

PRODUCT DATASHEET

ES-SM-A02-180D-T35NM-5500W-001

AC Servo Motors

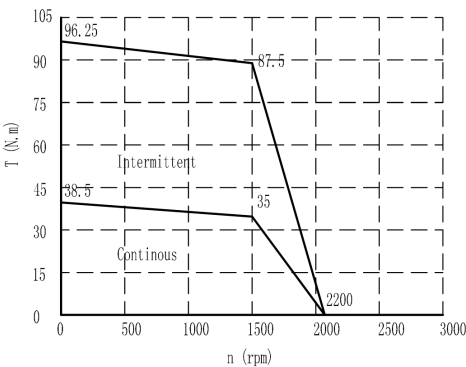
AC Servo Motors | ES-SM-A02-180D High-Response 180 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 35 N·m, instantaneous Maximum Torque 87.5 N·m and rated Speed 1500 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	35	N·m
Instantaneous Maximum Torque	87.5	N·m
Rated Speed	1500	rpm
Continuous Rated Output Power	5500	W
Instantaneous Maximum Current	33.7	A
Flange Size	180	mm
Torque Constant	2.73	N·m/A
Rated Voltage	380	V AC
Rated Line Voltage	380	V



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	35	Nm
Instantaneous Maximum Torque	87.5	Nm
Rated Speed	1500	rpm
Continuous Rated Output Power	5500	W
Torque Constant	2.73	Nm/A
Rated Power	5500	W
ELECTRICAL		
Rated Voltage	380	V AC
Rated Line Voltage	380	V
Instantaneous Maximum Current	33.7	A
Back EMF Constant	165	V/krpm

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Insulation Class	F	
Maximum Allowed Voltage Slew Rate	8	KV/ μ s
Motor Outlet Mode	YL-series aviation connector	
Pole Pairs	4	
Rated Current	13.5	A
Rotational Back-EMF Constant	165	V/krpm
Electrical Time Constant	14.83	ms
Position Feedback Device	S-MT37 rotary transformer	
MECHANICAL		
Flange Size	180	mm
Inertia Level	Medium inertia	

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Holding Brake Available	Without holding brake		
Mechanical Time Constant	1.9	ms	
Rotor Inertia	154 kg·cm ² / 154 Kg·cm ²		Brake Configuration: without_brake
Bearing Radial Force Capacity	1600	N	
Bearing Axial Force Capacity	800	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		

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Front view outside diameter	Diameter 200 $\pm$ 0.15
	Keyway width	12
	Keyway length	65
	Keyway depth or height	8
	Shaft end step length	6
	Shaft end extension length	65
	Maximum body height	204 maximum
	Pilot diameter	Diameter 114.3 +0/-0.035
	Output shaft diameter	Diameter 42 +0/-0.016
	Shaft shoulder to end face length	79 $\pm$ 0.1
	Threaded hole size	M8 thread, depth 25
	End cover step width	4
	Mounting through holes quantity and diameter	4 holes diameter 13
	Front flange axial thickness	17
	Mounting hole angular position	45 degrees
	Front end to mounting face length	84.5 $\pm$ 1
	Motor body length	336 $\pm$ 1.5
	Mounting hole center distance	2 positions, 180 spacing

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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.