

PRODUCT DATASHEET

ES-SM-A02-130D-T7P5NM-1570W-001

AC Servo Motors

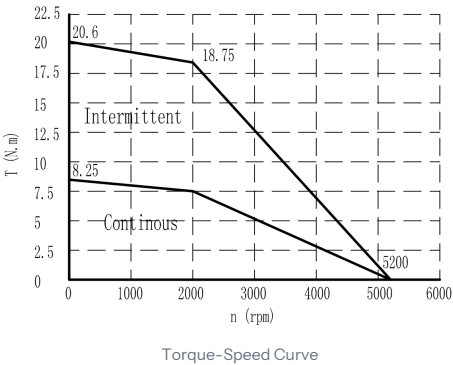
AC Servo Motors | ES-SM-A02-130D High-Response 130 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 7.5 N·m, instantaneous Maximum Torque 18.75 N·m and rated Speed 2000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	7.5	N·m
Instantaneous Maximum Torque	18.75	N·m
Rated Speed	2000	rpm
Continuous Rated Output Power	1570	W
Instantaneous Maximum Current	15.75	A
Flange Size	130	mm
Torque Constant	1.19	N·m/A
Rated Voltage	380	V AC
Rated Line Voltage	380	V



Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	7.5	Nm
Instantaneous Maximum Torque	18.75	Nm
Rated Speed	2000	rpm
Continuous Rated Output Power	1570	W
Torque Constant	1.19	Nm/A
Rated Power	1570	W
ELECTRICAL		
Rated Voltage	380	V AC
Rated Line Voltage	380	V
Instantaneous Maximum Current	15.75	A
Back EMF Constant	72	V/krpm
Position Feedback Device	2500 PPR incremental encoder	
Insulation Class	F	
Maximum Allowed Voltage Slew Rate	8	KV/ μ s
Motor Outlet Mode	YL-series aviation connector	
Pole Pairs	4	

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Rated Current	6.3	A	
Rotational Back-EMF Constant	72	V/krpm	
Electrical Time Constant	13.37	ms	
MECHANICAL			
Flange Size	130	mm	
Inertia Level	Medium inertia		
Holding Brake Available	Without holding brake		
Mechanical Time Constant	2.12	ms	
Rotor Inertia	17.7 kg·cm ² / 17.7 Kg·cm ²		Brake Configuration: without_brake
Bearing Radial Force Capacity	900	N	
Bearing Axial Force Capacity	450	N	
ENVIRONMENTAL			
Altitude and Derating Rule	Maximum altitude 4000 m; above 1000 m, power derates 1.5% per 100 m		
Operating Environment	Keep away from corrosive or flammable gases, oil droplets and dust		
Operating Humidity	≤90% RH, non-condensing		
Operating Temperature	-20 to 40°C (no freezing)		
Protection Rating	IP65, shaft end IP54		

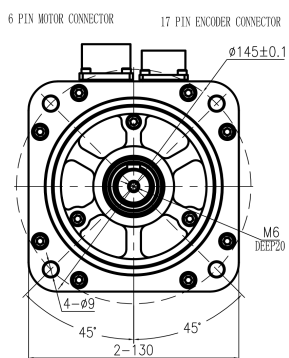
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	130	mm
Inertia Level	Medium inertia	
Holding Brake Available	Without holding brake	
Mechanical Time Constant	2.12	ms
Rotor Inertia	17.7 kgcm² / 17.7 Kg·cm2	
Bearing Radial Force Capacity	900	N

Mechanical View 1



Power Connector Pinout



Mechanical View 3



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Key length	40 mm
	Key width	6 mm
	Key height	
	Key label	Key feature
	Keyseat step height or projection	5 mm
	Flange or locating diameter	Diameter 110 mm, tolerance +0/-0.03 mm
	Shaft diameter	Diameter 22 mm, tolerance +0/-0.011 mm
	Body height	153 mm
	Front step length	5 mm
	Front mounting shoulder length	12 mm
	Shaft extension length	55 mm $\pm$ 1 mm
	Body length	179 mm $\pm$ 1.5 mm

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Mounting flange outer diameter	Ø145±0.1 mm
	Threaded hole specification	M6
	Threaded hole depth	20 mm depth
	Mounting hole count and diameter	4 holes × Ø9 mm
	Mounting hole angular position 1	45°
	Mounting hole angular position 2	
	Mounting hole pitch circle diameter	130 mm PCD (2 places)

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01 Specifications are subject to change without notice. Verify the current product configuration before final design release.

02 2D drawings, CAD files and integration documentation are controlled documents and are supplied separately on request.