0.03	21,000	750	0.02
	10	28,000	800	0.02	21,000	600	0.015
	12	24,000	500	0.02	18,000	370	0.01
1.5	6	22,000	1,200	0.08	16,000	900	0.06
	8	22,000	1,100	0.07	16,000	800	0.05
	10	22,000	1,000	0.06	16,000	750	0.04
	12	20,000	800	0.05	15,000	600	0.03
	16	18,000	500	0.03	13,000	350	0.02
2	6	16,000	1,000	0.15	12,000	750	0.15
	8	16,000	1,000	0.15	12,000	750	0.1
	10	16,000	800	0.1	12,000	600	0.08
	12	16,000	800	0.08	12,000	600	0.06
	16	15,000	600	0.06	11,000	450	0.05
	20	14,000	500	0.05	10,000	350	0.04
3	12	11,000	800	0.2	8,200	600	0.15
	16	11,000	600	0.15	8,200	450	0.15
	20	11,000	500	0.1	8,200	350	0.1



D: Dia.

1) When using a reduced speed, the revolution and feed rate must be reduced proportionately.

For Your Safety

●Don't handle inserts and chips without gloves. ●Please machine within the recommended application range and exchange expired tools with new ones in advance of breakage. ●Please use safety covers and wear safety glasses. ●When using compounded cutting oils, please take fire precautions. ●When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc.

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(Tools specifications subject to change without notice.)