GLENTEK BRUSHLESS SERVO MOTORS
GMB7500 SERIES

Revision: 2/23/26

Glentek's GMB7500 series of high performance, permanent magnet Brushless servo motors utilize high-energy Neodymium-Iron- Boron (NdFeB) magnets, which provide more torque in a smaller package with higher dynamic performance than traditional ferrite magnet designs. In addition, due to high torque to inertia ratio of these motors, they are ideal for applications which require high acceleration and deceleration characteristics or where the physical size of the motor is a major concern.

- Continuous Torque Range:
400 Lb-in (45.2 Nm) to 1092 Lb-in (123.4 Nm)
- Peak Torque Range:
1200 Lb-in (135.6 Nm) to 3276 Lb-in (370.2 Nm)

GMB7500 SERIES FEATURES
High-energy Neodymium-Iron-Boron (NdFeB) magnet design with low inertia rotors provides a high dynamic performance.
Special design provides ultra smooth operation (i.e. low cogging torque) at all speeds.
Worldwide standard mounting configurations are available (English and Metric). Optional custom mounting configurations are available to meet virtually any requirement.
Normally closed thermal switch provides over temperature protection.
Encoder with commutation tracks, brushless resolvers or Hall sensors are standard feedback devices offered
Various electrical windings are available as standard to suit both low (120 VAC) and high (230 VAC and 460 VAC) voltage drives in order to provide optimum speed and torque characteristics. Optional custom electrical windings are available.
Shaft Keyway.
Class H insulation standard.
Standard operating temperature is dependent on the feedback device installed. Motors with resolver feedback can be specially configured to operate down to -40°C.
Optional 24VDC holding brakes are available.
Constructed to withstand the toughest industrial environment with rugged, high performance bearings and TENV construction with IP65 sealing standard (shaft seal required for IP65 sealing).
RoHS compliant.
CE marked.
UL Recognized Component for US and Canada.

GMB7500 SERIES ENVIRONMENTAL CONDITIONS	
Storage Temperature:	-20°C to 70°C
Operating Temperature:	Standard: -20°C to 40°C, without derating, derate torque 10% per 10°C above 40°C Special: -40°C to 40°C, without derating, derate torque 10% per 10°C above 40°C
Humidity:	5% to 95% relative humidity, non-condensing
Altitude:	Up to 1000m without derating, derate torque 10% per 1000m above 1000m

GMB7500 SERIES SELECTION TABLE

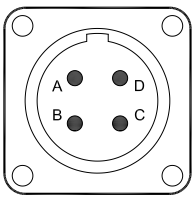
K_T = Torque Constant • K_V = BEMF = V_{RMS} Phase-to-Phase/1000 RPM • R_A = Phase-to-Phase Resistance • L_A = Phase-to-Phase Inductance

Model Number	Power @ Rated Speed		Speed, RPM		Cont. Stall Rating			Peak Stall Rating			K_T		K_V	R_A	L_A	Rotor Inertia	
	HP	KW	Max	Rated	Lb-in	Nm	Amps	Lb-in	Nm	Amps	Lb-in/A	Nm/A	V	Ω	mH	Lb-in-sec²	Kg-m²
GMB7530-80	9.65	7.19	2400	1900	400	45.2	44	1200	135.6	132	9.1	1.02	80	0.25	2.3	0.0432	0.00488
GMB7530-162	5.08	3.79	1200	1000	400	45.2	22	1200	135.6	65	18.4	2.07	162	0.95	9.0	0.0432	0.00488
GMB7560-80	15.44	11.51	2400	1900	640	72.3	71	1920	216.9	212	9.1	1.02	80	0.09	1.00	0.0750	0.00848
GMB7560-162	8.12	6.06	1200	1000	640	72.3	35	1920	216.9	105	18.4	2.07	162	0.36	4.0	0.0750	0.00848
GMB7590-80	21.22	15.83	2400	1900	880	99.4	97	2640	298.2	291	9.1	1.02	80	0.05	0.65	0.1082	0.01223
GMB7590-162	11.17	8.33	1200	1000	880	99.4	48	2640	298.2	144	18.4	2.07	162	0.19	2.6	0.1082	0.01223
GMB75120-108	19.41	14.47	1800	1400	1092	123.4	89	3276	370.2	268	12.2	1.38	108	0.06	0.84	0.1397	0.01579
GMB75120-162	13.86	10.34	1200	1000	1092	123.4	60	3276	370.2	179	18.4	2.07	162	0.14	1.9	0.1397	0.01579
GMB75120-248*	8.32	6.20	800	600	1092	123.3	39	3276	370.2	117	28.1	3.17	248	0.37	4.4	0.1397	0.01579

NOTE: All ratings based on a 25°C ambient temperature with the motor face mounted to a 14" x 14" x 3/4" aluminum heatsink. The values for Max and Rated Speed are for motors operated with a 230 VAC power supply. Current values are in peak phase current. Values for motors denoted with an asterisk (*) are for 460 VAC.

CONNECTORS & PIN-OUT INFORMATION

4-Pin MS connector MS3102R32-17P



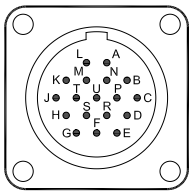
FRONT VIEW

Straight Mating Connector, MS3106F32-17S

Pin#	Function
A	Phase R
B	Phase S
C	Phase T
D	Case Ground

Special mounting options are available. Please contact a Glentek Sales Engineer for detailed information.

18-Pin MS connector MS3112E14-18P

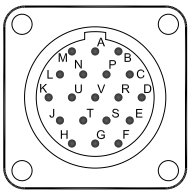


FRONT VIEW

Straight Mating Connector, MS3116F14-18S

Pin#	Function
	Resolver
A	Brake +
B	Brake -
C	Brake Shield
D	Resolver Shield
E	Reference
F	Since Ground
G	Cosine Ground
H	Sine
J	N/C
K	N/C
L	N/C
M	N/C
N	Temperature Switch
P	N/C
R	Reference Ground
S	Cosine
T	N/C
U	Temperature Switch

19-Pin MS connector MS3112E14-19P



FRONT VIEW

Straight Mating Connector, MS3116F14-19S

Pin#	Function	
	Resolver	Encoder with Commutation Track
A	Temperature Switch	Temperature Switch
B	Temperature Switch	Temperature Switch
C	Resolver Shield	Encoder Shield
D	N/C	Encoder +5VDC
E	N/C	Encoder Common
F	Sine Ground	Channel A+
G	Sine +	Channel A-
H	Cosine Ground	Channel B+
J	Cosine +	Channel B-
K	Reference Ground	Channel Z+
L	Reference	Channel Z-
M	N/C	Comm. Track S1+
N	N/C	Comm. Track S1-
P	N/C	Comm. Track S2+
R	N/C	Comm. Track S2-
S	N/C	Comm. Track S3+
T	N/C	Comm. Track S3-
U	Brake +	Brake +
V	Brake -	Brake -

GMB7500 SERIES BRAKE OPTION

Motor Frame Size	Extension	Torque		Power	Current	Resistance	Inductance
	in. (mm)	Lb-in	Nm	Watts	A	Ω	mH
GMB7500	3.00 (76)	1283	145	50	2.1	11	110

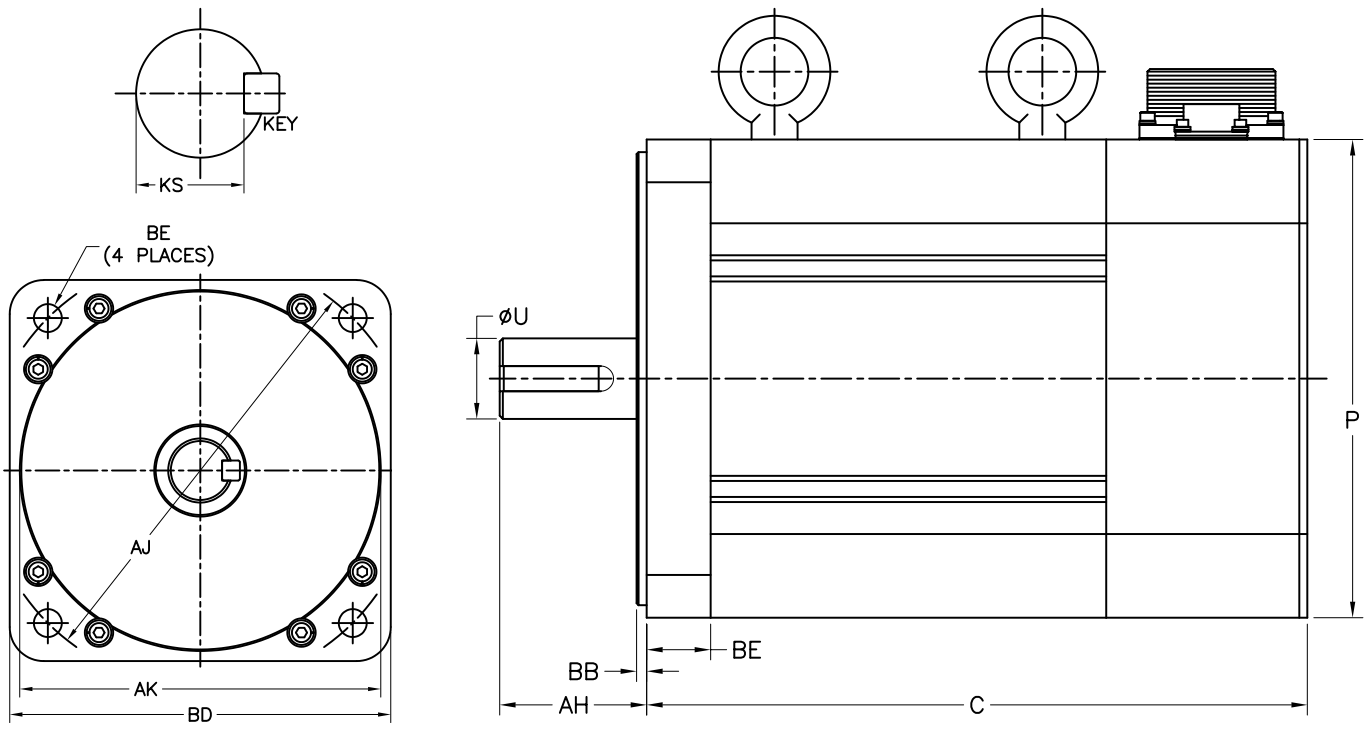
Note:
Brakes are optional. All brakes require 24 VDC input voltage. The values for "Extension" represent the nominal maximum length that the brake will add to the motor. For some models, the extension will be less. Please contact one of our sales engineers for the exact values.

SHAFT LOAD RATINGS

Motor Frame Size	Radial Shaft Load		Axial Shaft Load	
	Lbs	N	Lbs	N
GMB7500	250	1100	100	440

Note: This table is for general guidance only. Shaft load ratings are approximations and will vary with shaft diameter, the location of the load on the shaft, speed (RPM), bearings, and more. The values in the table are for a load located 1" (25.4 mm) from the mounting face of the motor and at 3000 RPM.

GMB7500 SERIES DIMENSIONS

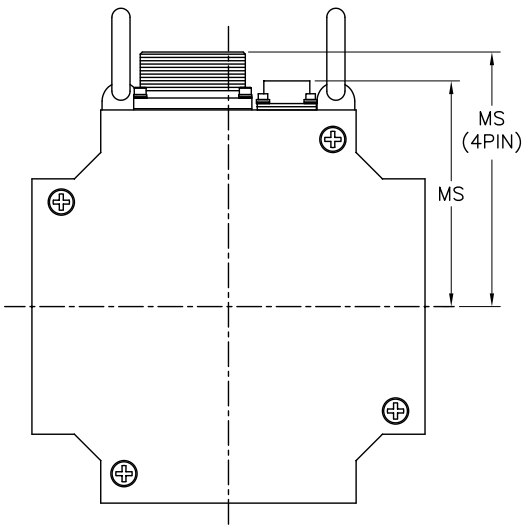


Model Number	Kg (lbs.)	C (max)	P (max)	Shaft				Flange/Face				Mounting Hole		
				AH	U	KEY	KS	AK	BB	BD	BE	AJ	BF Dia.	Tap
GMB7530-XXX-M	**30.0** (66.0)	**294.4** (11.6)	**190.0** (7.48)	**58.00** (2.28)	**32.00** (1.260)	**M10 X M8 X 36**	**26.8 - 27.0**	**180.00** (7.087)	**4.00** (0.157)	**190.00** (7.48)	**24.3** (0.96)	**215.00** (8.465)	**14.00** (0.551)	**THRU**
GMB7560-XXX-M	**44.0** (96.8)	**370.6** (14.6)	**190.0** (7.48)	**58.00** (2.28)	**32.00** (1.260)	**M10 X M8 X 36**	**26.8 - 27.0**	**180.00** (7.087)	**4.00** (0.157)	**190.00** (7.48)	**24.3** (0.96)	**215.00** (8.465)	**14.00** (0.551)	**THRU**
GMB7590-XXX-M	**59.0** (129.8)	**446.8** (17.6)	**190.0** (7.48)	**58.00** (2.28)	**48.00** (1.890)	**M14 X M9 X 40**	**42.3 - 43.5**	**180.00** (7.087)	**4.00** (0.157)	**190.00** (7.48)	**24.3** (0.96)	**215.00** (8.465)	**14.00** (0.551)	**THRU**
GMB75120-XXX-M	**73.0** (160.6)	**523.0** (20.6)	**190.0** (7.48)	**58.00** (2.28)	**48.00** (1.890)	**M14 X M9 X 40**	**42.3 - 43.5**	**180.00** (7.087)	**4.00** (0.157)	**190.00** (7.48)	**24.3** (0.96)	**215.00** (8.465)	**14.00** (0.551)	**THRU**

Note: Dimensions are in **mm** (inches)

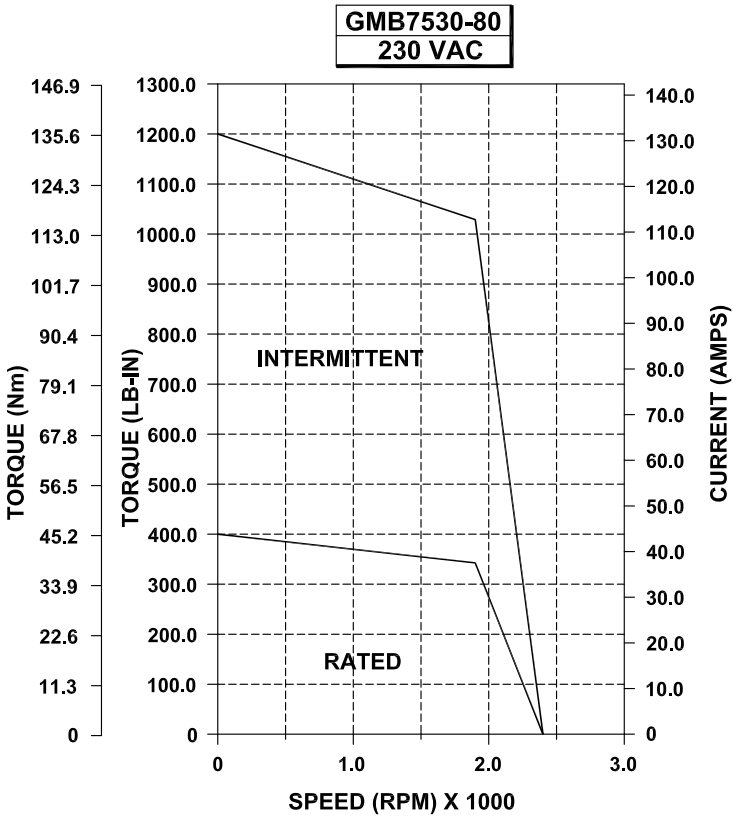
Model Number	Lbs. (Kg)	C (max)	P (max)	Shaft				Flange/Face				Mounting Hole		
				AH	U	KEY	KS	AK	BB	BD	BE	AJ	BF Dia.	Tap
GMB7530-XXX-E	**66.0** (29.9)	**11.59** (294.4)	**7.48** (190.0)	**2.28** (57.9)	**1.250** (31.75)	**.250 SQ X 1.50**	**1.102-1.112**	**7.087** (180.01)	**0.16** (4.06)	**7.48** (190.0)	**0.96** (24.38)	**8.464** (214.99)	**0.551** (14.00)	**THRU**
GMB7560-XXX-E	**98.0** (44.5)	**14.59** (370.6)	**7.48** (190.0)	**2.28** (57.9)	**1.250** (31.75)	**.250 SQ X 1.50**	**1.102-1.112**	**7.087** (180.01)	**0.16** (4.06)	**7.48** (190.0)	**0.96** (24.38)	**8.464** (214.99)	**0.551** (14.00)	**THRU**
GMB7590-XXX-E	**130.0** (59.0)	**17.59** (446.8)	**7.48** (190.0)	**2.28** (57.9)	**1.875** (47.63)	**.500 SQ X 1.50**	**1.581-1.591**	**7.087** (180.01)	**0.16** (4.06)	**7.48** (190.0)	**0.96** (24.38)	**8.464** (214.99)	**0.551** (14.00)	**THRU**
GMB75120-XXX-E	**162.0** (73.5)	**20.59** (523.0)	**7.48** (190.0)	**2.28** (57.9)	**1.875** (47.63)	**.500 SQ X1.50**	**1.581-1.591**	**7.087** (180.01)	**0.16** (4.06)	**7.48** (190.0)	**0.96** (24.38)	**8.464** (214.99)	**0.551** (14.00)	**THRU**

Note: Dimensions are in **inches** (mm)



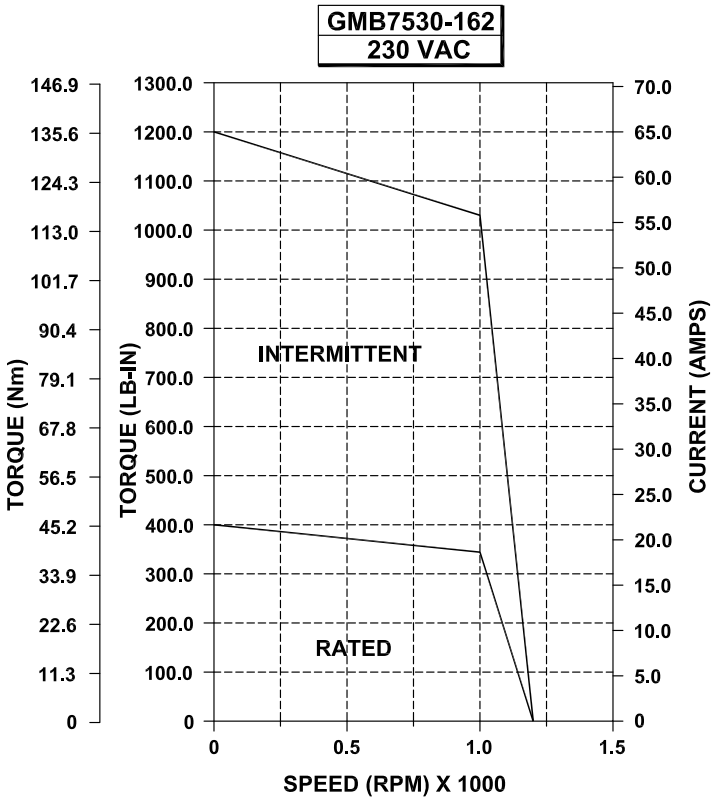
Connectors	MS inches (mm)	MS mm (inches)
4-Pin	**4.84** (123)	**123.0** (4.84)
18-Pin	**4.29** (109)	**109.0** (4.29)
19-Pin	**4.29** (109)	**109.0** (4.29)

GMB7530-80 PERFORMANCE DATA



Power @ Rated Speed	**HP**	9.65
	KW	7.19
Speed, RPM	**Max.**	2400
	Rated	1900
Cont. Stall Rating	**Lb-in**	400
	Nm	45.2
	Amps	44
Peak Stall Rating	**Lb-in**	1200
	Nm	135.6
	Amps	132
Torque Constant	**Lb-in/A**	9.1
	Nm/A	1.02
Back EMF	**V/Krpm**	80
Resistance	**Ohms**	0.25
Inductance	**mH**	2.3
Armature Inertia	**Lb-in-sec²**	0.0432
	Kg-m²	0.00488

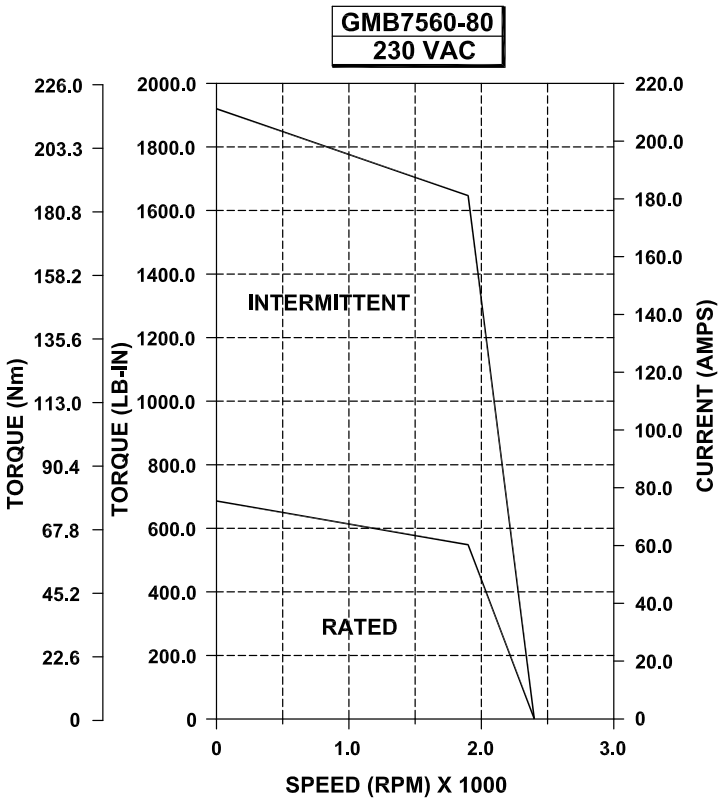
GMB7530-162 PERFORMANCE DATA



Power @ Rated Speed	**HP**	5.08
	KW	3.79
Speed, RPM	**Max.**	1200
	Rated	1000
Cont. Stall Rating	**Lb-in**	400
	Nm	45.2
	Amps	22
Peak Stall Rating	**Lb-in**	1200
	Nm	135.6
	Amps	65
Torque Constant	**Lb-in/A**	18.4
	Nm/A	2.07
Back EMF	**V/Krpm**	162
Resistance	**Ohms**	0.95
Inductance	**mH**	9.0
Armature Inertia	**Lb-in-sec²**	0.0432
	Kg-m²	0.00488

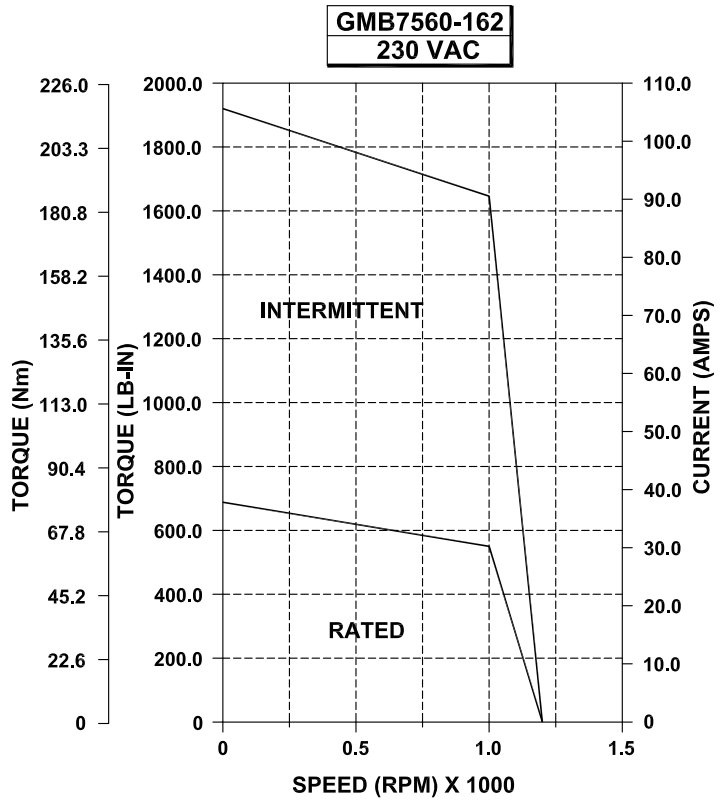
NOTE: All ratings based on a 25°C ambient temperature with the motor face mounted to a 14" x 14" x 3/4" aluminum heatsink.

GMB7560-80 PERFORMANCE DATA



Power @ Rated Speed	**HP**	15.44
	KW	11.51
Speed, RPM	**Max.**	2400
	Rated	1900
Cont. Stall Rating	**Lb-in**	640
	Nm	72.30
	Amps	71
Peak Stall Rating	**Lb-in**	1920
	Nm	216.9
	Amps	212
Torque Constant	**Lb-in/A**	9.1
	Nm/A	1.02
Back EMF	**V/Krpm**	80
Resistance	**Ohms**	0.09
Inductance	**mH**	1.00
Armature Inertia	**Lb-in-sec²**	0.0750
	Kg-m²	0.00848

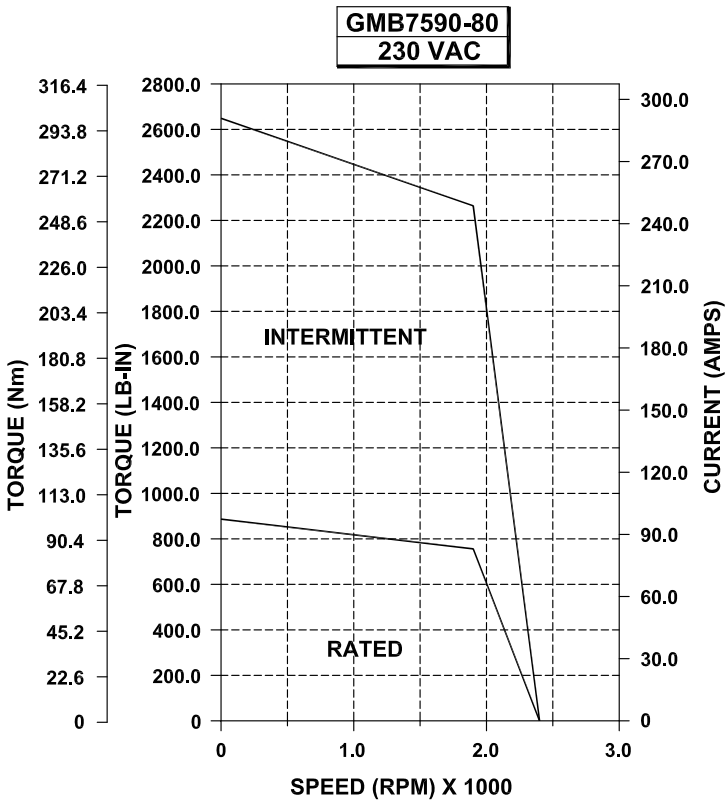
GMB7560-162 PERFORMANCE DATA



Power @ Rated Speed	**HP**	8.12
	KW	6.06
Speed, RPM	**Max.**	1200
	Rated	1000
Cont. Stall Rating	**Lb-in**	640
	Nm	72.30
	Amps	35
Peak Stall Rating	**Lb-in**	1920
	Nm	216.9
	Amps	105
Torque Constant	**Lb-in/A**	18.4
	Nm/A	2.07
Back EMF	**V/Krpm**	162
Resistance	**Ohms**	0.36
Inductance	**mH**	4.0
Armature Inertia	**Lb-in-sec²**	0.0750
	Kg-m²	0.00848

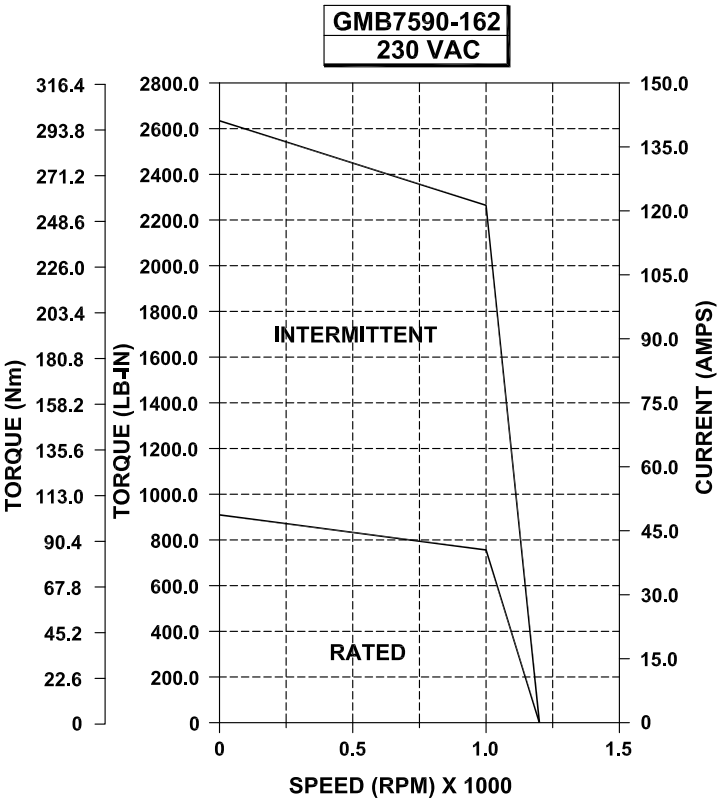
NOTE: All ratings based on a 25°C ambient temperature with the motor face mounted to a 14" x 14" x 3/4" aluminum heatsink.

GMB7590-80 PERFORMANCE DATA



Power @ Rated Speed	**HP**	21.22
	KW	15.83
Speed, RPM	**Max.**	2400
	Rated	1900
Cont. Stall Rating	**Lb-in**	880
	Nm	99.4
	Amps	97
Peak Stall Rating	**Lb-in**	2640
	Nm	298.2
	Amps	291
Torque Constant	**Lb-in/A**	9.1
	Nm/A	1.02
Back EMF	**V/Krpm**	80
Resistance	**Ohms**	0.05
Inductance	**mH**	0.65
Armature Inertia	**Lb-in-sec²**	0.1082
	Kg-m²	0.01223

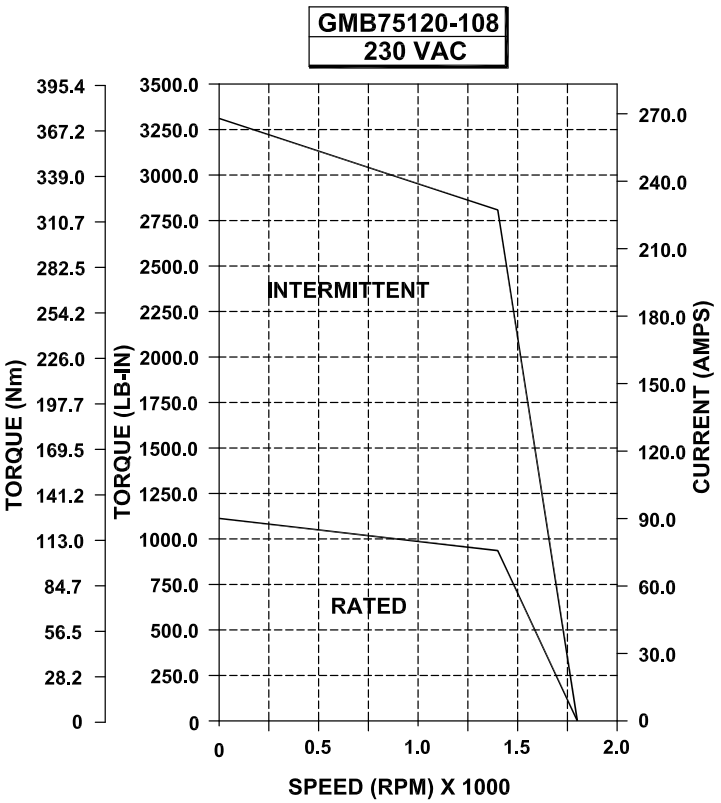
GMB7590-162 PERFORMANCE DATA



Power @ Rated Speed	**HP**	11.17
	KW	8.33
Speed, RPM	**Max.**	1200
	Rated	1000
Cont. Stall Rating	**Lb-in**	880
	Nm	99.4
	Amps	48
Peak Stall Rating	**Lb-in**	2640
	Nm	298.2
	Amps	144
Torque Constant	**Lb-in/A**	18.4
	Nm/A	2.07
Back EMF	**V/Krpm**	162
Resistance	**Ohms**	0.19
Inductance	**mH**	2.6
Armature Inertia	**Lb-in-sec²**	0.1082
	Kg-m²	0.01223

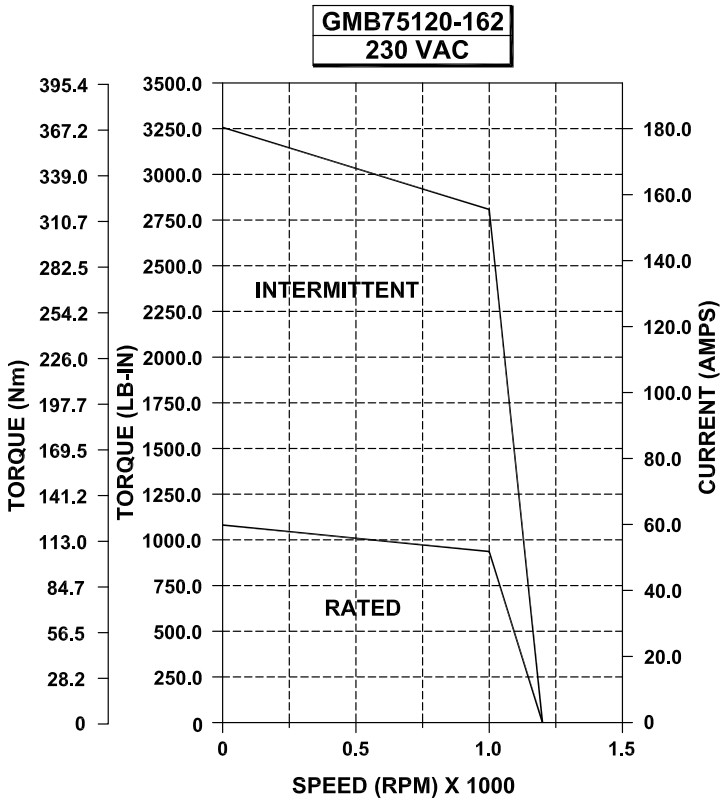
NOTE: All ratings based on a 25°C ambient temperature with the motor face mounted to a 14" x 14" x 3/4" aluminum heatsink.

GMB75120-108 PERFORMANCE DATA



Power @ Rated Speed	**HP**	19.41
	KW	14.47
Speed, RPM	**Max.**	1800
	Rated	1400
Cont. Stall Rating	**Lb-in**	1092
	Nm	123.4
	Amps	89
Peak Stall Rating	**Lb-in**	3276
	Nm	370.2
	Amps	268
Torque Constant	**Lb-in/A**	12.2
	Nm/A	1.38
Back EMF	**V/Krpm**	108
Resistance	**Ohms**	0.06
Inductance	**mH**	0.84
Armature Inertia	**Lb-in-sec²**	0.1397
	Kg-m²	0.01579

GMB75120-162 PERFORMANCE DATA



Power @ Rated Speed	**HP**	13.86
	KW	10.34
Speed, RPM	**Max.**	1200
	Rated	1000
Cont. Stall Rating	**Lb-in**	1092
	Nm	123.4
	Amps	60
Peak Stall Rating	**Lb-in**	3276
	Nm	370.2
	Amps	179
Torque Constant	**Lb-in/A**	18.4
	Nm/A	2.07
Back EMF	**V/Krpm**	162
Resistance	**Ohms**	0.14
Inductance	**mH**	1.9
Armature Inertia	**Lb-in-sec²**	0.1397
	Kg-m²	0.01579

NOTE: All ratings based on a 25°C ambient temperature with the motor face mounted to a 14" x 14" x 3/4" aluminum heatsink.

GMB7500 SERIES MODEL NUMBERING

This section explains the model numbering system for Glentek's GMB7500 Series Brushless Servo Motors. The model numbering system is designed so that you, our customer, will be able to quickly and accurately create the model number for the drive that best suits your requirements. Please complete the drive configuration code you require using the information on this page. After completing your model number, please contact a Gletnek Sales Engineer to confirm that the model number you have created is correct.

GMB		75	30	-	80	-	E	-	0	0	2	0	0	1	0	0	-	

Magnet Type blank = NdFeB
Frame Size 75 = 7.5" (6 pole) Motor
Stack Length 30 = 3.5 inch stack
Back EMF Constant 80 = 80 V/Krpm
Dimensions E = English
Brake option 0 = No brake installed
Commutation Device 0 = Brushless Resolver
Number of Motor poles 2 = 6 Pole
Flange Type 0 = Standard
Shaft Type 0 = Standard
Lead Termination 1 = Two MS Connectors
Wiring Diagram (MS connector lead termination only) 0 = Glentek Standard
Encoder Option 0 = No encoder installed
Factory Assigned Option leave blank

GMB				-		-		-									-	

Magnet Type	
	Leave blank for rare earth magnets

Frame Size	
75	7.5" Motor

Stack Length			
30	3.0" Stack	**90**	9.0" Stack
60	6.0" Stack	**120**	12.0" Stack

Back EMF Constant							
3.0" Stack		**6.0" Stack**		**9.0" Stack**		**12.0" Stack**	
80	80V/Krpm	**80**	80V/Krpm	**80**	80V/Krpm	**108**	108V/Krpm
162	162V/Krpm	**162**	162V/Krpm	**162**	162V/Krpm	**162**	162V/Krpm
						248	248V/Krpm
For custom Back EMF, Please Contact Glentek							

Dimensions			
E	English	**M**	Metric

Brake Option					
0	No brake installed	**1**	24 VDC Brake	**2**	Special

Commutation Device					
0	Brushless Resolver	**2**	Encoder with commutation tracks	**4**	Absolute Encoder
1	Hall Effect Sensors	**3**	Special	**5**	Sin/Cos Encoder

Number of Motor Poles	
2	6 pole

Flange Type			
0	Standard	**1**	Special

Shaft Type			
0	Standard	**1**	Special

Lead Termination			
0	One MS Connector	**3**	Special
1	Two MS Connectors	**4**	Liquid tight strain relief with flying leads
2	NPT(s) only with flying leads	**5**	Euro-style connectors

Wiring Diagram (MS connector lead termination only)			
0	Glentek Standard	**1**	Special

Encoder Option							
0	No encoder installed	**4**	1250 PPR	**8**	8192 PPR	**C**	4096 PPR
1	500PPR	**5**	2000 PPR	**9**	5000 PPR	**D**	3600 PPR
2	1000PPR	**6**	2500 PPR	**A**	512 PPR	**E**	18000 PPR
3	1024PPR	**7**	Special	**B**	2048 PPR		

Factory Assigned Option
A numerical code will be assigned by Glentek to motors whose specifications vary from the standard configuration