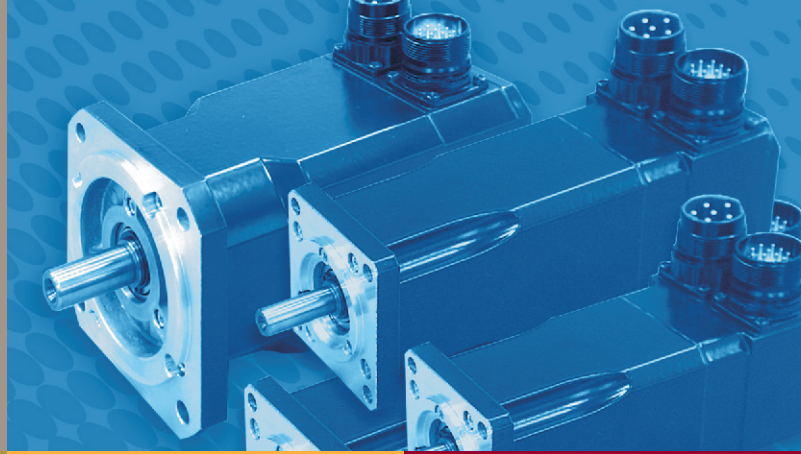# AF SERVO MOTORS

Compact servo motors with high power density

Moog AF series (12 poles) servo motors with natural cooling are designed for dynamic servo applications where small dimensions (especially shorter length) and high torque, along with a wide speed range and variable load, are required. From an electromagnetic standpoint, AF motors are designed for an overload capacity of 3–5 times the rated torque. Therefore, these servo motors can be used with torques substantially higher than those produced at nominal speed. They also offer a large power range, achieving continuous stall torque values from 2.8 to 65 Nm [25–575 lb-in].

The modular design of the AF servo motor supports a variety of options. In addition, Moog can provide fully customized solutions. We offer winding systems and special insulation options for different intermediate circuit voltages (12 V, 24 V, 48 V, 330 V, 560 V and 700 V DC) as well as for a wide range of different voltage constants (from about 1 to 500 V min. / 1,000). For high speed applications, Moog offers special rotors with double or triple bandages. Additional rotor options include special lightweight rotors for reduced inertia. We can also customize active lengths and develop special mechanical designs for the flange, shaft end and bearings, for applications requiring higher radial and axial forces. Our motors can be engineered to meet even the toughest environmental requirements (higher temperature; hazardous or harsh environment), have increased IP ratings and be equipped with a variety of available encoder options to meet all our customer needs.

FEATURES

- Compact dimensions with shorter axial length (flat motors)
- High torque overload capacity
- High efficiency
- High quality production
- High precision assembly
- Long life and high operational reliability

BENEFITS

- Space-saving installation
- High power density
- Highly customizable
- Rugged structure
- Minimal maintenance needs
- Different winding options available

Dimensions	Measuring Unit	AF Servo Motors
Continuous Stall Torque M°	Nm [lb-in]	2.8–65 [25–575]
Peak Torque M_{max}	Nm [lb-in]	12.3–254 [109–2,246.4]
Rated Speed n_N	min^{-1} (rpm)	0–5,500
Rated Power P_N	kW [hp]	0.8–9.4 [1.07–12.61]
Rated Torque M_N	Nm [lb-ft]	2.5–59.6 [22.1–527]
Moment of Inertia J	kg m^2 [lb-in sec^2 x 10^{-4}]	1.8–130 [15.9–1,150.3]
Position Transducer	Standard / Optional	Resolver / Encoder
Temperature Monitoring	N/A	PTC, PT1000, Thermoswitch
Brake	N/A	Optional
Rated Bus Voltage V DC	V	300/560 (or customizable)
Certificate / Marks	N/A	CE
Cooling	N/A	Natural

AF series

MOOG

AF SERIES

TYPE	d	D	E	L	L1	M	N	P	Q	S	□ T	□ U	V	W	Y
								mm							
AF502	19k6	95j6	40	89	127	8	3	10	115	140	105	97	74	16	DIN 332-DS M6
AF503	19k6	95j6	40	114	152	8	3	10	115	140	105	97	74	16	DIN 332-DS M6
AF504	19k6	95j6	40	139	177	8	3	10	115	140	105	97	74	16	DIN 332-DS M6
AF632	24k6	130j6	50	93	126	10	3.5	12	165	188	140	127	89	19	DIN 332-DS M8
AF633	24k6	130j6	50	118	151	10	3.5	12	165	188	140	127	89	19	DIN 332-DS M8
AF634	24k6	130j6	50	143	176	10	3.5	12	165	188	140	127	89	19	DIN 332-DS M8
AF802	28k6	180j6	60	101	137	13	4	14.5	215	250	190	158	89	22	DIN 332-DS M10
AF803	28k6	180j6	60	126	162	13	4	14.5	215	250	190	158	89	22	DIN 332-DS M10
AF804	28k6	180j6	60	151	187	13	4	14.5	215	250	190	158	89	22	DIN 332-DS M10
AF1002	32k6	180j6	80	113	152	13	4	14.5	215	250	190	190	109	28	DIN 332-DS M12
AF1003	32k6	180j6	80	138	177	13	4	14.5	215	250	190	190	109	28	DIN 332-DS M12
AF1004	32k6	180j6	80	163	202	13	4	14.5	215	250	190	190	109	28	DIN 332-DS M12

L (without brake)   L1 (with brake)   The length of low voltage servo motors may vary.
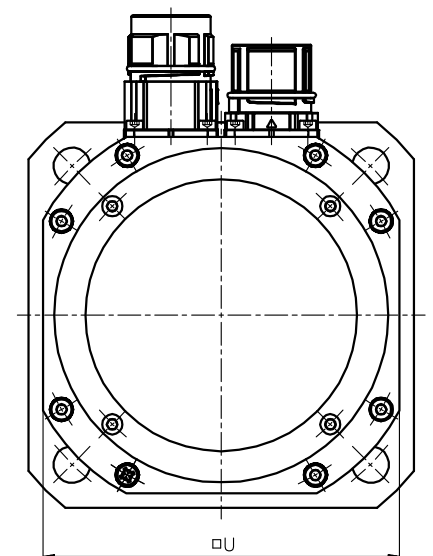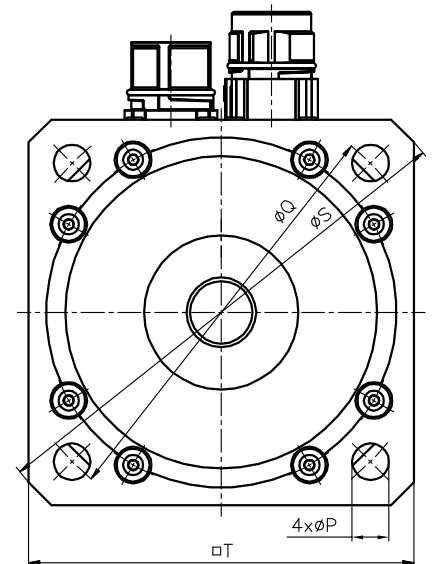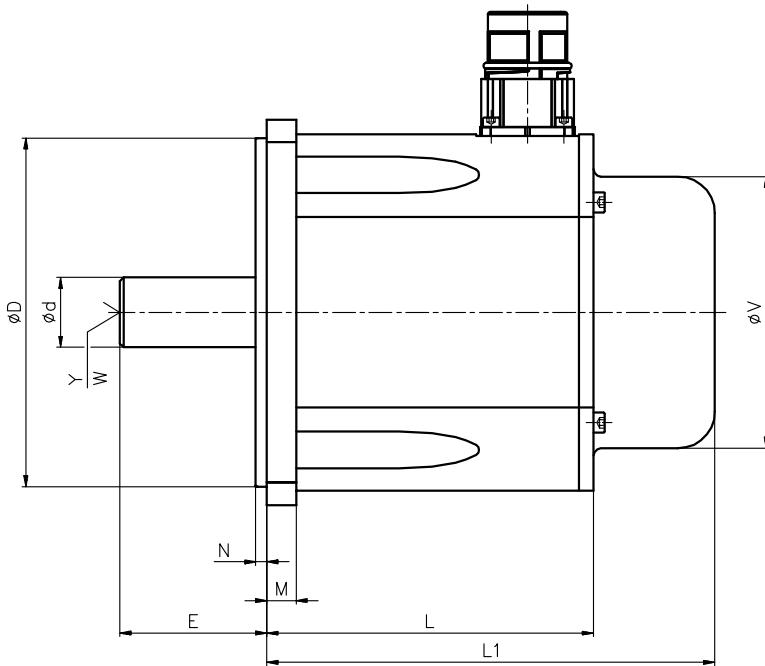
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www.moog.com/industrial

AF Servo Motors, Moog Brno, Czech Republic Rev. January 2020

This technical data is based on current available information and is subject to change at any time. Specifications for specific systems or applications may vary.

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