



HAOZHI

Guangzhou Haozhi Industrial Co., Ltd.

Machine Tool Motorized Spindle (DGZYX-19024□37B-KFHWQVJLS)

Instruction Manual



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Appendix 5 Spindle Technical Parameter Table

Schedule 6 Spindle Technical Parameter Table

Spindle Model DGZYX-19024□37B-KFHWQVJLS		
Drive Parameters		
No.	Item	Standard Value
01	Motor Type	Three-phase AC Permanent Magnet Synchronous Motor
02	Number of Poles	6
03	Rated Input Voltage (V)	380
04	Continuous Rated Output Power (S1-100%) (kW)	37
05	Continuous Rated Output Torque (S1-100%) (Nm)	72.1
06	Maximum Speed (rpm)	24000
07	Maximum Frequency (Hz)	1200
08	Rated Speed (rpm)	4900
09	Rated Frequency (Hz)	245
10	Continuous Rated Input Current (S1-100%) (A)	70
11	Maximum Current (A)	175
12	Back-EMF Constant RMS (Vp-p/krpm)	57.3
13	Moment of Inertia (kg·m ²)	0.0014
14	D-axis Inductance (mH)	1.45
15	Q-axis Inductance (mH)	1.45
16	DC Terminal Resistance (Ω)	0.116 (20°C)
17	Terminal Inductance (mH)	2.30

Schedule 7 Spindle Technical Parameter Table (Continued)

Spindle Model DGZYX-19024□37B-KFHWQVJLS		
Tool Holder Parameters		
No.	Item Standard Value	
01	Tool Holder Interface	HSK-A63 (DIN: 69893-1)
02	Drawbar Force (N)	18000-24000
03	Tool Release Adjustment Distance E.M Value (mm)	10.5±0.1
04	Tool Release Method	Hydraulic Release
05	Tool Release Time (s)	1.5
06	Tool Release Pressure (MPa)	7-9
07	Drawbar Pressure (MPa)	0.4-9
08	Taper Hole Radial Runout (mm)	≤0.001
10	Face Runout (mm)	≤0.001
11	Standard Test Bar Runout at 300mm (mm)	≤0.005
12	Minimum Tool Release Oil Volume (cc)	60
Air Circuit System		
No.	Item Standard Value	
01	Air Curtain Seal AS/AS1 Air Pressure (MPa)	0.1 (Dynamic Pressure) 0.15-0.20 (Static Pressure)
02	Taper Hole Purge CL Air Pressure (MPa)	0.3-0.4
03	Spindle Core Cooling Air Curtain Seal AS Air Pressure (MPa)	0.15-0.20
Cooling System		
No.	Item Standard Value	
01	Cooling Medium	Water (Filtration Grade: <150μm)
02	Cooling Requirement (kW)	7
03	Cooling Water Flow (L/min)	≥12
04	Cooling Water Inlet/Outlet Temperature Difference (°C)	≤5 (12L/min) ≤3 (15L/min)

Schedule 7 Spindle Technical Parameter Table (Continued)

Spindle Model DGZYX-19024□37-KFHWQVJLS		
Cooling System		
No. Item	Standard Value	
05	Coolant Injection Temperature (°C)	18-22
06	Maximum Injection Pressure (MPa)	0.6
07	Maximum Bearing Temperature (°C)	Upper Bearing ≤ Injection Water Temp +15 Lower Bearing ≤ Injection Water Temp +20
Sensors		
No. Item	Standard Value	
01	Encoder Signal Sin/cos, 1Vpp	
02	Encoder Disk Teeth	200
03	Proximity Switch 24V, PNP Normally Open	
04	Stator Temperature Sensor Type KTY84-130, PTC	
Oil-Air Lubrication Parameters		
No. Item	Recommended Value	
01	Oil-Air Distributor Single Outlet Single Pump Volume	0.03ml
02	Oil Volume per Bearing	0.36-0.4ml/h
03	Air Pressure before Distributor	0.45-0.55MPa
04	Minimum Oil Pump Frequency	12 times/h
05	Lubricating Oil Type Extreme Pressure Synthetic, Complying with ISO VG 32+EP Standard Lubricating Oil	
Spindle Core Cooling System Parameters		
No. Item	Recommended Value	
01	Cooling Medium No.3 Spindle Cooling Oil	
02	Cooling Oil Flow (L/min)	≥12
03	Cooling Oil Temperature Difference (°C)	≤10
04	Cooling Oil Injection Temperature (°C)	18-22
05	Injection Pressure (MPa)	0.8-1.0

Schedule 7 Spindle Technical Parameter Table (Continued)

Spindle Model DGZYX-19024□37-KFHWQVJLS		
Other Technical Parameters		
No. Item	Standard Value	
01 Spindle Assembly Diameter (mm)	φ190h5	
02 Spindle Mounting Method	Vertical/Horizontal	
03 Spindle Vibration Velocity (mm/s)	1.0 (O-P)	
04 Spindle Noise (dB(A))	75	
06 Spindle Protection Class	F	
07 Motor Winding Insulation Resistance (MΩ)	500	
08 Motor Winding Withstand Voltage Test (V/min)	1500	
09 Spindle Weight (kg)	100 (1±10%)	
10 Reactor Specification (Customer-supplied)		Rated Current: 85A Rated Inductance: 1mH Rated Frequency: 1200Hz