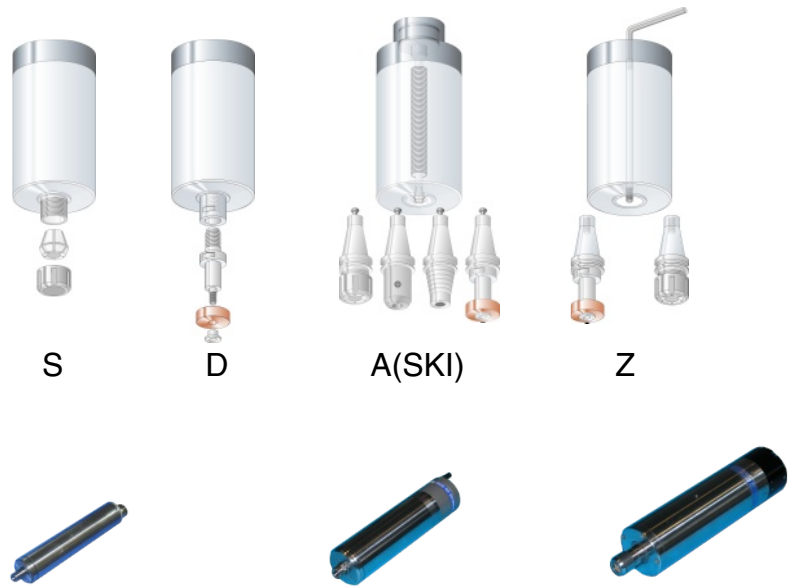


Small Sized Motor Spindles



Spindle Type

Spindle Type			HF25	HF33	HF42	HF45	HF60
Spindle Model (*)			25S	33 A/S/D 33 S	42 S/D	45.2 S 45.4 S 45 A	60 A/S
Speed	Hybrid bearings with oil/air	RPM	(80'000)	- -	140'000	- 96'000 -	70'000
	Steel bearings with oil/air	RPM	-	60'000 100'000	120'000	80'000 80'000 -	-
	Hybrid bearings with grease	RPM	55'000	40'000 40'000	80'000	50'000 60'000 60'000	60'000
Permanent power S1	kW	0,140	0.125 0.125	0.2	0.375 0.6 0.4	1.5	
Peak power	kW	0.200	0.165 0.165	0.26	0.475 0.8 0.65	4.1	
Torque at permanent power S1	Nm	0.02	0.02 0.02	0.014	0.1 0.045 0.064	0.2	
Taper size	HSK (Opt. W available with all sizes)		-	- -	-	- - -	-
	SKI; BT; CAT; SK; Y=Capto		-	- -	-	- - -	SKI 16
Clamping capacity	mm	0.3-3.175	1-5 1-5	1-5	1-7 1-7 1-6.35	1-8 (10)	
Housing dia. / length		25/166	33/151 33/120	42/120	45/172 45/191 45/214	60/218	
Weight	kg	0.44	0.9 0.9	1.1	1.6 1.8 2.5	3.9	
Spindle cooling required	kW	-	- -	0.5	- 0.5 0.5	0.7	
IBAG Vector Control		DC-Bruschl.	- -	-	- - -	-	

(*) S = Collet clamping direct in the spindle shaft; D = Grinding arbor to be attached direct on the spindle shaft; Z = Manual drawbar for tool interface with collet clamping or grinding arbor; A = Drawbar for ATC - Automatic Tool Change for tool holder HSK, SKI, BT, SK, CAT, Capto; W = Option with coolant through the center (not available with SKI). Other tooling interface on request. Y = Capto tool interface is available with HF 230 and HF 250 in C6 / C8.

All the IBAG tooling interfaces with SK are also available with BT or CAT. They can be produced with the very precision "BIG Plus" system (with shoulder contact).