



HAO ZHI

Guangzhou Haozhi Industrial Co., Ltd.

DGZYX-21012/45-KFHWVJLS

Turn-milling Composite Motorized Spindle
Instruction Manual



广州市昊志机电股份有限公司



Appendix 7 Spindle Technical Parameter Table

Appendix 6 Spindle Technical Parameter Table

Spindle Model DGZYX-21012/45-KFHWVJLS		
Drive Parameters		
No. Item		Standard Value
		Y Connection
01	Motor Type	Three-phase AC Synchronous Permanent-magnet Motor
02	Motor Poles	8
03	Rated Input Voltage (V)	380
04	Continuous Rated Output Power (S1-100%) (kW)	45
05	Continuous Rated Output Torque (S1-100%) (Nm)	120.4
06	Continuous Rated Output Current (S1-100%) (A)	83
07	Continuous Rated Output Power (S6-40%) (kW)	67.5
08	Continuous Rated Output Torque (S6-40%) (Nm)	180.6
09	Continuous Rated Output Current (S6-40%) (A)	124.5
11	Maximum Speed (rpm)	12000
12	Maximum Frequency (Hz)	800
13	Rated Speed (rpm)	3570
14	Rated Frequency (Hz)	238
15	Maximum Current (A)	166
16	Moment of Inertia (kg·m ²)	0.047
Tool Holder Parameters		
No. Item	Standard Value	
01	Tool Holder Interface HSK-T100	
02	Drawbar Force (N) 45000-65000	
03	E.M Value (mm) 13.2-13.4	
04	Tool Release Method Hydraulic Tool Release	



Appendix 7 Spindle Technical Parameter Table (Continued)

05 Tool Release Pressure (MPa)	6-8	
06 Drawbar Pressure (MPa)	0.4-8	
07 Spindle Taper Hole Runout (mm)	0.001	
08 Spindle End Face Runout (mm)	0.001	
09 Standard Test Bar Runout at 10mm (mm)	0.002	
10 Standard Test Bar Runout at 300mm (mm)	0.005	
Air Circuit System		
No. Item	Standard Value	
01 Air Curtain Seal AS Pressure (MPa)	0.2-0.3	
02 Central Blowing CL Pressure (MPa)	0.3-0.4	
Cooling System		
No. Item	Standard Value	
01 Cooling Medium		Water (Filtration Grade: <150μm) m)
02 Cooling Demand (kW)	7.5	
03 Cooling Water Flow Rate (L/min)	≥14	
04 Cooling Water Inlet-Outlet Temperature Difference (°C)	≤5	
05 Maximum Injection Temperature (°C)	45	
06 Maximum Injection Pressure (MPa)	0.6	
Central Cooling System		
No. Item	Standard Value	
01 Cooling Medium	Cutting Fluid/Oil Mist/Dry Air	
02 Cooling Medium Pressure (MPa)		Cutting Fluid: ≤7
		Oil Mist: ≤1
		Dry Air (15000rpm): ≤ 0.5
03 Cooling Medium Filtration Grade	<50μm	
04 Cooling Medium Maximum Injection Temperature (°C)	40	



Appendix 8 Spindle Technical Parameter Table (Continued)

Ring Spray System		
No.	Item	Standard Value
01	Cooling Medium Cutting Fluid/Oil Mist/Dry Air	
02	Cooling Medium Pressure (MPa)	<1
03	Cooling Medium Filtration Grade	<50 μ m
04	Cooling Medium Maximum Injection Temperature (°C)	40
Sensors		
No.	Item	Standard Value
02	Encoder Signal Sin/cos, 1Vpp	
03	Encoder Disk Teeth	224
04	Proximity Switch 24V, PNP Normally Open	
05	Stator Temperature Sensor Type KTY84-130, PTC	
Other Technical Parameters		
No.	Item	Standard Value
01	Spindle Assembly Diameter (mm)	Φ 210h5
02	Spindle Mounting Method	Oscillating
03	Spindle Vibration Velocity (mm/s)	1.0 (O-P)
04	Spindle Noise (dB(A))	75
05	Spindle Weight (kg)	140 (1 $\pm$ 10%)
06	Spindle Protection Class	F
07	Motor Winding Insulation Resistance (M Ω)	500
08	Motor Winding Withstand Voltage Test (V/min)	2000
Spindle Core Locking Mechanism Parameters		
01	Spindle Core Locking Mechanism Clamping Oil Pressure (MPa)	4-5
02	Spindle Core Locking Mechanism Reset Oil Pressure (MPa)	4-5
03	Locking Position	36 $\times$ 10°
04	Maximum Torque (N.m)	800