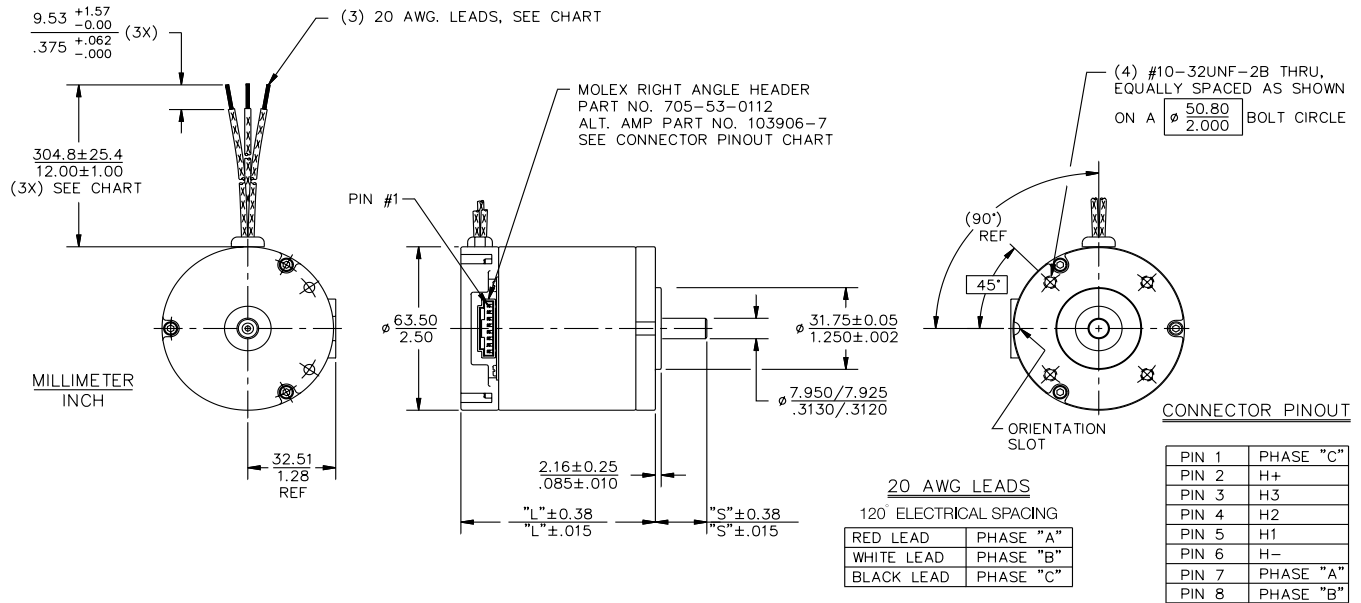


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# Tech Bulletin

## 2.5" (64mm) Diameter, 8 Pole, Brushless DC Motor

## 24 VDC



Motor Data	Unit of Measure	Part Numbers								
		119000*	119001	119002	119003*	119004	119005	119006	119007	119008*
No Load Speed, Nominal	RPM	5947	5389	4233	5468	4636	4019	3575	3191	2879
No Load Current, Nominal	amps	1.14	1.07	0.93	1.08	0.98	0.91	0.85	0.81	0.77
Stall Torque, Theoretical	oz.-in.	142	179	191	267	282	294	302	311	319
	Ncm	100	127	135	189	199	208	213	219	225
Continuous Torque	oz.-in.	14	21	27	34	41	48	55	62	69
	Ncm	10	15	19	24	29	34	39	44	49
Speed @ Torque, Nominal	RPM	4928	4234	3286	4228	3455	3074	2645	2290	2002
Current @ Torque, Nominal	amps	3.7	4.6	4.5	6.8	6.8	6.8	6.9	6.9	6.9
Continuous Power, Max.	watts out	51	66	66	106	105	109	108	105	102
	horsepower	0.068	0.088	0.088	0.142	0.141	0.146	0.145	0.141	0.137
Torque Constant	oz.-in. /amp	5.46	6.02	7.67	5.94	7.00	8.08	9.08	10.17	11.27
	Ncm/amp	3.85	4.25	5.42	4.19	4.94	5.70	6.41	7.18	7.96
Voltage Constant	V/kRPM	4.04	4.45	5.67	4.39	5.18	5.97	6.71	7.52	8.34
	V/rad/sec	0.0385	0.0425	0.0542	0.0419	0.0494	0.0570	0.0641	0.0718	0.0796
Electrical Time Constant	millisecond	0.838	0.886	0.937	0.904	0.938	0.965	0.986	1.004	1.019
Mechanical Time Constant	millisecond	5.236	4.129	4.080	3.775	4.006	3.668	3.217	3.258	3.021
Motor Constant	oz.-in./(watt <sup>0.5</sup> )	6.8	8.1	9.3	10.1	11.1	12.1	12.9	13.8	14.7
	Ncm/(watt <sup>0.5</sup> )	4.8	5.7	6.6	7.1	7.9	8.6	9.1	9.8	10.4
Rotor Inertia	oz.-in.sec <sup>2</sup>	0.0017	0.0019	0.0025	0.0027	0.0035	0.0038	0.0038	0.0044	0.0046
	Ncm-sec <sup>2</sup>	0.0012	0.0013	0.0018	0.0019	0.0025	0.0027	0.0027	0.0031	0.0032
Terminal Resistance	ohms	0.648	0.557	0.678	0.348	0.396	0.444	0.493	0.541	0.589
Terminal Inductance	millihenry	0.543	0.493	0.635	0.314	0.372	0.429	0.486	0.543	0.601
Thermal Resistance	°C/W	1.26	1.22	1.19	1.15	1.11	1.08	1.04	1.00	0.96
Length ("L" above)	inches	2.335	2.335	2.835	2.835	3.585	3.585	3.585	4.085	4.085
	mm	59.31	59.31	72.01	72.01	91.06	91.06	91.06	103.76	103.76
Weight	lbs	1.15	1.25	1.60	1.75	2.15	2.25	2.30	2.70	2.80
	kg	0.52	0.57	0.73	0.79	0.98	1.02	1.04	1.22	1.27
Shaft Length ("S" above)	inches	.750	.750	.750	.750	1.500	1.500	1.500	1.875	1.875
	mm	19.05	19.05	19.05	19.05	38.1	38.1	38.1	47.63	47.63

\*These part numbers are available through AMETEK Rotron distributors. See page 91 for distributor information.

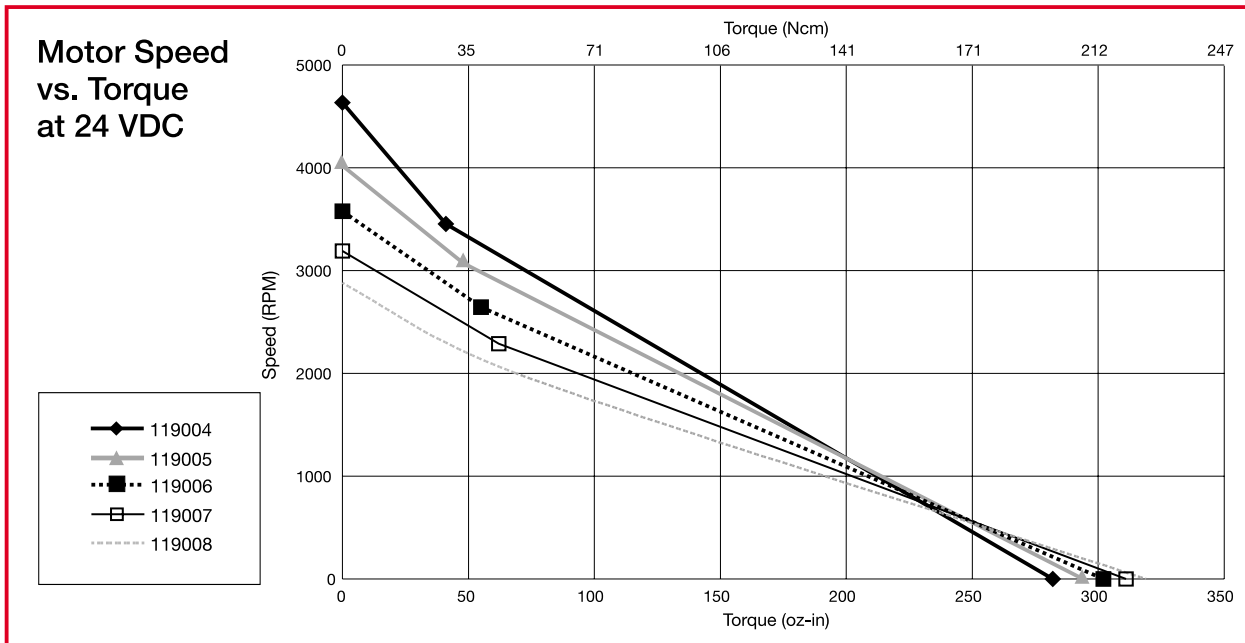
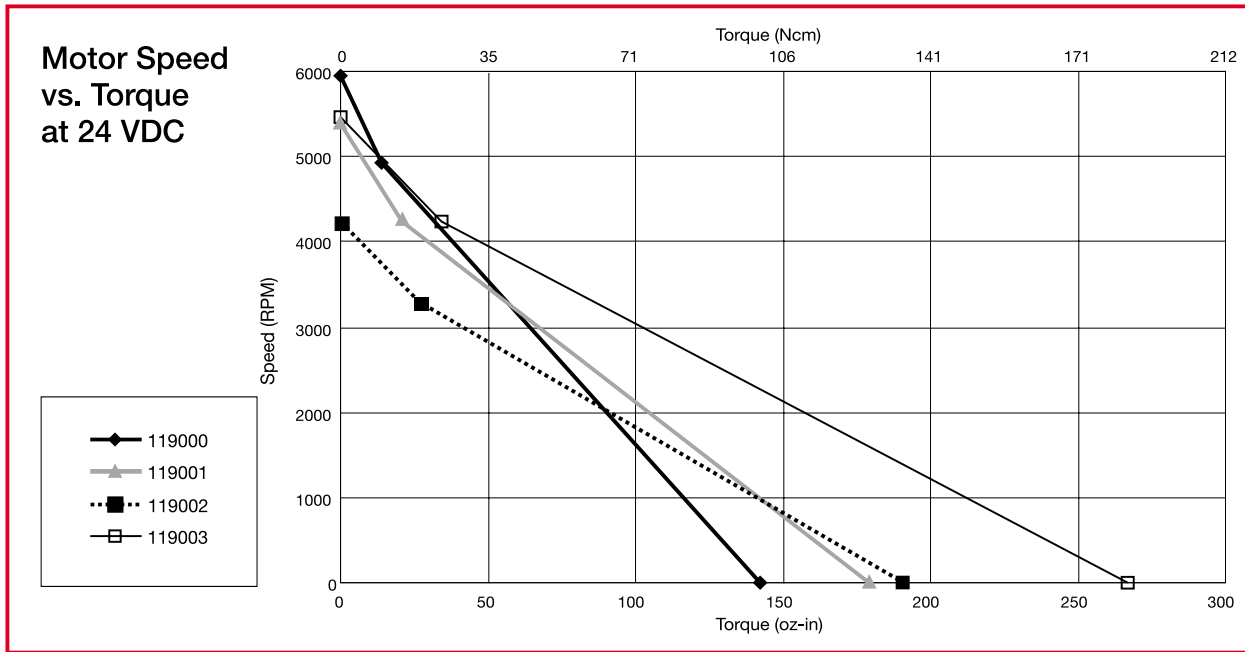
### NOTES

- Motors require brushless motor controller for operation, refer to the controller section (page 84) for applicable controllers.
- Use adapter PN E-6200-318 for applications requiring NEMA 34 mounting.
- Motor design characteristics are based on an operating environment of 25°C.
- Maximum performance figures are based on a winding temperature of 105°C.



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Please contact your local AMETEK representative regarding your specific performance requirement.

This document is for informational purposes only and should not be considered as a binding description of the products or their performance in all applications. The performance data on this page depicts typical performance under controlled laboratory conditions using AMETEK BLDC motor controllers. Actual performance will vary depending on the operating environment and application. AMETEK Rotron products are not designed for and should not be used in medical life support applications. AMETEK reserves the right to revise its products without notification. The above characteristics represent standard products. For product designed to meet specific applications contact AMETEK Rotron Marketing and Sales.