



"Superior Torque" (ST) Series

FRAMELESS MOTOR CATALOG



AVEOX “Superior Torque” (ST) Series Frameless Motors

The AVEOX “ST” Series of Brushless DC Motors are designed to meet the high power-density requirements of today’s advanced Military, Commercial aerospace, Medical and Industrial applications. Frameless Stators and Rotors have been developed for applications requiring high power in a compact form factor. AVEOX proprietary technologies ensures that performance is optimized in each design. Configurations facilitate integration into customer designs and are available as modified standard and full custom configurations. Each configuration can be integrated into a custom AVEOX framed motor solution.

TYPICAL APPLICATIONS INCLUDE:

- Compressors, Pumps, Fans, Winches
- Weapons Ejection Systems
- UAV Propulsion Systems and Generators

AVEOX ST Series BLDC Motors Provide the Platform for Developing High Performance, Reliable, Lightweight Systems.

FEATURES

- Light-Weight/High Power Density
- Diameter (0.5-36 Inches)
- Power Levels (0.5W to 150KW)
- Speeds to 120,000 RPM
- Temperature Range (-80°C to 315 °C)
- Frameless Configurations (Housed Configurations Optional)
- Sensorless Design (Optional Hall Sensors)
- Sealed/Submersible/Autoclavable
- Extreme Shock and Vibration Tolerant

BENEFITS

- Designed to Optimize Weight and Size
- High Torque Density – Small size and Footprint
- High Mechanical Stiffness – Low Rotor Inertia for Efficient Control
- Smooth Accurate Motion
- Easily Integrated Into System Designs
- Infinite Customization Available to Meet a Wide Variety of Application Requirements

AVEOX Brushless DC Motor Controllers



AVEOX family of Electronic DC Motor Controllers are capable of servicing a wide variety of Military, Commercial Aerospace, Industrial and Medical Applications. Voltage mode amplifier (motor drives) are compatible with both brush and brushless motors. Proprietary controllers feature AVEOX's "Smart Start" technology that provides reliable, quick starts regardless of initial rotor position or mechanical load. Controllers can be easily matched with AVEOX BLDC motors and power conversion modules to create the industry's most efficient, reliable and cost-effective power solutions for extreme environments.

Choose from standard off-the-shelf or modified standard controllers to ensure rapid and cost-effective system development. Full custom configurations can also be provided to meet unique requirements or extreme environmental conditions.

Take advantage of AVEOX "Simple Hardware Item" architecture to facilitate product qualification into complex aircraft systems.

Minimize development risk and accelerate time to market by leveraging AVEOX's decades of brushless motor and controller development and system integration experience.

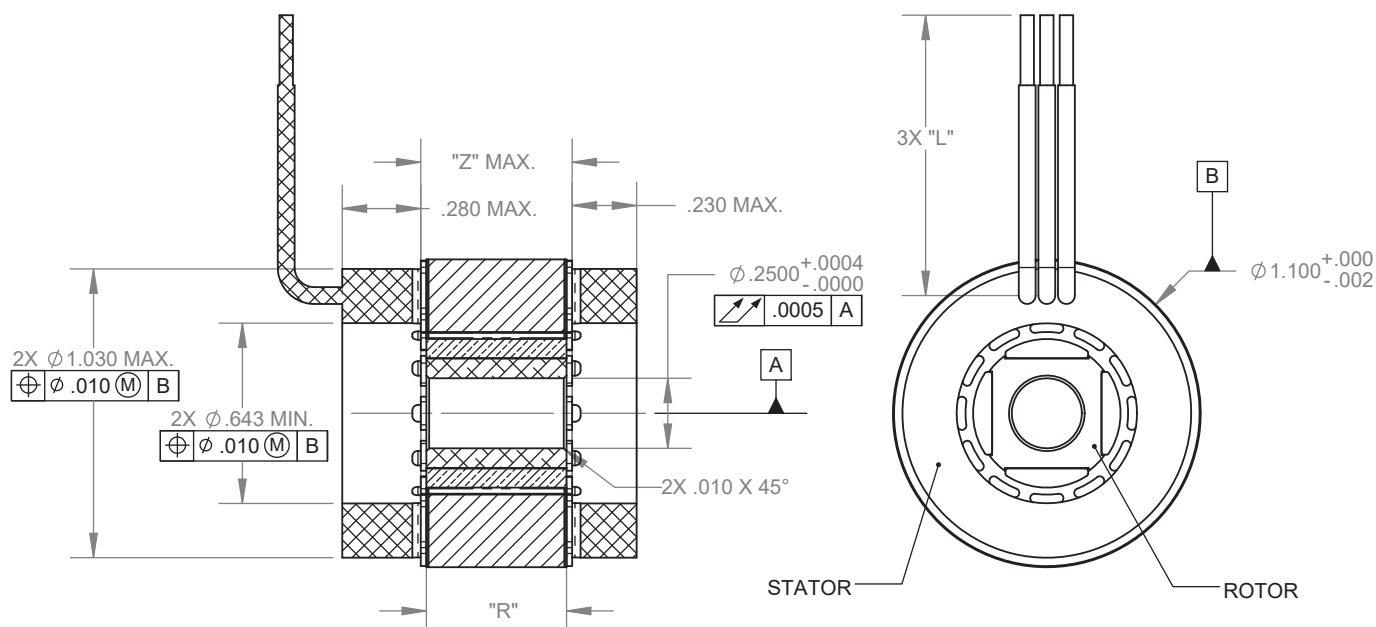


INDUSTRIAL STYLE
CONTROLLER AVX-50BL10

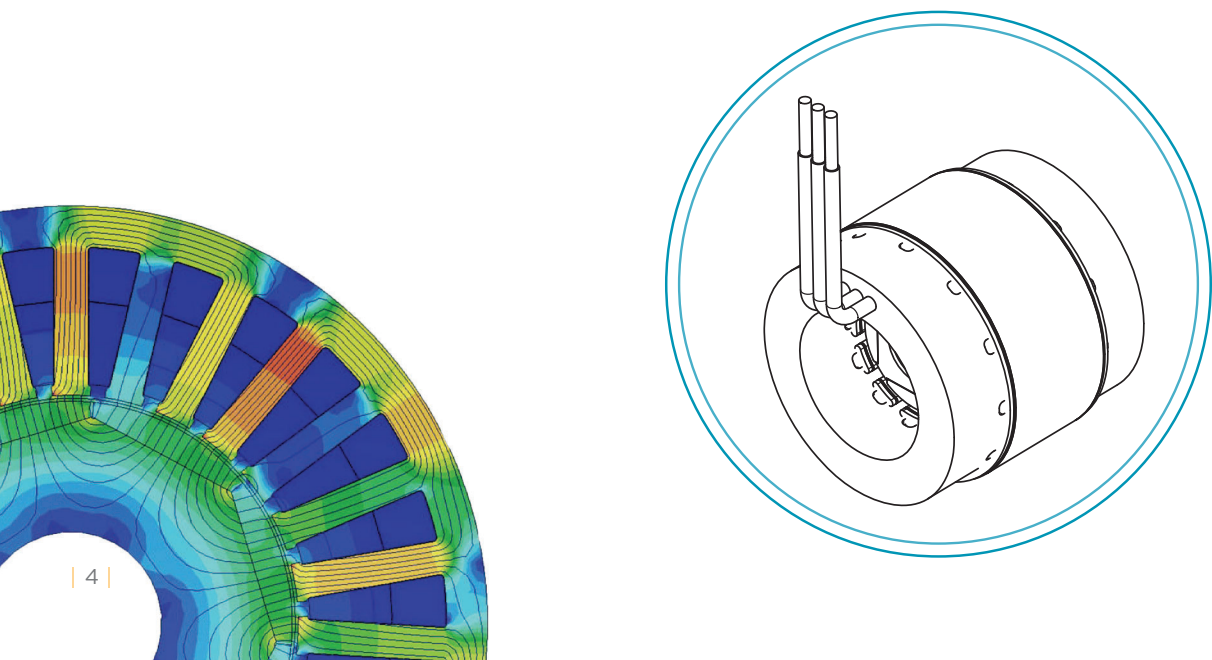


MILITARY/AEROSPACE STYLE
CONTROLLER AVX-350FOC100

"Superior Torque" (ST) 1100 Series Technical Illustration

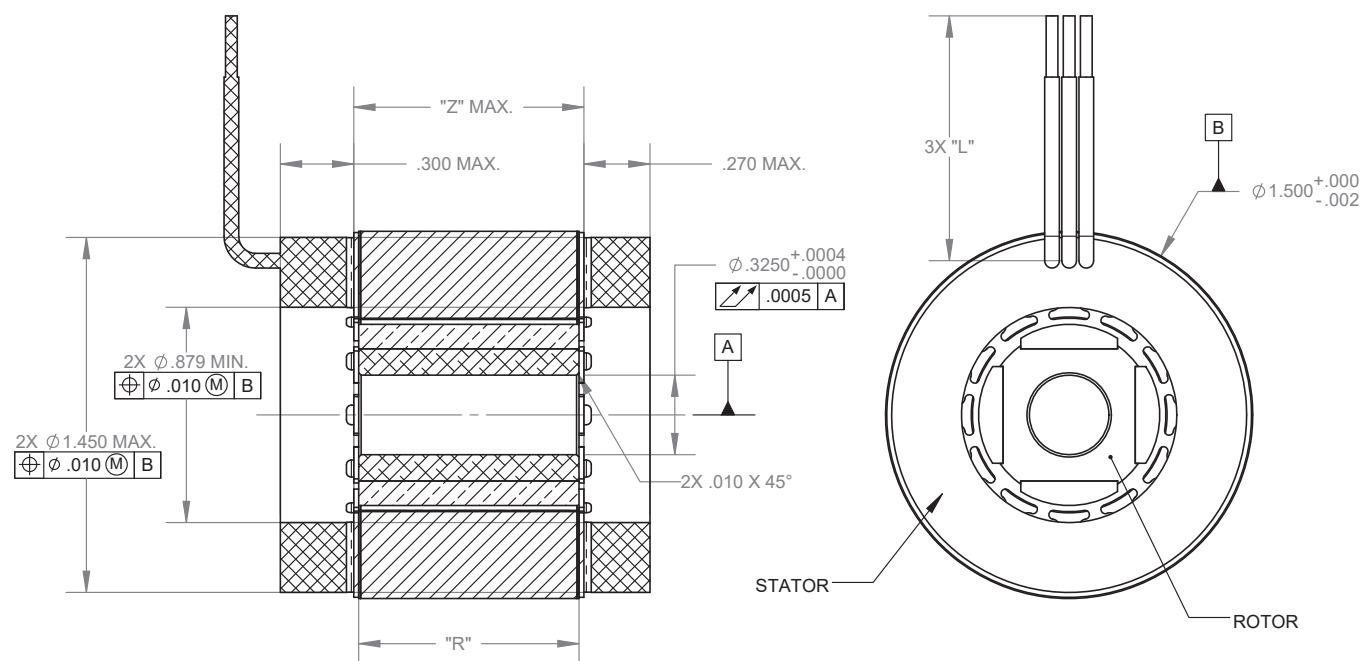


PART NO.	DESCRIPTION	"Z" MAX	LEAD WIRE GAGE	"L" ± .500	"R" ± .005
6100248-01	O&M DWG, 1105/6 STD ROTOR AND STATOR SET	.570	18	12	0.500
6100248-02	O&M DWG, 1105/12 STD ROTOR AND STATOR SET	.570	18	12	0.500
6100248-03	O&M DWG, 1110/3 STD ROTOR AND STATOR SET	1.070	16	12	1.000
6100248-04	O&M DWG, 1110/6 STD ROTOR AND STATOR SET	1.070	18	12	1.000
6100248-05	O&M DWG, 1115/2 STD ROTOR AND STATOR SET	1.570	14	12	1.500
6100248-06	O&M DWG, 1115/4 STD ROTOR AND STATOR SET	1.570	18	12	1.500

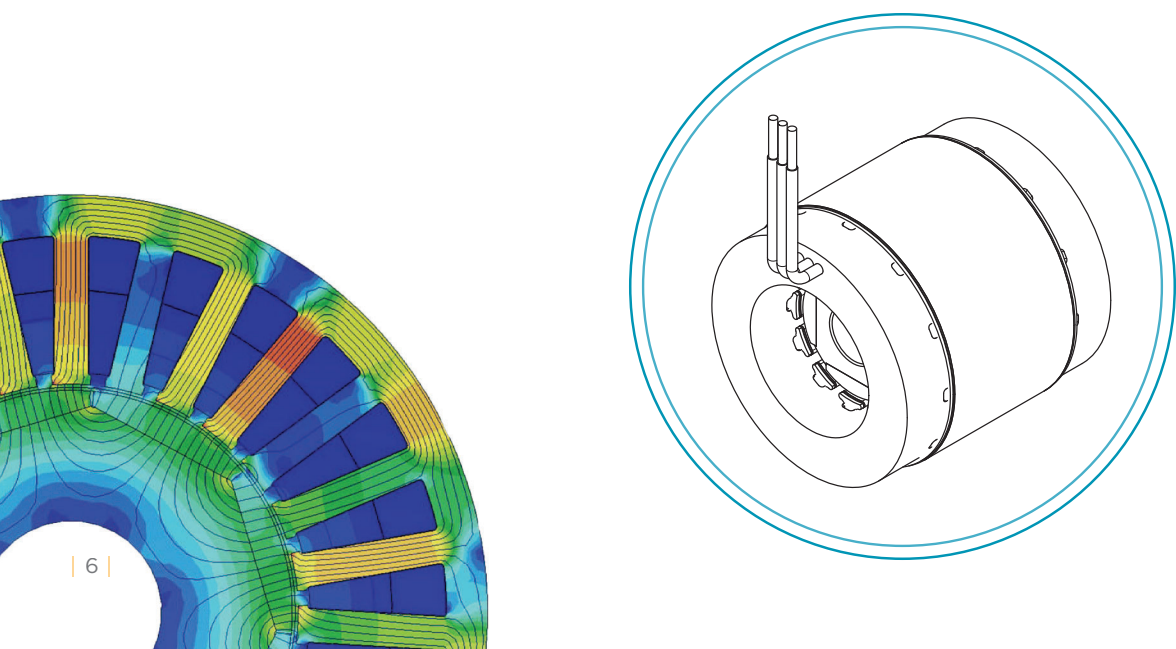


GENERIC PART NUMBER	1105/6	1105/12	1110/3	1110/6	1115/2	1115/4
STATOR OD (IN)	1.1	1.1	1.1	1.1	1.1	1.1
STATOR STACK LENGTH (IN)	0.5	0.5	1	1	1.5	1.5
ROTOR ID (IN)	0.25	0.25	0.25	0.25	0.25	0.25
ROTOR LENGTH (IN)	0.5	0.5	1	1	1.5	1.5
TURNS PER COIL	6	12	3	6	2	4
RESISTANCE (L-L)	0.176	0.704	0.0602	0.241	0.0339	0.136
INDUCTANCE (L-L)	0.0689	0.2755	0.033	0.1315	0.1031	0.08665
LEAD WIRE AWG	18	18	16	18	14	18
KE (V/1KRPM, PEAK)	0.617	1.23	0.617	1.23	0.617	1.23
KT (IN-OZ/A, PEAK)	1.02	2.04	1.02	2.04	1.02	2.04
KT (IN-OZ/ARMS), TIME-AVERAGED	1.02	2.04	1.02	2.04	1.02	2.04
KM (IN-OZ/SQRT(W))	2.43	2.43	4.16	4.16	5.54	5.53
WEIGHT (OZ)	1.85	1.85	3.38	3.38	4.91	4.91
ROTOR INERTIA (KG-M ²)	3.01E-07	3.01E-07	5.99E-07	5.99E-07	8.96E-07	8.96E-07
POLE COUNT	4	4	4	4	4	4
COGGING TORQUE, PEAK (IN-OZ)	0.284	0.284	0.567	0.567	0.851	0.851
HYSTERESIS DRAG TORQUE (IN-OZ)	0.0624	0.0624	0.126	0.126	0.189	0.189
ELECTROMAGNETICS VISCOUS DRAG (IN-OZ/RPM ²)	6.70E-11	6.70E-11	1.35E-10	1.35E-10	2.03E-10	2.03E-10
DESIGN CURRENT (RMS, SINE DRIVE)	6.68	3.34	14.70	7.36	22.30	11.10
DESIGN VOLTAGE	24	48	24	48	24	48
DESIGN RPM	25000	25000	25000	25000	25000	25000
NO-LOAD RPM	38896	38896	38896	38896	38896	38896
DESIGN TORQUE (IN-OZ)	6.25	6.25	13.8	13.8	20.9	20.8
DESIGN OUPUT POWER (W)	116	116	254	255	386	384
ELECTROMECHANICAL EFFICIENCY AT DESIGN OUTPUT POWER	89.3	89.3	91.5	91.5	92.5	92.5

"Superior Torque" (ST) 1500 Series Technical Illustration

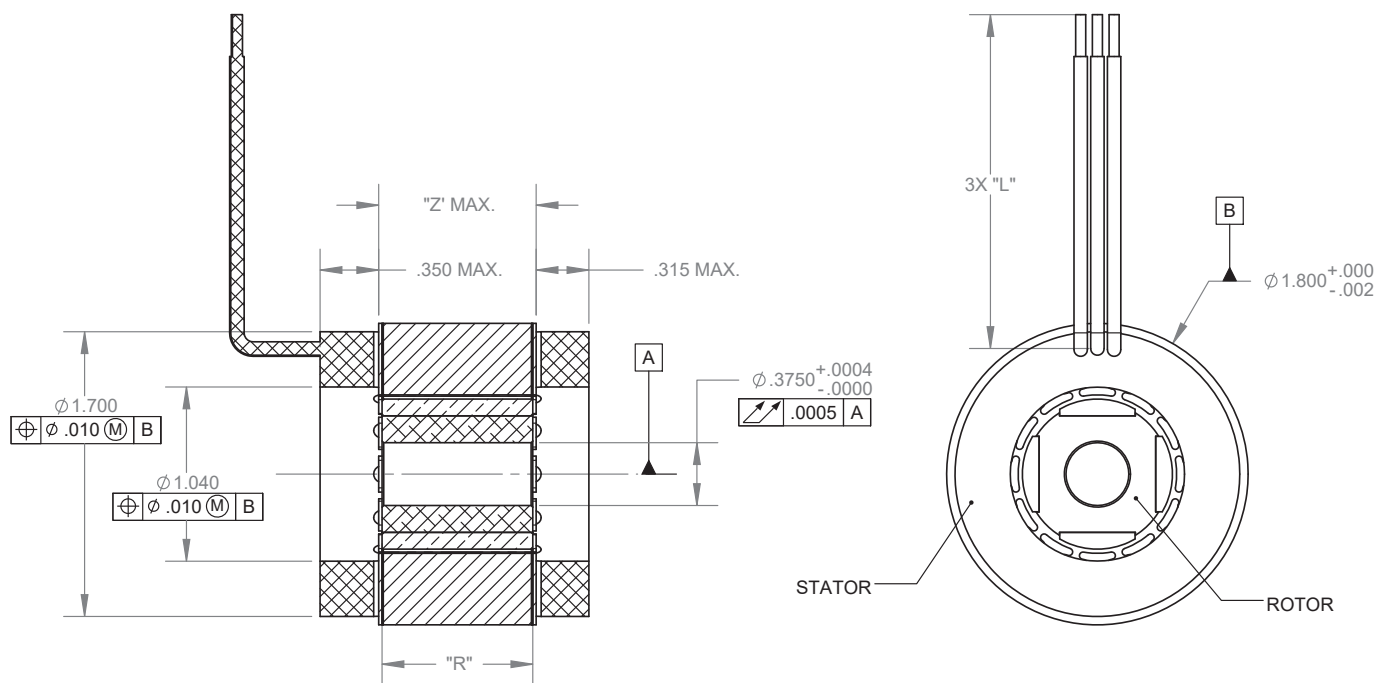


PART NO.	DESCRIPTION	"Z" MAX	LEAD WIRE GAGE	"L" ± .500	"R" ± .005
6100250-01	O&M DWG, 1509/4 STD ROTOR AND STATOR SET	.970	16	12	0.900
6100250-02	O&M DWG, 1509/8 STD ROTOR AND STATOR SET	.970	16	12	0.900
6100250-03	O&M DWG, 1512/3 STD ROTOR AND STATOR SET	1.270	14	12	1.200
6100250-04	O&M DWG, 1512/6 STD ROTOR AND STATOR SET	1.270	16	12	1.200
6100250-05	O&M DWG, 1518/2 STD ROTOR AND STATOR SET	1.870	14	12	1.800
6100250-06	O&M DWG, 1518/4 STD ROTOR AND STATOR SET	1.870	16	12	1.800

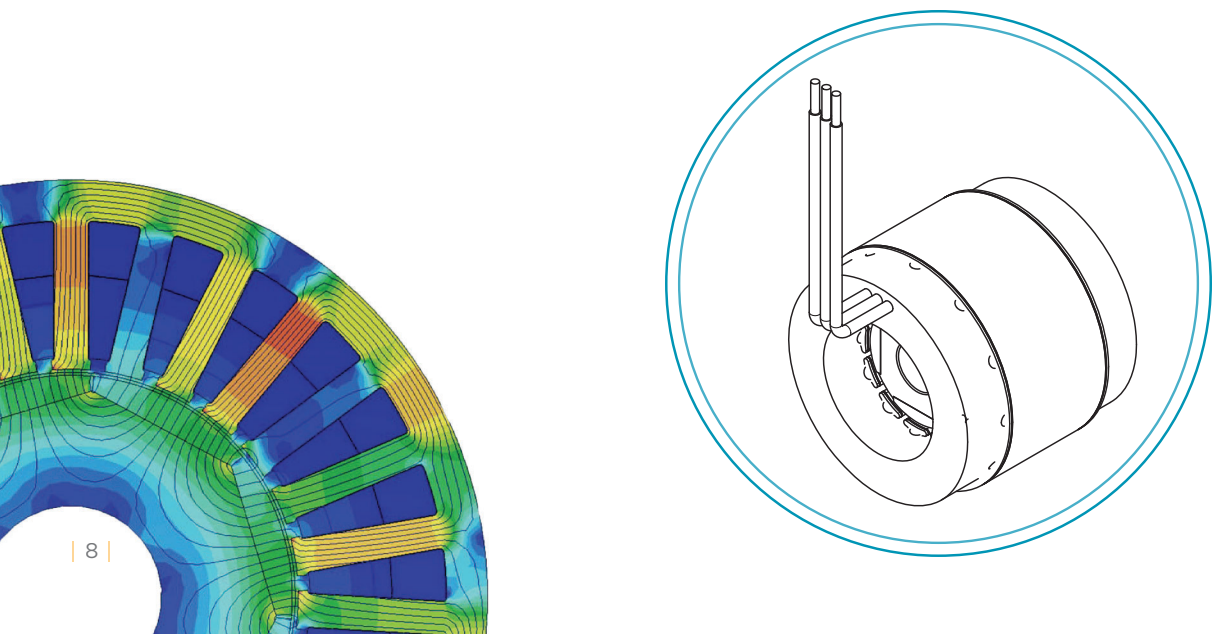


GENERIC PART NUMBER	1509/4	1509/8	1512/3	1512/6	1518/2	1518/4
STATOR OD (IN)	1.5	1.5	1.5	1.5	1.5	1.5
STATOR STACK LENGTH (IN)	0.9	0.9	1.2	1.2	1.8	1.8
ROTOR ID (IN)	0.325	0.325	0.325	0.325	0.325	0.325
ROTOR LENGTH (IN)	0.9	0.9	1.2	1.2	1.8	1.8
TURNS PER COIL	4	8	3	6	2	4
RESISTANCE (L-L)	0.0592	0.237	0.0381	0.153	0.0213	0.0851
INDUCTANCE (L-L)	0.04915	0.1995	0.03605	0.146	0.02345	0.0945
LEAD WIRE AWG	16	16	14	16	14	16
KE (V/1KRPM, PEAK)	1.14	2.28	1.14	2.28	1.14	2.28
KT (IN-OZ/A, PEAK)	1.89	3.77	1.89	3.77	1.89	3.77
KT (IN-OZ/ARMS), TIME-AVERAGED	1.65	3.29	1.65	3.29	1.65	3.3
KM (IN-OZ/SQRT(W))	7.77	7.74	9.68	9.64	12.95	12.92
WEIGHT (OZ)	6.16	6.16	7.92	7.92	11.5	11.5
ROTOR INERTIA (KG-M ²)	2.00E-06	2.00E-06	2.66E-06	2.66E-06	3.99E-06	3.99E-06
POLE COUNT	4	4	4	4	4	4
COGGING TORQUE, PEAK (IN-OZ)	1.4	1.4	1.87	1.87	2.8	2.8
HYSTERESIS DRAG TORQUE (IN-OZ)	0.231	0.231	0.308	0.308	0.464	0.464
ELECTROMAGNETICS VISCOUS DRAG (IN-OZ/RPM ²)	3.36E-10	3.36E-10	4.49E-10	4.48E-10	6.76E-10	6.76E-10
DESIGN CURRENT (RMS, SINE DRIVE)	13.40	6.68	18.00	8.99	28.60	14.30
DESIGN VOLTAGE	28	56	28	56	28	56
DESIGN RPM	20000	20000	20000	20000	20000	20000
NO-LOAD RPM	24600	24600	24600	24600	24600	24600
DESIGN TORQUE (IN-OZ)	22.1	22	29.7	29.6	47.1	47.1
DESIGN OUPUT POWER (W)	326	325	439	438	697	697
ELECTROMECHANICAL EFFICIENCY AT DESIGN OUTPUT POWER	93.7	93.7	94.3	94.3	94.8	94.8

"Superior Torque" (ST) 1800 Series Technical Illustration

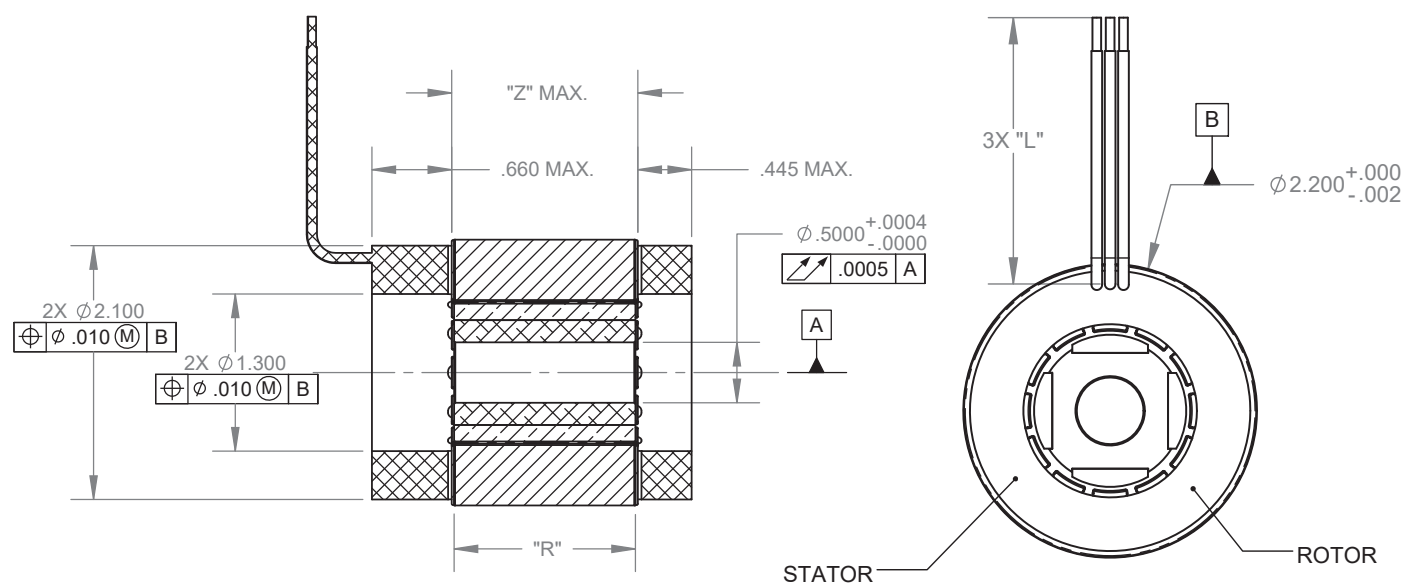


PART NO.	DESCRIPTION	"Z" MAX	LEAD WIRE GAGE	"L" $\pm$.500	"R" $\pm$.005
6100251-01	O&M DWG, 1809/8 STD ROTOR AND STATOR SET	0.970	16	12	0.900
6100251-02	O&M DWG, 1809/41 STD ROTOR AND STATOR SET	0.970	18	12	0.900
6100251-03	O&M DWG, 1815/5 STD ROTOR AND STATOR SET	1.570	14	12	1.500
6100251-04	O&M DWG, 1815/25 STD ROTOR AND STATOR SET	1.570	18	12	1.500
6100251-05	O&M DWG, 1825/3 STD ROTOR AND STATOR SET	2.570	14	12	2.500
6100251-06	O&M DWG, 1825/15 STD ROTOR AND STATOR SET	2.570	18	12	2.500

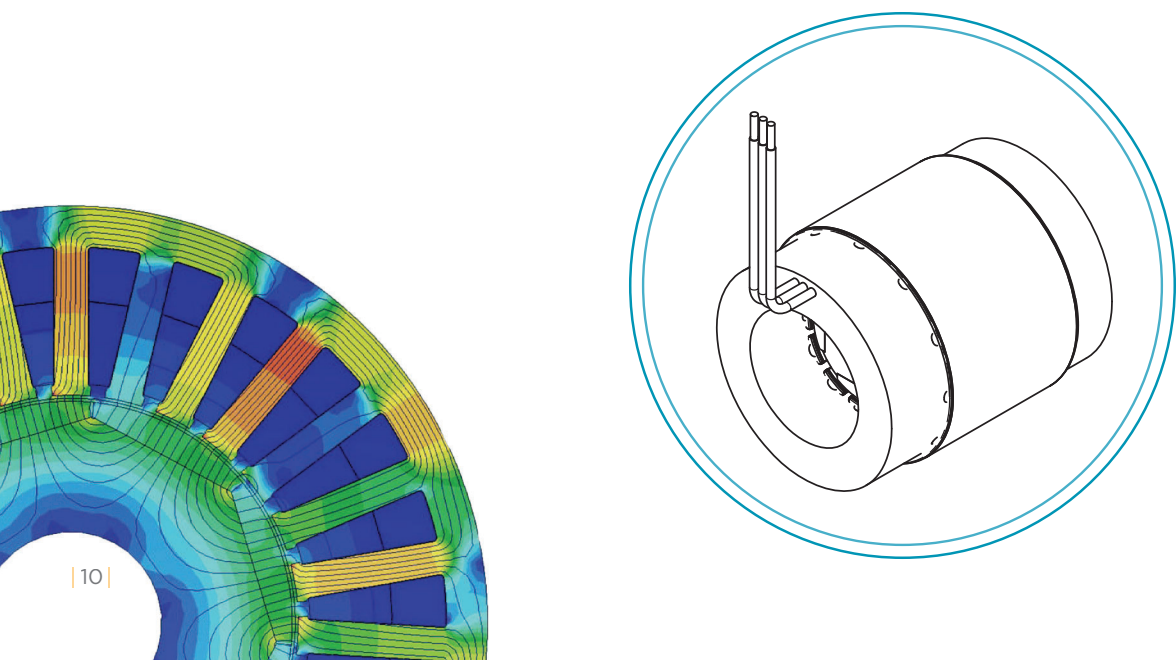


GENERIC PART NUMBER	1809/8	1809/41	1815/5	1815/25	1825/3	1825/15
STATOR OD (IN)	1.8	1.8	1.8	1.8	1.8	1.8
STATOR STACK LENGTH (IN)	0.9	0.9	1.5	1.5	2.5	2.5
ROTOR ID (IN)	0.375	0.375	0.375	0.375	0.375	0.375
ROTOR LENGTH (IN)	0.9	0.9	1.5	1.5	2.5	2.5
TURNS PER COIL	8	41	5	25	3	15
RESISTANCE (L-L)	0.175	4.54	0.0889	2.2	0.0419	1.06
INDUCTANCE (L-L)	0.2475	6.3	0.1565	3.795	0.08935	2.24
LEAD WIRE AWG	16	18	14	18	14	18
KE (V/1KRPM, PEAK)	2.82	15.2	2.94	15.4	3.09	15.4
KT (IN-OZ/A, PEAK)	4.66	25.1	4.86	25.5	5.1	25.5
KT (IN-OZ/ARMS), TIME-AVERAGED	3.94	20.9	4.11	21.2	4.24	21.2
KM (IN-OZ/SQRT(W))	11.14	11.78	16.30	17.19	24.92	24.77
WEIGHT (OZ)	9.37	9.41	14.5	14.5	23.3	23.3
ROTOR INERTIA (KG-M ²)	4.26E-06	4.26E-06	7.09E-06	7.09E-06	1.18E-05	1.18E-05
POLE COUNT	4	4	4	4	4	4
COGGING TORQUE, PEAK (IN-OZ)	3.71	3.71	6.18	6.18	9.95	9.95
HYSTERESIS DRAG TORQUE (IN-OZ)	0.332	0.35	0.552	0.585	0.977	0.978
ELECTROMAGNETICS VISCOUS DRAG (IN-OZ/RPM ²)	6.83E-10	7.35E-10	1.14E-09	1.23E-09	2.05E-09	2.05E-09
DESIGN CURRENT (RMS, SINE DRIVE)	8.12	1.50	12.70	2.55	21.50	4.34
DESIGN VOLTAGE	56	270	56	270	56	270
DESIGN RPM	14500	14500	14500	14500	14500	14500
NO-LOAD RPM	19895	17833	19099	17548	18198	17548
DESIGN TORQUE (IN-OZ)	32	31.3	52.2	54.1	91.2	92.1
DESIGN OUPUT POWER (W)	343	336	559	580	978	988
ELECTROMECHANICAL EFFICIENCY AT DESIGN OUTPUT POWER	93.8	94.1	94.8	94.9	95.6	95.5

"Superior Torque" (ST) 2200 Series Technical Illustration

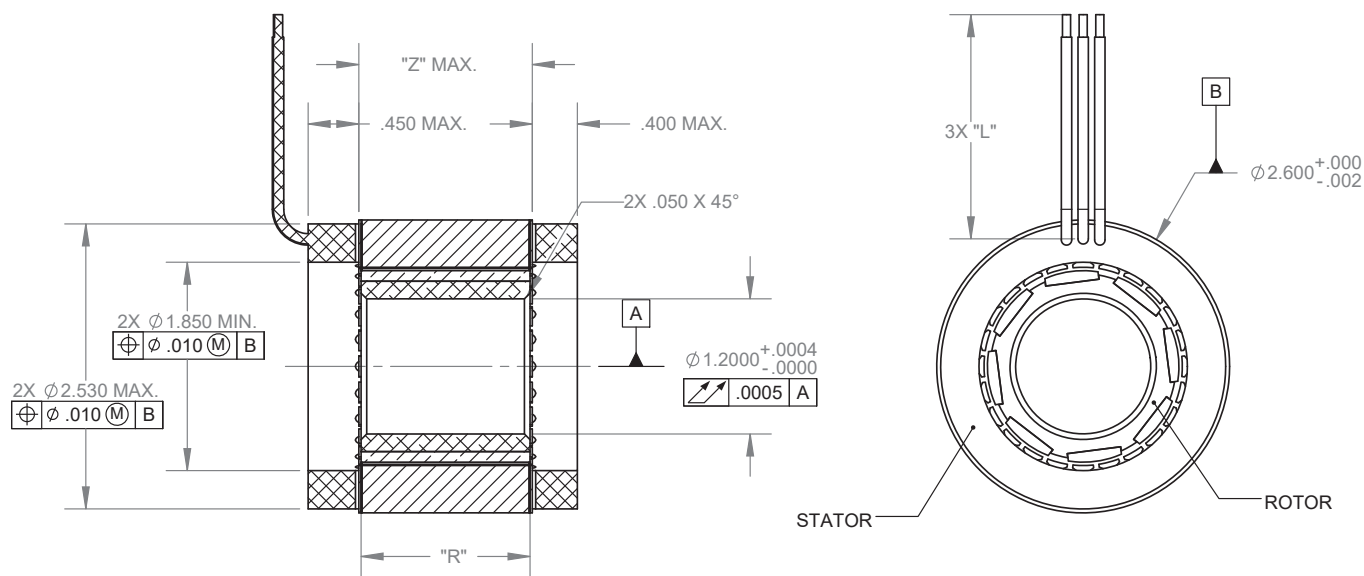


PART NO.	DESCRIPTION	"Z" MAX	LEAD WIRE GAGE	"L" ± .500	"R" ± .005
6100252-01	O&M DWG, 2215/8 STD ROTOR AND STATOR SET	1.570	14	12	1.500
6100252-02	O&M DWG, 2215/21 STD ROTOR AND STATOR SET	1.570	18	12	1.500
6100252-03	O&M DWG, 2220/6 STD ROTOR AND STATOR SET	2.070	14	12	2.000
6100252-04	O&M DWG, 2220/16 STD ROTOR AND STATOR SET	2.070	18	12	2.000
6100252-05	O&M DWG, 2225/5 STD ROTOR AND STATOR SET	2.570	14	12	2.500
6100252-06	O&M DWG, 2225/13 STD ROTOR AND STATOR SET	2.570	18	12	2.500

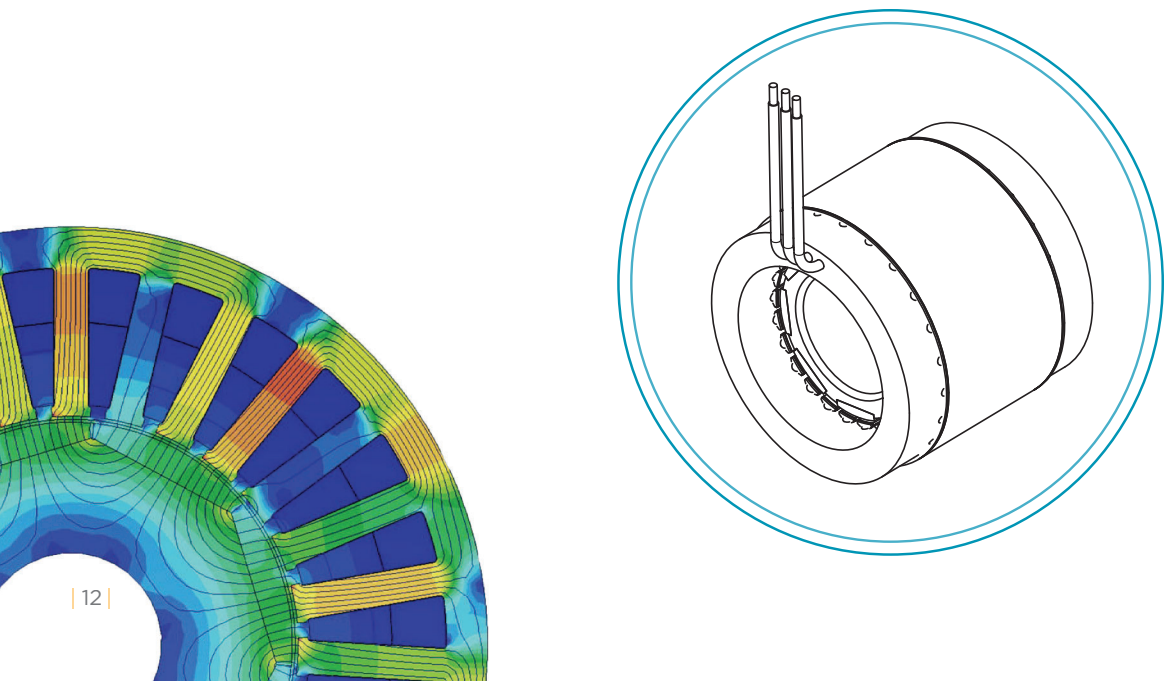


GENERIC PART NUMBER	2215/8	2215/21	2220/6	2220/16	2225/5	2225/13
STATOR OD (IN)	2.2	2.2	2.2	2.2	2.2	2.2
STATOR STACK LENGTH (IN)	1.5	1.5	2	2	2.5	2.5
ROTOR ID (IN)	0.5	0.5	0.5	0.5	0.5	0.5
ROTOR LENGTH (IN)	1.5	1.5	2	2	2.5	2.5
TURNS PER COIL	8	21	6	16	5	13
RESISTANCE (L-L)	0.176	1.21	0.119	0.847	0.092	0.658
INDUCTANCE (L-L)	0.3575	2.465	0.2645	1.88	0.227	1.535
LEAD WIRE AWG	14	18	14	18	14	18
KE (V/1KRPM, PEAK)	6.18	16.2	6.18	16.5	6.44	16.7
KT (IN-OZ/A, PEAK)	10.2	26.9	10.2	27.3	10.7	27.7
KT (IN-OZ/ARMS), TIME-AVERAGED	8.37	22	8.37	22.3	8.72	22.7
KM (IN-OZ/SQRT(W))	24.31	24.45	29.57	29.66	35.28	34.15
WEIGHT (OZ)	22.1	22.1	28.3	28.3	34.8	34.4
ROTOR INERTIA (KG-M ²)	1.81E-05	1.81E-05	2.42E-05	2.42E-05	3.02E-05	3.02E-05
POLE COUNT	4	4	4	4	4	4
COGGING TORQUE, PEAK (IN-OZ)	7.14	7.14	9.51	9.51	11.9	11.9
HYSTERESIS DRAG TORQUE (IN-OZ)	0.918	0.919	1.23	1.23	1.53	1.53
ELECTROMAGNETICS VISCOUS DRAG (IN-OZ/RPM ²)	1.91E-09	1.91E-09	2.54E-09	2.54E-09	3.17E-09	3.17E-09
DESIGN CURRENT (RMS, SINE DRIVE)	11.50	4.39	15.50	5.82	17.90	6.87
DESIGN VOLTAGE	100	270	100	270	100	270
DESIGN RPM	13000	13000	13000	13000	13000	13000
NO-LOAD RPM	16169	16631	16169	16371	15522	16119
DESIGN TORQUE (IN-OZ)	96.4	96.6	130	130	156	156
DESIGN OUPUT POWER (W)	1068	1070	1439	1441	1732	1728
ELECTROMECHANICAL EFFICIENCY AT DESIGN OUTPUT POWER	95.6	95.6	95.9	95.9	96.2	96.1

"Superior Torque" (ST) 2600 Series Technical Illustration

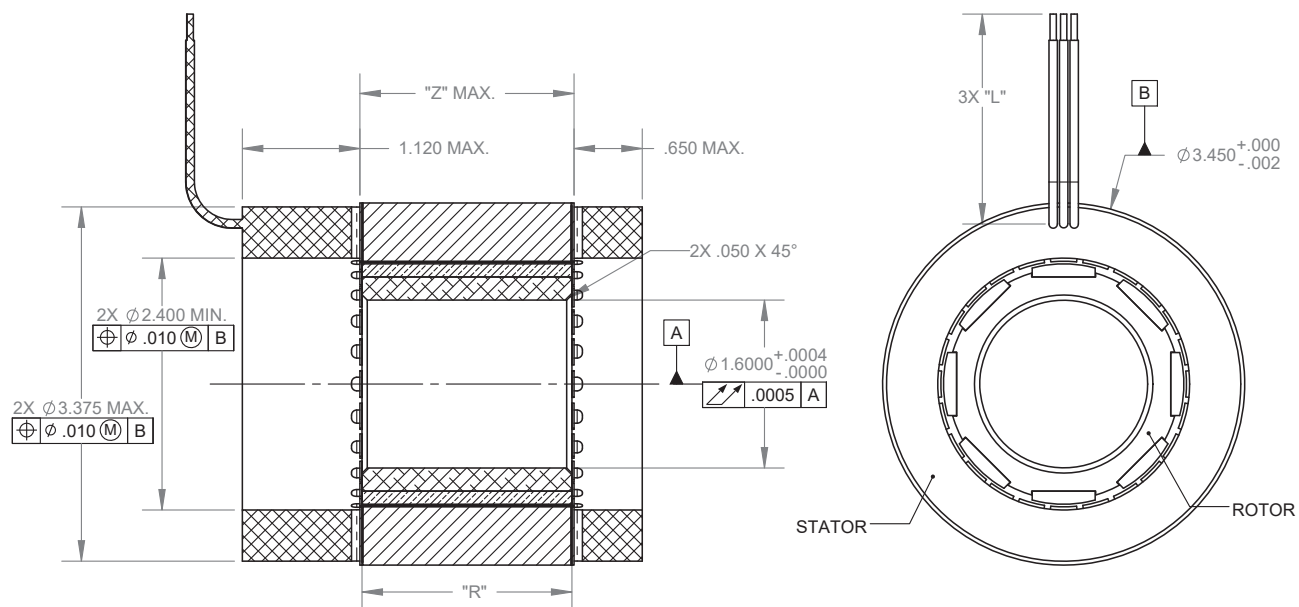


PART NO.	DESCRIPTION	"Z" MAX	LEAD WIRE GAGE	"L" ± .500	"R" ± .005
6100249-01	O&M DWG, 2615/14 STD ROTOR AND STATOR SET	1.570	16	12	1.500
6100249-02	O&M DWG, 2615/32 STD ROTOR AND STATOR SET	1.570	16	12	1.500
6100249-03	O&M DWG, 2620/10 STD ROTOR AND STATOR SET	2.070	16	12	2.000
6100249-04	O&M DWG, 2620/25 STD ROTOR AND STATOR SET	2.070	16	12	2.000
6100249-05	O&M DWG, 2630/7 STD ROTOR AND STATOR SET	3.070	16	12	3.000
6100249-06	O&M DWG, 2630/16 STD ROTOR AND STATOR SET	3.070	16	12	3.000

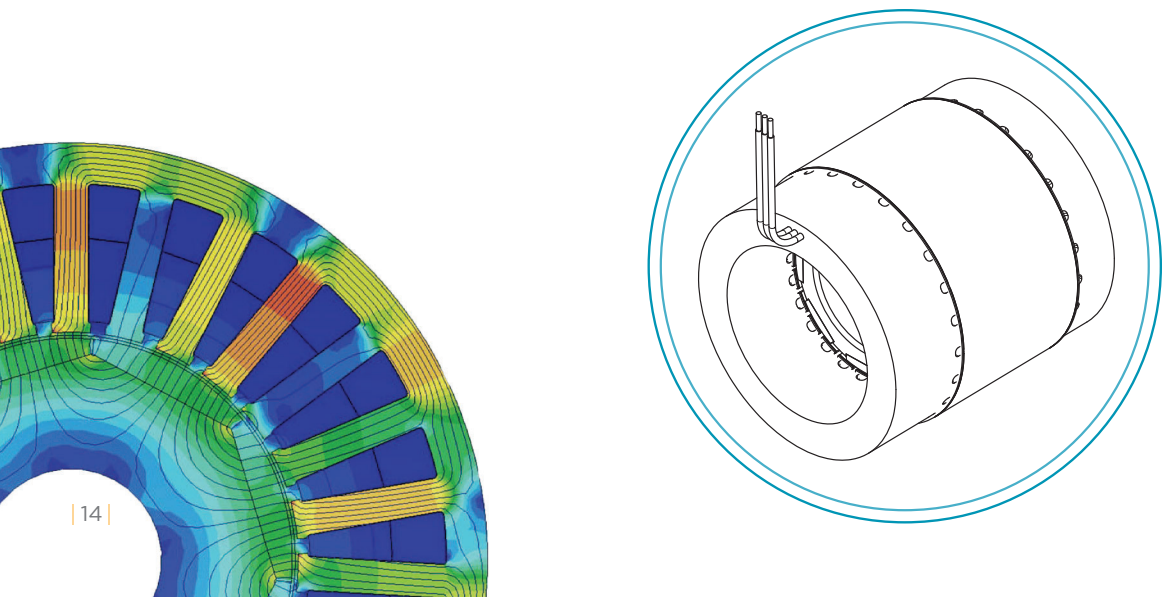


GENERIC PART NUMBER	2615/14	2615/32	2620/10	2620/25	2630/7	2630/16
STATOR OD (IN)	2.6	2.6	2.6	2.6	2.6	2.6
STATOR STACK LENGTH (IN)	1.5	1.5	2	2	3	3
ROTOR ID (IN)	1.2	1.2	1.2	1.2	1.2	1.2
ROTOR LENGTH (IN)	1.5	1.5	2	2	3	3
URNS PER COIL	14	32	10	25	7	16
RESISTANCE (L-L)	1.59	9.15	1.07	6.01	0.659	3.59
INDUCTANCE (L-L)	1.985	10.365	1.285	8.355	0.934	5.08
LEAD WIRE AWG	16	16	16	16	16	16
KE (V/1KRPM, PEAK)	30.8	70.3	30.7	73.2	32.2	70.3
KT (IN-OZ/A, PEAK)	50.9	116	50.8	121	53.3	116
KT (IN-OZ/ARMS), TIME-AVERAGED	46.1	105	45.4	110	47.7	105
KM (IN-OZ/SQRT(W))	40.37	38.35	49.11	49.36	65.66	61.22
WEIGHT (OZ)	24.1	23.7	31	31.5	45.9	45.6
ROTOR INERTIA (KG-M ²)	7.09E-05	7.09E-05	9.45E-05	9.45E-05	1.42E-04	1.42E-04
POLE COUNT	8	8	8	8	8	8
COGGING TORQUE, PEAK (IN-OZ)	11.4	11.4	21.2	21.2	31.8	31.8
HYSTERESIS DRAG TORQUE (IN-OZ)	1.9	1.9	2.69	2.54	4.04	3.81
ELECTROMAGNETICS VISCOUS DRAG (IN-OZ/RPM ²)	1.56E-08	1.56E-08	2.26E-08	2.09E-08	3.39E-08	3.13E-08
DESIGN CURRENT (RMS, SINE DRIVE)	4.57	2.00	6.34	2.62	9.00	4.06
DESIGN VOLTAGE	270	600	270	600	270	600
DESIGN RPM	7500	7500	7500	7500	7500	7500
NO-LOAD RPM	8779	8535	8808	8194	8388	8535
DESIGN TORQUE (IN-OZ)	211	211	288	288	429	428
DESIGN OUPUT POWER (W)	1168	1169	1596	1595	2379	2373
ELECTROMECHANICAL EFFICIENCY AT DESIGN OUTPUT POWER	94.6	94.2	94.8	95	95.4	95.1

"Superior Torque" (ST) 3500 Series Technical Illustration

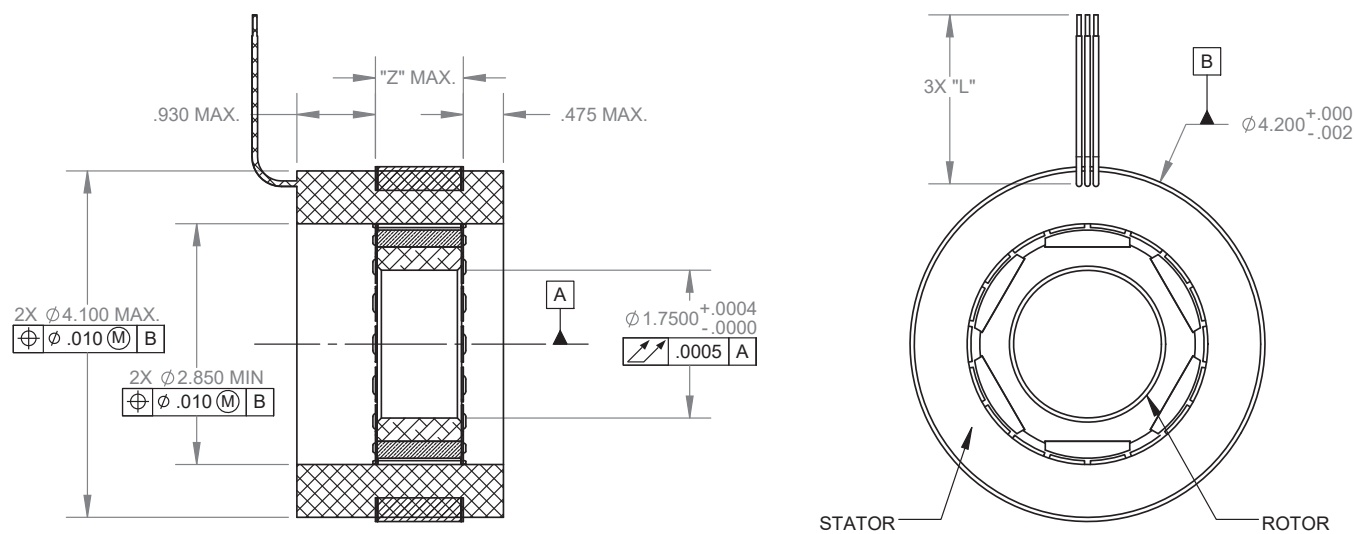


PART NO.	DESCRIPTION	"Z" MAX	LEAD WIRE GAGE	"L" ± .500	"R" ± .005
6100253-01	O&M DWG, 3520/11 STD ROTOR AND STATOR SET	2.070	16	12	2.000
6100253-02	O&M DWG, 3520/24 STD ROTOR AND STATOR SET	2.070	16	12	2.000
6100253-03	O&M DWG, 3530/7 STD ROTOR AND STATOR SET	3.070	14	12	3.000
6100253-04	O&M DWG, 3530/16 STD ROTOR AND STATOR SET	3.070	16	12	3.000
6100253-05	O&M DWG, 3540/5 STD ROTOR AND STATOR SET	4.070	14	12	4.000
6100253-06	O&M DWG, 3540/11 STD ROTOR AND STATOR SET	4.070	16	12	4.000
6100253-07	O&M DWG, 3560/3 STD ROTOR AND STATOR SET	6.070	14	12	6.000
6100253-08	O&M DWG, 3560/8 STD ROTOR AND STATOR SET	6.070	16	12	6.000

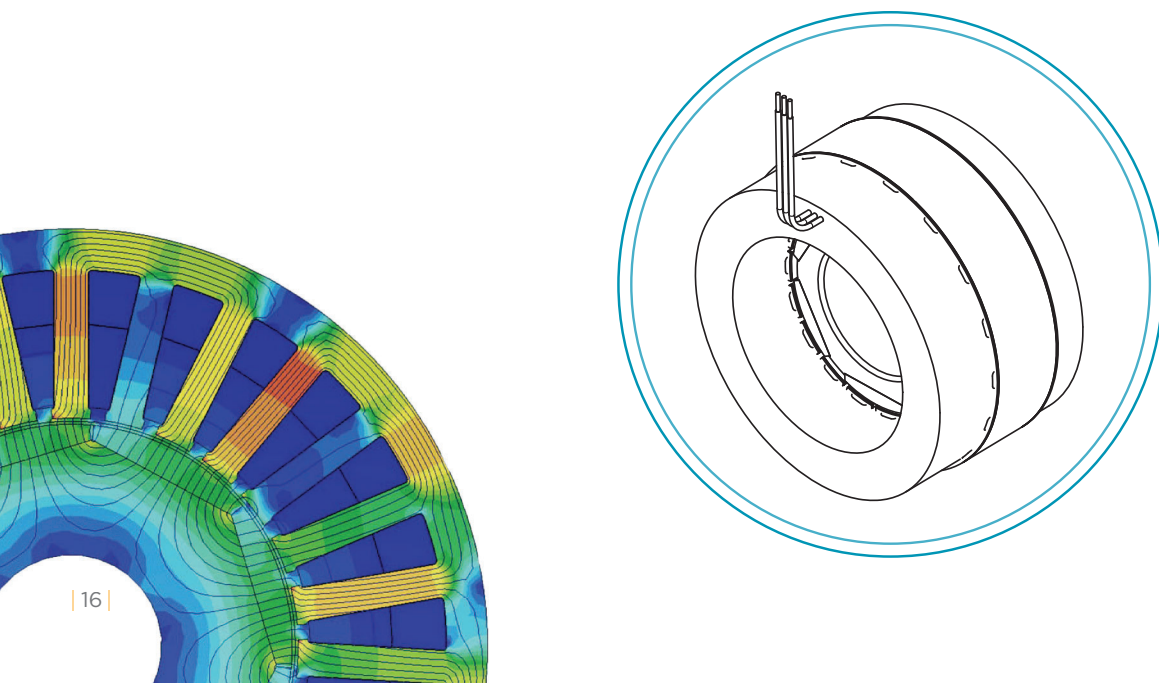


GENERIC PART NUMBER	3520/11	3520/24	3530/7	3530/16	3540/5	3540/11	3560/3	3560/8
STATOR OD (IN)	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45
STATOR STACK LENGTH (IN)	2	2	3	3	4	4	6	6
ROTOR ID (IN)	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
ROTOR LENGTH (IN)	2	2	3	3	4	4	6	6
TURNS PER COIL	11	24	7	16	5	11	3	8
RESISTANCE (L-L)	0.658	3.22	0.359	1.84	0.209	1.27	0.103	0.768
INDUCTANCE (L-L)	1.64	7.805	0.985	5.135	0.6635	3.805	0.356	2.535
LEAD WIRE AWG	16	16	14	16	14	16	14	16
KE (V/1KRPM, PEAK)	47.3	103	45.1	103	43	103	38.7	103
KT (IN-OZ/A, PEAK)	78.3	171	74.7	171	71.2	171	64.1	171
KT (IN-OZ/ARMS), TIME-AVERAGED	66.3	145	63.2	145	60.2	145	54.2	145
KM (IN-OZ/SQRT(W))	96.53	95.29	124.67	126.06	155.74	151.74	199.73	195.13
WEIGHT (OZ)	58.3	57.9	84.1	84.4	112	111	165	164
ROTOR INERTIA (KG-M ²)	3.09E-04	3.09E-04	4.63E-04	4.63E-04	6.17E-04	6.17E-04	9.25E-04	9.25E-04
POLE COUNT	8	8	8	8	8	8	8	8
COGGING TORQUE, PEAK (IN-OZ)	15.4	15.4	23.1	23.1	30.9	30.9	46.3	46.3
HYSTERESIS DRAG TORQUE (IN-OZ)	4.79	4.79	7.18	7.18	9.58	9.58	14.4	14.4
ELECTROMAGNETICS VISCOUS DRAG (IN-OZ/RPM ²)	6.44E-08	6.44E-08	9.66E-08	9.66E-08	1.29E-07	1.29E-07	1.93E-07	1.93E-07
DESIGN CURRENT (RMS, SINE DRIVE)	7.77	3.56	12.30	5.38	17.20	7.18	28.80	10.80
DESIGN VOLTAGE	270	600	270	600	270	600	270	600
DESIGN RPM	5000	5000	5000	5000	5000	5000	5000	5000
NO-LOAD RPM	5712	5818	5984	5818	6284	5818	6982	5818
DESIGN TORQUE (IN-OZ)	516	516	780	782	1040	1041	1563	1567
DESIGN OUPUT POWER (W)	1906	1910	2885	2890	3847	3849	5779	5763
ELECTROMECHANICAL EFFICIENCY AT DESIGN OUTPUT POWER	95.2	95.2	95.5	95.6	95.6	96	96	95.7

"Superior Torque" (ST) 4200 Series Technical Illustration

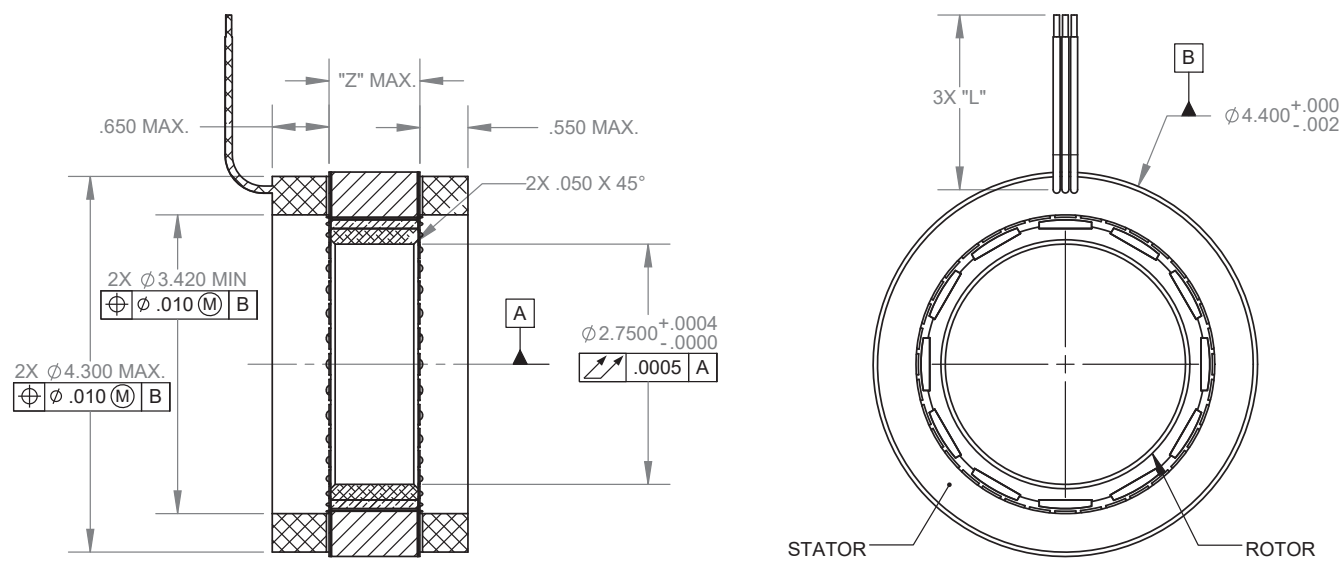


PART NO.	DESCRIPTION	"Z" MAX	LEAD WIRE GAGE	"L" ± .500	"R" ± .005
6100254-01	O&M DWG, 4210/16 STD ROTOR AND STATOR SET	1.070	16	12	1.000
6100254-02	O&M DWG, 4210/35 STD ROTOR AND STATOR SET	1.070	16	12	1.000
6100254-03	O&M DWG, 4215/10 STD ROTOR AND STATOR SET	1.570	16	12	1.500
6100254-04	O&M DWG, 4215/23 STD ROTOR AND STATOR SET	1.570	16	12	1.500
6100254-05	O&M DWG, 4220/8 STD ROTOR AND STATOR SET	2.070	16	12	2.000
6100254-06	O&M DWG, 4220/18 STD ROTOR AND STATOR SET	2.070	16	12	2.000

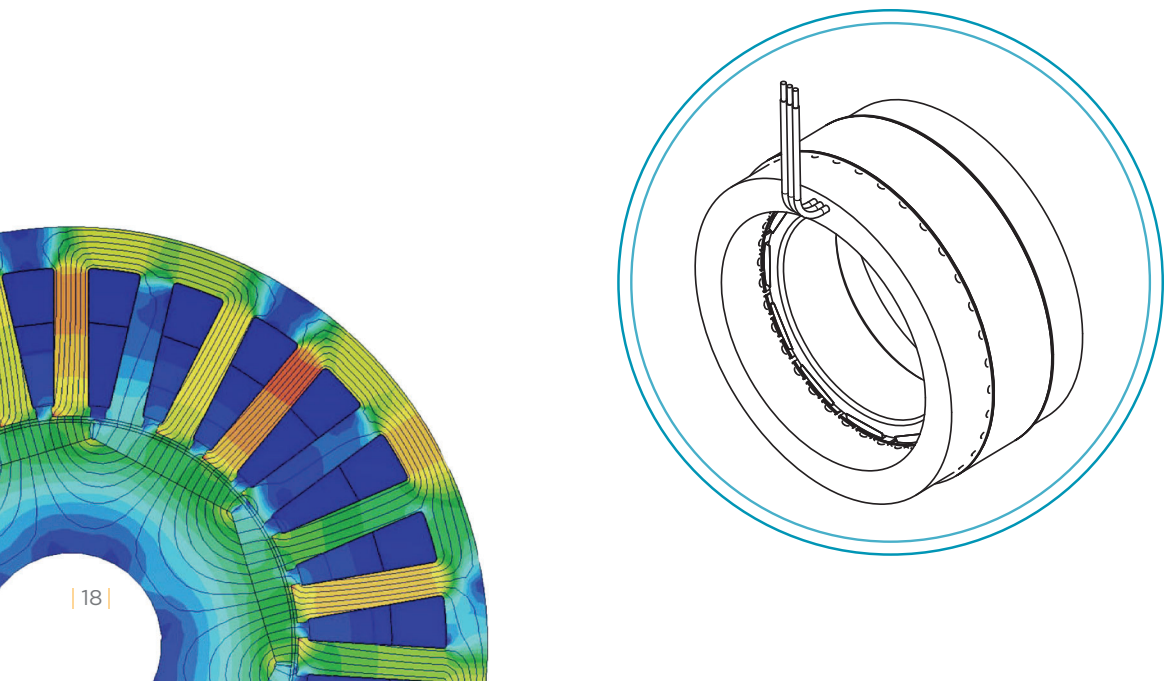


GENERIC PART NUMBER	4210/16	4210/35	4215/10	4215/23	4220/8	4220/18
STATOR OD (IN)	4.2	4.2	4.2	4.2	4.2	4.2
STATOR STACK LENGTH (IN)	1	1	1.5	1.5	2	2
ROTOR ID (IN)	1.75	1.75	1.75	1.75	1.75	1.75
ROTOR LENGTH (IN)	1	1	1.5	1.5	2	2
TURNS PER COIL	16	35	10	23	8	18
RESISTANCE (L-L)	0.678	2.94	0.305	1.42	1.43	1.44
INDUCTANCE (L-L)	0.7845	3.755	0.443	2.34	0.371	1.875
LEAD WIRE AWG	16	16	16	16	16	16
KE (V/1KRPM, PEAK)	31.9	69.7	29.9	68.7	31.9	71.7
KT (IN-OZ/A, PEAK)	52.8	116	49.5	114	52.8	119
KT (IN-OZ/ARMS), TIME-AVERAGED	47.6	104	44.6	103	47.6	107
KM (IN-OZ/SQRT(W))	64.12	67.65	89.63	95.67	44.15	99.17
WEIGHT (OZ)	51.5	52.7	73	73.3	94.6	94.5
ROTOR INERTIA (KG-M ²)	3.33E-04	3.33E-04	4.99E-04	4.99E-04	6.65E-04	6.65E-04
POLE COUNT	6	6	6	6	6	6
COGGING TORQUE, PEAK (IN-OZ)	41.7	41.7	62.6	62.6	83.5	83.5
HYSTERESIS DRAG TORQUE (IN-OZ)	3.66	3.65	5.48	5.48	7.31	7.31
ELECTROMAGNETICS VISCOUS DRAG (IN-OZ/RPM ²)	2.57E-08	2.57E-08	3.85E-08	3.85E-08	5.13E-08	5.13E-08
DESIGN CURRENT (RMS, SINE DRIVE)	7.70	3.50	12.30	5.35	15.30	6.79
DESIGN VOLTAGE	270	600	270	600	270	600
DESIGN RPM	7500	7500	7500	7500	7500	7500
NO-LOAD RPM	8469	8603	9033	8728	8469	8364
DESIGN TORQUE (IN-OZ)	366	364	549	549	728	727
DESIGN OUPUT POWER (W)	2032	2021	3046	3044	4038	4032
ELECTROMECHANICAL EFFICIENCY AT DESIGN OUTPUT POWER	95.5	95.7	96.1	96.1	96.4	96.4

"Superior Torque" (ST) 4400 Series Technical Illustration

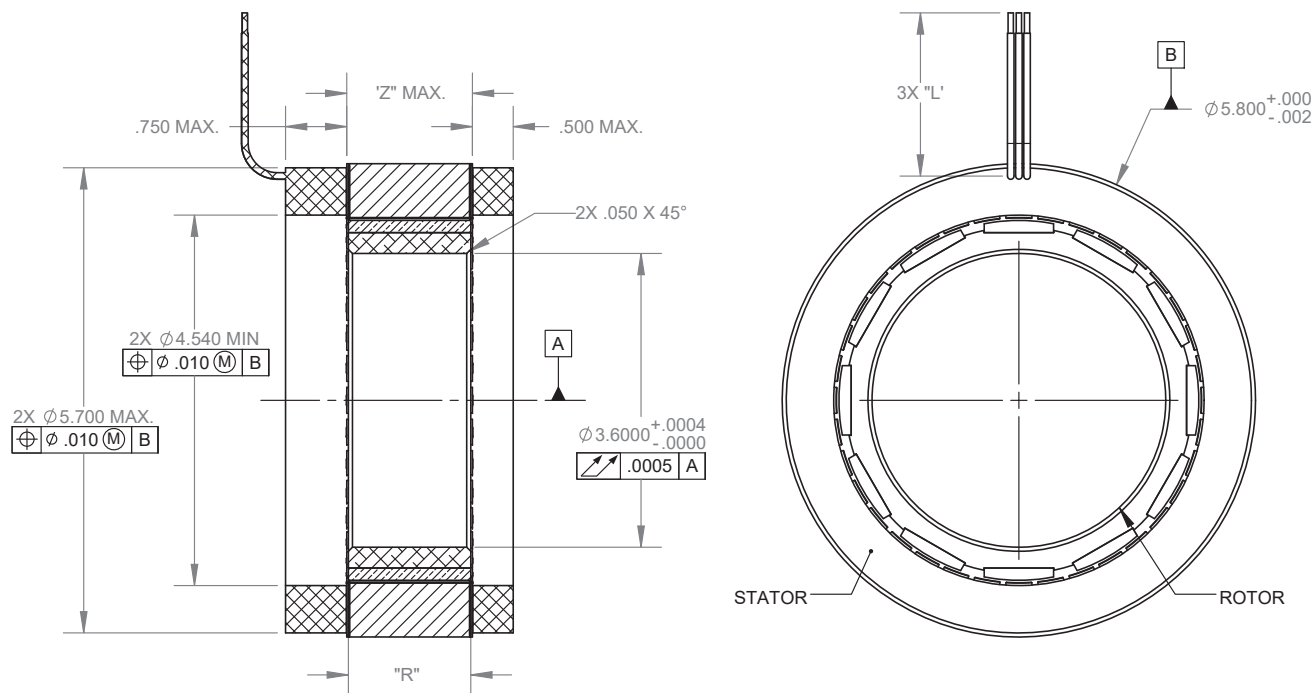


PART NO.	DESCRIPTION	"Z" MAX	LEAD WIRE GAGE	"L" ± .500	"R" ± .005
6100255-01	O&M DWG, 4410/10 STD ROTOR AND STATOR SET	1.070	16	12	1.000
6100255-02	O&M DWG, 4410/24 STD ROTOR AND STATOR SET	1.070	16	12	1.000
6100255-03	O&M DWG, 4420/5 STD ROTOR AND STATOR SET	2.070	14	12	2.000
6100255-04	O&M DWG, 4420/12 STD ROTOR AND STATOR SET	2.070	16	12	2.000
6100255-05	O&M DWG, 4430/3 STD ROTOR AND STATOR SET	3.070	14	12	3.000
6100255-06	O&M DWG, 4430/8 STD ROTOR AND STATOR SET	3.070	16	12	3.000

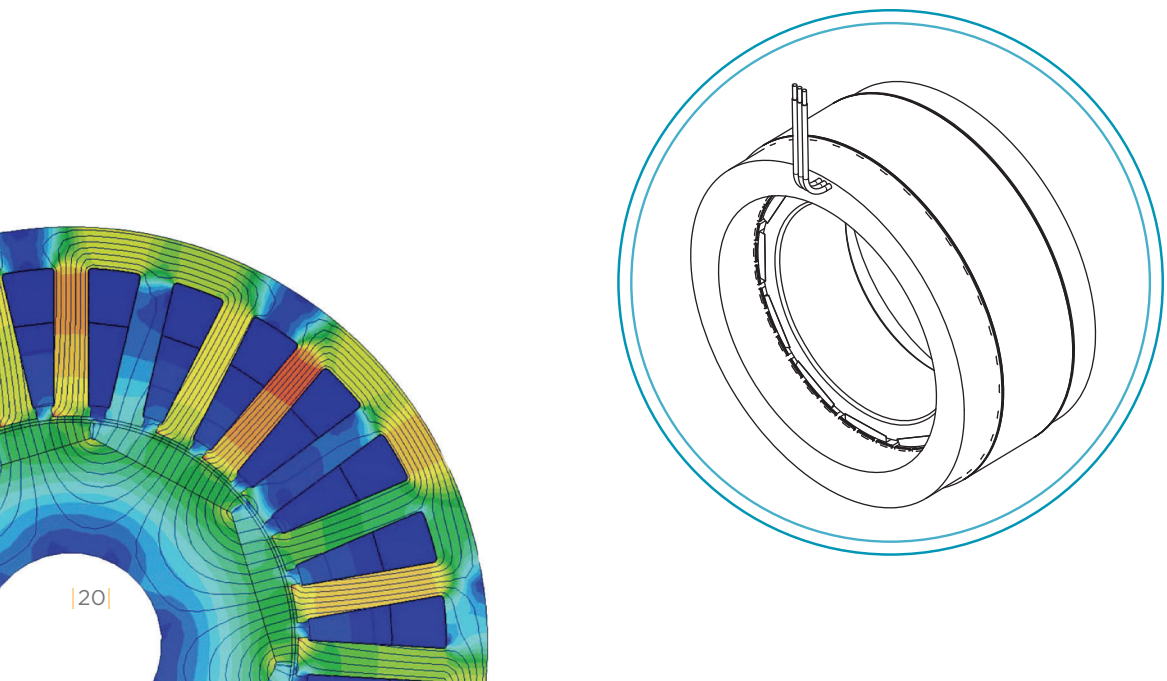


GENERIC PART NUMBER	4410/10	4410/24	4420/5	4420/12	4430/3	4430/8
STATOR OD (IN)	4.4	4.4	4.4	4.4	4.4	4.4
STATOR STACK LENGTH (IN)	1	1	2	2	3	3
ROTOR ID (IN)	2.75	2.75	2.75	2.75	2.75	2.75
ROTOR LENGTH (IN)	1	1	2	2	3	3
TURNS PER COIL	10	24	5	12	3	8
RESISTANCE (L-L)	0.346	2.09	0.125	0.742	0.0565	0.406
INDUCTANCE (L-L)	1.0475	6.045	0.5055	2.91	0.2695	1.915
LEAD WIRE AWG	16	16	14	16	14	16
KE (V/1KRPM, PEAK)	43.1	103	43.1	103	38.8	103
KT (IN-OZ/A, PEAK)	71.4	171	71.4	171	64.2	171
KT (IN-OZ/ARMS), TIME-AVERAGED	60.4	145	60.4	145	54.4	145
KM (IN-OZ/SQRT(W))	121.38	118.28	201.95	198.52	270.09	268.37
WEIGHT (OZ)	38.4	37.9	70.6	70.1	103	103
ROTOR INERTIA (KG-M ²)	4.69E-04	4.69E-04	9.36E-04	9.36E-04	1.40E-03	1.40E-03
POLE COUNT	12	12	12	12	12	12
COGGING TORQUE, PEAK (IN-OZ)	28.3	28.3	56.5	56.5	84.8	84.8
HYSTERESIS DRAG TORQUE (IN-OZ)	4.5	4.5	9	9	13.5	13.5
ELECTROMAGNETICS VISCOUS DRAG (IN-OZ/RPM ²)	5.44E-09	5.44E-09	1.09E-08	1.09E-08	1.63E-08	1.63E-08
DESIGN CURRENT (RMS, SINE DRIVE)	8.75	3.65	17.50	7.30	29.30	11.00
DESIGN VOLTAGE	270	600	270	600	270	600
DESIGN RPM	5000	5000	5000	5000	5000	5000
NO-LOAD RPM	6267	5800	6264	5800	6960	5800
DESIGN TORQUE (IN-OZ)	528	529	1057	1058	1593	1594
DESIGN OUPUT POWER (W)	1977	1982	3952	3957	5948	5969
ELECTROMECHANICAL EFFICIENCY AT DESIGN OUTPUT POWER	94.2	94	95.2	95.2	95.3	95.8

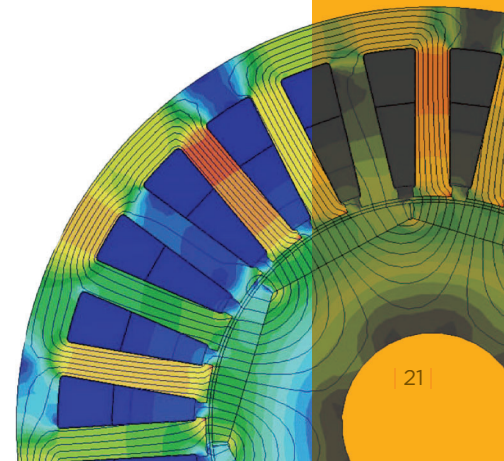
"Superior Torque" (ST) 5800 Series Technical Illustration



PART NO.	DESCRIPTION	"Z" MAX	LEAD WIRE GAGE	"L" $\pm$.500	"R" $\pm$.005
6100256-01	O&M DWG, 5815/6 STD ROTOR AND STATOR SET	1.570	14	12	1.500
6100256-02	O&M DWG, 5815/15 STD ROTOR AND STATOR SET	1.570	16	12	1.500
6100256-03	O&M DWG, 5830/3 STD ROTOR AND STATOR SET	3.070	14	12	3.000
6100256-04	O&M DWG, 5830/7 STD ROTOR AND STATOR SET	3.070	16	12	3.000



GENERIC PART NUMBER	5815/6	5815/15	5830/3	5830/7
STATOR OD (IN)	5.8	5.8	5.8	5.8
STATOR STACK LENGTH (IN)	1.5	1.5	3	3
ROTOR ID (IN)	3.6	3.6	3.6	3.6
ROTOR LENGTH (IN)	1.5	1.5	3	3
TURNS PER COIL	6	15	3	7
RESISTANCE (L-L)	0.125	0.79	0.0431	0.244
INDUCTANCE (L-L)	0.6185	3.825	0.297	1.62
LEAD WIRE AWG	14	16	14	16
KE (V/1KRPM, PEAK)	56.7	142	56.6	132
KT (IN-OZ/A, PEAK)	93.8	234	93.8	219
KT (IN-OZ/ARMS), TIME-AVERAGED	86.6	217	86.6	202
KM (IN-OZ/SQRT(W))	265.31	263.27	451.82	443.35
WEIGHT (OZ)	99.3	99.1	190	189
ROTOR INERTIA (KG-M ²)	2.39E-03	2.39E-03	4.76E-03	4.76E-03
POLE COUNT	12	12	12	12
COGGING TORQUE, PEAK (IN-OZ)	128	128	259	259
HYSTERESIS DRAG TORQUE (IN-OZ)	16.8	16.8	33.7	33.7
ELECTROMAGNETICS VISCOUS DRAG (IN-OZ/RPM ²)	7.79E-07	7.81E-07	1.56E-06	1.56E-06
DESIGN CURRENT (RMS, SINE DRIVE)	16.30	6.44	32.50	14.00
DESIGN VOLTAGE	270	600	270	600
DESIGN RPM	3600	3600	3600	3600
NO-LOAD RPM	4766	4238	4767	4540
DESIGN TORQUE (IN-OZ)	1421	1408	2842	2851
DESIGN OUPUT POWER (W)	3782	3748	7566	7589
ELECTROMECHANICAL EFFICIENCY AT DESIGN OUTPUT POWER	95.3	95.3	96.1	96



AVEOX Manufacturing

AVEOX's ERP driven, vertically integrated production operations streamline prototyping, new product introduction and mass production. Lean production operations reduce time-to-market and strict AS9100 process controls insure the highest level of quality.



PRECISION MACHINING

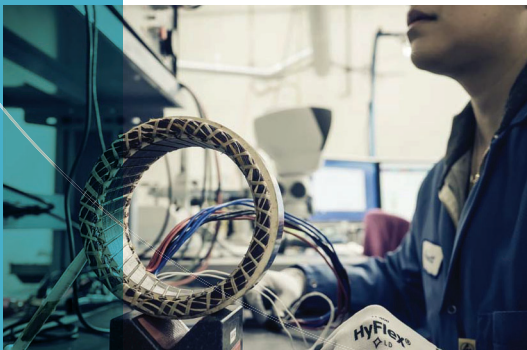
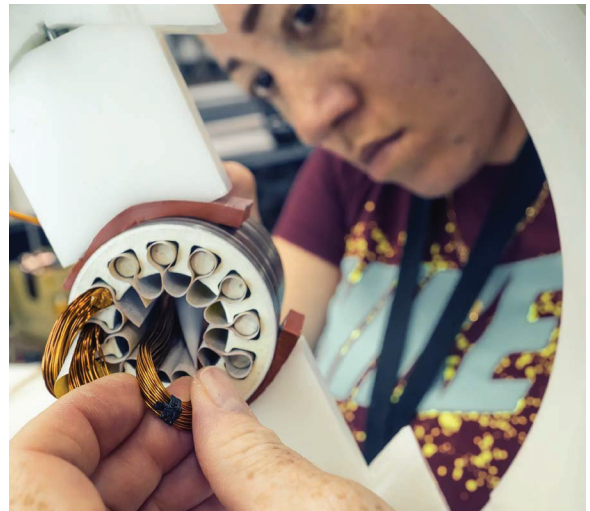
- Model to part programming
- 3 CNC turning centers
- Multi-spindle
- C- Axis milling
- 2 CNC milling centers
- 4th axis machining

ROTOR MANUFACTURING

- Magnet Bonding
- Rotor Sleaving
- Composite wrapping
- Electronic Balancing

STATOR MANUFACTURING

- Winding
- Coil Insertion
- Forming / Termination
- Varnishing (Vacuum/VPI)



MOTOR ASSEMBLY

- Brushless
- Custom housing/ frameless
- Encoder and Resolver Calibration

- 
- MILITARY
 - COMMERCIAL AEROSPACE
 - INDUSTRIAL
 - MEDICAL
 - UNMANNED VEHICLES
 - AEROSPACE

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