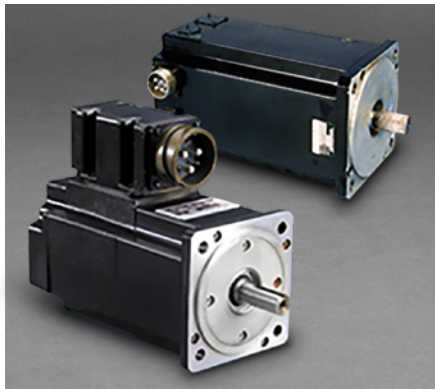


## CUSTOMIZABLE RUGGEDIZED MILITARY MOTORS



For over 50 years, Moog's experience with innovative, high performance control systems has been recognized worldwide. Our ability to design and manufacture state-of-the-art electromechanical control systems, combined with the unique capability to develop and manufacture brushless D.C. motors, has allowed Moog to generate an unmatched expertise in the area of precision turret control, stabilization and ammunition handling.

Moog provides systems and component experience in developing and supplying electric aiming and stabilization systems as well as drives for ammunition handling systems.

The Moog all-electric drives for turrets and weapons have demonstrated high in-service reliability for main battle tanks, infantry fighting vehicles, howitzers and anti-aircraft applications around the world.

Moog's brushless motors have been designed not only to meet and exceed the demanding requirements of many combat vehicle electric control applications, but to do so with more power per dimension. Moog engineers have achieved this by combining a highly efficient magnetic circuit with energy rare earth magnets and an excellent thermal design. Operation within a wide speed range provides excellent low speed tracking, high dynamic speed tracking as well as high dynamic target acquisition.

### FEATURES AND BENEFITS

- Smaller size
- Less weight
- Lower cost
- Longer thermal time constant
- Minimum ripple and cogging
- Higher torque / inertia ratio
- Complies with MIL-STD-810E
- Complies with MIL-STD-461E



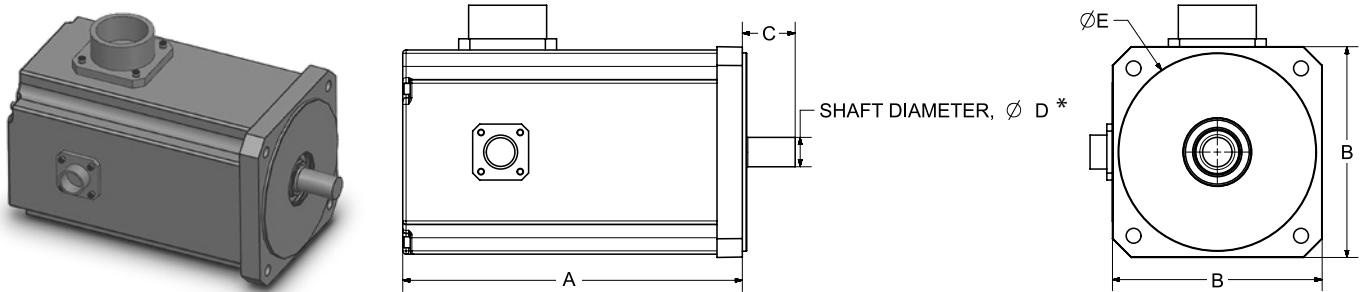
# CUSTOMIZABLE RUGGEDIZED MILITARY MOTORS

## LOW VOLTAGE MOTORS

Features	Model D 323			Model D 324			Model D 325			Model D 326			Model D 326HT		
Stack type	L15H	L25J	L40J	L10A	L20J	L40H	L20B	L30D	L50A	L70B	L15G	L30E	L45B	L15HT	L60HT
Peak stall torque (Nm)	4.9	8.1	13.0	6.4	13.3	20.3	28.0	37.6	60.5	70.0	38.1	76.3	64.0	48.1	201.8
Peak stall current (Arms)	85.0	220.0	220.0	70.0	300.0	350.0	250.0	350.0	380.0	500.0	500.0	500.0	500.0	100.0	500.0
Continuous stall torque (Nm)	1.6	2.6	3.9	2.7	4.7	8.1	11.2	16.2	26.2	35.3	14.0	26.8	38.8	16.2	55.9
Continuous stall current (Arms)	25.4	61.8	58.1	24.7	86.8	127.2	72.1	120.5	134.8	224.6	160.8	153.3	296.0	27.9	111.1
Nominal speed (rpm)	3200	5200	3400	1700	4000	3500	1300	1650	1200	1400	2300	1150	1600	280	400
Rotor inertia (kgcm <sup>2</sup> )	0.4	0.6	1.0	1.6	2.6	4.7	8.0	11.5	18.4	25.3	27.2	52.1	76.9	43.6	166.5
Motor weight (kg)	2.0	2.6	3.5	3.6	4.7	6.9	9.9	12.1	16.6	21.0	15.1	21.1	27.1	15.1	33.1
Nominal input voltage (VDC)	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24

## HIGH VOLTAGE MOTORS

Features	Model D 323			Model D 324			Model D 325			Model D 326			Model D 326HT		
Stack type	L15H-HV	L25J-HV	L40J-HV	L10A-HV	L20J-HV	L40H-HV	L20B-HV	L30D-HV	L50A-HV	L70B-HV	L15G-HV	L30E-HV	L45B-HV	L15HT-HV	L60HT-HV
Peak stall torque (Nm)	4.8	9.1	13.2	6.7	13.6	23.9	23.8	36.0	65.7	85.4	42.4	80.2	111.9	52.3	230.9
Peak stall current (Arms)	5.0	10.0	10.0	4.0	12.0	18.0	10.0	15.0	20.0	35.0	26.0	31.0	40.0	10.0	40.0
Continuous stall torque (Nm)	1.6	2.5	3.8	2.8	4.8	8.2	11.1	16.2	26.2	35.3	14.0	26.7	38.8	16.2	55.9
Continuous stall current (Arms)	1.5	2.3	2.5	1.4	4.4	5.3	3.9	5.6	6.1	11.8	7.1	8.8	12.2	2.4	6.9
Nominal speed (rpm)	5800	6000	4200	2700	4600	3800	2200	2200	1500	2200	3000	2000	1900	750	700
Rotor inertia (kgcm <sup>2</sup> )	0.4	0.6	1.0	1.6	2.6	4.7	8.0	11.5	18.4	25.3	27.2	52.1	76.9	43.6	166.5
Motor weight (kg)	2.0	2.6	3.5	3.6	4.7	6.9	9.9	12.1	16.6	21.0	15.1	21.1	27.1	15.1	33.1
Nominal input voltage (VDC)	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600



## DIMENSIONS

Model	Stack	A	B	C	D	E
D323	L15	5.21" [132.4 mm]	2.76" [70.0 mm]	1.00" [25.5 mm]	0.43" [11.0 mm]	2.36" [60.0 mm]
	L25	6.21" [157.8 mm]				
	L40	7.71" [195.9 mm]				
D324	L10	5.67" [144.1 mm]	4.13" [105.0 mm]	1.69" [43.0 mm]	0.63" [16.0 mm]	3.74" [95.0 mm]
	L20	6.67" [169.5 mm]				
	L40	8.67" [220.3 mm]				
D325	L20	7.30" [185.4 mm]	5.31" [135.0 mm]	2.11" [53.5 mm]	0.87" [22.0 mm]	5.12" [130.0 mm]
	L30	8.30" [210.8 mm]				
	L50	10.30" [261.6 mm]				
	L70	12.30" [312.4 mm]				
D326	L15	7.09" [180.1 mm]	7.50" [190.5 mm]	2.52" [64.0 mm]	1.26" [32.0 mm]	7.09" [180.0 mm]
	L30	8.59" [218.2 mm]				
	L45	10.09" [256.3 mm]				
	L60	11.59" [294.4 mm]				

Note: Resolver commutation standard; encoder commutation available.

Integrated brake available upon request. Dimensional information does not reflect inclusion of brake.

\* Key and spline outputs available upon request.

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