

# MAXIMUM DYNAMIC BRUSHLESS SERVO MOTORS

Offering higher productivity for electric motion control systems



We understand the challenges that injection molding machine builders face when designing their machine for example for higher performance and faster operation. That's why we provide expert motion control solutions that consistently deliver world-class performance, design flexibility and reliability.

Today's performance-oriented injection molding machines need to achieve very short fill times and quick clamping cycles. Traditional electric machine systems have limitations in acceleration and speed caused by the high inertia of their power train.

Moog's innovative Maximum Dynamic Brushless Servo Motors (MD Series) address the evolving needs for more dynamics and higher performance in industrial applications. This brushless permanent magnet AC servo motor is the centerpiece for low-inertia transmission systems. The unique system architecture ensures a more repeatable process, less overshoot and tighter tolerances on part weight.

Moog also provides Servo Drives that are matched to our Servo Motors for optimized system performance.

## FEATURES AND BENEFITS

- Greater productivity due to higher performance and faster operation
- Improve product quality through more accurate control
- Increase energy efficiency by reducing moving masses
- Provide a higher level of customer flexibility through a full range of servo motors with the highest dynamics

## APPLICATIONS

- Metal forming and presses
- Injection molding including injections, ejector and core pull axis
- Blow molding including mold carriage and clamp axis
- Die casting
- Magnesium molding



## TECHNICAL DATA

Motor type <sup>1)</sup>	Stall torque natural cooling		Stall torque fan cooling		Stall torque liquid cooling		Maximum torque		Nominal speed natural/fan/liquid cooling <sup>2)</sup> r/min	Inertia		Square flange natural & fan/liquid cooling	
	Nm	lbf in	Nm	lbf in	Nm	lbf in	Nm	lbf in		kg cm <sup>2</sup>	10 <sup>-4</sup> lbf in s <sup>2</sup>	mm	in
JSx3-020	2.2	19.5	-	-	-	-	10.0	88.5	5400 / - / -	0.78	6.90	70 / -	2.8 / -
JSx3-040	4.1	36.3	-	-	-	-	20.0	177	4700 / - / -	1.24	11	70 / -	2.8 / -
JSx3-050	5.1	45.1	-	-	-	-	25.0	221	3700 / - / -	1.46	12.9	70 / -	2.8 / -
JSx3-060	6.0	53.1	-	-	-	-	30.0	266	3100 / - / -	1.69	15.0	70 / -	2.8 / -
JSx3-075	7.4	65.5	-	-	-	-	37.0	327	2400 / - / -	2.03	18	70 / -	2.8 / -
JSx4-026	4.9	43.4	-	-	-	-	19.0	168	5100 / - / -	2.20	19.5	100 / -	3.9 / -
JSx4-040	6.8	60.2	-	-	-	-	29.0	257	4300 / - / -	3.08	27.3	100 / -	3.9 / -
JSx4-053	8.5	75.2	-	-	-	-	38.0	336	4100 / - / -	3.92	34.7	100 / -	3.9 / -
JSx4-067	10.2	90.3	-	-	-	-	48.0	425	3200 / - / -	4.80	42.5	100 / -	3.9 / -
JSx4-080	11.7	104	-	-	-	-	58.0	513	2700 / - / -	5.64	49.9	100 / -	3.9 / -
JHx5-047	21.0	186	30.0	266	46.0	407	64.0	566	2500 / 2300 / 2000	10.6	93.8	140 / 145	5.5 / 5.7
JHx5-063	27.0	239	38.0	336	61.0	540	85.0	752	2500 / 2300 / 2000	13.8	122	140 / 145	5.5 / 5.7
JHx5-079	33.0	292	44.5	394	75.0	664	106	938	2500 / 2400 / 2000	17.0	150	140 / 145	5.5 / 5.7
JHx5-094	39.0	345	51.5	456	90.0	797	128	1133	2500 / 2400 / 2000	20.2	179	140 / 145	5.5 / 5.7
JSx5-063	29.0	257	39.0	345	63.0	558	135	1195	3500 / 3400 / 3000	29.1	258	140 / 145	5.5 / 5.7
JSx5-084	38.0	336	48.5	429	84.0	743	179	1584	2600 / 2500 / 2300	37.7	334	140 / 145	5.5 / 5.7
JSx5-105	46.0	407	58.0	513	105	929	225	1991	2100 / 2000 / 1800	46.4	411	140 / 145	5.5 / 5.7
JSx5-126	55.0	487	66.5	589	125	1106	270	2390	1700 / 1700 / 1500	55.0	487	140 / 145	5.5 / 5.7
JHx6-079	70.0	620	95.0	841	113	1000	275	2434	1900 / 1800 / 1700	84.2	745	190 / 190	7.5 / 7.5
JHx6-105	92.0	814	120	1062	151	1336	365	3231	1800 / 1700 / 1600	109	965	190 / 190	7.5 / 7.5
JHx6-131	114	1009	145	1283	188	1664	456	4036	1600 / 1500 / 1500	135	1195	190 / 190	7.5 / 7.5
JHx6-157	136	1204	169	1496	225	1991	547	4841	1600 / 1500 / 1400	160	1416	190 / 190	7.5 / 7.5
JSx6-100	84.0	743	118	1044	138	1221	582	5151	2400 / 2300 / 2300	260	2301	190 / 190	7.5 / 7.5
JSx6-134	110	974	150	1328	180	1593	777	6877	1800 / 1700 / 1700	336	2974	190 / 190	7.5 / 7.5
JSx6-167	136	1204	181	1602	221	1956	970	8585	1400 / 1400 / 1400	411	3637	190 / 190	7.5 / 7.5
JSx6-201	162	1434	211	1868	263	2328	1165	10311	1200 / 1100 / 1100	487	4310	190 / 190	7.5 / 7.5
JSx7-122	314	2779	-	-	495	4381	1000	8851	1000 / - / 950	989	8753	275 / 275	10.8 / 10.8
JSx7-163	415	3673	-	-	655	5797	1335	11816	725 / - / 700	1304	11540	275 / 275	10.8 / 10.8
JSx7-204	516	4567	-	-	813	7196	1670	14781	575 / - / 550	1621	14346	275 / 275	10.8 / 10.8
JSx7-245	616	5452	-	-	964	8532	2000	17701	600 / - / 575	1975	17479	275 / 275	10.8 / 10.8

1) Motor type code (e.g. JSx3-020):

J = MD Series Servo Motor

S = Standard dynamic, H = High dynamic

x = Cooling (C = Natural cooling, F = Fan cooling, W = Liquid cooling)

3 = Flange size

020 = Stack length, active length in 0.1 in

Winding voltage 565 V<sub>DC</sub>

2) Nominal speed can be easily adjusted by changing the stator windings. Please refer to your local Moog application engineer for information.

Moog has offices around the world. For more information or the office nearest you, contact us online.

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MD Series Servo Motor  
Rev. 2, September 2010, CDL29233-en

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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