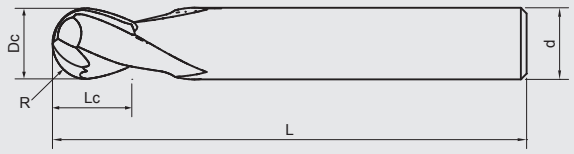
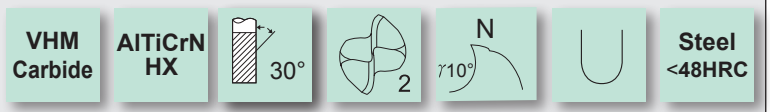
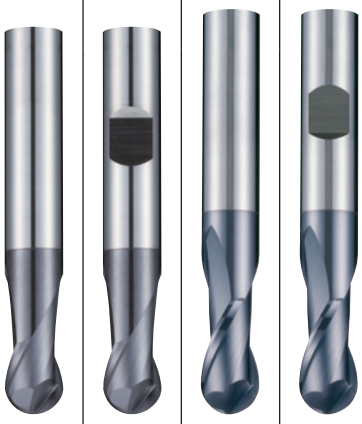
F520HX / F521HX

Ball Nose End Mills

Designed with S-style ball nose geometry.
Reduce surface cutting resistance.
Good wear resistance and lubricating effect with Nano multilayer coating.







Suitable for cutting different steels below 48HRC as well as cast iron.
Application for finishing profile cutting.

P	P	P	P
H	H	H	H
K	K	K	K

DIN 6527 Stub Length

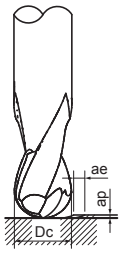
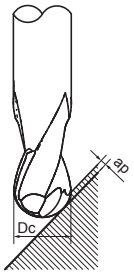
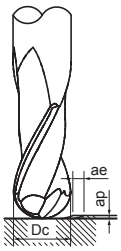
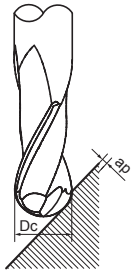
Dc $^{0}_{-0.02}$	R ±0.01	Lc mm	L mm	d h5	F520HX HA	F520HX HB				
2	1R	3	50	6	●	●				
3	1.5R	4	50	6	●	●				
4	2R	5	54	6	●	●				
5	2.5R	6	54	6	●	●				
6	3R	7	54	6	●	●				
8	4R	9	58	8	●	●				
10	5R	11	66	10	●	●				
12	6R	12	73	12	●	●				
14	7R	14	75	14	●	●				
16	8R	16	82	16	●	●				
18	9R	18	84	18	●	●				
20	10R	20	92	20	●	●				

DIN 6527 Standard Length

Dc $^{0}_{-0.02}$	R ±0.01	Lc mm	L mm	d h5			F521HX HA	F521HX HB		
3	1.5R	7	57	6			●	●		
4	2R	8	57	6			●	●		
5	2.5R	10	57	6			●	●		
6	3R	10	57	6			●	●		
8	4R	16	63	8			●	●		
10	5R	19	72	10			●	●		
12	6R	22	83	12			●	●		
14	7R	22	83	14			●	●		
16	8R	26	92	16			●	●		
18	9R	26	92	18			●	●		
20	10R	32	104	20			●	●		

Cutting Conditions

F520HX
F521HX

		F520HX				F520HX				F521HX				F521HX			
																	
		cutting speed Vc (m/min)	feed per tooth fz(mm)	ae	ap	cutting speed Vc (m/min)	feed per tooth fz(mm)	ae	ap	cutting speed Vc (m/min)	feed per tooth fz(mm)	ae	ap	cutting speed Vc (m/min)	feed per tooth fz(mm)	ae	ap
		Carbon Steel Materials															
P	GR1 Carbon Steel	120	0.02xDc	0.2xDc	0.1xDc	120	0.023xDc	0.2xDc	0.1xDc	120	0.02xDc	0.2xDc	0.1xDc	120	0.023xDc	0.2xDc	0.1xDc
P	GR2 <24HRC Low-alloyed Steel	110	0.02xDc	0.2xDc	0.1xDc	110	0.022xDc	0.2xDc	0.1xDc	110	0.02xDc	0.2xDc	0.1xDc	110	0.022xDc	0.2xDc	0.1xDc
P	GR3 <30HRC Hi-alloyed Steel	100	0.018xDc	0.2xDc	0.1xDc	100	0.021xDc	0.2xDc	0.1xDc	100	0.018xDc	0.2xDc	0.1xDc	100	0.021xDc	0.2xDc	0.1xDc
		Hardened Steel Materials															
H	GR4 30~38HRC Hardened Steel	60	0.015xDc	0.02xDc	0.02xDc	60	0.015xDc	0.02xDc	0.02xDc	60	0.015xDc	0.02xDc	0.02xDc	60	0.015xDc	0.02xDc	0.02xDc
H	GR5 38~48HRC Hardened Steel	55	0.012xDc	0.02xDc	0.02xDc	55	0.012xDc	0.02xDc	0.02xDc	55	0.012xDc	0.02xDc	0.02xDc	55	0.012xDc	0.02xDc	0.02xDc
		Cast Lron Materials															
K	GR9-1 Grey cast iron	120	0.02xDc	0.2xDc	0.1xDc	120	0.023xDc	0.2xDc	0.1xDc	120	0.02xDc	0.2xDc	0.1xDc	120	0.023xDc	0.2xDc	0.1xDc
K	GR9-2 Nodular cast iron	120	0.02xDc	0.2xDc	0.1xDc	120	0.023xDc	0.2xDc	0.1xDc	120	0.02xDc	0.2xDc	0.1xDc	120	0.023xDc	0.2xDc	0.1xDc

All cutting data serve for orientation only and should be adapted individually to the technical conditions on location
1. Please work with good rigidity / high precision facilities and collet chuck.
2. Please choose proper cutting fluid.
3. The cutting data is reference value only. Please adjust it according to your real working conditions.
4. If RPM is lower the reference value, the Feed rate (fz) and RPM should be reduced by the same proportion.
5. If vibration occurs during cutting, please reduce cutting parameter.