

PRODUCT DATASHEET

ES-SM-A02-150D-T18NM-3800W-001

AC Servo Motors

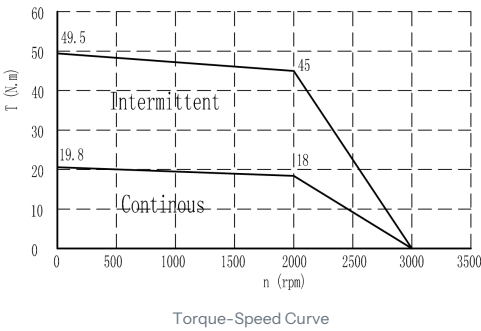
AC Servo Motors | ES-SM-A02-150D High-Response 150 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 18 Nm, instantaneous Maximum Torque 45 Nm and rated Speed 2000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	18	N·m
Instantaneous Maximum Torque	45	N·m
Rated Speed	2000	rpm
Continuous Rated Output Power	3800	W
Instantaneous Maximum Current	23.25	A
Flange Size	150	mm
Torque Constant	2.07	N·m/A
Rated Voltage	380	V AC
Rated Line Voltage	380	V



Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	18	Nm
Instantaneous Maximum Torque	45	Nm
Rated Speed	2000	rpm
Continuous Rated Output Power	3800	W
Torque Constant	2.07	Nm/A
Rated Power	3800	W
ELECTRICAL		
Rated Voltage	380	V AC
Rated Line Voltage	380	V
Instantaneous Maximum Current	23.25	A
Back EMF Constant	125	V/krpm

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
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	
Rated Current	9.3	A
Rotational Back-EMF Constant	125	V/krpm
Electrical Time Constant	9.27	ms
MECHANICAL		
Flange Size	150	mm
Inertia Level	Medium inertia	

Technical Specifications

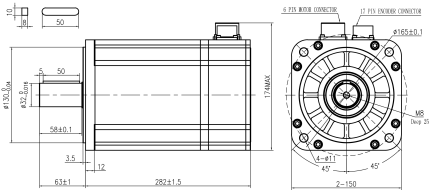
PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Holding Brake Available	Without holding brake		
Mechanical Time Constant	2.79	ms	
Rotor Inertia	63.1 kg·cm ² / 63.1 Kg·cm ²		Brake Configuration: without_brake
Bearing Radial Force Capacity	1200	N	
Bearing Axial Force Capacity	600	N	
ENVIRONMENTAL			
Altitude 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		

Dimensional & Integration Overview

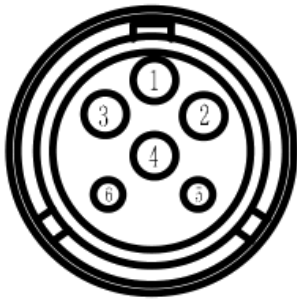
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	150	mm
Inertia Level	Medium inertia	
Holding Brake Available	Without holding brake	
Mechanical Time Constant	2.79	ms
Rotor Inertia	63.1kgcm ² / 63.1Kg·cm2	
Bearing Radial Force Capacity	1200	N

Dimensional Drawings



Mechanical View 1



Power Connector Pinout



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Key width	8
	Key height	10
	Key length	50
	Shaft shoulder step length	5
	Keyway effective length	50
	Shaft end outer diameter tolerance	Diameter 32 with +0/-0.016 tolerance
	Pilot diameter tolerance	Diameter 130 with +0/-0.04 tolerance
	Shaft extension length	58 ±0.1
	Relief or clearance length	3.5
	End face to body offset distance	12
	Shaft end total length	63 ±1
	Motor body length	282 ±1.5
	Maximum overall height	174 maximum
	Mounting hole pitch circle diameter	Diameter 165 ±0.1
	Threaded hole size and depth	M8 thread, depth 25
	Through hole quantity and diameter	4 holes, diameter 11
	Mounting hole angular position	45 degrees
	Mounting hole center spacing	2 positions at 150 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.