

GLENTEK BRUSHLESS SERVO MOTORS GMBM130 SERIES

Revision: 3/26/2018



Glentek's GMBM130 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, GMBM130 series have been tooled for high volume production which makes them easy to use and extremely cost effective..

- Continuous Torque Range:
26.2 Lb-in (3.0 Nm) to 103.8 Lb-in (11.7 Nm)
- Peak Torque Range:
78.6 Lb-in (9.0 Nm) to 311.4 Lb-in (35.1 Nm)

GMBM130 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.
Optional custom mounting configurations are available to meet virtually any requirement.
Encoder with commutation tracks, brushless resolvers or Hall sensors are standard feedback devices offered
Shaft Keyway.
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 optional
CE marked.
RoHS Compliant

GMBM130 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

GMBM130 SERIES SELECTION TABLE

K_T = Torque Constant • K_V = BEMF = Volts/1000 RPM • R_A = Phase to Phase Resistance • L_A = Inductance

Model Number	Rated Power	Speed, RPM		Cont. Stall Rating			Peak Stall Rating			K_T		K_V	R_A	L_A	Rotor Inertia	
	W	Max	Rated	Lb-in	Nm	Amps	Lb-in	Nm	Amps	Lb-in/A	Nm/A	V	Ω	mH	Lb-in-s ²	Kg-m ²
GMBM130900-35	900	5000	3000	26.2	3.0	5.0	78.6	9.0	15.0	5.29	0.60	35.3	0.89	7.87	0.005894	0.000666
GMBM130600-46	600	3000	2000	26.1	3.0	4.0	78.3	9.0	12.0	6.57	0.74	45.6	1.55	12.98	0.005814	0.000657
GMBM130450-46	450	3000	1500	26.1	3.0	4.0	78.3	9.0	12.0	6.57	0.74	45.6	1.55	12.98	0.005894	0.000666
GMBM130300-71	300	2000	1000	26.5	3.0	2.5	79.5	9.0	7.5	10.56	1.19	71.0	3.44	30.53	0.005894	0.000666
GMBM1301500-39	1500	5000	3000	43.2	4.9	8.2	129.6	14.7	24.6	5.25	0.59	38.6	0.41	4.11	0.01062	0.001200
GMBM1301100-53	1100	3000	2000	47.5	5.4	6.3	142.5	16.2	18.9	7.56	0.85	53.1	0.77	7.76	0.01062	0.001200
GMBM130850-53	850	3000	1500	48.9	5.5	6.5	146.7	16.5	19.5	7.56	0.85	53.1	0.77	7.76	0.01062	0.001200
GMBM130600-86	600	2000	1000	52.4	5.9	4.2	157.2	17.7	12.6	12.62	1.43	85.8	1.89	20.07	0.01062	0.001200
GMBM1302200-38	2200	5000	3000	63.1	7.1	12.0	189.3	21.3	36.0	5.27	0.60	37.8	0.23	2.53	0.015346	0.001734
GMBM1301600-54	1600	3000	2000	68.7	7.8	9.2	206.1	23.4	27.6	7.45	0.84	54.2	0.47	5.27	0.015346	0.001734
GMBM1301300-54	1300	3000	1500	74.4	8.4	10	223.2	25.2	30.0	7.44	0.84	54.2	0.47	5.27	0.015346	0.001734
GMBM130900-95	900	2000	1000	78.1	8.8	5.8	234.3	26.4	17.4	13.51	1.53	94.6	1.41	15.99	0.015346	0.001734
GMBM1303000-37	3000	5000	3000	85.8	9.7	17.2	257.4	29.1	51.6	5.0	0.57	37.3	0.15	1.82	0.020073	0.002268
GMBM1302200-54	2200	3000	2000	94.5	10.7	12.4	283.5	32.1	37.2	7.64	0.86	53.9	0.30	3.82	0.020073	0.002268
GMBM1301700-54	1700	3000	1500	97.4	11.0	12.8	292.2	33.0	38.4	7.64	0.86	53.9	0.30	3.82	0.020073	0.002268
GMBM1301200-90	1200	2000	1000	103.8	11.7	7.6	311.4	35.1	22.8	13.61	1.54	90.0	0.87	10.67	0.020073	0.002268

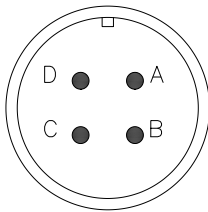
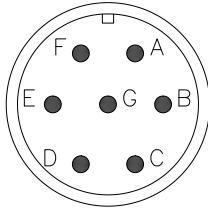
NOTE: The values for Max and Rated Speed are for motors operated with a 200 VAC power supply.

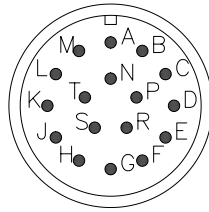
BRAKE OPTION

Brake requires 24V DC 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.

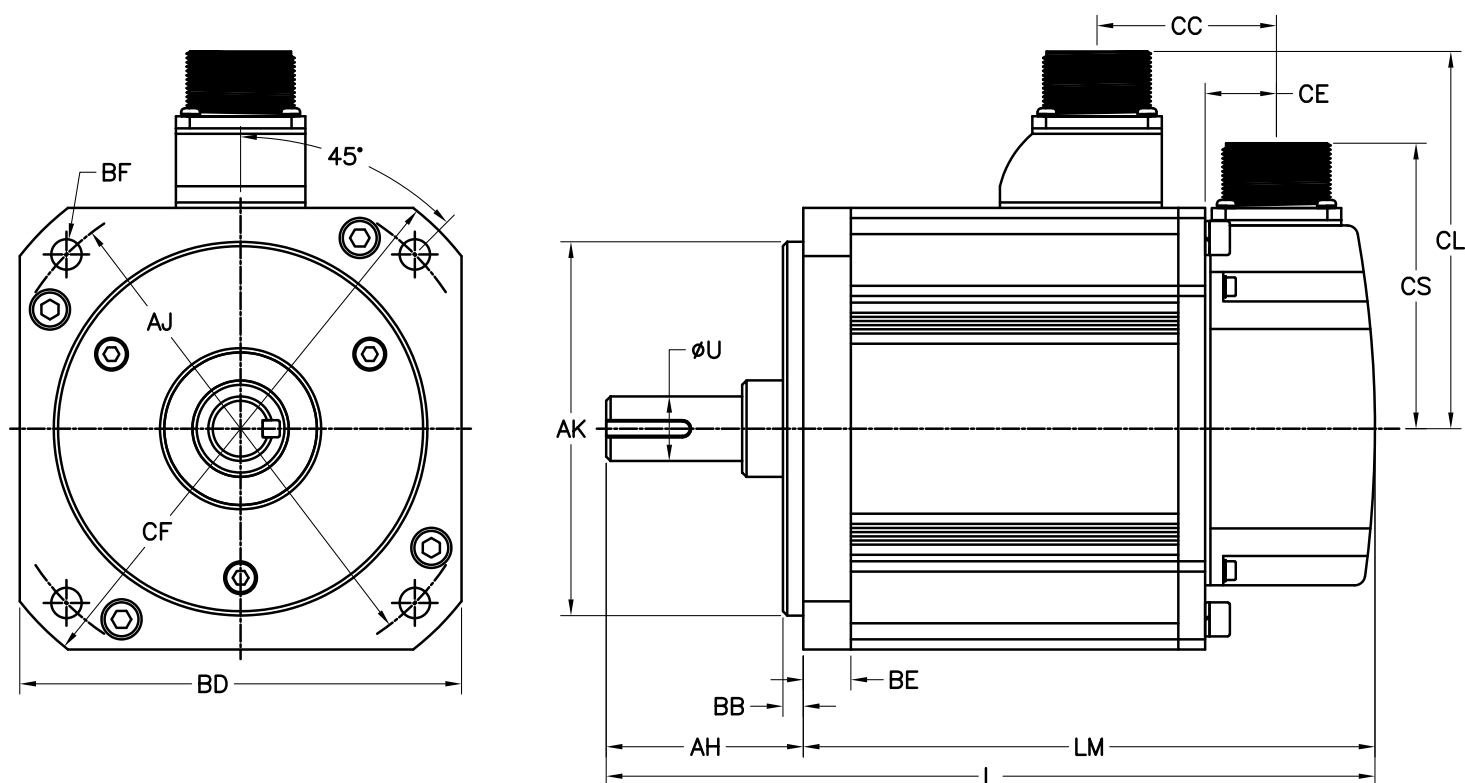
Extension	Torque		Power
mm (in.)	Lb-in	Nm	Watts
38 (1.50)	92.0	10.4	9.0

CONNECTORS & PIN-OUT INFORMATION

A - Motor Power			B - Brake		
MS Connector	Pin #	Function	MS Connector	Pin #	Function
	A	Phase T		A	Phase T
	B	Phase S		B	Phase S
	C	Phase R		C	Phase R
	D	Ground		D	Ground
				E	Brake +
				F	Brake -

C - Encoder Feedback					
MS Connector	Pin #	Function	Pin #	Function	
	A	A +	M	Hall V +	
	B	A -	N	Hall V +	
	C	B +	P	Hall U +	
	D	B -	R	Hall U +	
	E	Z +	H	+5V	
	F	Z -	G	Common	
	K	Hall W +	J	Shield	
	L	Hall W -			

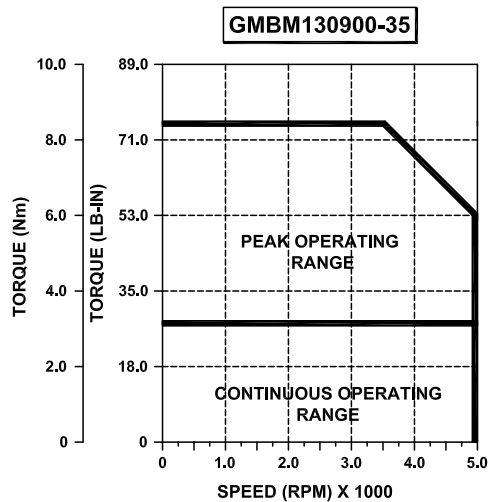
GMBM130 SERIES DIMENSIONS



Model Number	Weight	External Dimension								Shaft/Key			Flange/Face					Mounting Hole	
	Kg	L	LM	LC	CC	CE	CS	CL	AH	U	KEY	AK	BB	BD	BE	CF	AJ	BF	Ø
GMBM130900-35	5.5	201	143	94.0	51.3	21.0	84.0	111.0	58.0	19.0	M5 SQ. X 40	110.0	6.0	130.0	14.0	165.0	145.0	9.0	
GMBM130600-46																			
GMBM130450-46																			
GMBM130300-71																			
GMBM1301500-39	7.5	225	167	118.0	51.3	21.0	84.0	111.0	58.0	19.0	M5 SQ. X 40	110.0	6.0	130.0	14.0	165.0	145.0	9.0	
GMBM1301100-53																			
GMBM130850-53																			
GMBM130600-86																			
GMBM1302200-38	9.7	249	191	142.0	51.3	21.0	84.0	111.0	58.0	22.0	M6 SQ. X 40	110.0	6.0	130.0	14.0	165.0	145.0	9.0	
GMBM1301600-54																			
GMBM1301300-54																			
GMBM130900-95																			
GMBM1303000-37	11.8	273	215	166.0	51.3	21.0	84.0	111.0	58.0	22.0	M6 SQ. X 40	110.0	6.0	130.0	14.0	165.0	145.0	9.0	
GMBM1302200-54																			
GMBM1301700-54																			
GMBM1301200-94																			

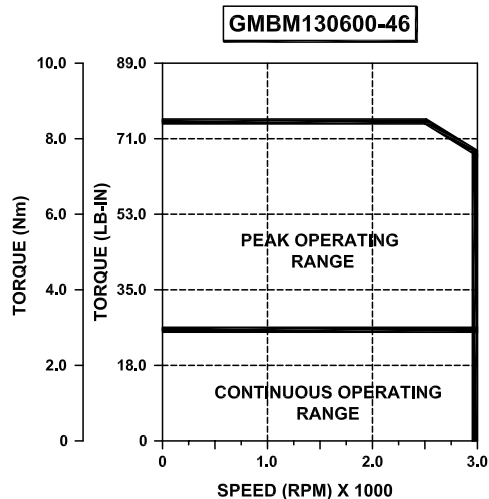
Note: Dimensions are in **mm**

GMBM130900-35 PERFORMANCE DATA



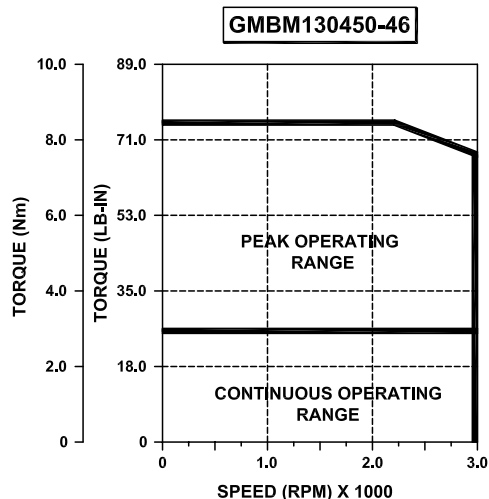
Power @ Max Speed	HP	1.207
	W	900
Speed, RPM	Max.	5000
	Rated	3000
Cont. Stall Rating	Lb-in	26.2
	Nm	3.0
	Amps	5.0
Peak Stall Rating	Lb-in	78.6
	Nm	9.0
	Amps	15.0
Torque Constant	Lb-in/A	5.29
	Nm/A	0.60
Back EMF	V/Krpm	35.3
Resistance	Ohms	0.89
Inductance	mH	7.87
Armature Inertia	Lb-in-sec ²	0.005894
	Kg-m ²	0.000666

GMBM130600-46 PERFORMANCE DATA



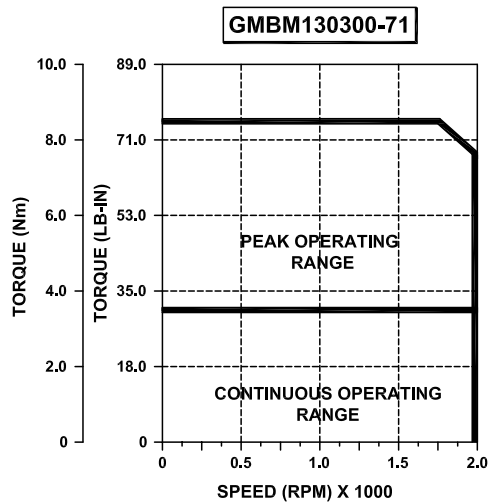
Power @ Max Speed	HP	0.805
	W	600
Speed, RPM	Max.	3000
	Rated	2000
Cont. Stall Rating	Lb-in	26.1
	Nm	3.0
	Amps	4.0
Peak Stall Rating	Lb-in	78.3
	Nm	9.0
	Amps	12.0
Torque Constant	Lb-in/A	6.57
	Nm/A	0.74
Back EMF	V/Krpm	45.6
Resistance	Ohms	1.55
Inductance	mH	12.98
Armature Inertia	Lb-in-sec ²	0.005814
	Kg-m ²	0.000657

GMBM130450-46 PERFORMANCE DATA



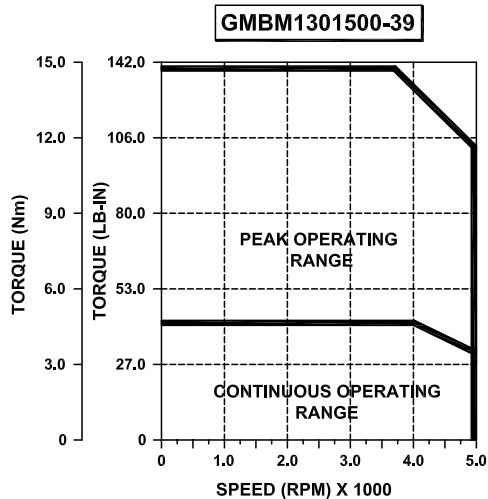
Power @ Max Speed	HP	0.603
	W	450
Speed, RPM	Max.	3000
	Rated	1500
Cont. Stall Rating	Lb-in	26.1
	Nm	3.0
	Amps	4.0
Peak Stall Rating	Lb-in	78.3
	Nm	9.0
	Amps	12.0
Torque Constant	Lb-in/A	6.57
	Nm/A	0.74
Back EMF	V/Krpm	45.6
Resistance	Ohms	1.55
Inductance	mH	12.98
Armature Inertia	Lb-in-sec ²	0.005894
	Kg-m ²	0.000666

GMBM130300-71 PERFORMANCE DATA



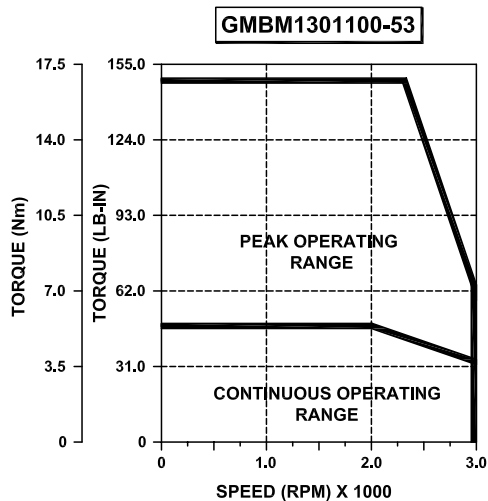
Power @ Max Speed	HP	0.402
	W	300
Speed, RPM	Max.	2000
	Rated	1000
Cont. Stall Rating	Lb-in	26.5
	Nm	3.0
	Amps	2.5
Peak Stall Rating	Lb-in	79.5
	Nm	9.0
	Amps	7.5
Torque Constant	Lb-in/A	10.56
	Nm/A	1.19
Back EMF	V/Krpm	71.0
Resistance	Ohms	3.44
Inductance	mH	30.53
Armature Inertia	Lb-in-sec ²	0.005894
	Kg-m ²	0.000666

GMBM1301500-39 PERFORMANCE DATA



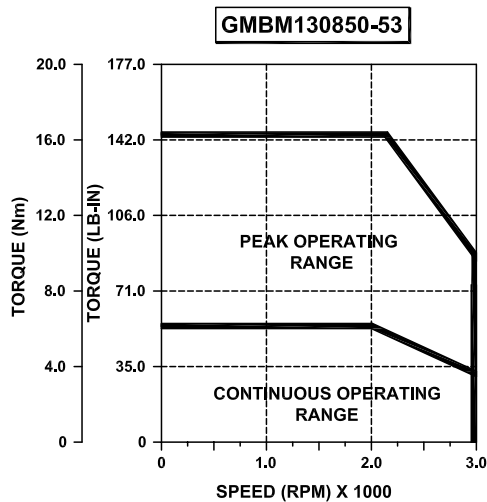
Power @ Max Speed	HP	2.011
	W	1500
Speed, RPM	Max.	5000
	Rated	3000
Cont. Stall Rating	Lb-in	43.2
	Nm	4.9
	Amps	8.2
Peak Stall Rating	Lb-in	129.6
	Nm	14.7
	Amps	24.6
Torque Constant	Lb-in/A	5.25
	Nm/A	0.59
Back EMF	V/Krpm	38.6
Resistance	Ohms	0.41
Inductance	mH	4.11
Armature Inertia	Lb-in-sec ²	0.010620
	Kg-m ²	0.001200

GMBM1301100-53 PERFORMANCE DATA



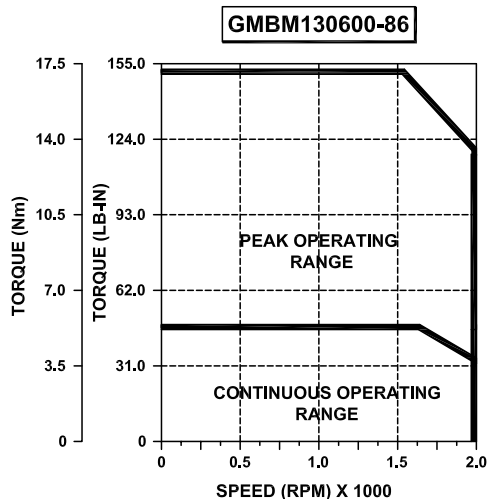
Power @ Max Speed	HP	1.475
	W	1100
Speed, RPM	Max.	3000
	Rated	2000
Cont. Stall Rating	Lb-in	47.5
	Nm	5.4
	Amps	6.3
Peak Stall Rating	Lb-in	142.5
	Nm	16.2
	Amps	18.9
Torque Constant	Lb-in/A	7.56
	Nm/A	0.85
Back EMF	V/Krpm	53.1
Resistance	Ohms	0.77
Inductance	mH	7.76
Armature Inertia	Lb-in-sec ²	0.010620
	Kg-m ²	0.001200

GMBM130850-53 PERFORMANCE DATA



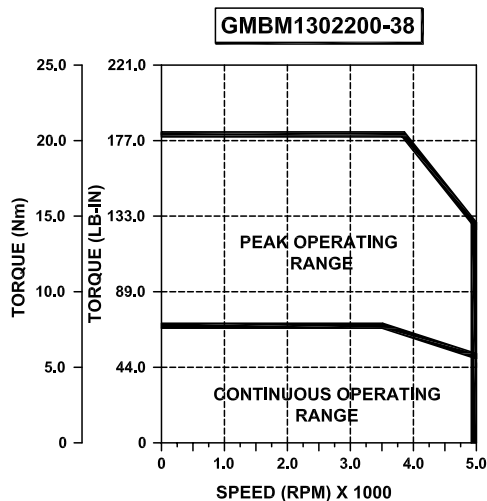
Power @ Max Speed	HP	1.140
	W	850
Speed, RPM	Max.	3000
	Rated	1500
Cont. Stall Rating	Lb-in	48.9
	Nm	5.5
	Amps	6.5
Peak Stall Rating	Lb-in	146.7
	Nm	16.5
	Amps	19.5
Torque Constant	Lb-in/A	7.56
	Nm/A	0.85
Back EMF	V/Krpm	53.1
Resistance	Ohms	0.77
Inductance	mH	7.76
Armature Inertia	Lb-in-sec ²	0.010620
	Kg-m ²	0.001200

GMBM130600-86 PERFORMANCE DATA



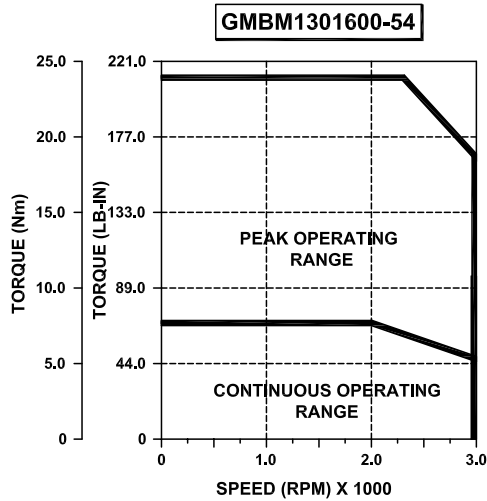
Power @ Max Speed	HP	0.805
	W	600
Speed, RPM	Max.	2000
	Rated	1000
Cont. Stall Rating	Lb-in	52.4
	Nm	5.9
	Amps	4.2
Peak Stall Rating	Lb-in	157.2
	Nm	17.7
	Amps	12.6
Torque Constant	Lb-in/A	12.62
	Nm/A	1.43
Back EMF	V/Krpm	85.8
Resistance	Ohms	1.89
Inductance	mH	20.07
Armature Inertia	Lb-in-sec ²	0.010620
	Kg-m ²	0.001200

GMBM1302200-38 PERFORMANCE DATA



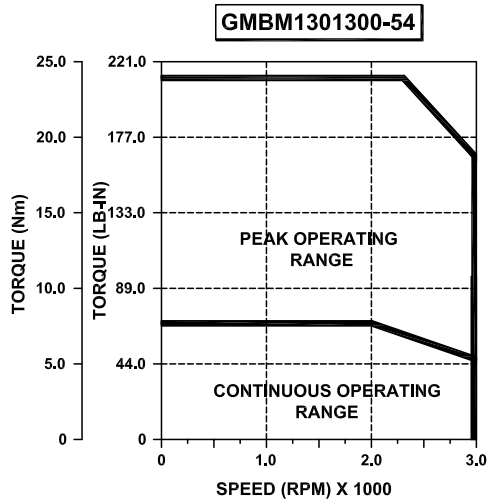
Power @ Max Speed	HP	2.950
	W	2200
Speed, RPM	Max.	5000
	Rated	3000
Cont. Stall Rating	Lb-in	63.1
	Nm	7.1
	Amps	12.0
Peak Stall Rating	Lb-in	189.3
	Nm	21.3
	Amps	36.0
Torque Constant	Lb-in/A	5.27
	Nm/A	0.60
Back EMF	V/Krpm	37.8
Resistance	Ohms	0.23
Inductance	mH	2.53
Armature Inertia	Lb-in-sec ²	0.015346
	Kg-m ²	0.001734

GMBM1301600-54 PERFORMANCE DATA



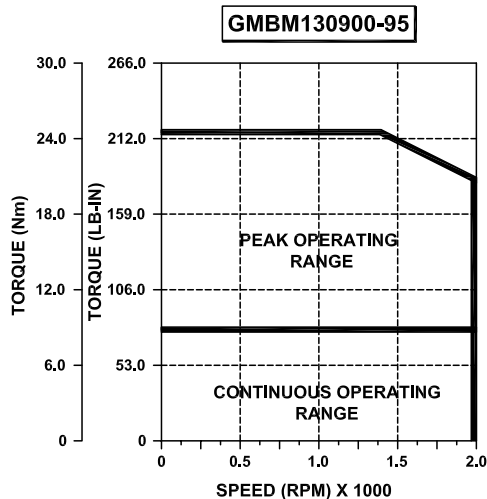
Power @ Max Speed	HP	2.146
	W	1600
Speed, RPM	Max.	3000
	Rated	2000
Cont. Stall Rating	Lb-in	68.7
	Nm	7.8
	Amps	9.2
Peak Stall Rating	Lb-in	206.1
	Nm	23.4
	Amps	27.6
Torque Constant	Lb-in/A	7.45
	Nm/A	0.84
Back EMF	V/Krpm	54.2
Resistance	Ohms	0.47
Inductance	mH	5.27
Armature Inertia	Lb-in-sec ²	0.015346
	Kg-m ²	0.001734

GMBM1301300-54 PERFORMANCE DATA



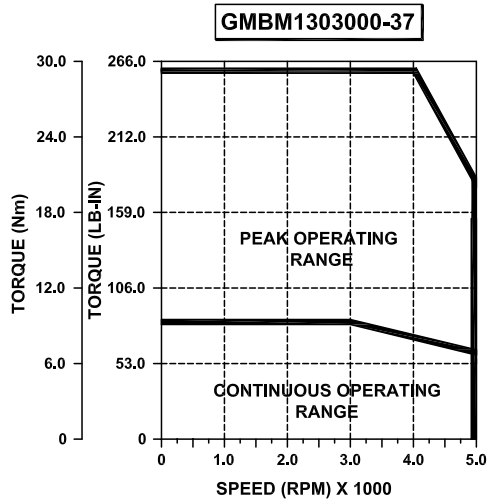
Power @ Max Speed	HP	1.743
	W	1300
Speed, RPM	Max.	3000
	Rated	1500
Cont. Stall Rating	Lb-in	74.4
	Nm	8.4
	Amps	10.0
Peak Stall Rating	Lb-in	223.2
	Nm	25.2
	Amps	30.0
Torque Constant	Lb-in/A	7.44
	Nm/A	0.84
Back EMF	V/Krpm	54.2
Resistance	Ohms	0.47
Inductance	mH	5.27
Armature Inertia	Lb-in-sec ²	0.015346
	Kg-m ²	0.001734

GMBM130900-95 PERFORMANCE DATA



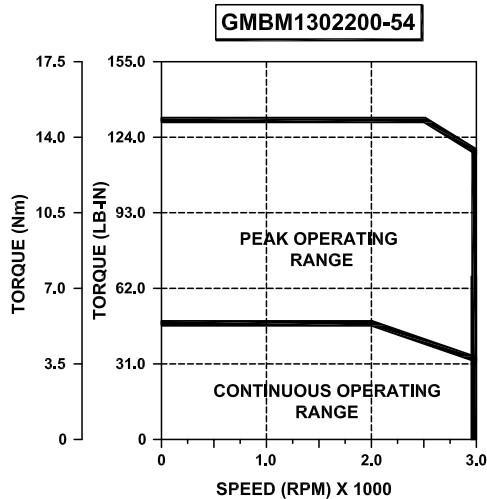
Power @ Max Speed	HP	1.207
	W	900
Speed, RPM	Max.	2000
	Rated	1000
Cont. Stall Rating	Lb-in	78.1
	Nm	8.8
	Amps	5.8
Peak Stall Rating	Lb-in	234.3
	Nm	26.4
	Amps	17.4
Torque Constant	Lb-in/A	13.51
	Nm/A	1.53
Back EMF	V/Krpm	94.6
Resistance	Ohms	1.41
Inductance	mH	15.99
Armature Inertia	Lb-in-sec ²	0.015346
	Kg-m ²	0.001734

GMBM1303000-37 PERFORMANCE DATA



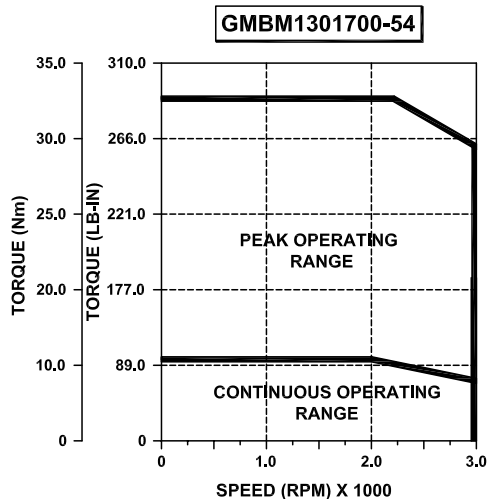
Power @ Max Speed	HP	4.023
	W	3000
Speed, RPM	Max.	5000
	Rated	3000
Cont. Stall Rating	Lb-in	85.8
	Nm	9.7
	Amps	17.2
Peak Stall Rating	Lb-in	257.4
	Nm	29.1
	Amps	51.6
Torque Constant	Lb-in/A	5.00
	Nm/A	0.57
Back EMF	V/Krpm	37.3
Resistance	Ohms	0.15
Inductance	mH	1.82
Armature Inertia	Lb-in-sec ²	0.020073
	Kg-m ²	0.002268

GMBM1302200-54 PERFORMANCE DATA



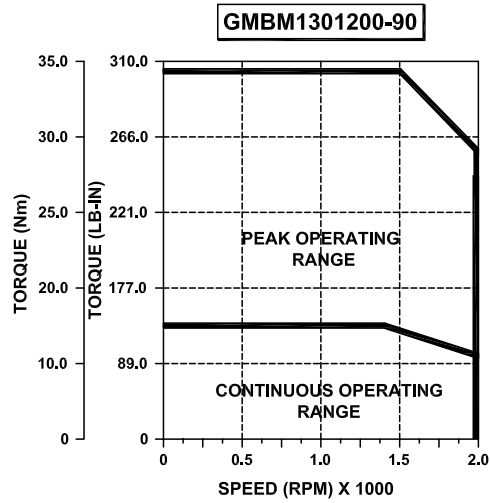
Power @ Max Speed	HP	2.950
	W	2200
Speed, RPM	Max.	3000
	Rated	2000
Cont. Stall Rating	Lb-in	94.5
	Nm	10.7
	Amps	12.4
Peak Stall Rating	Lb-in	283.5
	Nm	32.1
	Amps	37.2
Torque Constant	Lb-in/A	7.64
	Nm/A	0.86
Back EMF	V/Krpm	53.9
Resistance	Ohms	0.30
Inductance	mH	3.82
Armature Inertia	Lb-in-sec ²	0.020073
	Kg-m ²	0.002268

GMBM1301700-54 PERFORMANCE DATA



Power @ Max Speed	HP	2.280
	W	1700
Speed, RPM	Max.	3000
	Rated	1500
Cont. Stall Rating	Lb-in	97.4
	Nm	11.0
	Amps	12.8
Peak Stall Rating	Lb-in	292.2
	Nm	33.0
	Amps	38.4
Torque Constant	Lb-in/A	7.64
	Nm/A	0.86
Back EMF	V/Krpm	53.9
Resistance	Ohms	0.30
Inductance	mH	3.82
Armature Inertia	Lb-in-sec ²	0.020073
	Kg-m ²	0.002268

GMBM1301200-90 PERFORMANCE DATA



Power @ Max Speed	HP	1.609
	W	1200
Speed, RPM	Max.	2000
	Rated	1000
Cont. Stall Rating	Lb-in	103.8
	Nm	11.7
	Amps	7.6
Peak Stall Rating	Lb-in	311.4
	Nm	35.1
	Amps	22.8
Torque Constant	Lb-in/A	13.61
	Nm/A	1.54
Back EMF	V/Krpm	90.0
Resistance	Ohms	0.87
Inductance	mH	10.67
Armature Inertia	Lb-in-sec ²	0.020073
	Kg-m ²	0.002268

GMBM130 SERIES MODEL NUMBERING

This section explains the model numbering system for Glentek's GMBM130 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 Glentek Sales Engineer to confirm that the model number you have created is correct.

GMBM **130** **600** - **35** - **0** **0** **0** **0** **0** **0** **0** **0** -

Frame Size 130 = 130mm Motor

Power at Rated RPM 600 = 600 Watts

Back EMF Constant 35 = 35 V/Krpm

Brake option 0 = No brake installed

Flange Type 0 = Standard

Shaft Type 0 = Standard

Lead Termination 0 = Two AMP Connectors

Wiring Diagram 0 = Glentek Standard

Encoder Option 0 = 2048 PPR

Sealing Option 0 = No Shaft Seal

Factory Assigned Option leave blank

GMBM - - -

Frame Size	
130	130mm Motor

Power at Rated RPM					
300	300 Watts	1100	1100 Watts	1700	1700 Watts
450	450 Watts	1200	1200 Watts	2200	2200 Watts
600	600 Watts	1300	1300 Watts	3000	3000 Watts
850	850 Watts	1500	1500 Watts		
900	900 Watts	1600	1600 Watts		

Back EMF Constant					
300 Watts		450 Watts		600 Watts	
71	71V/Krpm	46	46V/Krpm	46	46V/Krpm
		86	86V/Krpm	53	53V/Krpm
900 Watts		1100 Watts		1200 Watts	
35	35V/Krpm	53	53V/Krpm	90	90V/Krpm
95	95V/Krpm	86	86V/Krpm	54	54V/Krpm
1300 Watts		1500 Watts		1600 Watts	
53	53V/Krpm	39	39V/Krpm	54	54V/Krpm
1700 Watts		2200 Watts		3000 Watts	
54	54V/Krpm	38	38V/Krpm	37	37V/Krpm
		54	54V/Krpm		

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

Flange Type			
0	Standard	1	Special

Shaft Type			
0	Standard	1	Special

Lead Termination Type			
1	Special	2	Two MS Connectors

Wiring Diagram			
0	Glentek Standard	1	Special

Encoder Option			
0	2048 PPR	4	2500 PPR
1	3000 PPR	5	5000 PPR
3	1024 PPR	7	Special

Sealing Option			
0	No Shaft Seal (IP54 Sealing)	2	Special
1	Shaft Seal		

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