GTR MINI SERIES GEARMOTORS

brother®
at your side

HELICAL IN-LINE & HYPOID/HELICAL RIGHT-ANGLE

brother
at your side

WITH BROTHER GEARMOTORS...
Your Options are Standard!

About Brother
Brother International Corporation, with its corporate headquarters located in Bridgewater, NJ, was established in the U.S. on April 21, 1954. Brother markets many industrial products, home appliances, and business products manufactured by its parent company, Brother Industries, Ltd. of Nagoya, Japan. Currently, Brother and its subsidiaries employ over 1,100 people in the Americas and recorded consolidated net sales of $1.5 billion for the fiscal year ending December 2008.

Brother Industries Ltd. began manufacturing sewing machines in 1928 and took its present corporate form in 1934 as a multinational, diversified sales, distribution, engineering and manufacturing company. With an aggressive program for boosting worldwide sales while providing quality products and superior customer service, the company aims to tighten the focus on core competencies and boost global competitiveness.

About Brother Gearmotors
The line of gearmotors and reducers, detailed in this catalog, is an example of advanced technology brought to industry by Brother. The GTR Series of gearmotors was designed in response to industrial demand for smaller, lighter, more reliable, and energy efficient power transmission. Our energy efficient High Ratio Hypoid right-angle gearing, CBN grinding process, and quality aluminum die cast housings are examples of superior technology brought to you by Brother.

Manufactured using the best machinery available in the World, Brother gears are processed on equipment by Gleason Pfauter, Mikron, Reishauer, Kashifuji, Koyo-Lindberg, and Zeiss. The quality equipment, fifty plus years of experience in gear manufacturing, combined with our commitment to advanced technology, make Brother second to none in gear and gearmotor manufacturing technology. We invite you to challenge us with your power transmission needs.

The Brother line of gearmotors offer more voltage choices, a wider range of mounting configurations and greater efficiency (for smaller drive packages).

With Brother Gearmotors, you can design a more efficient machine at a lower overall cost.

Our Helical and Hypoid gearmotors feature:

- Steel carbonitrided and die quenched gears which translates into longer life.
- A selection of 1/50 HP to 3 HP.
- 9 voltage choices in 50hz or 60hz.
- 28 ratio choices.
- Flexibility in mounting styles—with over 10 mounting configurations—helical in-line and hypoid right-angle.
- Hypoid gearing in our right-angle units is the same gearing used in an automobile differential—which allows Brother Gearmotors to boast the most efficient and durable right-angle package commercially available!
- European and other worldwide voltages are available.
- Lubricated for life with high grade synthetic grease and sealed with machine slip fit “O” rings eliminating costly downtime for lubrication changes!
- Two Year Warranty!

Design your machine around your goals, not your gearmotor.

Brother Gearmotors—your options are standard.

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Mini Type G In-line Torque Table (in-lb) (Frame / Torque)

Ratio	RPM	1/50 Hp	1/30 Hp	1/20 Hp	1/15 Hp	1/10 Hp	1/6 Hp
5	360	3	5	8	12	18	25
7.5	240	4	7	12	18	28	37
10	180	6	10	16	25	37	49
15	120	9	14	23	37	55	74
20	90	12	19	31	49	74	98
25	72	14	24	39	61	92	123
30	60	17	29	47	74	110	147
40	45	23	39	62	98	147	196
50	36	29	48	78	123	184	245
60	30	35	58	94	147	221	294
80	22.5	44	73	119	186	279	9537
100	18	55	91	148	233	349	
120	15	66	110	178	279	419	
160	11.2	88	146	237	373	477	
200	9	110	183	296	466	477	
240	7.5	132	220	356	477	477	
300	6	148	247	400	629	943	
375	4.8	185	309	500	786	1179	
450	4	222	370	600	943	1415	
600	3	296	494	800	1258	1887	
750	2.4	370	617	1000	1572	2358	
900	2	445	741	1200	1887	2830	
1200	1.5	593	988	1600	2515	3726	
1500	1.2	741	1235	2000	3144	4682	
1800	1	868	1476	2430	3732	5638	

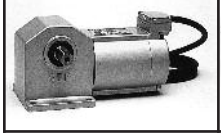
Mini Type H Rt-Angle Torque Table (in-lb) (Frame / Torque)

Ratio	RPM	1/50 Hp	1/30 Hp	1/20 Hp	1/15 Hp	1/10 Hp
10	170	6	10	16	25	37
15	120	9	14	23	37	55
20	90	12	19	31	49	74
25	72	14	24	39	61	92
30	60	17	29	47	74	110
40	45	23	39	62	98	147
50	36	29	48	78	123	184
60	30	35	58	94	147	221
80	22.5	44	73	119	186	279
100	18	55	91	148	233	349
120	15	66	110	178	279	419
160	11.2	88	146	237	373	477
200	9	110	183	296	466	477
240	7.5	132	220	356	477	477
300	6	148	247	400	629	943
375	4.8	185	309	500	786	1179
450	4	222	370	600	943	1415
600	3	296	494	800	1258	1887
750	2.4	370	617	1000	1572	2358
900	2	445	741	1200	1887	2830
1200	1.5	593	988	1600	2515	3726
1500	1.2	741	1235	2000	3144	4682
1800	1	868	1476	2430	3732	5638

Mini Type F2 Rt-Angle Holllow Bore Torque Table (in-lb) (Frame / Torque)

Ratio	RPM	1/50 Hp	1/30 Hp	1/20 Hp	1/15 Hp	1/10 Hp
10	170	6	10	16	25	37
15	120	9	14	23	37	55
20	90	12	19	31	49	74
25	72	14	24	39	61	92
30	60	17	29	47	74	110
40	45	23	39	62	98	147
50	36	29	48	78	123	184
60	30	35	58	94	147	221
80	22.5	44	73	119	186	279
100	18	55	91	148	233	349
120	15	66	110	178	279	419
160	11.2	88	146	237	373	477
200	9	110	183	296	466	477
240	7.5	132	220	356	477	477

Foot Mount	Flange Mount	Description
		5:1~240:1 3 Ph Std 1 Ph Std Optional Brake Pages 16~27
		300:1~1800:1 3 Ph Std 1 Ph Std Optional Brake Pages 16~25
		5:1~240:1 3 Ph Std 1 Ph Std Optional Brake Pages 16~25

Foot Mount	Flange Mount	Description
		5:1~240:1 3 Ph Std 1 Ph Std Optional Brake Pages 28~37
		300:1~1800:1 3 Ph Std 1 Ph Std Optional Brake Pages 28~37
		5:1~240:1 3 Ph Std 1 Ph Std Optional Brake Pages 28~37

Shaft Mount		Description
		5:1~240:1 3 Ph Std 1 Ph Std Optional Brake Pages 38~47
		5:1~240:1 3 Ph Std 1 Ph Std Optional Brake Pages 38~47

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Part Numbers GTR Mini Series

G	F	12	N	240	–	B	M	LC	1	C	X
H	L	18	T	030	–	B	M	RF	2	A	
F2	S	15	N	060	–	B	M	RG	2	A	

Type
G: G Series
H: H Series
F2: F2 Series

Frame

G	H	F2
12	15	12
15	18	15
18	22	
22	28	
28	32	
40	40	

Gear Ratio
007 : 7.5:1
010 : 10:1
012 : 12.5:1
120 : 120:1
12X : 1200:1

UL/CSA
B : UL/CSA
N : Not UL/CSA

Special Spec
X: Provided
Blank: Std

Supply Voltage
1: 115V,60Hz,1ph
2: 208/230,60Hz,3ph
3: 460V, 60Hz, 3ph
5: 220V, 60Hz, 1ph
6: 230V, 60Hz, 1ph
7: OEM Spec. 1ph
8: OEM Spec. 3ph

Terminal Box/Leads
A: Die Cast Box
C: Plastic Box
N: Leads

Mount Form
L: Foot Mount
F: Flange Mount (5:1~240:1)
K: Flange Mount (300:1~1800:1)
S: Hollow Shaft (F2 Series)

Shaft/Bore Arrangement
G Series
N: Common Code
H Series
L: Left Extension
R: Right Extension
T: Double Extension
F2 Series
N: Common Code

Motor Type
M: Motor
B: Brakemotor
WM: Motor (Washdown !P-65)
WB: Brakemotor (Washdown !P-65)

Code	Hp	Frame
LC:	1/50HP	G-12,22, H-15,22, F2-12
LD:	1/30HP	G-12,22, H-15,22, F2-12
RD:	1/30HP	G-15, G-28, H-28
RE:	1/20HP	G-15,28,32, H-18,28,32, F2-15
YE:	1/20HP	G-18
RF	1/15HP	G-15,28,32, H-18,28,32, F2-15
YF:	1/15HP	G-18
RG:	1/10HP	G-15,28,32, H-18,28,32, F2-15
YG:	1/10HP	G-18, H-40

Other Products

GTR Mid Series, 1/8~3 Hp

Please contact Brother for a GTR Mid Series catalog or visit www.BrotherGearmotors.com

Right-Angle Gearmotors

- Longer Life
- High Reductions/Small Size
- Mounting in Any Direction
- Lightweight and Compact
- Low-Noise Brake
- Maintenance Free
- Brother Hypoid Gearing

Longer Life
Brother Hypoid gearmotors and reducers use hardened steel gears throughout. This gives Hypoid gearing far superior wear life compared to worm gears which use softer bronze on the output gear.

High Reductions/Small Size
Brother offers reductions up to 1800:1 in most sizes. Hypoid gearing makes our high reductions significantly more compact and light weight compared to worm/worm and helical/worm designs.

Mounting in Any Direction
Brother gearboxes are sealed with machine "slip" fit "o" rings and double lip spring shaft seals on both the motor input shaft and output drive shaft. They do not require breather plugs or expansion bladders. They can be mounted in any conceivable direction without concern for lubrication leakage.

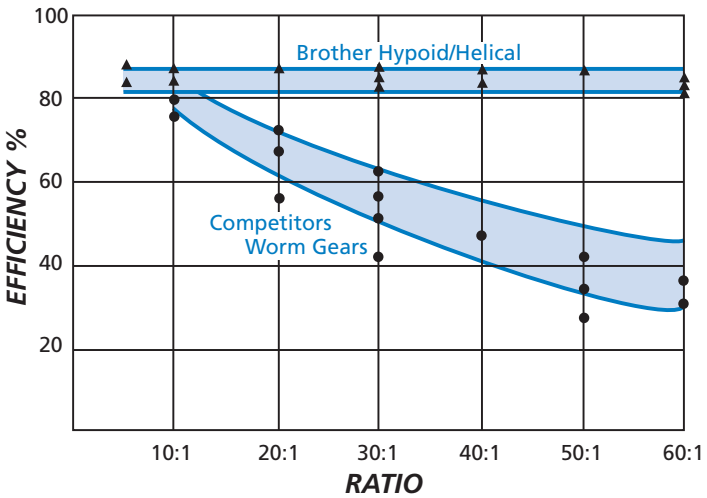
Lightweight and Compact
Die cast aluminum gearmotors and reducers are light in weight allowing engineers to design more economical mounting provisions.

Low-Noise Brake
The brake system developed exclusively by Brother, uses vibration damping sheet steel for the armature, which dramatically reduces noise associated with the brake.

Maintenance Free
High-quality synthetic grease is used in all Brother gearboxes. It is filled at the factory and does not require maintenance filling or level checks. This saves valuable set-up and maintenance time compared to worm gear boxes. With no oil changes required, there is less concern for the costly disposal of oil as required by the EPA.

Brother Hypoid Gearing
As the world's largest fine pitch gear manufacturer, Brother provides highly efficient Hypoid gearing in all right-angle designs. Gears are made of chromium molybdenum steel that has undergone precision carbonitriding. The superior efficiency, gear materials, and heat treatment allows engineers to design-in the most compact gearmotor per output torque.

Gearbox Efficiency Comparison – Right-Angle Hypoid/Helical vs. Worm Gear



Input Speed – 1800 RPM
Hypoid – Grease Lubrication
Worm – Oil Lubrication

The graph at left shows actual measured efficiency, 1/50 Hp to 1/10 Hp.

Because of the high efficiency of the Hypoid/Helical combination, there is no self-locking in the back drive direction.

Big Energy Savings, Smaller Motor Hp Input
Due to the superior efficiency, it is often possible to replace worm gearbox/motor combination with a smaller Hp input in a Hypoid and actually receive greater torque at the driven shaft. Also, with smaller motor Hp, less electrical current is required, resulting in big savings on electric bills.

Industry Leader
Brother is the pioneer and leading manufacturer of Hypoid Bevel gearmotors. This unique right-angle type gearmotor has much higher power transmission efficiency than conventional worm gears. Growing demand is due to its COMPACTNESS, HIGH EFFICIENCY, and superior wear life, which meet the latest primary requirements for industrial applications.

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In-Line Gearmotors

- Lightweight and Compact
- Longer Life
- Low-Noise Brake
- Maintenance Free
- Mounting in Any Direction
- Brother Helical Gearing

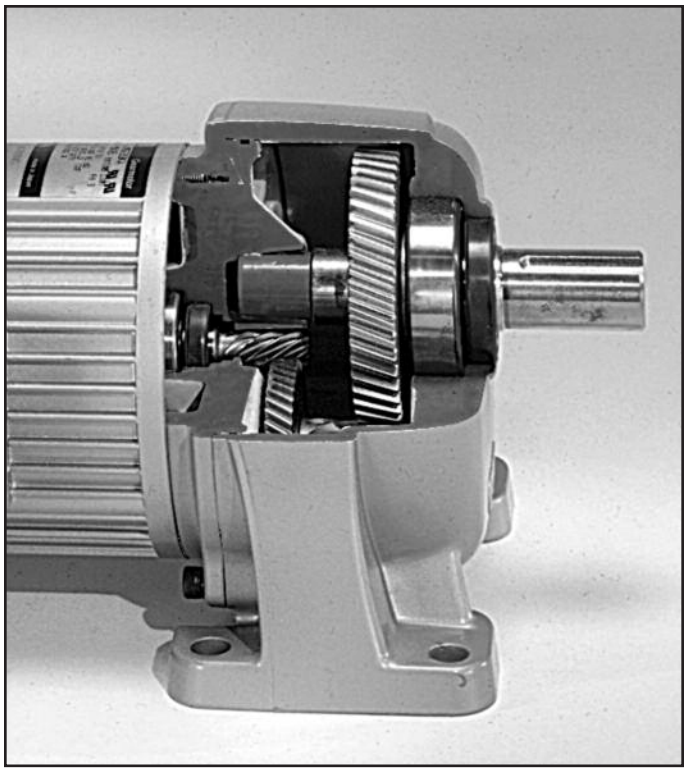
Lightweight and Compact
Die cast aluminum gear housings and motors make Brother gearmotors and reducers light in weight, allowing engineers to design more economical mounting provisions.

Longer Life
Compared to a spur gear of approximately the same pitch diameter, Helical gears can transfer higher loads at greater speeds. This is due to the gradual engagement of the teeth and smooth transfer of the load. Size for size Brother all Helical gearmotors will out perform the competition.

Low-Noise Brake
The brake system developed exclusively by Brother uses vibration damping sheet steel for the armature, which dramatically reduces noise associated with the brake.

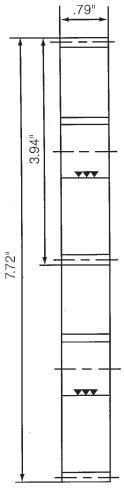
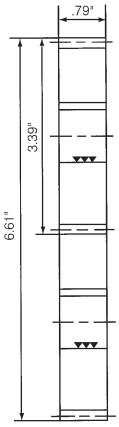
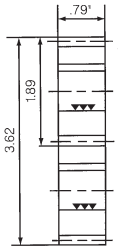
Maintenance Free
High-quality synthetic grease is used in all Brother gearboxes. They are filled at the factory and do not require maintenance filling or level checks. This saves valuable time at set-up and eliminates concern for costly oil disposal required by the EPA!

Mounting in Any Direction
Brother gearboxes are sealed with machine "slip" fit "O" rings and double lip spring shaft seals on both the motor input shaft and output drive shaft. Thus, they can be mounted in any conceivable direction without concern for the position of a breather plug.



Brother Helical Gearing
As the world's largest fine pitch gear manufacturer, Brother provides all Helical gearing for in-line designs. Gears are made of chromium molybdenum steel that has undergone precision carbonitriding. Brother Helical gears out-perform spur gears by a great margin as shown in the chart below. Most of our competition use a combination of Spur/Helical.

Spur vs. Helical Gear Comparison

Condition	Same Load Rating, 1800 RPM Speed Ration 1:1 Based on Bending Moment Strength		
Gear Type	Spur Gear	Spur Gear	Helical Gear
Material	S-45C	S45C	SCM415
Hardness/ Heat Treatment	None (typical for Spur type gear)	HRC 50	HRC 60
Helix Angle	0	0	15°
Size Ratios			 Diagrams and size comparisons reveal that a Spur type gear must be significantly larger to have the same load capacity as the Helical gear.
Size Comparison	113% Larger	82% Larger	Reference

Design Standards

Brother gearmotors and reducers are designed to run quiet and maintenance free with a high degree of reliability. Ratings are based on the following criteria.

1. 10 Hours per day continuous operation (AGMA 1.0 service factor).
2. Uniform to moderate impact loading (AGMA 1.0 service factor).
3. Ambient temperature 14 to 104 F (-10 to 40 C).
4. Ambient humidity 85%.
5. Maximum altitude 3280 feet (1000 m).
6. The environment should be free of corrosive or flammable gas, water vapor, and condensation. The product should be installed indoors in a location where there is good ventilation and is free of excessive dust and dirt.
7. Load inertia (GD_L) not to exceed allowable value. Consult Brother for high inertia applications.
8. Starts and stops not to exceed allowable frequency.
9. Overhung load (OHL) not to exceed allowable value.
10. Load torque (T_L) not to exceed allowable value.

If conditions exist that go beyond these core criteria, design life may be reduced.

Mini Series AC Gearmotors

Mini G

Gearing: 100% Hardened steel helical gearing
Helical gearing runs quieter and provides greater torque and shock load capacity than competitive spur/helical selectively hardened combinations.

Bearings: Ball (Output shaft ball/sleeve comb.)
Premium ball bearings provide quiet efficient torque transfer and overhung load capacity.

Lubricant: High-grade synthetic grease
Synthetic grease provides extended lubrication life over a wide temperature range. The viscosity resists leakage and does not require breather holes.

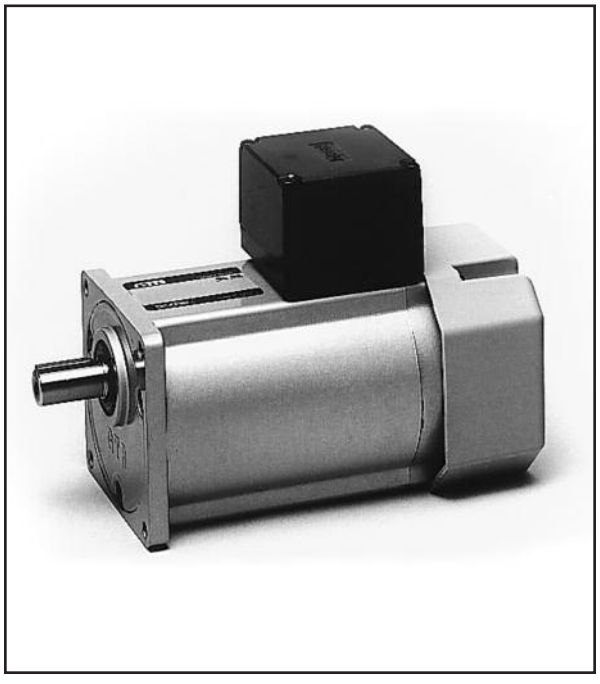
Shaft seals: NBR Rubber, lip type spring loaded
Provides a good seal over a wide range of operating temperatures.

Housing seals: Machine "slip-fit" O ring
O-ring seals provide a longer and more reliable housing seal compared to competitive gasket sealed housings.

Mounting: Universal mounting in any position and at any angle!
The combination of synthetic grease, NBR shaft seals, O ring housing seals, and the lack of breather holes allows for fast, safe mounting in any position.

Housing: Die cast aluminum
Aluminum is light weight, corrosion resistant, and provides good heat dissipation, strength and durability.

UL/CSA File Numbers
Single phase E153713, Three phase E172017
Thermal Protector: Auto-reset (1 ph units only).



Mini H ▲

Gearing: 100% Hardened steel Hypoid/Helical gearing
Hypoid gearing is up to 80% more efficient than competitive worm gears. The Brother all steel Hypoid/Helical combination has much better wear properties than softer bronze worm gearing. Brother Hypoid gearmotors last longer! Hypoid gearing runs cooler than worm gears.

Bearings: Premium
Premium ball bearings provide quiet efficient torque transfer and high overhung load capacity.

Lubricant: High-grade synthetic
Synthetic grease provides extended lubrication life over a wide range. The viscosity resists leakage and does not require breather holes. Brother Hypoid gearmotors do not leak!

Shaft seals: NBR Rubber, lip type spring loaded
Provides a good seal over a wide range of operating temperatures.

Housing seals: Machine "slip-fit" O ring
O-ring seals provide a longer and more reliable housing seal compared competitive gasket sealed housings.

Mounting: Universal mounting in any position and at any angle!
The combination of synthetic grease, NBR shaft seals, O ring housing seals, and the lack of breather holes allows for fast, safe mounting in any position.

Housing: Die cast aluminum
Aluminum is light weight, corrosion resistant, and provides good heat dissipation, strength and durability.

UL/CSA File Numbers
Single phase E153713, Three phase E172017
Thermal Protector: Auto-reset (1 ph units only).

Mini F2

Gearing: 100% Hardened steel Hypoid/Helical gearing
Hypoid gearing is up to 80% more efficient than competitive worm gears. The Brother all steel Hypoid/Helical combination has much better wear properties than softer bronze worm gearing. Brother Hypoid gearmotors last longer! Hypoid gearing runs cooler than worm gears.

Bearings: Premium
Premium ball bearings provide quiet efficient torque transfer and high overhung load capacity.

Lubricant: High-grade synthetic
Synthetic grease provides extended lubrication life over a wide range. The viscosity resists leakage and does not require breather holes. Brother Hypoid gearmotors do not leak!

Shaft seals: NBR Rubber, lip type spring loaded
Provides a good seal over a wide range of operating temperatures.

Housing seals: Machine "slip-fit" O ring
O-ring seals provide a longer and more reliable housing seal compared competitive gasket sealed housings.

Mounting: Universal mounting in any position and at any angle!
The combination of synthetic grease, NBR shaft seals, O ring housing seals, and the lack of breather holes allows for fast, safe mounting in any position.

Housing: Die cast aluminum
Aluminum is light weight, corrosion resistant, and provides good heat dissipation, strength and durability.

UL/CSA File Numbers
Single phase E153713, Three phase E172017
Thermal Protector: Auto-reset (1 ph units only).

IP-65 Washdown Mini G

Gearing: 100% Hardened steel helical gearing
Helical gearing runs quieter and provides greater torque and shock load capacity than competitive spur/helical selectively hardened combinations.

Bearings: Ball (Output shaft ball/sleeve comb.)
Premium ball bearings provide quiet efficient torque transfer and overhung load capacity.

Lubricant: High-grade synthetic grease
Synthetic grease provides extended lubrication life over a wide temperature range. The viscosity resists leakage and does not require breather holes.

Shaft seals: NBR Rubber, lip type spring loaded
Provides a good seal over a wide range of operating temperatures.

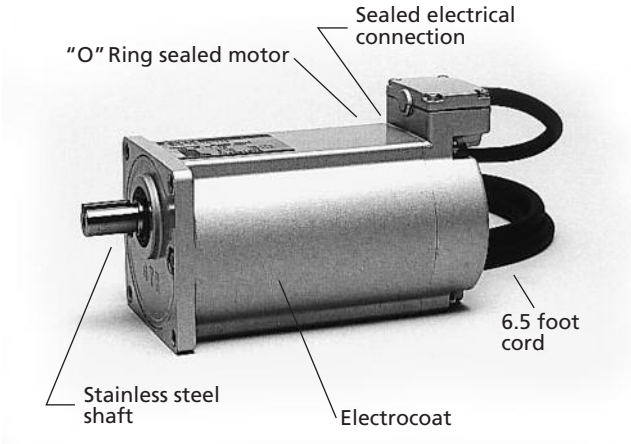
Housing seals: Machine "slip-fit" O ring
O-ring seals provide a longer and more reliable housing seal compared to competitive gasket sealed housings.

Mounting: Universal mounting in any position and at any angle!
The combination of synthetic grease, NBR shaft seals, O ring housing seals, and the lack of breather holes allows for fast, safe mounting in any position.

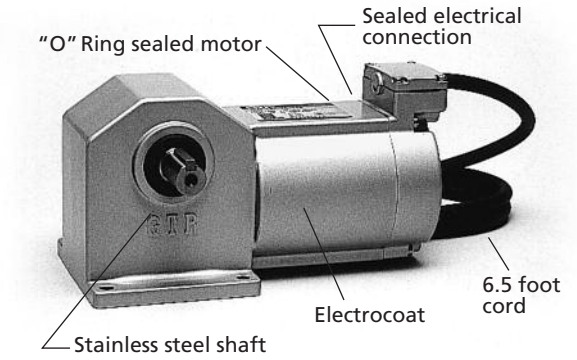
Housing: Sealed to meet an IP-65 rating
These units feature stainless steel hardware, O-ring sealed gear housing and motor shield. The IP-65 rating means that these units are protected against dust and jets of water, from all directions. The factory sealed 6.5 foot cord provides flexibility in connection, without the concern of proper sealing at installation.

▼

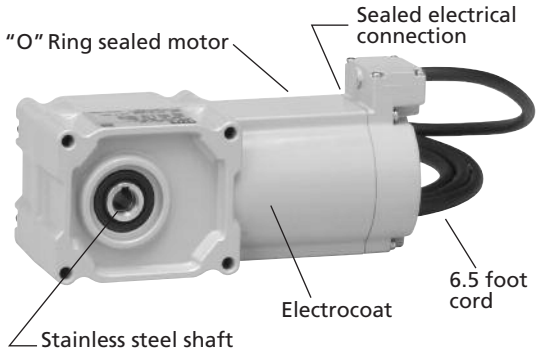
IP-65 Washdown Mini G



IP-65 Washdown Mini H



IP-65 Washdown Mini F2



IP-65 Washdown Mini H, F2 ▲

Gearing: 100% Hardened steel Hypoid/Helical gearing
Hypoid gearing is up to 80% more efficient than competitive worm gears. The Brother all steel Hypoid/Helical combination has much better wear properties than softer bronze worm gearing. Brother Hypoid gearmotors last longer! Hypoid gearing runs cooler than worm gears.

Bearings: Premium
Premium ball bearings provide quiet efficient torque transfer and high overhung load capacity

Lubricant: High-grade synthetic
Synthetic grease provides extended lubrication life over a wide range. The viscosity resists leakage and does not require breather holes. Brother Hypoid gearmotors do not leak!

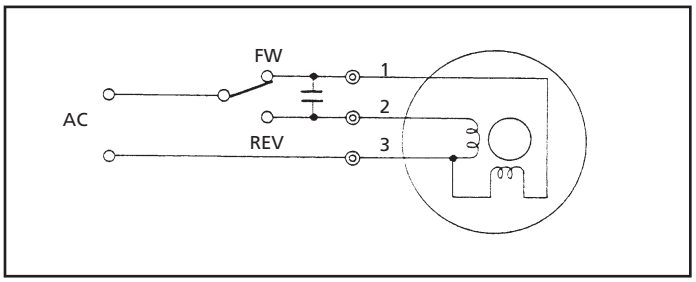
Shaft seals: NBR Rubber, lip type spring loaded
Provides a good seal over a wide range of operating temperatures.

Housing seals: Machine "slip-fit" O ring
O-ring seals provide a longer and more reliable housing seal compared competitive gasket sealed housings.

Mounting: Universal mounting in any position and at any angle!
The combination of synthetic grease, NBR shaft seals, O ring housing seals, and the lack of breather holes allows for fast, safe mounting in any position

Housing: Sealed to meet an IP-65 rating
These units feature stainless steel hardware, O-ring sealed gear housing and motor shield. The IP-65 rating means that these units are protected against dust and jets of water, from all directions. The factory sealed 6.5 foot cord provides flexibility in connection, without the concern of proper sealing at installation.

Fig 1.1: 1/50~1/6 Hp 1 Phase Wiring



Wire	Color Code 115V	Color Code 220V, 230V
1	Blue	Brown
2	Black	Black
3	Grey	Grey

Fig 1.2 UL/CSA/CE/RoHS

Voltage	Horsepower	UL/cUL File No.	RoHS	CE Details
Three Phase	1/50~1/6 Hp	E172017	Yes	Low Voltage Directive 73/23/EEC EN Standards: EN60034-1 (Regulations on motors in general)
Single Phase	1/50~1/6 Hp	E153713	Yes	

Notes:

1. Motors in File E172017 comply to UL1004 Standard for Safety Electric Motors.
2. Motors in UL File E153713 comply to UL2111 Overheating Protection for Motors.
3. Products bear the UL component recognition marking for UL and cUL (CSA).
4. Products with the cUL marking comply with CSA standards and can be legally sold in Canada.
5. Products bear the CE marking on the namplate.

Table 1.1: Single Phase 1/50~1/6 Hp Motors

Hp	G Frame	H Fame	F2 Frame	Cooling	Voltage V	Full Load (RPM)	Full Load Current (A)	Motor Torque (in-lb)	Start Torque (in-lb)	Starts per Minute	Capacitor	
						nmotor	Imotor	Tmotor	Tstart		mFd	Volts
1/50 Hp	12 22	15 22	12	TENV	115 220 230	1690 1680 1690	0.33 0.14 0.15	0.71	0.48 0.62 0.69	10	4 1 1	220 440 440
1/30 Hp	12 22	15 22	12	TENV	115 220 230	1630 1650 1650	0.44 0.23 0.20	1.17	0.76 0.87 0.76	10	5 1.5 1.2	220 440 440
	15 28	28	n/a	TENV	115 220 230	1650 1650 1650	0.45 0.23 0.21	1.17	0.82 1.15 0.83	10	5 1.5 1.2	220 440 440
1/20 Hp	15 28 32	18 28 32	15	TENV	115 220 230	1670 1640 1660	0.60 0.31 0.31	1.88	1.60 1.35 1.53	10	8 2 2	220 440 440
	18	n/a	n/a	TENV	115 220 230	1740 1730 1730	0.62 0.32 0.28	1.88	1.32 1.13 1.22	10	8 2 2	220 440 440
1/15 Hp	15 28 32	18 28 32	15	TEFC	115 220 230	1650 1660 1670	0.90 0.43 0.43	2.81	2.11 2.08 2.34	10	12 3 3	220 440 440
	18	n/a	n/a	TEFC	115 220 230	1700 1700 1700	0.87 0.45 0.45	2.81	1.97 1.91 1.91	10	12 3 3	220 440 440
1/10 Hp	15 28 32	18 28 32	15	TEFC	115 220 230	1600 1630 1640	1.20 0.62 0.62	4.23	2.96 2.78 2.78	10	15 3.5 3.5	220 440 440
	18 40	40	n/a	TEFC	115 220 230	1700 1680 1680	1.40 0.70 0.75	4.23	3.38 2.43 2.69	10	20 5 5	220 440 440
1/6 Hp	18	n/a	n/a	TEFC	115 220 230	1700 1700 1710	1.70 0.85 0.85	5.63	3.83 3.65 3.65	10	24 6 6	220 440 440

Table 1.2: Capacitors for 115V 1 Phase Motors

Part No.	mFd	Volts*	W	h	t	d	l
C4.0M220V	4	220V	1.22	1.06	0.67	1.06	0.18
C5.0M220V	5	220V	1.22	1.06	0.67	1.06	0.18
C8.0M220V	8	220V	1.50	1.14	0.75	1.14	0.18
C12M220V	12	220V	1.89	1.14	0.75	1.14	0.18
C15M220V	15	220V	2.28	1.22	0.83	1.22	0.18
C20M220V	20	220V	2.28	1.38	0.87	1.26	0.18
C24M220V	24	220V	2.28	1.46	0.93	1.52	0.28

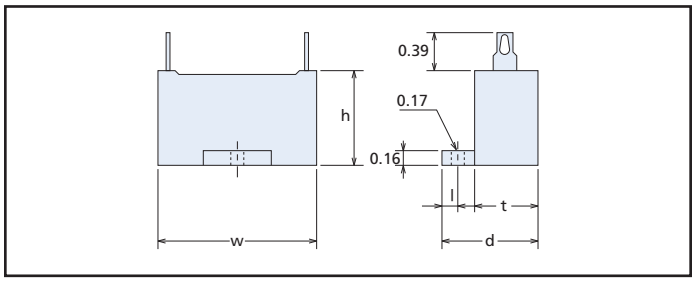
* 220V Capacitors are for operation with 115V Motors

Table 1.3: Capacitors for 220/230V 1 Phase Motors

Part No.	mFd	Volts*	W	h	t	d	l
C1.0M440V	1	440V	1.22	1.06	0.67	1.06	0.18
C1.2M440V	1.2	440V	1.46	1.06	0.71	1.10	0.18
C1.5M440V	1.5	440V	1.50	1.22	0.83	1.22	0.18
C2.0M440V	2	440V	1.89	1.14	0.75	1.14	0.18
C3.0M440V	3	440V	2.28	1.22	0.83	1.22	0.18
C3.5M440V	3.5	440V	2.28	1.22	0.83	1.22	0.18
C5.0M440V	5	440V	2.28	1.46	0.93	1.52	0.28
C6.0M440V	6	440V	2.28	1.61	1.14	1.73	0.28

* 440V Capacitors are for operation with 220V or 230V motors.

Fig 1.3: Capacitor Dimensional Drawing



Note : Capacitors are shipped with single phase motors.
They do not need to be ordered separately with gearmotors.
The part numbers are for spare parts orders only.

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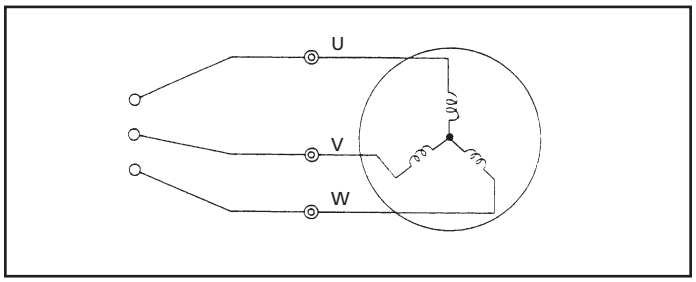
Fig 1.4: 1/50~1/6 Hp 3 Phase Wiring



Wire	Color Code 208/230V	460V
U	Black	Black
V	Grey	Brown
W	White	White

Table 1.4: Three Phase 1/50~1/6 Hp Motors

Hp	G Frame	H Fame	F2 Frame	Cooling	Voltage V	Full Load (RPM) nmotor	Full Load Current (A) Imotor	Motor Torque (in-lb) Tmotor	Start Torque (in-lb) Tstart	Starts per Minute
1/50 Hp	12 22	15 22	12	TENV	208 230 460	1610 1650 1700	0.13 0.13 0.12	0.71	1.58 2.03 3.99	10
1/30 Hp	12 22	15 22	12	TENV	208 230 460	1580 1630 1650	0.19 0.19 0.12	1.17	2.52 3.22 3.74	10
	15 28	28	n/a	TENV	208 230 460	1550 1610 1600	0.17 0.17 0.09	1.17	2.63 3.33 3.22	10
1/20 Hp	15 28 32	18 28 32	15	TENV	208 230 460	1560 1610 1650	0.26 0.28 0.14	1.88	5.17 6.20 5.64	10
	18	n/a	n/a	TENV	208 230 460	1620 1660 1650	0.21 0.19 0.10	1.88	4.51 5.45 4.89	10
1/15 Hp	15 28 32	18 28 32	15	TENV	208 230 460	1560 1610 1600	0.36 0.38 0.17	2.81	7.30 9.70 7.36	10
	18	n/a	n/a	TENV	208 230 460	1640 1670 1650	0.31 0.31 0.16	2.81	6.88 8.46 7.13	10
1/10 Hp	15 28 32	18 28 32	15	TEFC	208 230 460	1550 1610 1600	0.48 0.50 0.26	4.23	10.74 13.28 12.06	10
	18 40	40	n/a	TENV	208 230 460	1670 1690 1650	0.47 0.46 0.24	4.23	9.90 12.10 10.70	10
1/6 Hp	18	n/a	n/a	TEFC	208 230 460	1600 1650 1650	0.64 0.61 0.31	5.63	11.94 16.89 17.73	10

Note : IP-65 Models cannot be made 460V

Fig 1.5 Three Phase Special Voltages 1/50~ 1/6 Hp

Voltage	Frequency (Hz)	UL/CSA	CE
230	50	No	Yes
240	50		
360	50		
400/400/440	50/60/60		
415	50		
420	50		
440	50		
220	50	Yes	
200/200/220	50/60/60		
380/400/400/440	50/50/60/60		No
380	60		
240	60		

Note: When selecting any of the above voltages:
Use special voltage code "8" in the part number
Specifiy the voltage/frequency rating on your P.O.
Note: IP-65 models cannot be made in 380~460V

Fig 1.6 Single Phase Special Voltages 1/50~ 1/6 Hp

Voltage	Frequency (Hz)	UL/CSA	CE
120	60	Yes	No
220	60		
230	60		
240	60		
100/100	50/60		
200/200	50/60		
110	50	No	
115	50		
120	50		
220	50		
230	50		
240	50		

Note: When selecting any of the above voltages:
Use special voltage code "7" in the part number
Specifiy the voltage/frequency rating on your P.O.

Tabe 1.5: Standard Brake Specifications

Specification	1/50 Hp	1/30 Hp	1/20 Hp	1/15 Hp	1/10 Hp	1/6 Hp	1/50 Hp	1/30 Hp	1/20 Hp	1/15 Hp	1/10 Hp	1/6 Hp
Brake Type	Power-off, Brake-on (Spring Close)											
Rated Torque (in-lb)	3.27				4.78		3.27				4.78	
Voltage	DC90V						DC45V					
Power (@ 75C)	12W						10W					
Current (@ 75C)	0.13A						0.25A					
Max Braking Frequency	10/min											

Fig 1.7: Standard Brake Structure

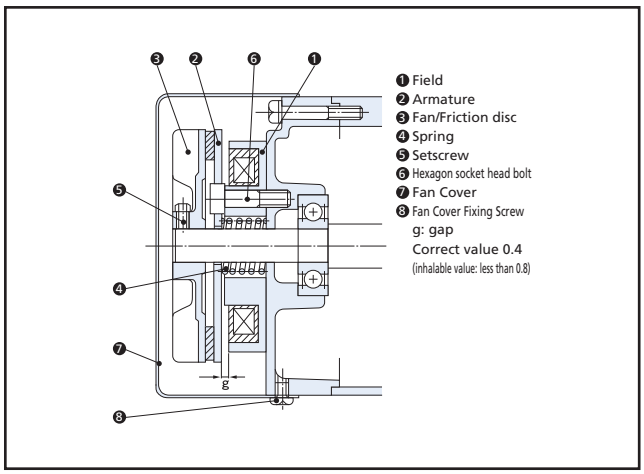


Table 1.6: IP-65 Brake Specifications

Phase: Voltage	3 Ph: 208/230V		1 Ph: 220,230V		1 Ph: 115V	
Horsepower	1/50Hp 1/30 Hp	1/30 Hp 1/20 Hp 1/15 Hp 1/10 Hp	1/50Hp 1/30 Hp	1/30 Hp 1/20 Hp 1/15 Hp 1/10 Hp	1/50Hp 1/30 Hp	1/30 Hp 1/20 Hp 1/15 Hp 1/10 Hp
Specification	G-12 H-15 F2-12	G-15, G-18 H-18 F2-15	G-12 H-15 F2-12	G-15, G-18 H-18 F2-15	G-12 H-15 F2-12	G-15, G-18 H-18 F2-15
Brake Type	Power-off, Brake-on (Spring Close)					
Rated Torque (in-lb)	2.83	6.37	2.83	6.37	2.83	6.37
Voltage	DC90V				DC45V	
Power (@ 75C)	5.6W	6.5W	5.6W	6.5W	5.1W	6.4W
Current (@ 75C)	0.06A	0.07A	0.06A	0.07A	0.12A	0.14A
Max Braking Frequency	10/min					

Fig 1.7: Standard Brake Structure

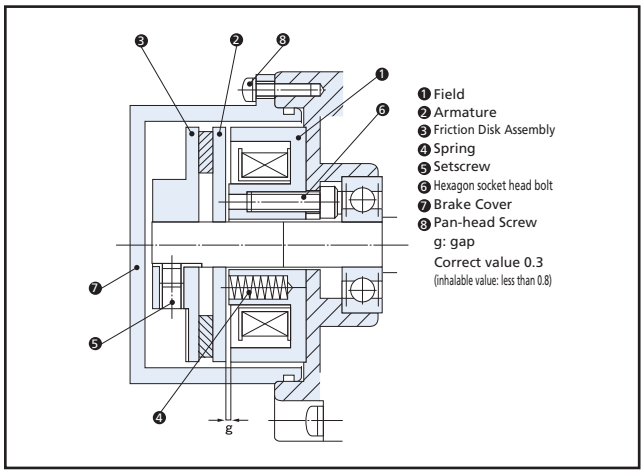
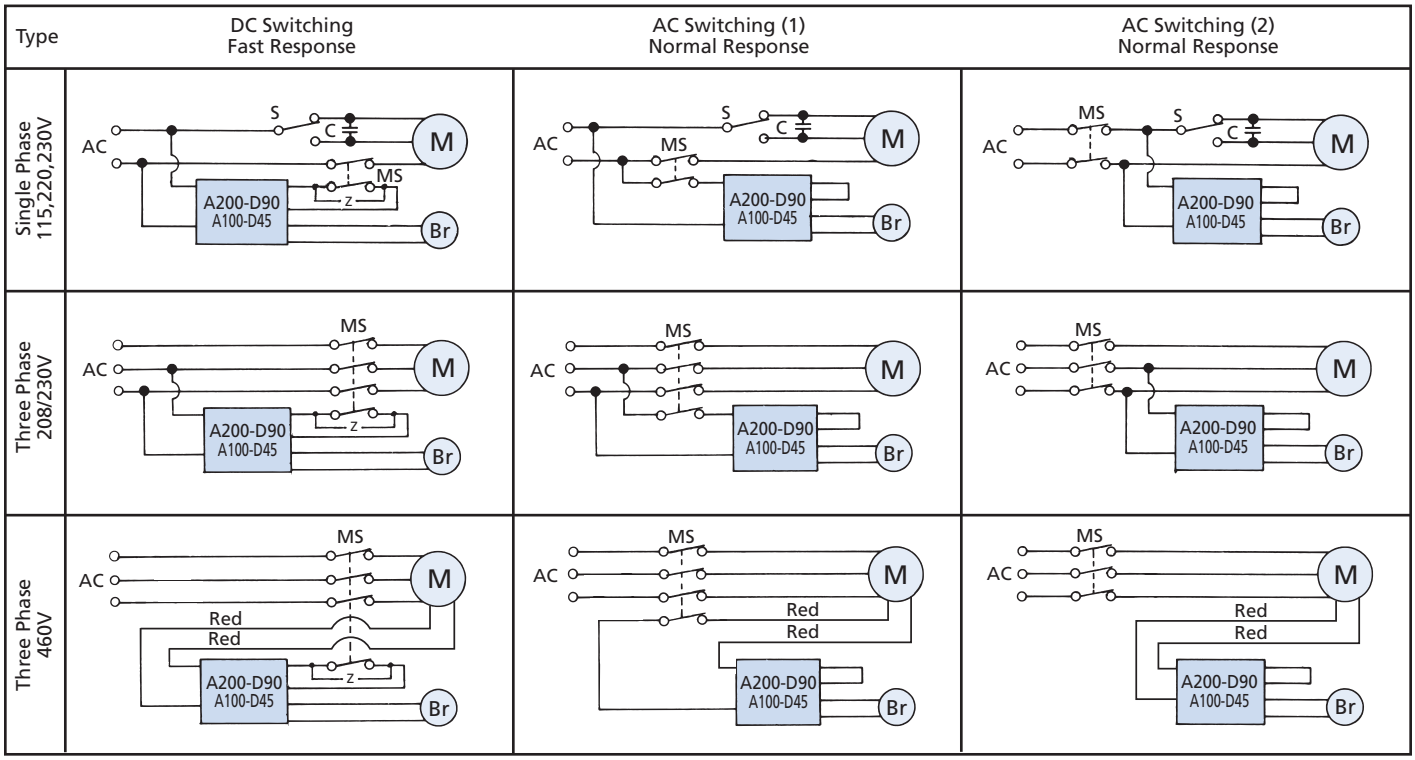
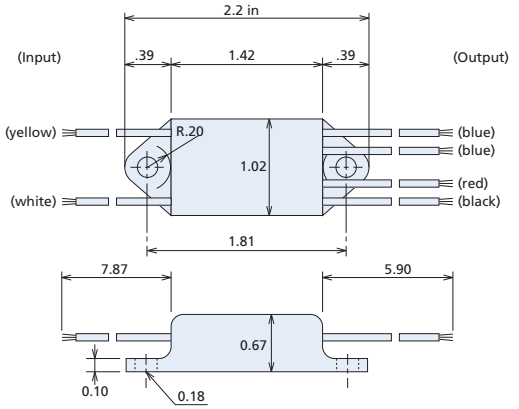


Fig 1.9: Brake Wiring without Inverter (VFD)



M: Motor Br: Brake S: Reversing switch C: Capacitor MS: Magnetic switch Z: R-C circuit (OP-CRM-2)
For Wiring a brake equipped gearmotor with an Inverter (VFD), please see page 15.

Fig 1.10: Rectifier Dimensions



Dimensions of A200-D90 Input Voltage: 200-220VAC / Output: 90VDC
(A100-D45) (Input Voltage: 100-110VAC / Output: 45VDC)

Alternate Rectifier (Same Dimensions)
A100-D90 Input Voltage: 100~120V
Output Voltage: 90VDC

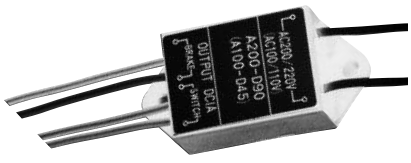
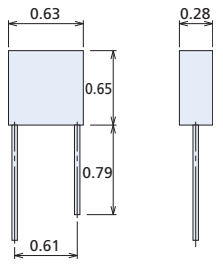
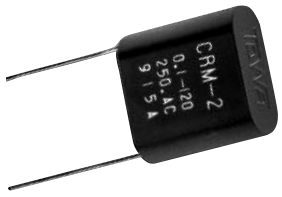


Fig 1.11: Snubber Dimensions (OP-CRM-2)



(Z) OP-CRM-2
(120 Ohm-0.1 mFd)
R-C Circuit Dimensions



Note:

1. The rectifier is shipped with the brakemotor as an accessory. It must be mounted remotely in a panel or box. It may not fit in the terminal box supplied on the gearmotor.
2. The OP-CRM-2 is an optional part. Please order it separately if it is required.

Table 1.7: C Box and A Box Dimensions

Dimension		M2 (From Motor Center)		M3 (Both "C" and "A" Box) (From End of Motor)			Box Rotation
Type	Frame	"C" Box	"A" Box	TENV	TEFC	Brakemotor	(1)(2)
BG	12	3.52	3.85	1.67	3.17	3.17	180°
	15	3.80	4.13	1.67	3.11	3.11	
	18	4.11	4.44	1.67	3.13	3.13	
	22	3.52	3.85	1.67	3.17	3.17	
	28	3.80	4.13	1.67	3.11	3.11	
	32	3.80	4.13	1.67	3.11	3.11	
BH	15	3.52	3.85	1.67	3.17	3.17	180°
	18	3.80	4.13	1.67	3.11	3.11	
	22	3.52	3.85	1.67	3.17	3.17	
	28	3.80	4.13	1.67	3.11	3.11	
	32	3.80	4.13	1.67	3.11	3.11	
	40	4.11	4.44	1.67	3.13	3.13	
BF2	12	3.52	3.85	1.67	3.17	3.17	180°
	15	3.80	4.13	1.67	3.11	3.11	

(1) Rotation is around motor centerline. Also see Fig. 2.11.
(2) The box cannot be repositioned in the field. It must be done at the factory by stator insertion.

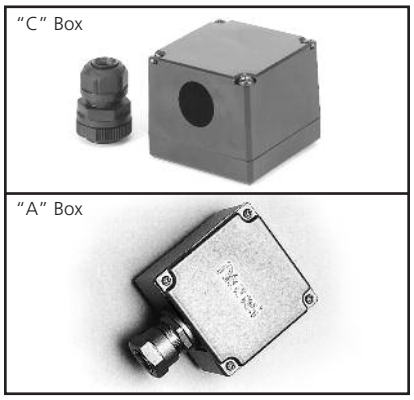


Fig 1.12: C Box Dimensions

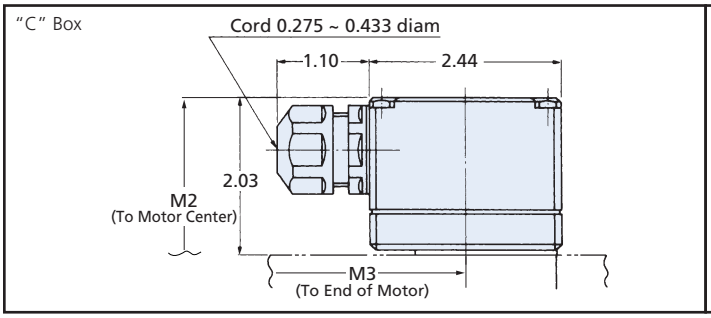


Fig 1.13: A Box Dimensions

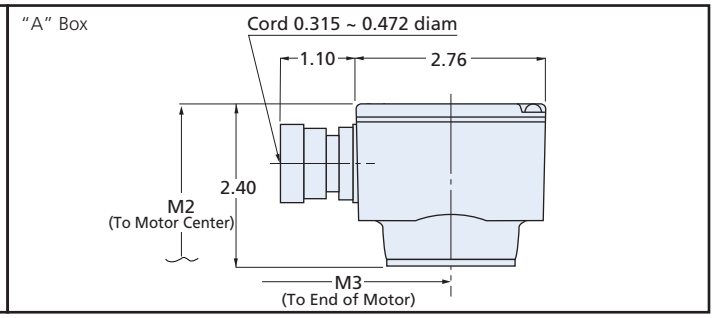


Fig 1.14: G, H Mini Lead Exit Options, Standard Motors

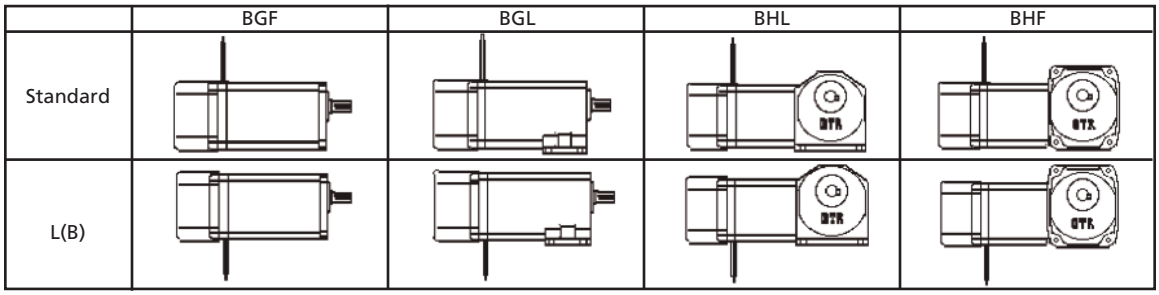


Fig 1.15: G, H Mini Terminal Box Position Options, Standard Motors

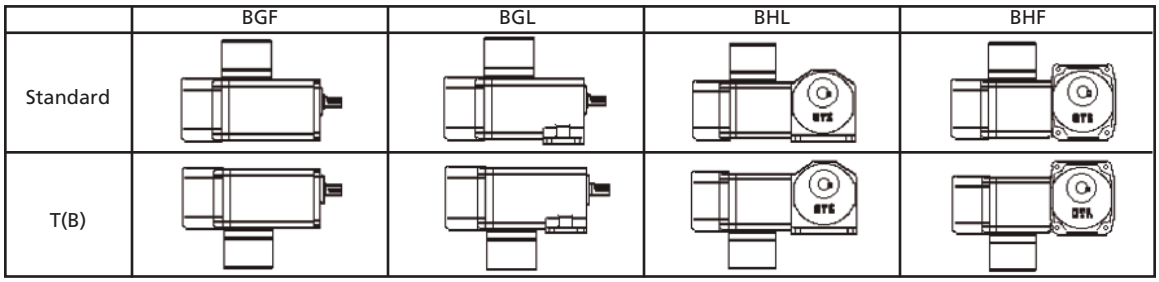
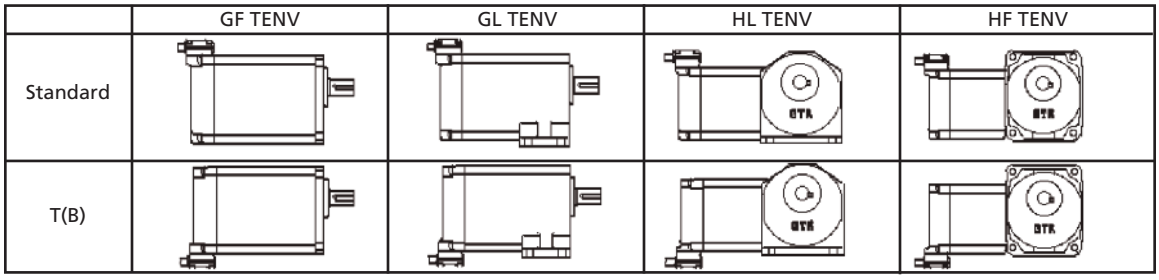


Fig 1.16: G, H Mini Cord Position Options, IP-65 Motors



Please specify on your order if you require the terminal box or lead wires in the T(B) or L(B) position.

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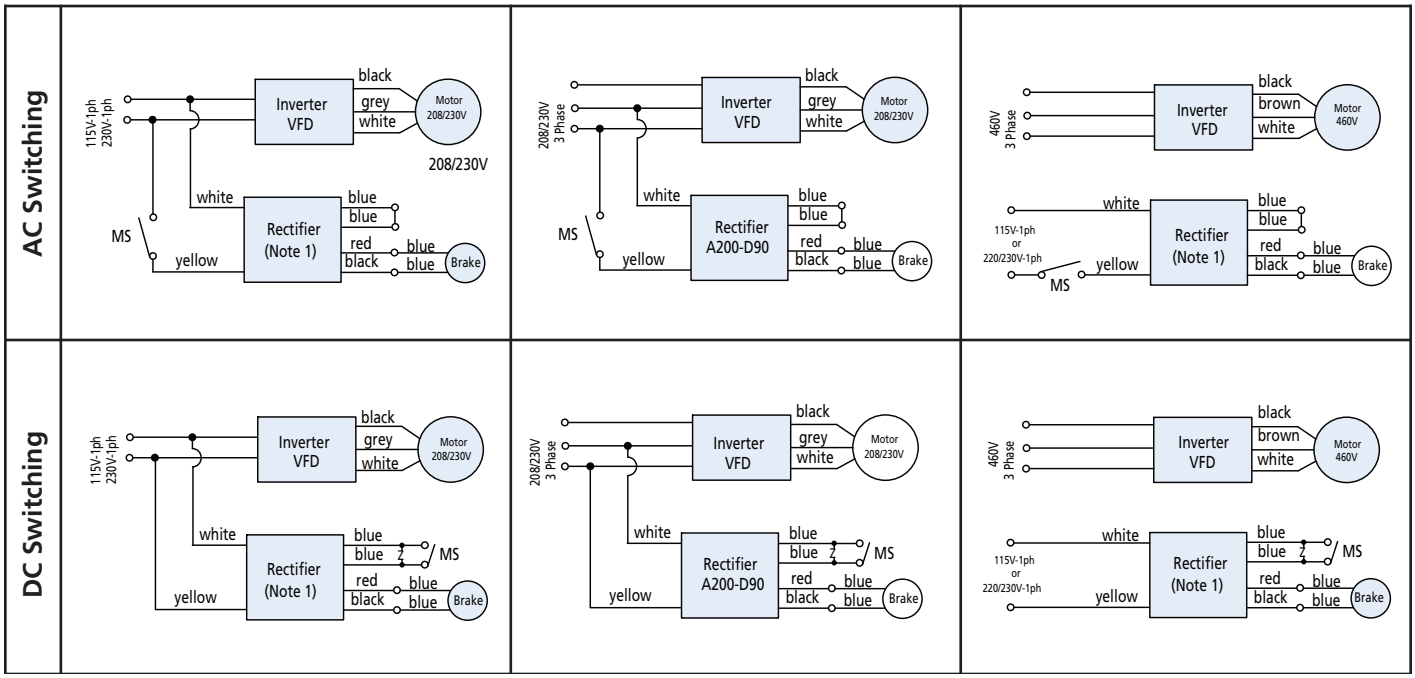
Fig 1.17A: VFD Wiring 115V 1 Phase 220/230V 1 Phase

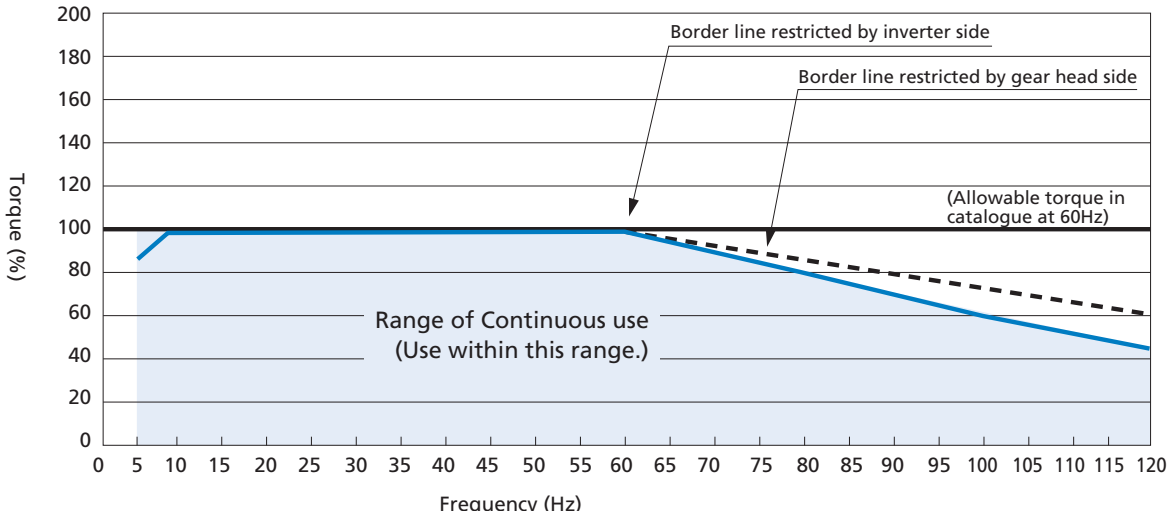
Fig 1.17B: VFD Wiring 208/230V 3 Phase

Fig 1.17C: VFD Wiring 460V



Note: If the input power is 115V 1 phase, use Rectifier A100-D90. If the input power is 220/230V 1 phase, use rectifier A200-D90. (Input power to the brake is 90vdc)
MS: Magnetic Switch (not supplied by Brother) Z : Surge Suppressor. Optional Part OP-ENE471D-10A

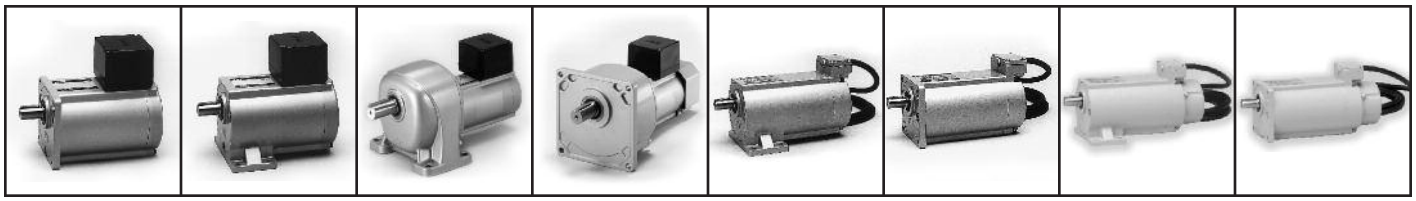
Fig 1.18 Speed/Torque with a VFD (1/50, 1/30, 1/20, 1/15, 1/10, and 1/6 Hp)



Cautionary Notes for Use with a VFD:

1. In applications requiring operation above 60 hz, vibration and noise will increase. The life of the oil seal will also be reduced due to increased circumferential velocity.
2. In low speed operations the effect of the cooling fan decreases. Be sure to check the motor temperature rise remains below allowable limits. The surface temperature of the motor should not exceed 176°F (80°C).
3. The torque characteristics of the motor differ according to the VFD brand and type used. The above speed/torque curves were generated using a commercially available Volts/Hertz VFD. You should test the brand you use to confirm the performance.
4. When using a brake equipped motor, be sure to bypass the VFD and power the rectifier on the input side. Powering the rectifier using the output wires from the VFD to the motor will result in motor and/or brake failure.
5. When operating a VFD at 400~480V a repetitive surge voltage may arise and weaken the insulation of the motor causing premature failure. There are two ways to supress surge voltage…
   A. **Output Reactor:** may be effective if the lead wires are reletively short. Install it on the inverter output side.
   B. **Output Filter:** install it near the inverter output side.

The remedies A and B may be effective. However, we recommend you consult the inverter manufacturer for more detailed recommendations as the inverter settings, lead length, etc effect the recommendation.



Spec Table 1.0

Specifications						Dimensional Drawing													
						Motor				Brakemotor				Motor IP-65				Brakemotor IP-65			
						Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/50	12	5	360	3	22	Dwg 1.2 A	Dwg 1.0 A	Dwg 1.2 A	Dwg 1.0 A	Dwg 1.2 A2	Dwg 1.0 A2	Dwg 1.2 A2	Dwg 1.0 A2	Dwg 1.5 A	Dwg 1.4 A	Dwg 1.5 A	Dwg 1.4 A	Dwg 1.5 A2	Dwg 1.4 A2	Dwg 1.5 A	Dwg 1.4 A
		7.5	240	4	44																
		10	180	6	55																
		15	120	9	77																
		20	90	12	99																
		25	72	14	110																
		30	60	17	121																
		40	45	23	132																
		50	36	29	143																
		60	30	35	154																
		80	23	44	165																
		100	18	55	165																
		120	15	66	176																
		160	11	88	176																
		200	9	110	176																
		240	7.5	132	176																
	22	300	6	148	397	Dwg 1.3 A	Dwg 1.1 A	Dwg 1.3 A	Dwg 1.1 A	Dwg 1.3 A2	Dwg 1.1 A2	Dwg 1.3 A2	Dwg 1.1 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		375	4.8	185	397																
		450	4	222	397																
		600	3	296	397																
		750	2.4	370	397																
		900	2	445	397																
		1200	1.5	593	397																
		1500	1.2	741	397																
		1800	1	868	397																

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.

Model Number for Ordering

G	L	12	N	101	–	B	M	LC	1	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
G: G Series	L: Foot Mount F: Flange Mount (5:1~240:1) K: Flange Mount (300:1~1800:1)	12 22	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	LC: 1/50 Hp (15w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

Notes:

1. Lead Wire Location: specify the code from Fig 1.14 , Page 14 on your purchase order.
2. Terminal Box Location: specify the code from Fig 1.15 Page 14 on your purchase order.
3. IP-65 Cord Location Location: specify the code from Fig 1.16 , Page 14 on your purchase order.
4. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
5. For any other special OEM requirement, please consult Brother.

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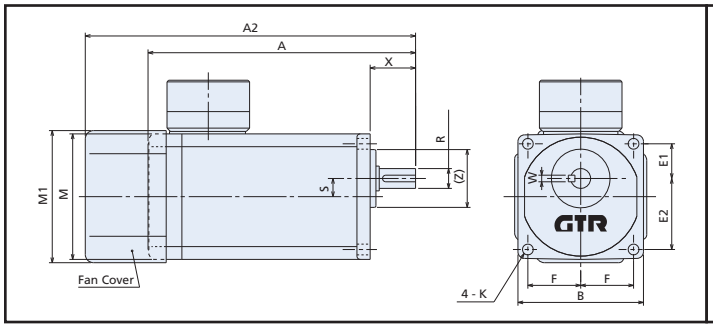
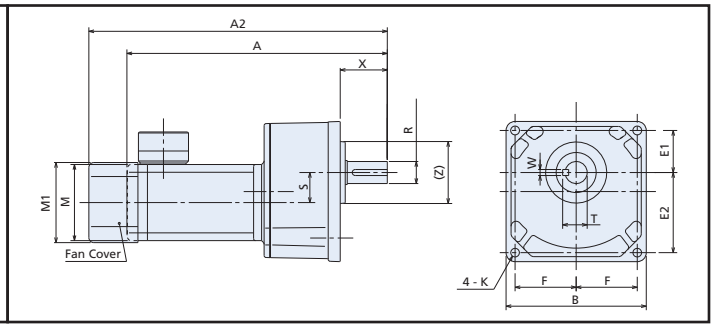
Frame	Drawing	A	A2	B	E1	E2	F	K	M	M1	S	Z	R	W	X	Wt (lb)
12	1.0	6.38	7.87	2.99	0.83	1.69	1.26	0.26	2.99	3.15	0.43	1.4	0.5000	0.1250	1.08	4.5
22	1.1	10.24	11.73	5.51	1.65	3.15	2.4	0.34	2.99	3.15	1.18	2.48	0.8750	0.1875	1.85	11

Dwg 1.0

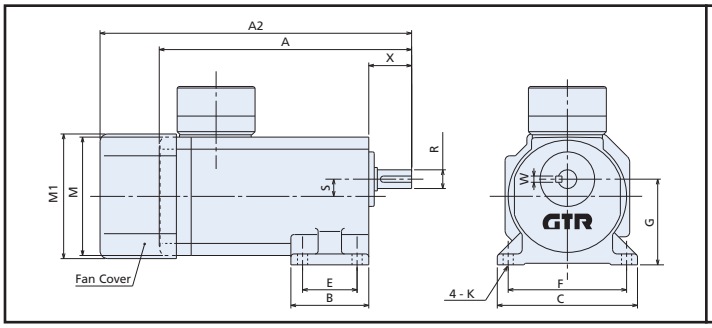


Dwg 1.1

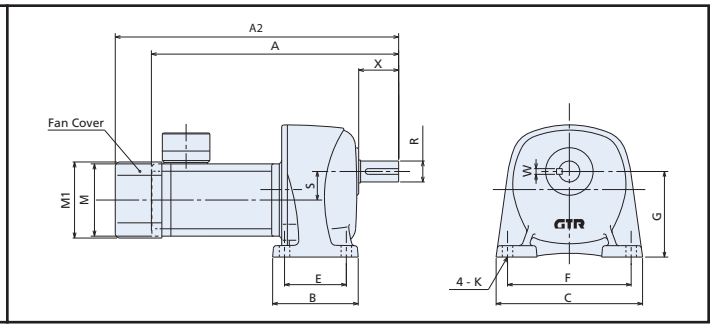


Frame	Drawing	A	A2	B	C	E	F	G	K	M	M1	S	R	W	X	Wt (lb)
12	1.2	6.38	7.87	1.97	3.54	1.38	2.99	2.17	0.26	2.99	3.15	0.43	0.5000	0.1250	1.08	4.5
22	1.3	10.24	11.73	3.54	6.06	2.56	5.12	3.54	0.43	2.99	3.15	1.18	0.8750	0.1875	1.85	11

Dwg 1.2



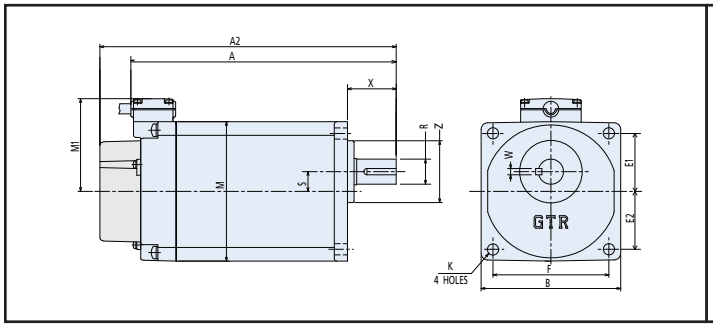
Dwg 1.3



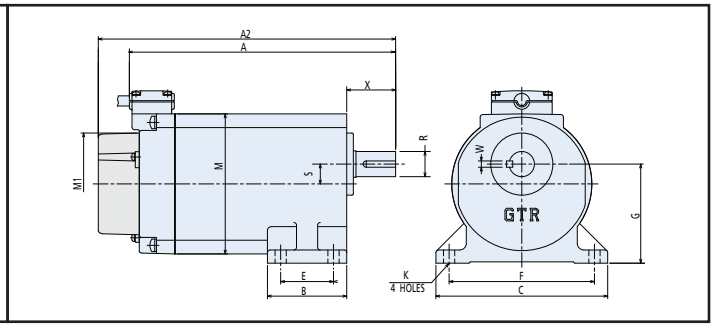
Frame	Drawing	A	A2	B	E1	E2	F	K	M	M1	S	Z	R	W	X	Wt (lb)
12	1.4	6.93	7.80	2.99	0.83	1.69	2.52	0.26	2.99	2.28	0.43	1.4	0.5000	0.1250	1.08	4.5

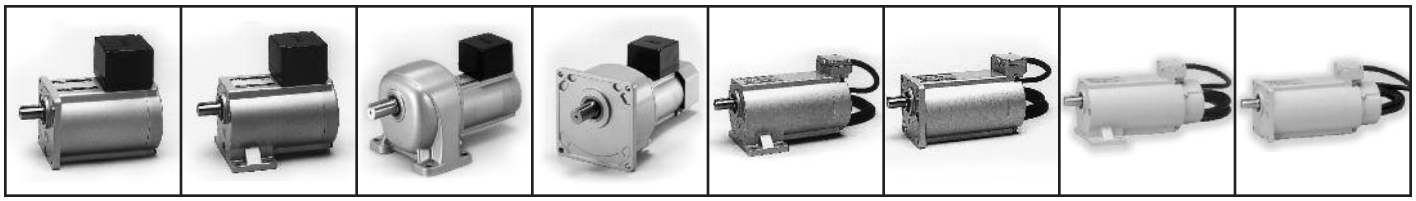
Frame	Drawing	A	A2	B	C	E	F	G	K	M	M1	S	R	W	X	Wt (lb)
12	1.5	6.93	7.80	1.97	3.54	1.38	2.99	2.17	0.26	2.99	2.28	0.43	0.5000	0.1250	1.08	4.5

Dwg 1.4



Dwg 1.5





Spec Table 1.1

Specifications						Dimensional Drawing															
						Motor				Brakemotor				Motor IP-65				Brakemotor IP-65			
						Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/30	12	5	360	5	22	Dwg 1.8 A	Dwg 1.6 A	Dwg 1.8 A	Dwg 1.6 A	Dwg 1.8 A2	Dwg 1.6 A2	Dwg 1.8 A2	Dwg 1.6 A2	Dwg 1.11 A	Dwg 1.10 A	Dwg 1.11 A	Dwg 1.10 A	Dwg 1.11 A2	Dwg 1.10 A2	Dwg 1.11 A2	Dwg 1.10 A2
		7.5	240	7	44																
		10	180	10	55																
		15	120	14	77																
		20	90	19	99																
		25	72	24	110																
		30	60	29	121																
		40	45	39	132																
		50	36	48	143																
		60	30	58	154																
		80	23	73	165																
		100	18	91	165																
		120	15	110	176																
	15	160	11	146	243	Dwg 1.8 A	Dwg 1.6 A	Dwg 1.8 A	Dwg 1.6 A	Dwg 1.8 A2	Dwg 1.6 A2	Dwg 1.8 A2	Dwg 1.6 A2	Dwg 1.11 A	Dwg 1.10 A	Dwg 1.11 A	Dwg 1.10 A	Dwg 1.11 A2	Dwg 1.10 A2	Dwg 1.11 A2	Dwg 1.10 A2
		200	9	183	243																
		240	7.5	220	243																
	22	300	6	247	397	Dwg 1.9 A	Dwg 1.7 A	Dwg 1.9 A	Dwg 1.7 A	Dwg 1.9 A2	Dwg 1.7 A2	Dwg 1.9 A2	Dwg 1.7 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		375	4.8	309	397																
		450	4	370	397																
		600	3	494	397																
		750	2.4	617	397																
		900	2	741	397																
	28	1200	1.5	988	617	Dwg 1.9 A	Dwg 1.7 A	Dwg 1.9 A	Dwg 1.7 A	Dwg 1.9 A2	Dwg 1.7 A2	Dwg 1.9 A2	Dwg 1.7 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		1500	1.2	1235	617																
		1800	1	1476	617																

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.

Model Number for Ordering

G	L	15	N	120	–	B	M	LD	2	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
G: G Series	L: Foot Mount F: Flange Mount (5:1~240:1) K: Flange Mount (300:1~1800:1)	12 15 22 28	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	Frame 12, 22 LD: 1/30 Hp (25w) Frame 15,28 RD: 1/30Hp (25w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

Notes:

1. Lead Wire Location: specify the code from Fig 1.14 , Page 14 on your purchase order.
2. Terminal Box Location: specify the code from Fig 1.15 Page 14 on your purchase order.
3. IP-65 Cord Location Location: specify the code from Fig 1.16 , Page 14 on your purchase order.
4. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
5. For any other special OEM requirement, please consult Brother.

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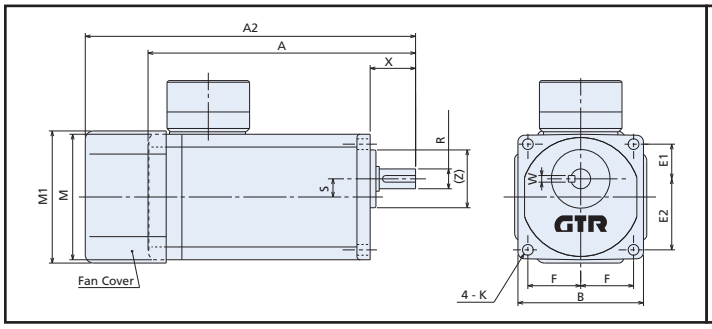
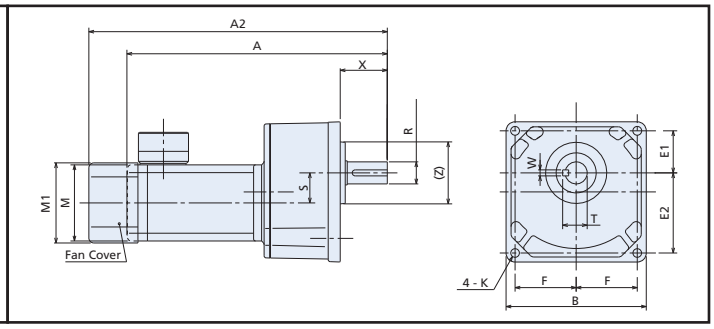
Frame	Drawing	A	A2	B	E1	E2	F	K	M	M1	S	Z	R	W	X	Wt (lb)
12	1.6	6.38	7.87	2.99	0.83	1.69	1.26	0.26	2.99	3.15	0.43	1.4	0.5000	0.1250	1.08	4.5
15	1.6	6.81	8.25	3.54	0.98	2.01	1.50	0.26	3.54	3.70	0.51	1.59	0.6250	0.1875	1.30	7
22	1.7	10.24	11.73	5.51	1.65	3.15	2.40	0.34	2.99	3.15	1.18	2.48	0.8750	0.1875	1.85	11
28	1.7	11.12	12.56	6.46	1.87	3.72	2.80	0.43	3.54	3.70	1.44	3.27	1.1250	0.2500	1.85	15.5

Dwg 1.6

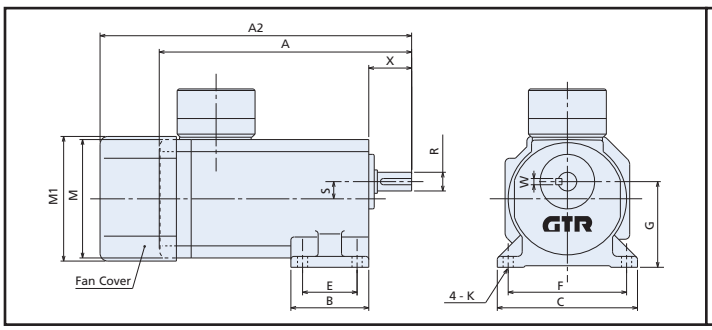


Dwg 1.7

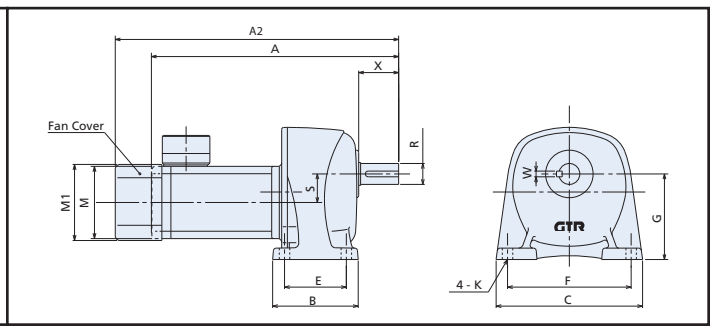


Frame	Drawing	A	A2	B	C	E	F	G	K	M	M1	S	R	W	X	Wt (lb)
12	1.8	6.38	7.87	1.97	3.54	1.38	2.99	2.17	0.26	2.99	3.15	0.43	0.5000	0.1250	1.08	4.5
15	1.8	6.81	8.25	2.20	4.09	1.57	3.54	2.56	0.26	3.54	3.70	0.51	0.6250	0.1875	1.30	7
22	1.9	10.24	11.73	3.54	6.06	2.56	5.12	3.54	0.43	2.99	3.15	1.18	0.8750	0.1875	1.85	11
28	1.9	11.20	12.56	4.92	6.89	3.54	5.51	4.33	0.43	3.54	3.70	1.44	1.1250	0.2500	1.85	15.5

Dwg 1.8



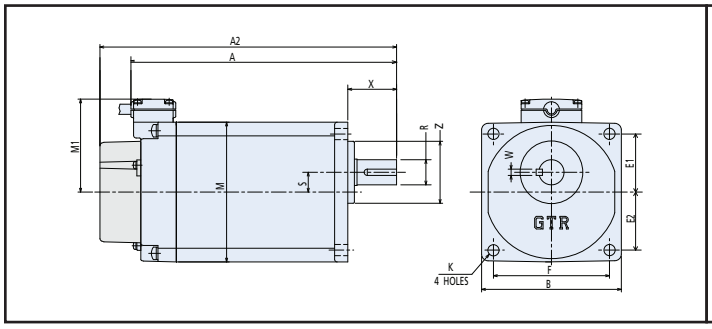
Dwg 1.9



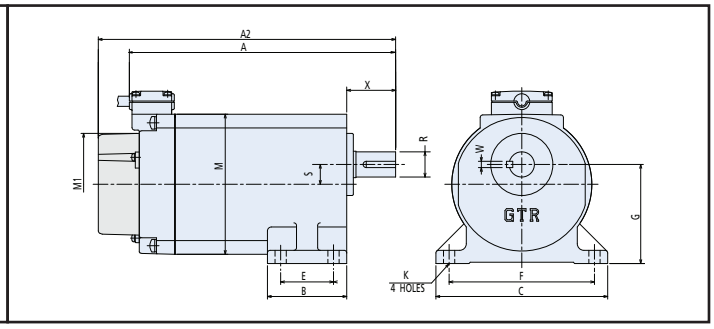
Frame	Drawing	A	A2	B	E1	E2	F	K	M	M1	S	Z	R	W	X	Wt (lb)
12	1.10	6.93	7.80	2.99	0.83	1.69	2.52	0.26	2.99	2.28	0.43	1.4	0.5000	0.1250	1.08	4.5
15	1.10	7.34	8.27	3.54	0.98	2.01	2.99	0.26	3.54	2.54	0.51	1.59	0.6250	0.1875	1.3	7

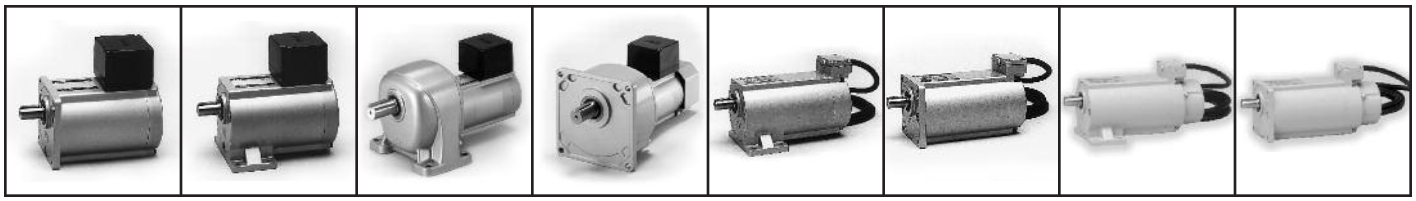
Frame	Drawing	A	A2	B	C	E	F	G	K	M	M1	S	R	W	X	Wt (lb)
12	1.11	6.93	7.80	1.97	3.54	1.38	2.99	2.17	0.26	2.99	2.28	0.43	0.5000	0.1250	1.08	4.5
15	1.11	7.34	8.27	2.20	4.09	1.57	3.54	2.56	0.26	3.54	2.54	0.51	0.6250	0.1875	1.3	7

Dwg 1.10



Dwg 1.11





Spec Table 1.2

Specifications						Dimensional Drawing															
						Motor				Brakemotor				Motor IP-65				Brakemotor IP-65			
						Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/20	15	5	360	8	22	Dwg 1.14 A	Dwg 1.12 A	Dwg 1.14 A	Dwg 1.12 A	Dwg 1.14 A2	Dwg 1.12 A2	Dwg 1.14 A2	Dwg 1.12 A2	Dwg 1.17 A	Dwg 1.16 A	Dwg 1.17 A	Dwg 1.16 A	Dwg 1.17 A2	Dwg 1.16 A2	Dwg 1.17 A2	Dwg 1.16 A2
		7.5	240	12	44																
		10	180	16	55																
		15	120	23	77																
		20	90	31	99																
		25	72	39	110																
		30	60	47	121																
		40	45	62	132																
		50	36	78	143																
		60	30	94	154																
		80	23	119	220																
		100	18	148	220																
		120	15	178	243																
	18	160	11	237	308	Dwg 1.14 A	Dwg 1.12 A	Dwg 1.14 A	Dwg 1.12 A	Dwg 1.14 A2	Dwg 1.12 A2	Dwg 1.14 A2	Dwg 1.12 A2	Dwg 1.17 A	Dwg 1.16 A	Dwg 1.17 A	Dwg 1.16 A	Dwg 1.17 A2	Dwg 1.16 A2	Dwg 1.17 A2	Dwg 1.16 A2
		200	9	296	308																
		240	7.5	356	308																
	28	300	6	400	617	Dwg 1.15 A	Dwg 1.13 A	Dwg 1.15 A	Dwg 1.13 A	Dwg 1.15 A2	Dwg 1.13 A2	Dwg 1.15 A2	Dwg 1.13 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		375	4.8	500	617																
		450	4	600	617																
		600	3	800	617																
		750	2.4	1000	617																
		900	2	1200	617																
	32	1200	1.5	1600	617	Dwg 1.15 A	Dwg 1.13 A	Dwg 1.15 A	Dwg 1.13 A	Dwg 1.15 A2	Dwg 1.13 A2	Dwg 1.15 A2	Dwg 1.13 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		1500	1.2	2000	617																
		1800	1	2430	617																

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.

Model Number for Ordering

G	F	15	N	005	-	B	M	LD	2	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
G: G Series	L: Foot Mount F: Flange Mount (5:1~240:1) K: Flange Mount (300:1~1800:1)	15 18 28 32	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	Frame 15, 28, 32 RE: 1/20 Hp (40w) Frame 18 YE: 1/20Hp (40w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

Notes:

1. Lead Wire Location: specify the code from Fig 1.14 , Page 14 on your purchase order.
2. Terminal Box Location: specify the code from Fig 1.15 Page 14 on your purchase order.
3. IP-65 Cord Location Location: specify the code from Fig 1.16 , Page 14 on your purchase order.
4. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
5. For any other special OEM requirement, please consult Brother.

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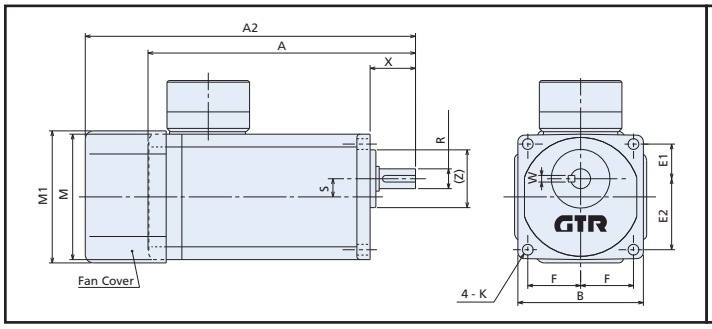
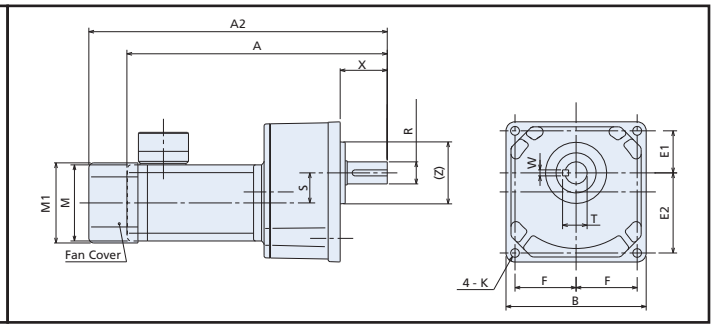
Frame	Drawing	A	A2	B	E1	E2	F	K	M	M1	S	Z	R	W	X	Wt (lb)
15	1.12	6.81	8.25	3.54	0.98	2.01	1.50	0.26	3.54	3.70	0.51	1.59	0.6250	0.1875	1.30	7
18	1.12	7.40	8.88	4.17	1.14	2.32	1.73	0.33	4.17	4.33	0.59	1.87	0.7500	0.1875	1.46	9
28	1.13	11.12	12.56	6.46	1.87	3.72	2.80	0.43	3.54	3.70	1.44	3.27	1.1250	0.2500	1.85	15.5
32	1.13	12.32	13.76	7.80	2.30	4.47	3.39	0.51	3.54	3.70	1.63	3.62	1.2500	0.2500	2.28	24.5

Dwg 1.12

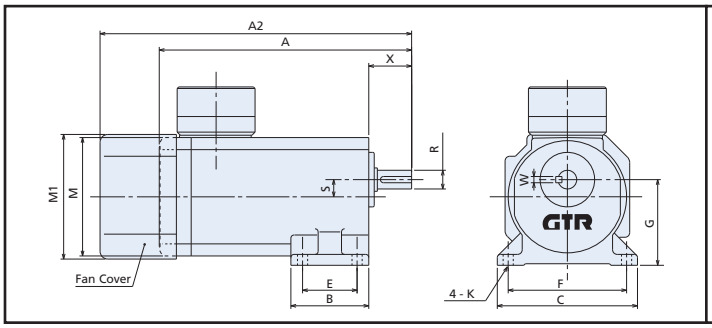


Dwg 1.13

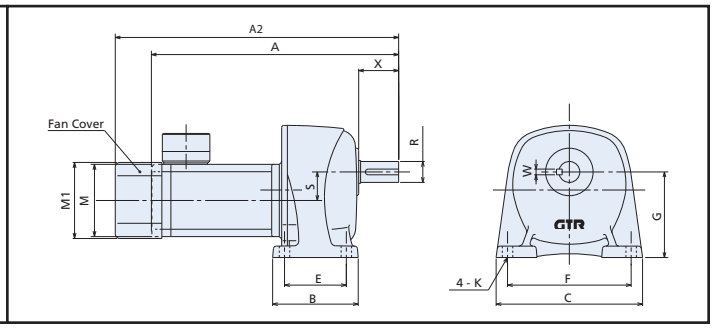


Frame	Drawing	A	A2	B	C	E	F	G	K	M	M1	S	R	W	X	Wt (lb)
15	1.14	6.81	8.25	2.20	4.09	1.57	3.54	2.56	0.26	3.54	3.70	0.51	0.6250	0.1875	1.30	7
18	1.14	7.40	8.88	2.36	5.12	1.57	4.33	2.95	0.33	4.17	4.33	0.59	0.7500	0.1875	1.46	9
28	1.15	11.20	12.56	4.92	6.89	3.54	5.51	4.33	0.43	3.54	3.70	1.44	1.1250	0.2500	1.85	15.5
32	1.15	12.32	13.76	6.61	8.19	5.12	6.69	5.12	0.51	3.54	3.70	1.63	1.2500	0.2500	2.28	24.5

Dwg 1.14



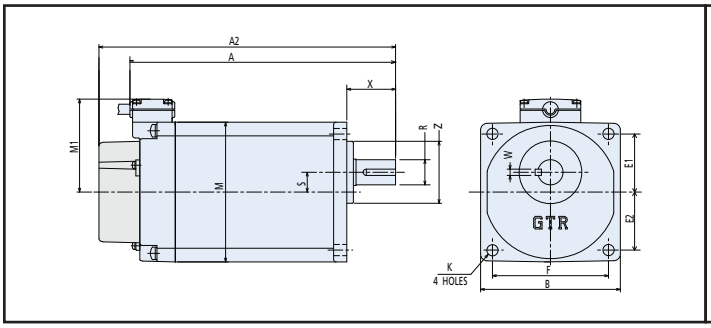
Dwg 1.15



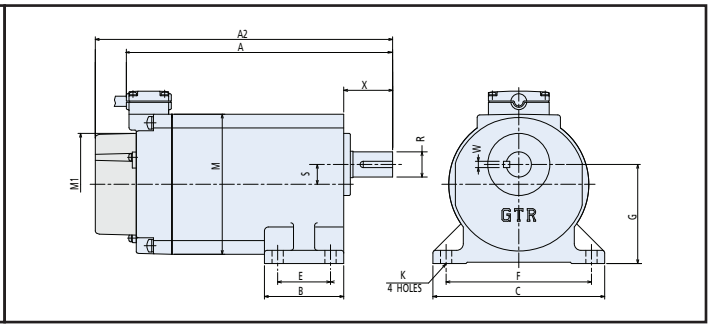
Frame	Drawing	A	A2	B	E1	E2	F	K	M	M1	S	Z	R	W	X	Wt (lb)
15	1.16	7.34	8.27	3.54	0.98	2.01	2.99	0.26	3.54	2.54	0.51	1.59	0.6250	0.1875	1.3	7
18	1.16	7.93	8.86	4.17	1.14	2.32	3.46	0.33	4.17	2.74	0.59	1.87	0.7500	0.1875	1.46	9

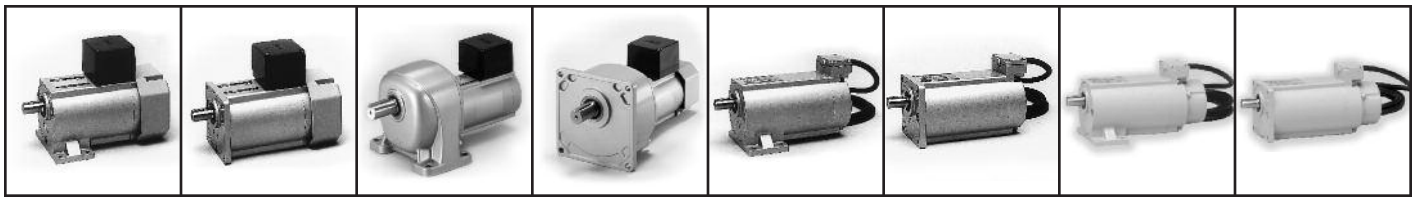
Frame	Drawing	A	A2	B	C	E	F	G	K	M	M1	S	R	W	X	Wt (lb)
15	1.17	7.34	8.27	2.20	4.09	1.57	3.54	2.56	0.26	3.54	2.54	0.51	0.6250	0.1875	1.3	7
18	1.17	7.93	8.86	2.36	5.12	1.57	4.33	2.95	0.33	4.17	2.74	0.59	0.7500	0.1875	1.46	9

Dwg 1.16



Dwg 1.17





Spec Table 1.3

Specifications						Dimensional Drawing															
						Motor				Brakemotor				Motor IP-65				Brakemotor IP-65			
						Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/15	(15) (18)	5	360	12	22	Dwg 1.20 (15) A2	Dwg 1.18 (15) A2	Dwg 1.20 (15) A	Dwg 1.18 (15) A	Dwg 1.20 (15) A2	Dwg 1.18 (15) A2	Dwg 1.20 (15) A2	Dwg 1.18 (15) A2	Dwg 1.23 (18) A	Dwg 1.22 (18) A	Dwg 1.22 (15) A	Dwg 1.23 (15) A	Dwg 1.23 (18) A	Dwg 1.22 (18) A	Dwg 1.22 (15) A2	Dwg 1.23 (15) A2
		7.5	240	18	44																
		10	180	25	55																
		15	120	37	77																
		20	90	49	99																
		25	72	61	110																
		30	60	74	121																
		40	45	98	176																
		50	36	123	198																
		60	30	147	198																
	18	80	23	186	286	Dwg 1.20 A2	Dwg 1.18 A2	Dwg 1.20 A	Dwg 1.18 A	Dwg 1.20 A2	Dwg 1.18 A2	Dwg 1.20 A2	Dwg 1.18 A2	Dwg 1.23 A	Dwg 1.22 A	Dwg 1.23 A	Dwg 1.22 A	Dwg 1.23 A2	Dwg 1.22 A	Dwg 1.23 A	Dwg 1.22 A
		100	18	233	286																
		120	15	279	308																
		160	11	373	308																
		200	9	466	308																
		240	7.5	477	308																
	28	300	6	629	617	Dwg 1.21 A2	Dwg 1.19 A2	Dwg 1.21 A	Dwg 1.19 A	Dwg 1.21 A2	Dwg 1.19 A2	Dwg 1.21 A2	Dwg 1.19 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		375	4.8	786	617																
		450	4	943	617																
		600	3	1258	617																
		750	2.4	1572	617																
		900	2	1887	617																
	32	1200	1.5	2515	1146	Dwg 1.21 A2	Dwg 1.19 A2	Dwg 1.21 A	Dwg 1.19 A	Dwg 1.21 A2	Dwg 1.19 A2	Dwg 1.21 A2	Dwg 1.19 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		1500	1.2	3144	1146																
		1800	1	3732	1146																

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.

Model Number for Ordering

G	F	15	N	005	-	B	M	RF	2	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
G: G Series	L: Foot Mount F: Flange Mount (5:1~240:1) K: Flange Mount (300:1~1800:1)	15 18 28 32	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	Frame 15, 28, 32 RF: 1/15 Hp (60w)) Frame 18 YF: 1/15Hp (60w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

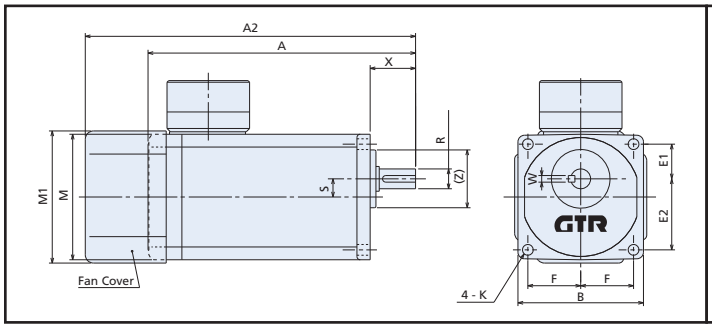
Special Specs

Notes:

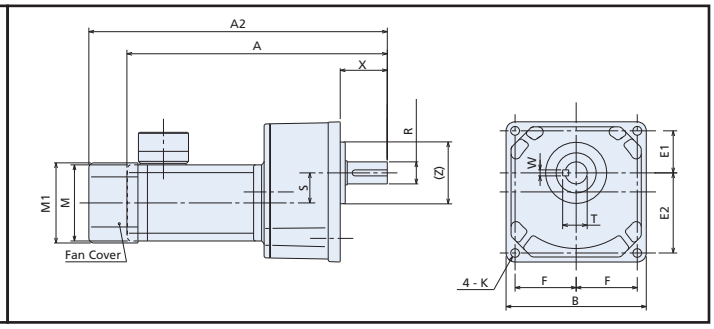
1. Lead Wire Location: specify the code from Fig 1.14 , Page 14 on your purchase order.
2. Terminal Box Location: specify the code from Fig 1.15 Page 14 on your purchase order.
3. IP-65 Cord Location Location: specify the code from Fig 1.16 , Page 14 on your purchase order.
4. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
5. For any other special OEM requirement, please consult Brother.

Frame	Drawing	A	A2	B	E1	E2	F	K	M	M1	S	Z	R	W	X	Wt (lb)
15	1.18	6.81	8.25	3.54	0.98	2.01	1.50	0.26	3.54	3.70	0.51	1.59	0.6250	0.1875	1.30	7
18	1.18	7.40	8.88	4.17	1.14	2.32	1.73	0.33	4.17	4.33	0.59	1.87	0.7500	0.1875	1.46	9
28	1.19	11.12	12.56	6.46	1.87	3.72	2.80	0.43	3.54	3.70	1.44	3.27	1.1250	0.2500	1.85	15.5
32	1.19	12.32	13.76	7.80	2.30	4.47	3.39	0.51	3.54	3.70	1.63	3.62	1.2500	0.2500	2.28	24.5

Dwg 1.18

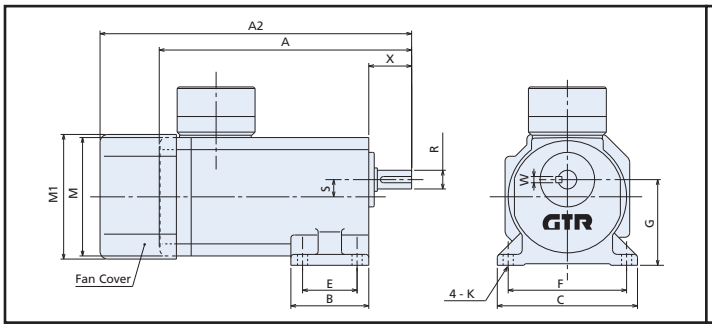


Dwg 1.19

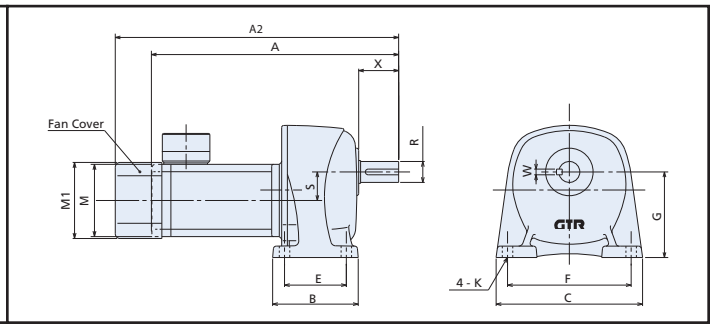


Frame	Drawing	A	A2	B	C	E	F	G	K	M	M1	S	R	W	X	Wt (lb)
15	1.20	6.81	8.25	2.20	4.09	1.57	3.54	2.56	0.26	3.54	3.70	0.51	0.6250	0.1875	1.30	7
18	1.20	7.40	8.88	2.36	5.12	1.57	4.33	2.95	0.33	4.17	4.33	0.59	0.7500	0.1875	1.46	9
28	1.21	11.20	12.56	4.92	6.89	3.54	5.51	4.33	0.43	3.54	3.70	1.44	1.1250	0.2500	1.85	15.5
32	1.21	12.32	13.76	6.61	8.19	5.12	6.69	5.12	0.51	3.54	3.70	1.63	1.2500	0.2500	2.28	24.5

Dwg 1.20



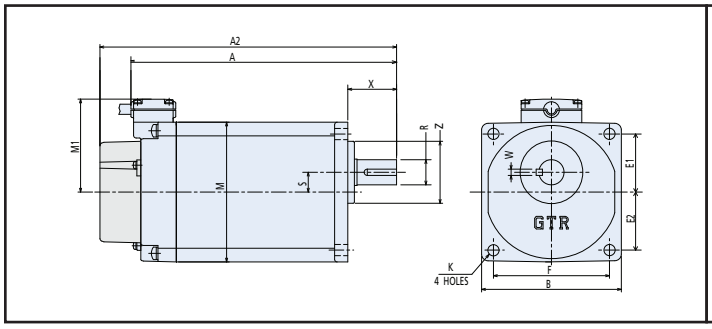
Dwg 1.21



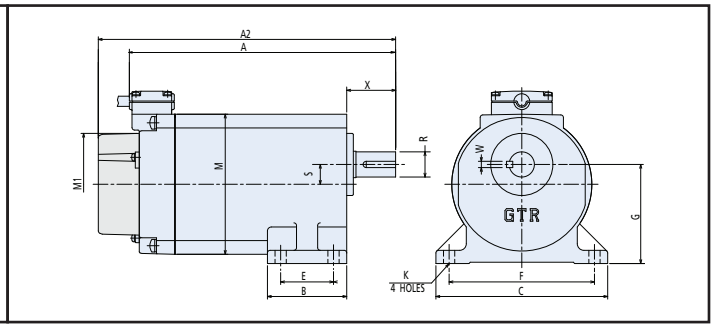
Frame	Drawing	A	A2	B	E1	E2	F	K	M	M1	S	Z	R	W	X	Wt (lb)
15	1.22	7.34	8.27	3.54	0.98	2.01	2.99	0.26	3.54	2.54	0.51	1.59	0.6250	0.1875	1.3	7
18	1.22	7.93	8.86	4.17	1.14	2.32	3.46	0.33	4.17	2.74	0.59	1.87	0.7500	0.1875	1.46	9

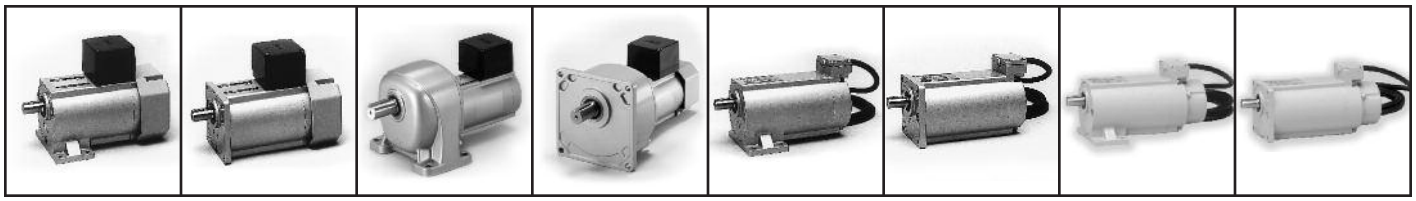
Frame	Drawing	A	A2	B	C	E	F	G	K	M	M1	S	R	W	X	Wt (lb)
15	1.23	7.34	8.27	2.20	4.09	1.57	3.54	2.56	0.26	3.54	2.54	0.51	0.6250	0.1875	1.3	7
18	1.23	7.93	8.86	2.36	5.12	1.57	4.33	2.95	0.33	4.17	2.74	0.59	0.7500	0.1875	1.46	9

Dwg 1.22



Dwg 1.23





Spec Table 1.4

Specifications						Dimensional Drawing													
						Motor				Brakemotor				Motor IP-65				Brakemotor IP-65			
						Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/10	(15) (18)	5	360	18	33	Dwg 1.26 (15) A2	Dwg 1.24 (15) A2	Dwg 1.26 (15) A2	Dwg 1.24 (15) A2	Dwg 1.26 (15) A2	Dwg 1.24 (15) A2	Dwg 1.26 (15) A2	Dwg 1.24 (15) A2	n/a	n/a	Dwg 1.29 (18) A	Dwg 1.28 (18) A	n/a	n/a	Dwg 1.28 (18) A2	Dwg 1.28 (18) A2
		7.5	240	28	55																
		10	180	37	77																
		15	120	55	99																
		20	90	74	121																
		25	72	92	132																
		30	60	110	154																
	18	40	45	147	242	Dwg 1.26 A	Dwg 1.24 A	Dwg 1.26 A	Dwg 1.24 A	Dwg 1.26 A2	Dwg 1.24 A2	Dwg 1.26 A2	Dwg 1.24 A2	n/a	n/a	Dwg 1.29 A	Dwg 1.28 A	n/a	n/a	Dwg 1.29 A	Dwg 1.28 A
		50	36	184	264																
		60	30	221	264																
		80	23	279	286																
		100	18	349	286																
		120	15	419	308																
		160	11	477	396																
		200	9	477	396																
		240	7.5	477	396																
	28	300	6	943	617	Dwg 1.27 A2	Dwg 1.25 A2	Dwg 1.27 A2	Dwg 1.25 A2	Dwg 1.27 A2	Dwg 1.25 A2	Dwg 1.27 A2	Dwg 1.25 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		375	4.8	1179	617																
		450	4	1415	617																
		600	3	1887	1146																
		750	2.4	2358	1146																
		900	2	2830	1146																
	40	1200	1.5	3726	1588	Dwg 1.27 A	Dwg 1.25 A	Dwg 1.27 A	Dwg 1.25 A	Dwg 1.27 A2	Dwg 1.25 A2	Dwg 1.27 A2	Dwg 1.25 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		1500	1.2	4682	1588																
		1800	1	5638	1588																

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.

Model Number for Ordering

G	K	32	N	900	-	B	B	RF	2	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
G: G Series	L: Foot Mount F: Flange Mount (5:1~240:1) K: Flange Mount (300:1~1800:1)	15 18 28 40	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	Frame 15, 28, 32 RG: 1/10 Hp (90w) Frame 18 YG: 1/10Hp (90w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

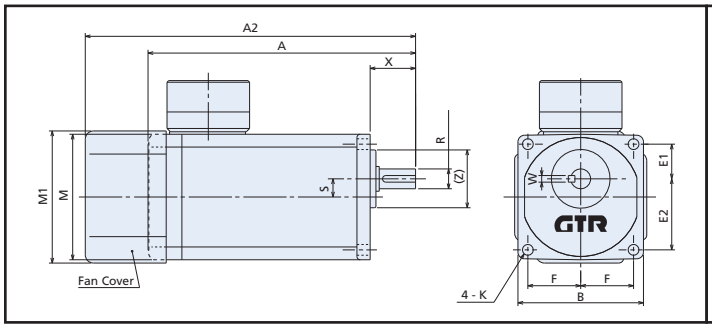
Special Specs

Notes:

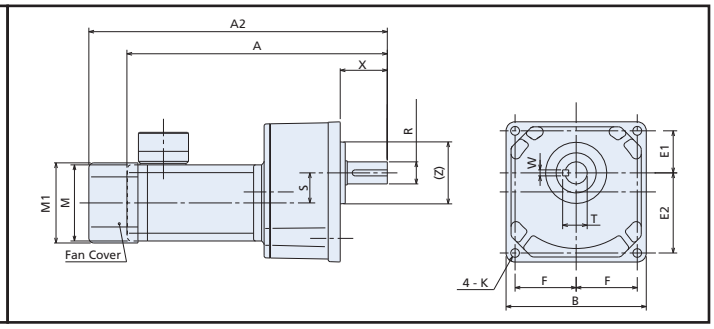
1. Lead Wire Location: specify the code from Fig 1.14 , Page 14 on your purchase order.
2. Terminal Box Location: specify the code from Fig 1.15 Page 14 on your purchase order.
3. IP-65 Cord Location Location: specify the code from Fig 1.16 , Page 14 on your purchase order.
4. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
5. For any other special OEM requirement, please consult Brother.

Frame	Drawing	A	A2	B	E1	E2	F	K	M	M1	S	Z	R	W	X	Wt (lb)
15	1.24	6.81	8.25	3.54	0.98	2.01	1.50	0.26	3.54	3.70	0.51	1.59	0.6250	0.1875	1.30	7
18	1.24	7.40	8.88	4.17	1.14	2.32	1.73	0.33	4.17	4.33	0.59	1.87	0.7500	0.1875	1.46	9
28	1.25	11.12	12.56	6.46	1.87	3.72	2.80	0.43	3.54	3.70	1.44	3.27	1.1250	0.2500	1.85	15.5
32	1.25	12.32	13.76	7.80	2.30	4.47	3.39	0.51	3.54	3.70	1.63	3.62	1.2500	0.2500	2.28	24.5

Dwg 1.24

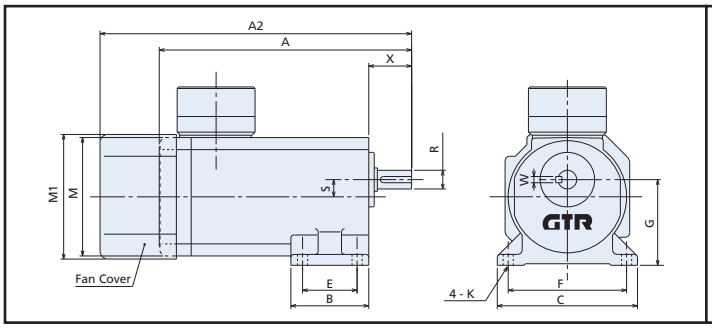


Dwg 1.25

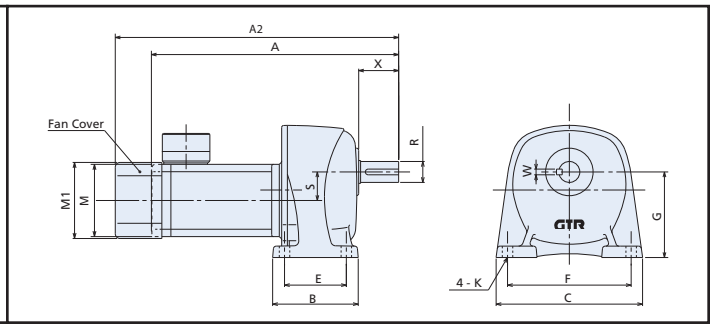


Frame	Drawing	A	A2	B	C	E	F	G	K	M	M1	S	R	W	X	Wt (lb)
15	1.26	6.81	8.25	2.20	4.09	1.57	3.54	2.56	0.26	3.54	3.70	0.51	0.6250	0.1875	1.30	7
18	1.26	7.40	8.88	2.36	5.12	1.57	4.33	2.95	0.33	4.17	4.33	0.59	0.7500	0.1875	1.46	9
28	1.27	11.20	12.56	4.92	6.89	3.54	5.51	4.33	0.43	3.54	3.70	1.44	1.1250	0.2500	1.85	15.5
32	1.27	12.32	13.76	6.61	8.19	5.12	6.69	5.12	0.51	3.54	3.70	1.63	1.2500	0.2500	2.28	24.5

Dwg 1.26



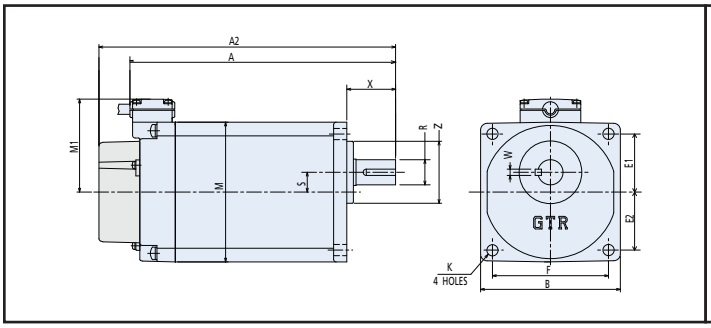
Dwg 1.27



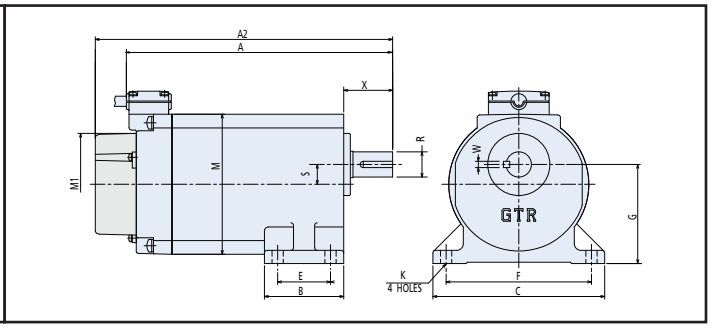
Frame	Drawing	A	A2	B	E1	E2	F	K	M	M1	S	Z	R	W	X	Wt (lb)
15	1.28	7.34	8.27	3.54	0.98	2.01	2.99	0.26	3.54	2.54	0.51	1.59	0.6250	0.1875	1.3	7
18	1.28	7.93	8.86	4.17	1.14	2.32	3.46	0.33	4.17	2.74	0.59	1.87	0.7500	0.1875	1.46	9

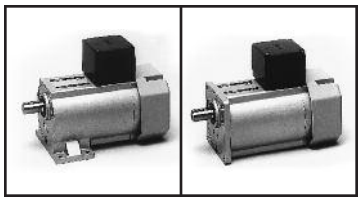
Frame	Drawing	A	A2	B	C	E	F	G	K	M	M1	S	R	W	X	Wt (lb)
15	1.29	7.34	8.27	2.20	4.09	1.57	3.54	2.56	0.26	3.54	2.54	0.51	0.6250	0.1875	1.3	7
18	1.29	7.93	8.86	2.36	5.12	1.57	4.33	2.95	0.33	4.17	2.74	0.59	0.7500	0.1875	1.46	9

Dwg 1.28



Dwg 1.29





Spec Table 1.6

Specifications						Dimensional Drawing													
						Motor				Brakemotor				Motor IP-65				Brakemotor IP-65			
						Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/6 Hp	18	5	360	25	44	Dwg 1.31 A2	Dwg 1.30 A2	Dwg 1.31 A2	Dwg 1.30 A2	Dwg 1.31 A2	Dwg 1.30 A2	Dwg 1.31 A2	Dwg 1.30 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		7.5	240	37	66																
		10	180	49	99																
		15	120	74	132																
		20	90	98	165																
		25	72	123	198																
		30	60	147	220																
		40	45	196	243																
		50	36	245	265																
		60	30	294	265																

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.

Model Number for Ordering

G	F	18	N	030	-	B	M	YJ	3	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
G: G Series	L: Foot Mount F: Flange Mount (5:1~60:1)	18	N: Common Code	005 : 5:1 030 : 30:1		B: UL/CSA	M: Motor B: Brakemotor	Frame 18 YJ: 1/6 Hp (120w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11)	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

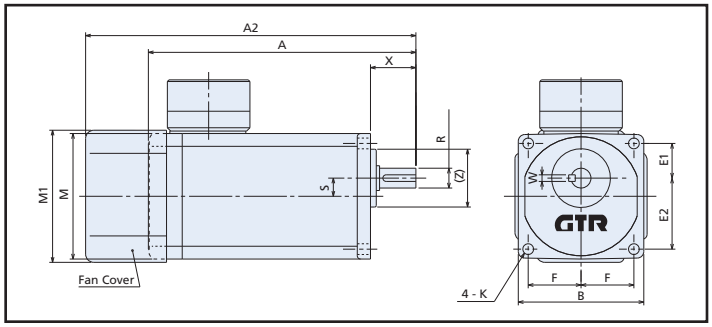
Special Specs

Notes:

1. Lead Wire Location: specify the code from Fig 1.14 , Page 14 on your purchase order.
2. Terminal Box Location: specify the code from Fig 1.15 Page 14 on your purchase order.
3. IP-65 Cord Location Location: specify the code from Fig 1.16 , Page 14 on your purchase order.
4. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
5. For any other special OEM requirement, please consult Brother.

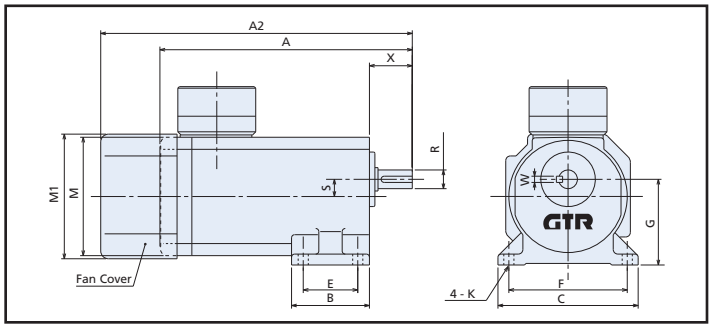
Frame	Drawing	A	A2	B	E1	E2	F	K	M	M1	S	Z	R	W	X	Wt (lb)
18	1.30	7.40	8.88	4.17	1.14	2.32	1.73	0.33	4.17	4.33	0.59	1.87	0.7500	0.1875	1.46	9

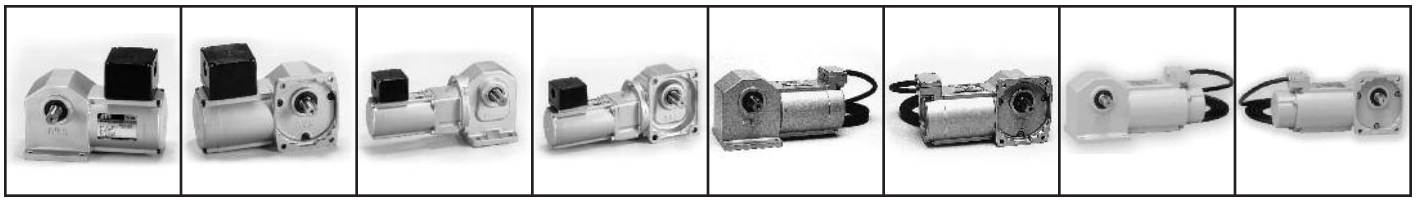
Dwg 1.30



Frame	Drawing	A	A2	B	C	E	F	G	K	M	M1	S	R	W	X	Wt (lb)
32	1.27	12.32	13.76	6.61	8.19	5.12	6.69	5.12	0.51	3.54	3.70	1.63	1.2500	0.2500	2.28	24.5

Dwg 1.31





Spec Table 2.0

Specifications						Dimensional Drawing													
						Motor				Brakemotor				Motor IP-65				Brakemotor IP-65			
						Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/50	15	10	180	6	77	Dwg 2.0 A	Dwg 2.2 A	Dwg 2.0 A	Dwg 2.2 A	Dwg 2.0 A2	Dwg 2.2 A2	Dwg 2.0 A2	Dwg 2.2 A2	Dwg 2.4 A	Dwg 2.5 A	Dwg 2.4 A	Dwg 2.5 A	Dwg 2.4 A2	Dwg 2.5 A2	Dwg 2.4 A2	Dwg 2.5 A2
		15	120	9	99																
		20	90	12	121																
		25	72	14	132																
		30	60	17	154																
		40	45	23	176																
		50	36	29	198																
		60	30	35	220																
		80	23	44	220																
		100	18	55	243																
		120	15	66	243																
		160	11	88	243																
		200	9	110	243																
		240	7.5	132	243																
	22	300	6	148	397	Dwg 2.1 A	Dwg 2.3 A	Dwg 2.1 A	Dwg 2.3 A	Dwg 2.1 A2	Dwg 2.3 A2	Dwg 2.1 A2	Dwg 2.3 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		375	4.8	185	397																
		450	4	222	397																
		600	3	296	397																
		750	2.4	370	397																
		900	2	445	397																
		1200	1.5	593	397																
		1500	1.2	741	397																
		1800	1	868	397																
		1500	1.2	741	397																
		1800	1	868	397																

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.

Model Number for Ordering

H	L	15	R	030	-	B	M	LC	2	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
H: H Series	L: Foot Mount F: Flange Mount	15 22	R: Right Shaft L: Left Shaft T: Double Shaft Ref: Fig 2.1	030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	Frame 15, 22 LC: 1/50 Hp (15w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

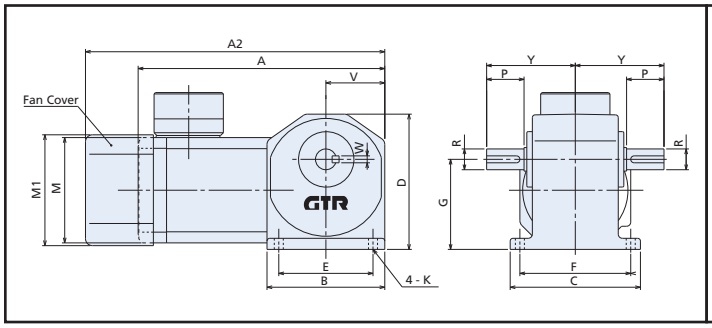
Notes:

1. Lead Wire Location: specify the code from Fig 1.14 , Page 14 on your purchase order.
2. Terminal Box Location: specify the code from Fig 1.15 Page 14 on your purchase order.
3. IP-65 Cord Location Location: specify the code from Fig 1.16 , Page 14 on your purchase order.
4. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
5. For any other special OEM requirement, please consult Brother.

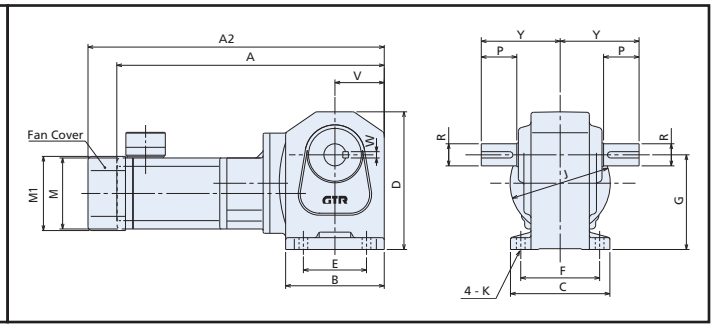
brother at your side

Frame	Drawing	A	A2	B	C	D	E	F	G	K	M	M1	V	Y	P	R	W	Wt (lb)
15	2.0	7.01	8.50	3.35	3.70	3.86	2.68	3.15	2.56	0.26	2.99	3.15	1.67	2.52	1.06	0.6250	0.1875	7
22	2.1	11.99	13.48	4.17	4.57	5.91	2.76	3.54	4.13	0.43	2.99	3.15	2.09	3.54	1.57	0.8750	0.1875	13.5

Dwg 2.0

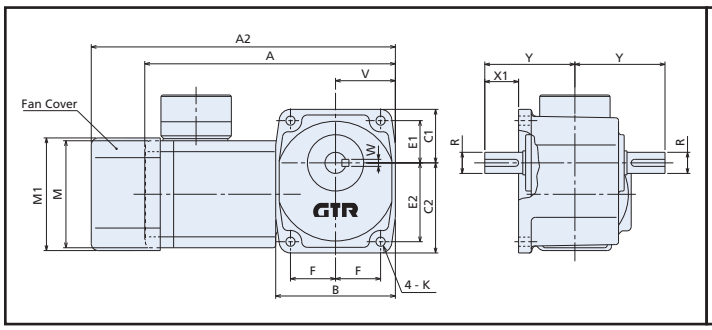


Dwg 2.1

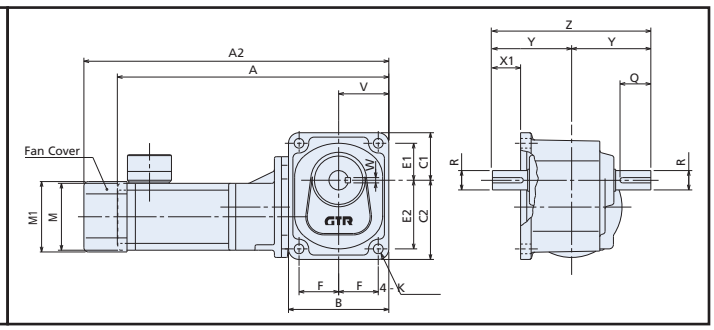


Frame	Drawing	A	A2	B	C1	C2	E1	E2	F	K	M	M1	V	Y	X1	R	W	Wt (lb)
15	2.2	7.01	8.5	3.35	1.5	2.52	1.18	2.2	1.26	0.26	2.99	3.15	1.67	2.52	0.94	0.625	0.1875	7
22	2.3	12.14	13.64	4.49	2.13	3.54	1.65	3.07	1.77	0.43	2.99	3.15	2.24	3.54	1.26	0.875	0.1875	13.5

Dwg 2.2



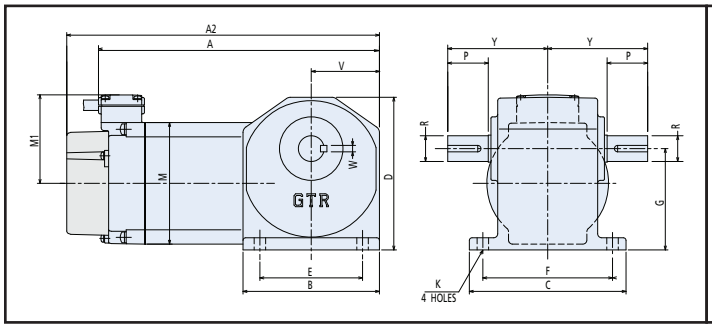
Dwg 2.3



Frame	Drawing	A	A2	B	C	D	E	F	G	K	M	M1	V	Y	P	R	W	Wt (lb)
15	2.4	7.56	8.43	3.35	3.70	3.86	2.68	3.15	2.56	0.26	2.99	2.28	1.67	2.52	1.06	0.6250	0.1875	7

Frame	Drawing	A	A2	B	C1	C2	E1	E2	F	K	M	M1	V	Y	X1	R	W	Wt (lb)
15	2.5	7.56	8.43	3.35	1.50	2.52	1.18	2.20	1.26	0.26	2.99	2.28	0.94	1.57	0.94	0.6250	0.1875	7

Dwg 2.4



Dwg 2.5

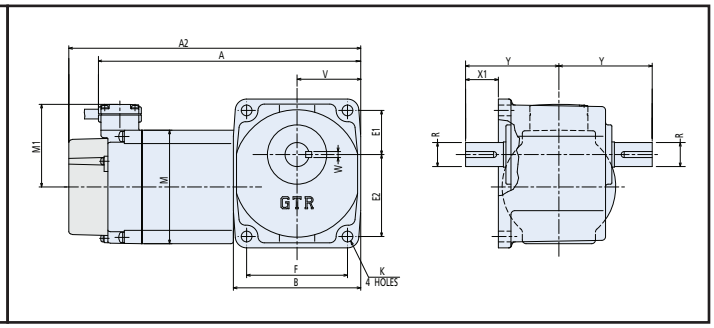
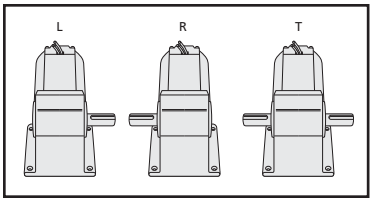
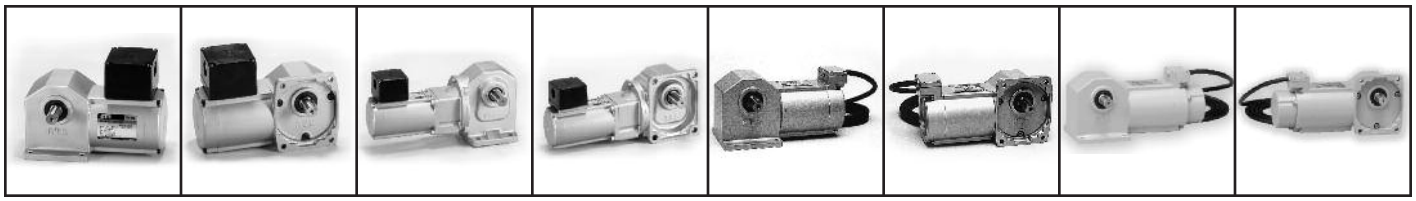


Fig. 2.1





Spec Table 2.1

Specifications						Dimensional Drawing													
						Motor				Brakemotor				Motor IP-65				Brakemotor IP-65			
						Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/30	15	10	180	10	121	Dwg 2.6 A	Dwg 2.8 A	Dwg 2.6 A	Dwg 2.8 A	Dwg 2.6 A2	Dwg 2.8 A2	Dwg 2.6 A2	Dwg 2.8 A2	Dwg 2.10 A	Dwg 2.11 A	Dwg 2.10 A	Dwg 2.11 A	Dwg 2.10 A2	Dwg 2.11 A2	Dwg 2.10 A2	Dwg 2.11 A2
		15	120	14	132																
		20	90	19	154																
		25	72	24	176																
		30	60	29	198																
		40	45	39	220																
		50	36	48	220																
		60	30	58	243																
		80	23	73	243																
		100	18	91	243																
		120	15	110	243																
		160	11	146	243																
		200	9	183	243																
		240	7.5	220	243																
	22	300	6	247	397	Dwg 2.7 A	Dwg 2.9 A	Dwg 2.7 A	Dwg 2.9 A	Dwg 2.7 A2	Dwg 2.9 A2	Dwg 2.7 A2	Dwg 2.9 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		375	4.8	309	397																
		450	4	370	397																
		600	3	494	397																
		750	2.4	617	397																
		900	2	741	397																
	28	1200	1.5	988	617	Dwg 2.7 A	Dwg 2.9 A	Dwg 2.7 A	Dwg 2.9 A	Dwg 2.7 A2	Dwg 2.9 A2	Dwg 2.7 A2	Dwg 2.9 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		1500	1.2	1235	617																
		1800	1	1476	617																

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.

Model Number for Ordering

H	L	15	R	030	-	B	M	LC	2	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
H: H Series	L: Foot Mount F: Flange Mount	15 22 28	R: Right Shaft L: Left Shaft T: Double Shaft Ref: Fig 2.1	030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	Frame 15, 22 LD: 1/30 Hp (25w) Frame 28 RD: 1/30Hp (25w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

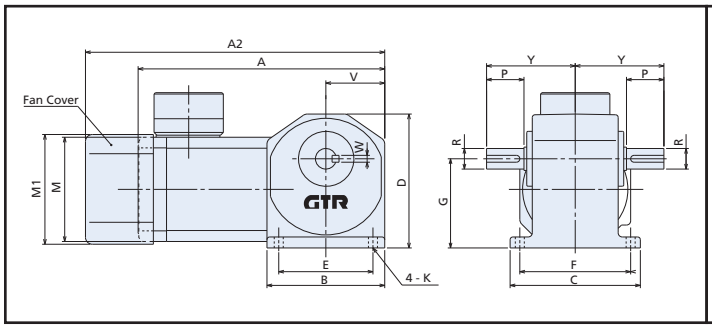
Special Specs

Notes:

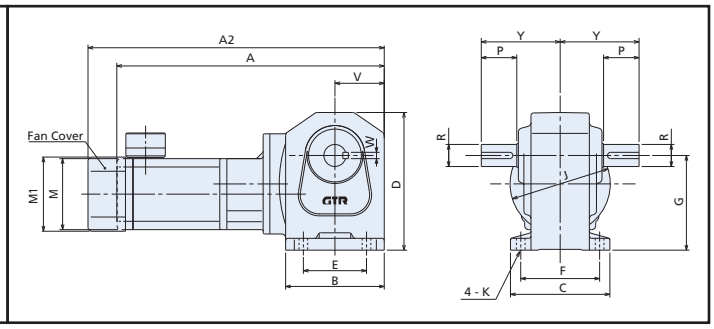
1. Lead Wire Location: specify the code from Fig 1.14 , Page 14 on your purchase order.
2. Terminal Box Location: specify the code from Fig 1.15 Page 14 on your purchase order.
3. IP-65 Cord Location Location: specify the code from Fig 1.16 , Page 14 on your purchase order.
4. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
5. For any other special OEM requirement, please consult Brother.

Frame	Drawing	A	A2	B	C	D	E	F	G	K	M	M1	V	Y	P	R	W	Wt (lb)
15	2.6	7.01	8.50	3.35	3.70	3.86	2.68	3.15	2.56	0.26	2.99	3.15	1.67	2.52	1.06	0.6250	0.1875	7
22	2.7	11.99	13.48	4.17	4.57	5.91	2.76	3.54	4.13	0.43	2.99	3.15	2.09	3.54	1.57	0.8750	0.1875	13.5
28	2.7	13.35	14.78	4.92	4.96	6.89	3.15	3.94	4.72	0.43	3.54	3.70	2.46	3.94	1.77	1.1250	0.2500	20

Dwg 2.6

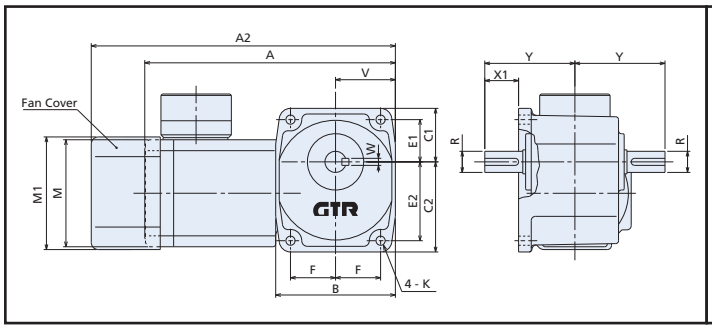


Dwg 2.7

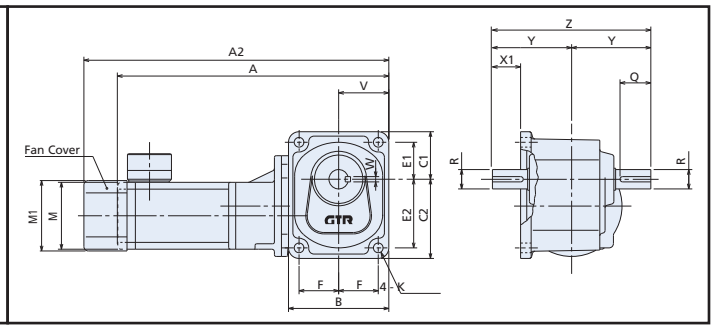


Frame	Drawing	A	A2	B	C	D	E	F	G	K	M	M1	V	Y	P	R	W	Wt (lb)
15	2.8	7.01	8.5	3.35	1.5	2.52	1.18	2.2	1.26	0.26	2.99	3.15	1.67	2.52	0.94	0.625	0.1875	7
22	2.9	12.14	13.64	4.49	2.13	3.54	1.65	3.07	1.77	0.43	2.99	3.15	2.24	3.54	1.26	0.875	0.1875	13.5

Dwg 2.8



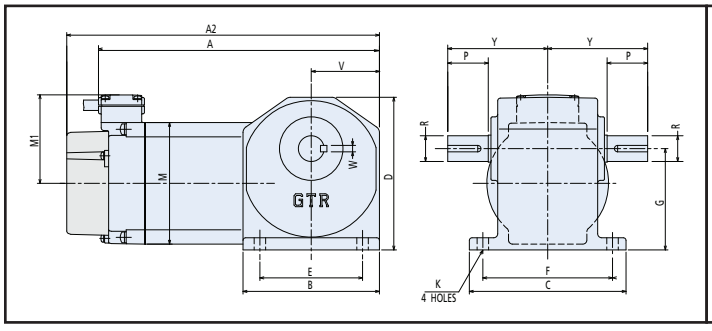
Dwg 2.9



Frame	Drawing	A	A2	B	C	D	E	F	G	K	M	M1	V	Y	P	R	W	Wt (lb)
15	2.10	7.56	8.43	3.35	3.70	3.86	2.68	3.15	2.56	0.26	2.99	2.28	1.67	2.52	1.06	0.6250	0.1875	7

Frame	Drawing	A	A2	B	C1	C2	E1	E2	F	K	M	M1	V	Y	X1	R	W	Wt (lb)
15	2.11	7.56	8.43	3.35	1.50	2.52	1.18	2.20	1.26	0.26	2.99	2.28	0.94	1.57	0.94	0.6250	0.1875	7

Dwg 2.10



Dwg 2.11

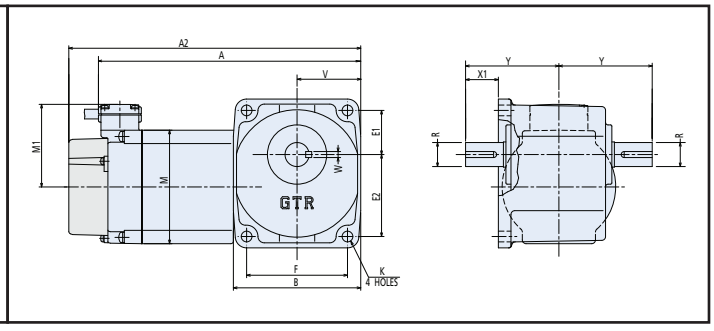
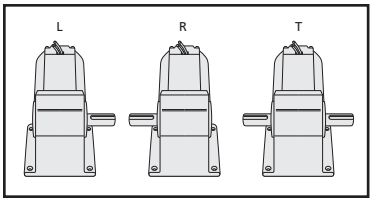
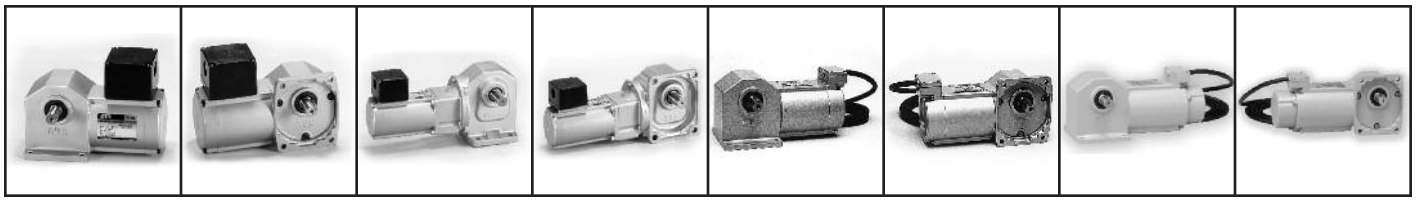


Fig. 2.1





Spec Table 2.2

Specifications						Dimensional Drawing													
						Motor				Brakemotor				Motor IP-65				Brakemotor IP-65			
						Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/20	18	10	180	16	77	Dwg 2.12 A	Dwg 2.14 A	Dwg 2.12 A	Dwg 2.14 A	Dwg 2.12 A	Dwg 2.14 A	Dwg 2.12 A2	Dwg 2.14 A2	Dwg 2.15 A	Dwg 2.16 A	Dwg 2.15 A	Dwg 2.16 A	Dwg 2.15 A2	Dwg 2.16 A2	Dwg 2.15 A2	Dwg 2.16 A2
		15	120	23	99																
		20	90	31	121																
		25	72	39	132																
		30	60	47	154																
		40	45	62	176																
		50	36	78	198																
		60	30	94	220																
		80	23	119	220																
		100	18	148	243																
		120	15	178	243																
		160	11	237	309																
		200	9	296	309																
		240	7.5	356	309																
	28	300	6	400	617	Dwg 2.13 A	n/a	Dwg 2.13 A	n/a	Dwg 2.13 A	n/a	Dwg 2.13 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		375	4.8	500	617																
		450	4	600	617																
		600	3	800	617																
		750	2.4	1000	617																
		900	2	1200	617																
	32	1200	1.5	1600	1146	Dwg 2.13 A	n/a	Dwg 2.13 A	n/a	Dwg 2.13 A	n/a	Dwg 2.13 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		1500	1.2	2000	1146																
		1800	1	2430	1146																

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.

Model Number for Ordering

H	F	18	R	010	-	B	B	LC	2	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
H: H Series	L: Foot Mount F: Flange Mount	18 28 32	R: Right Shaft L: Left Shaft T: Double Shaft Ref: Fig 2.1	030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	Frame 18, 28, 32 RE: 1/20 Hp (40w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

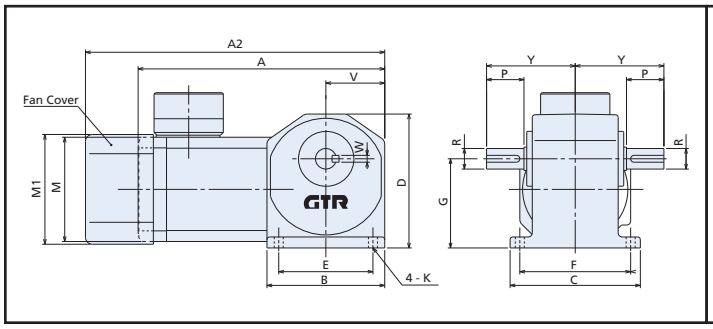
Special Specs

Notes:

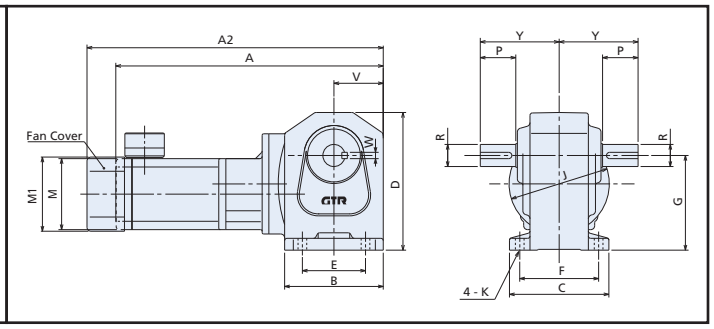
1. Lead Wire Location: specify the code from Fig 1.14 , Page 14 on your purchase order.
2. Terminal Box Location: specify the code from Fig 1.15 Page 14 on your purchase order.
3. IP-65 Cord Location Location: specify the code from Fig 1.16 , Page 14 on your purchase order.
4. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
5. For any other special OEM requirement, please consult Brother.

Frame	Drawing	A	A2	B	C	D	E	F	G	K	M	M1	V	Y	P	R	W	Wt (lb)
18	2.12	7.64	9.07	3.98	4.57	4.45	2.99	3.78	2.95	0.33	3.54	3.70	1.99	2.91	1.18	0.7500	0.1875	9
28	2.13	13.35	14.78	4.92	4.96	6.89	3.15	3.94	4.72	0.43	3.54	3.70	2.46	3.94	1.77	1.1250	0.2500	20
32	2.13	14.09	15.53	5.98	5.91	8.07	3.74	4.72	5.51	0.51	3.54	3.70	2.99	4.72	2.17	1.2500	0.2500	33

Dwg 2.12

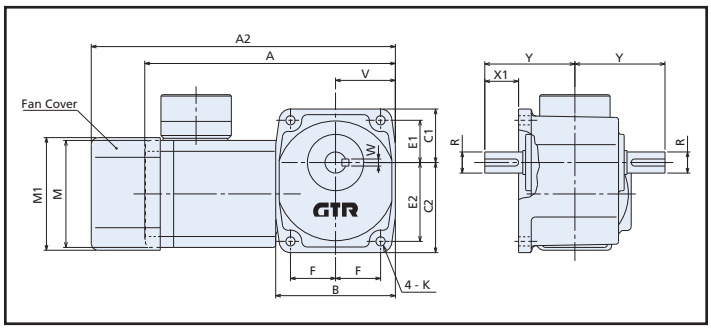


Dwg 2.13



Frame	Drawing	A	A2	B	C1	C2	E1	E2	F	K	M	M1	V	Y	X1	R	W	Wt (lb)
18	2.14	7.64	9.07	3.98	1.73	2.91	1.38	2.56	1.57	0.33	3.54	3.7	1.99	2.91	1.02	0.75	0.1875	9

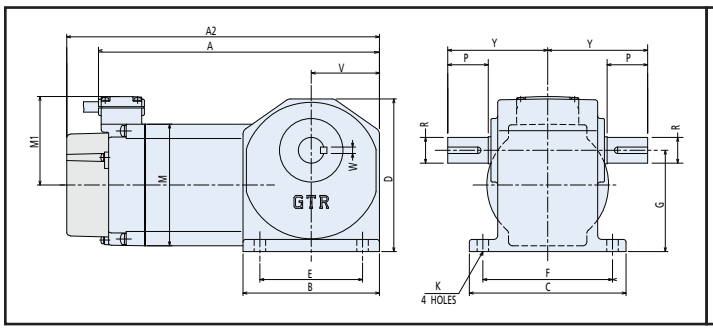
Dwg 2.14



Frame	Drawing	A	A2	B	C	D	E	F	G	K	M	M1	V	Y	P	R	W	Wt (lb)
18	2.15	8.19	9.11	3.98	4.57	4.45	2.99	3.78	2.95	0.33	3.54	2.54	1.99	2.91	1.18	0.7500	0.1875	9

Frame	Drawing	A	A2	B	C1	C2	E1	E2	F	K	M	M1	V	Y	X1	R	W	Wt (lb)
18	2.16	8.19	9.11	3.98	1.73	2.91	1.38	2.56	1.57	0.33	3.54	2.54	1.02	1.89	1.02	0.7500	0.1875	9

Dwg 2.15



Dwg 2.16

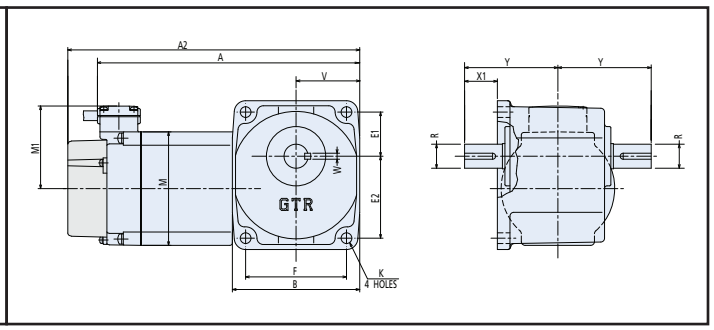
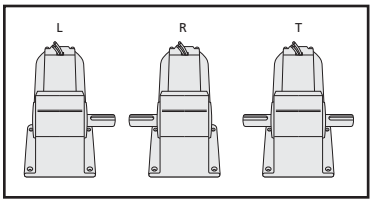
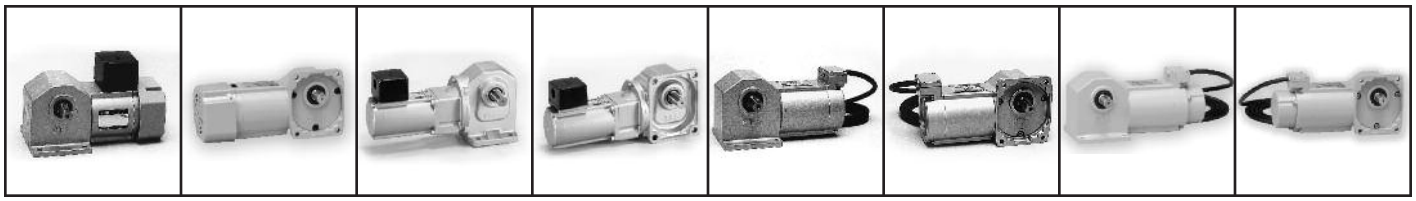


Fig. 2.1





Spec Table 2.3

Specifications						Dimensional Drawing													
						Motor				Brakemotor				Motor IP-65				Brakemotor IP-65			
						Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/15	18	10	180	25	77	Dwg 2.17 A2	Dwg 2.19 A2	Dwg 2.17 A	Dwg 2.19 A	Dwg 2.17 A2	Dwg 2.19 A2	Dwg 2.17 A2	Dwg 2.19 A2	n/a	n/a	Dwg 2.20 A	Dwg 2.21 A	n/a	n/a	Dwg 2.20 A2	Dwg 2.21 A2
		15	120	37	99																
		20	90	49	121																
		25	72	61	132																
		30	60	74	154																
		40	45	98	176																
		50	36	123	198																
		60	30	147	198																
		80	23	186	286																
		100	18	233	286																
		120	15	279	308																
		160	11	373	308																
		200	9	466	308																
		240	7.5	477	308																
	28	300	6	629	617	Dwg 2.18 A2	n/a	Dwg 2.18 A	n/a	Dwg 2.18 A2	n/a	Dwg 2.18 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		375	4.8	786	617																
		450	4	943	617																
		600	3	1258	617																
		750	2.4	1572	617																
		900	2	1887	617																
	32	1200	1.5	2515	1146	Dwg 2.18 A2	n/a	Dwg 2.18 A	n/a	Dwg 2.18 A2	n/a	Dwg 2.18 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		1500	1.2	3144	1146																
		1800	1	3732	1146																

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.

Model Number for Ordering

H	L	18	R	010	-	B	B	LC	2	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
H: H Series	L: Foot Mount F: Flange Mount	18 28 32	R: Right Shaft L: Left Shaft T: Double Shaft Ref: Fig 2.1	030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	Frame 18, 28, 32 RF: 1/15 Hp (60w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

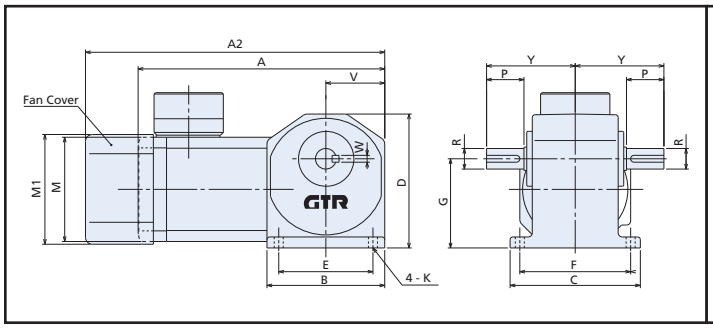
Special Specs

Notes:

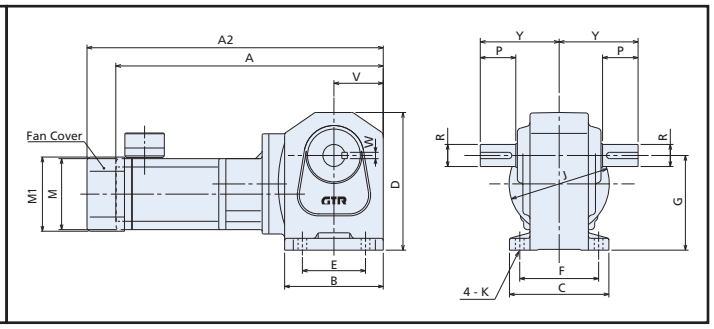
1. Lead Wire Location: specify the code from Fig 1.14 , Page 14 on your purchase order.
2. Terminal Box Location: specify the code from Fig 1.15 Page 14 on your purchase order.
3. IP-65 Cord Location Location: specify the code from Fig 1.16 , Page 14 on your purchase order.
4. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
5. For any other special OEM requirement, please consult Brother.

Frame	Drawing	A	A2	B	C	D	E	F	G	K	M	M1	V	Y	P	R	W	Wt (lb)
18	2.17	7.64	9.07	3.98	4.57	4.45	2.99	3.78	2.95	0.33	3.54	3.70	1.99	2.91	1.18	0.7500	0.1875	9
28	2.18	13.35	14.78	4.92	4.96	6.89	3.15	3.94	4.72	0.43	3.54	3.70	2.46	3.94	1.77	1.1250	0.2500	20
32	2.18	14.09	15.53	5.98	5.91	8.07	3.74	4.72	5.51	0.51	3.54	3.70	2.99	4.72	2.17	1.2500	0.2500	33

Dwg 2.17

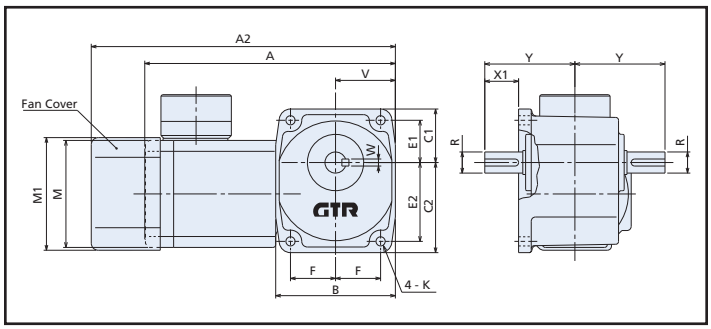


Dwg 2.18



Frame	Drawing	A	A2	B	C1	C2	E1	E2	F	K	M	M1	V	Y	X1	R	W	Wt (lb)
18	2.19	7.64	9.07	3.98	1.73	2.91	1.38	2.56	1.57	0.33	3.54	3.7	1.99	2.91	1.02	0.75	0.1875	9

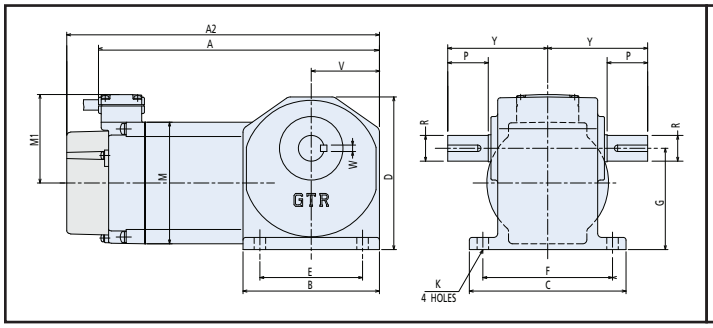
Dwg 2.19



Frame	Drawing	A	A2	B	C	D	E	F	G	K	M	M1	V	Y	P	R	W	Wt (lb)
18	2.20	8.19	9.11	3.98	4.57	4.45	2.99	3.78	2.95	0.33	3.54	2.54	1.99	2.91	1.18	0.7500	0.1875	9

Frame	Drawing	A	A2	B	C1	C2	E1	E2	F	K	M	M1	V	Y	X1	R	W	Wt (lb)
18	2.21	8.19	9.11	3.98	1.73	2.91	1.38	2.56	1.57	0.33	3.54	2.54	1.02	1.89	1.02	0.7500	0.1875	9

Dwg 2.20



Dwg 2.21

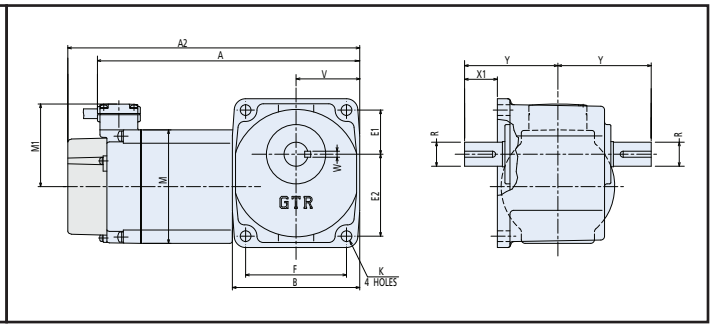
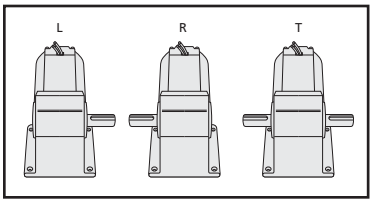
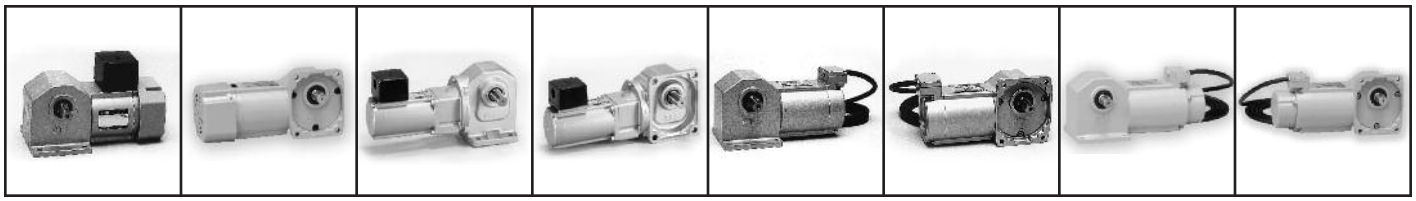


Fig. 2.1





Spec Table 2.4

Specifications						Dimensional Drawing													
						Motor				Brakemotor				Motor IP-65				Brakemotor IP-65			
						Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase		Single Phase		Three Phase	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/10	18	10	180	37	99	Dwg 2.22 A2	Dwg 2.24 A2	Dwg 2.22 A2	Dwg 2.24 A2	Dwg 2.22 A2	Dwg 2.24 A2	Dwg 2.22 A2	Dwg 2.24 A2	n/a	n/a	Dwg 2.25 A	Dwg 2.26 A	n/a	n/a	Dwg 2.25 A2	Dwg 2.26 A2
		15	120	55	132																
		20	90	74	165																
		25	72	92	198																
		30	60	110	220																
		40	45	147	242																
		50	36	184	264																
		60	30	221	264																
		80	23	279	396																
		100	18	349	396																
		120	15	419	396																
		160	11	477	396																
		200	9	477	396																
		240	7.5	477	396																
	28	300	6	943	617	Dwg 2.23 A2	n/a	Dwg 2.23 A2	n/a	Dwg 2.23 A2	n/a	Dwg 2.23 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		375	4.8	1179	617																
		450	4	1415	617																
	32	600	3	1887	1146	Dwg 2.23 A2	n/a	Dwg 2.23 A2	n/a	Dwg 2.23 A2	n/a	Dwg 2.23 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		750	2.4	2358	1146																
		900	2	2830	1146																
	40	1200	1.5	3726	1587	Dwg 2.23 A2	n/a	Dwg 2.23 A	n/a	Dwg 2.23 A2	n/a	Dwg 2.23 A2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		1500	1.2	4682	1587																
		1800	1	5638	1587																

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.

Model Number for Ordering

H	L	18	R	010	-	B	B	LC	2	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
H: H Series	L: Foot Mount F: Flange Mount	18 28 32 40	R: Right Shaft L: Left Shaft T: Double Shaft Ref: Fig 2.1	030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	Frame 18, 28, 32 RG: 1/10 Hp (90w) Frame 40 YG: 1/10 Hp (90w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

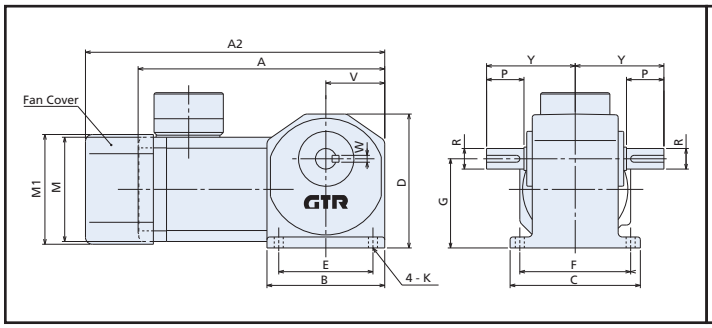
Special Specs

Notes:

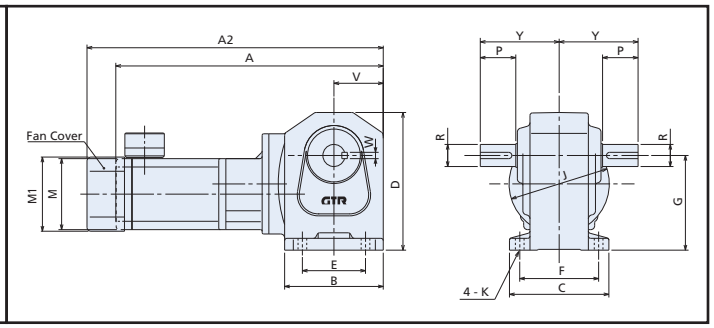
1. Lead Wire Location: specify the code from Fig 1.14 , Page 14 on your purchase order.
2. Terminal Box Location: specify the code from Fig 1.15 Page 14 on your purchase order.
3. IP-65 Cord Location Location: specify the code from Fig 1.16 , Page 14 on your purchase order.
4. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
5. For any other special OEM requirement, please consult Brother.

Frame	Drawing	A	A2	B	C	D	E	F	G	K	M	M1	V	Y	P	R	W	Wt (lb)
18	2.22	7.64	9.07	3.98	4.57	4.45	2.99	3.78	2.95	0.33	3.54	3.70	1.99	2.91	1.18	0.7500	0.1875	9
28	2.23	13.35	14.78	4.92	4.96	6.89	3.15	3.94	4.72	0.43	3.54	3.70	2.46	3.94	1.77	1.1250	0.2500	20
32	2.23	14.09	15.53	5.98	5.91	8.07	3.74	4.72	5.51	0.51	3.54	3.70	2.99	4.72	2.17	1.2500	0.2500	33
40	2.23	15.75	17.20	7.09	7.09	9.57	4.72	5.51	6.50	0.59	4.17	4.33	3.54	5.51	2.56	1.6250	0.3750	48.5

Dwg 2.22

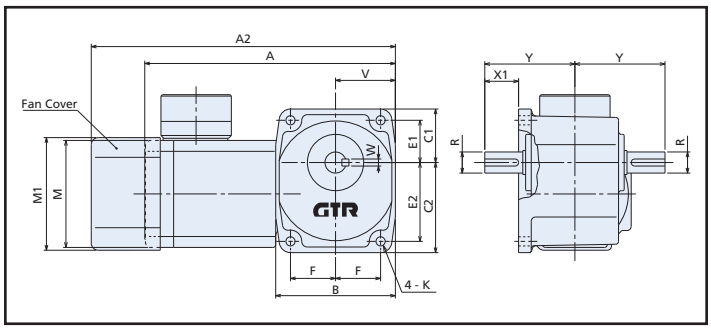


Dwg 2.23



Frame	Drawing	A	A2	B	C1	C2	E1	E2	F	K	M	M1	V	Y	X1	R	W	Wt (lb)
18	2.24	7.64	9.07	3.98	1.73	2.91	1.38	2.56	1.57	0.33	3.54	3.7	1.99	2.91	1.02	0.75	0.1875	9

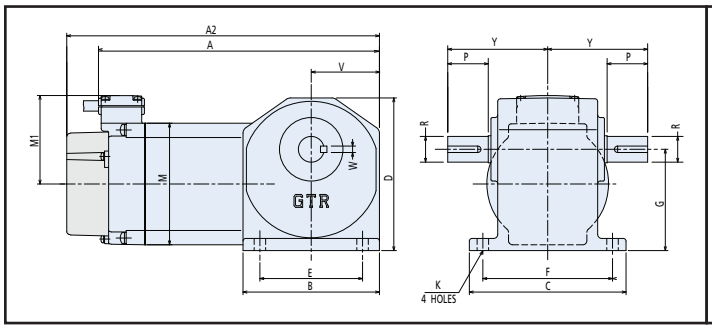
Dwg 2.24



Frame	Drawing	A	A2	B	C	D	E	F	G	K	M	M1	V	Y	P	R	W	Wt (lb)
18	2.25	8.19	9.11	3.98	4.57	4.45	2.99	3.78	2.95	0.33	3.54	2.54	1.99	2.91	1.18	0.7500	0.1875	9

Frame	Drawing	A	A2	B	C1	C2	E1	E2	F	K	M	M1	V	Y	X1	R	W	Wt (lb)
18	2.26	8.19	9.11	3.98	1.73	2.91	1.38	2.56	1.57	0.33	3.54	2.54	1.02	1.89	1.02	0.7500	0.1875	9

Dwg 2.25



Dwg 2.26

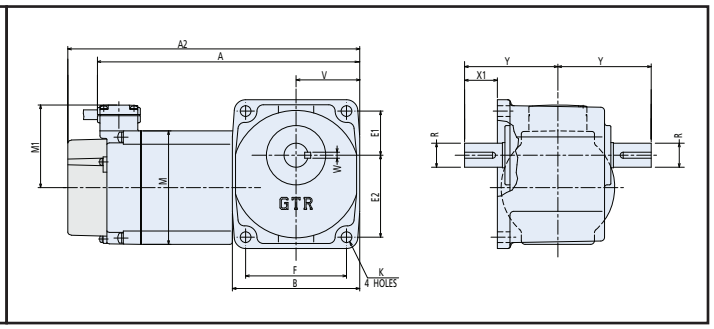
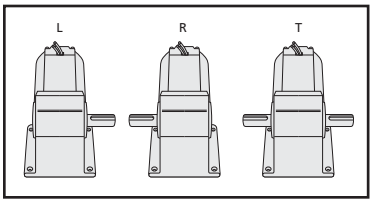
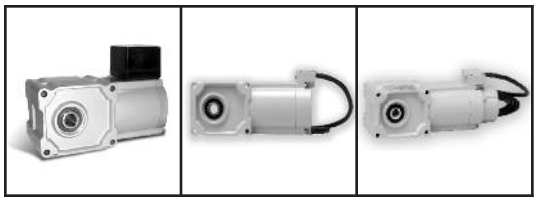


Fig. 2.1





Spec Table 3.0

Specifications						Dimensional Drawing							
						Motor		Brakemotor		Motor IP-65		Brakemotor IP-65	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase
1/50	12	10	180	6	77	Dwg 3.0 A	Dwg 3.0 A	Dwg 3.0 A2	Dwg 3.0 A2	Dwg 3.2 A	Dwg 3.2 A	Dwg 3.2 A2	Dwg 3.2 A2
		15	120	9	99								
		20	90	12	121								
		25	72	14	132								
		30	60	17	154								
		40	45	23	176								
		50	36	29	198								
		60	30	35	220								
		80	23	44	220								
		100	18	55	243								
		120	15	66	243								
		160	11	88	243								
		200	9	110	243								
		240	7.5	132	243								

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.
4. Bore dimension details and options shown on Page 48 Fig 3.1.
5. Hollow bore mounting details and options shown on Pages 48~52.

Model Number for Ordering

F2	S	12	N	010	-	B	M	LC	1	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
F2: F2 Series	S: Hollow Bore	12	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	LC: 1/50 Hp (15w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

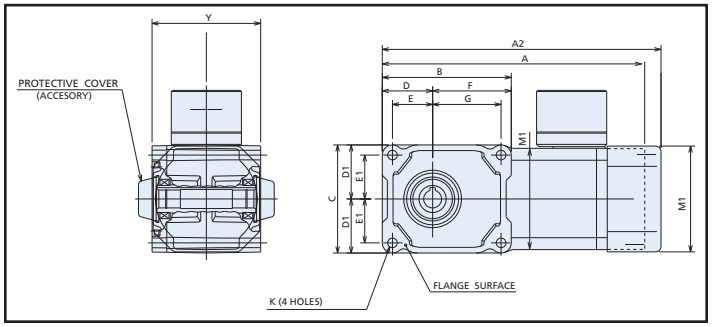
Special Specs

Notes:

1. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
2. Special bore options, see Page 48, Fig 3.1.
3. For any other special OEM requirement, please consult Brother.

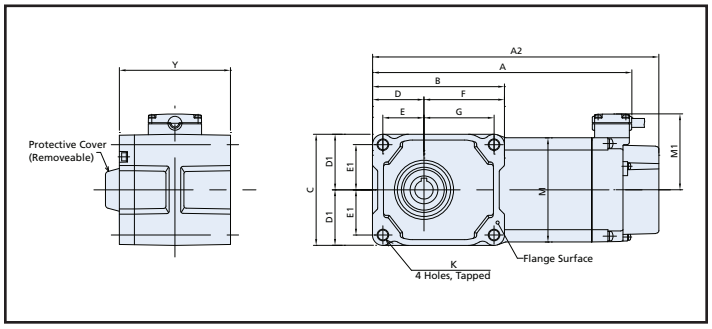
Frame	Drawing	A	A2	B	C	D	D1	E	E1	F	G	K	M	M1	Y	Wt (lb)
12	3.0	7.64	9.13	3.94	3.19	1.54	1.59	1.26	1.32	2.4	2.13	0.26	2.99	3.15	3.2	7.5

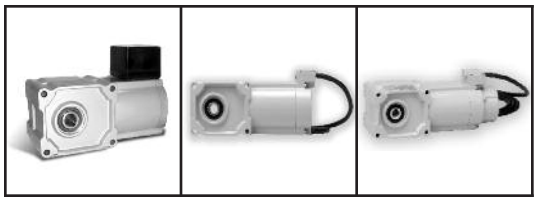
Dwg 3.0



Frame	Drawing	A	A2	B	C	D	D1	E	E1	F	G	K	M	M1	Y	Wt (lb)
12	3.1	8.19	9.06	3.94	3.19	1.54	1.59	1.26	1.32	2.4	2.13	0.26	2.99	2.32	3.2	9

Dwg 3.1





Spec Table 3.2

Specifications						Dimensional Drawing							
						Motor		Brakemotor		Motor IP-65		Brakemotor IP-65	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase
1/30	12	10	180	10	77	Dwg 3.2 A	Dwg 3.2 A	Dwg 3.2 A2	Dwg 3.2 A2	Dwg 3.3 A	Dwg 3.3 A	Dwg 3.3 A2	Dwg 3.3 A2
		15	120	14	99								
		20	90	19	121								
		25	72	24	132								
		30	60	29	154								
		40	45	39	176								
		50	36	48	198								
		60	30	58	220								
		80	23	73	220								
		100	18	91	243								
		120	15	110	243								
		160	11	146	243								
		200	9	183	243								
		240	7.5	220	243								

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.
4. Bore dimension details and options shown on Page 48 Fig 3.1.
5. Hollow bore mounting details and options shown on Pages 48~52.

Model Number for Ordering

F2	S	12	N	010	-	B	M	LD	1	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
F2: F2 Series	S: Hollow Bore	12	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	LD: 1/30 Hp (25w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

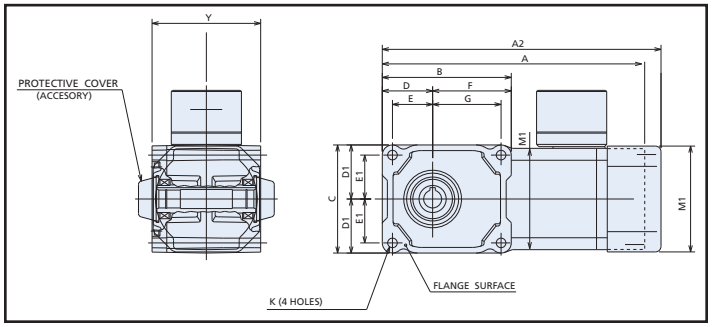
Special Specs

Notes:

1. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
2. Special bore options, see Page 48, Fig 3.1.
3. For any other special OEM requirement, please consult Brother..

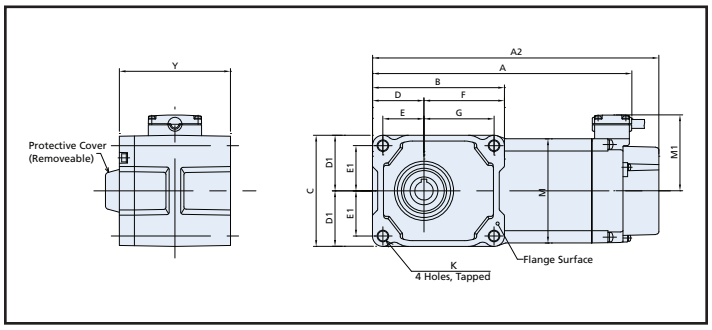
Frame	Drawing	A	A2	B	C	D	D1	E	E1	F	G	K	M	M1	Y	Wt (lb)
12	3.2	7.64	9.13	3.94	3.19	1.54	1.59	1.26	1.32	2.4	2.13	0.26	2.99	3.15	3.2	7.5

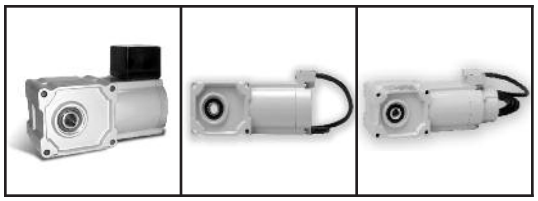
Dwg 3.2



Frame	Drawing	A	A2	B	C	D	D1	E	E1	F	G	K	M	M1	Y	Wt (lb)
12	3.3	8.19	9.06	3.94	3.19	1.54	1.59	1.26	1.32	2.4	2.13	0.26	2.99	2.32	3.2	9

Dwg 3.3





Spec Table 3.2

Specifications						Dimensional Drawing							
						Motor		Brakemotor		Motor IP-65		Brakemotor IP-65	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase
1/20	15	10	180	16	77	Dwg 3.4 A	Dwg 3.4 A	Dwg 3.4 A2	Dwg 3.4 A2	Dwg 3.5 A	Dwg 3.5 A	Dwg 3.5 A2	Dwg 3.5 A2
		15	120	23	99								
		20	90	31	121								
		25	72	39	132								
		30	60	47	154								
		40	45	62	176								
		50	36	78	198								
		60	30	94	220								
		80	23	119	220								
		100	18	148	243								
		120	15	178	243								
		160	11	237	309								
		200	9	296	309								
		240	7.5	356	309								

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.
4. Bore dimension details and options shown on Page 48 Fig 3.1.
5. Hollow bore mounting details and options shown on Pages 48~52.

Model Number for Ordering

F2	S	15	N	030	-	B	B	RE	1	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
F2: F2 Series	S: Hollow Bore	15	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	RE: 1/20 Hp (40w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

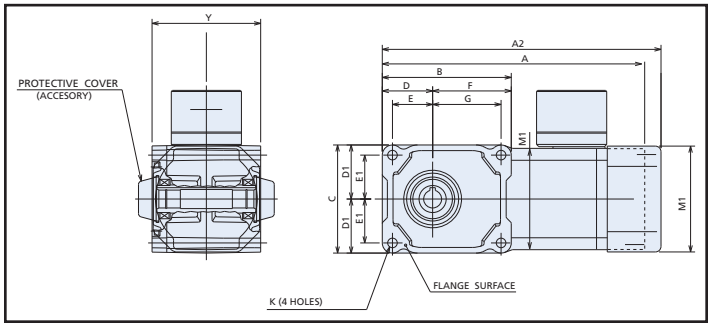
Special Specs

Notes:

1. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
2. Special bore options, see Page 48, Fig 3.1.
3. For any other special OEM requirement, please consult Brother.

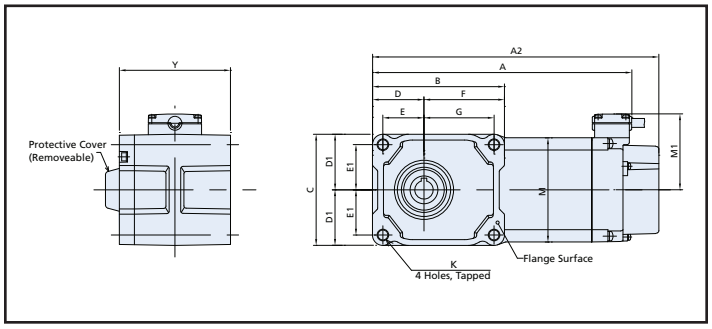
Frame	Drawing	A	A2	B	C	D	D1	E	E1	F	G	K	M	M1	Y	Wt (lb)
15	3.4	8.27	9.7	4.49	3.78	1.75	1.89	1.4	1.54	2.74	2.38	0.33	3.54	3.7	3.78	9

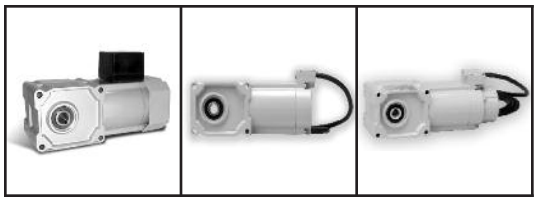
Dwg 3.4



Frame	Drawing	A	A2	B	C	D	D1	E	E1	F	G	K	M	M1	Y	Wt (lb)
15	3.5	8.82	9.75	4.49	3.78	1.75	1.89	1.4	1.54	2.74	2.38	0.33	3.54	2.58	3.78	11

Dwg 3.5





Spec Table 3.3

Specifications						Dimensional Drawing							
						Motor		Brakemotor		Motor IP-65		Brakemotor IP-65	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase
1/15	15	10	180	25	77	Dwg 3.6 A2	Dwg 3.6 A	Dwg 3.6 A2	Dwg 3.6 A2	n/a	Dwg 3.7 A	n/a	Dwg 3.7 A2
		15	120	37	99								
		20	90	49	121								
		25	72	61	132								
		30	60	74	154								
		40	45	98	176								
		50	36	123	198								
		60	30	147	286								
		80	23	186	286								
		100	18	233	308								
		120	15	279	308								
		160	11	373	308								
		200	9	466	308								
		240	7.5	477	308								

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.
4. Bore dimension details and options shown on Page 48 Fig 3.1.
5. Hollow bore mounting details and options shown on Pages 48~52.

Model Number for Ordering

F2	S	15	N	030	-	B	M	RF	2	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
F2: F2 Series	S: Hollow Bore	15	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	RF: 1/15 Hp (60w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

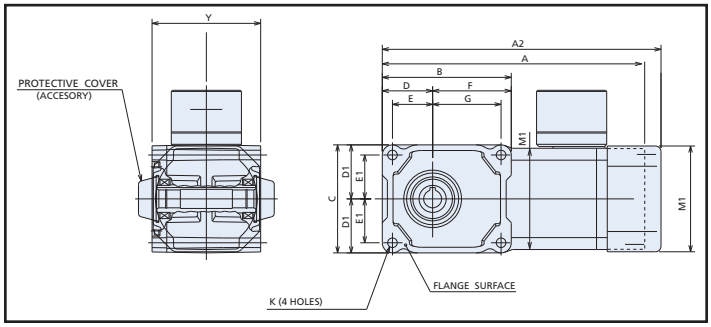
Special Specs

Notes:

1. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
2. Special bore options, see Page 48, Fig 3.1.
3. For any other special OEM requirement, please consult Brother.

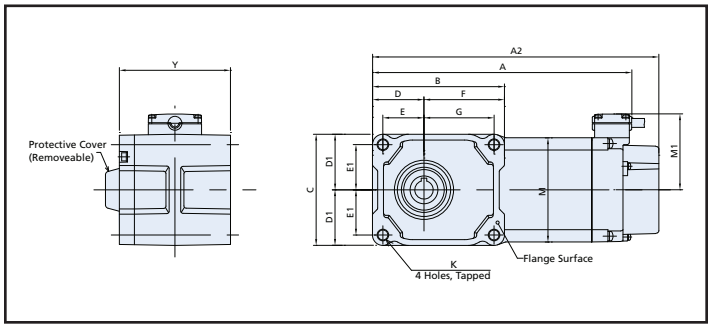
Frame	Drawing	A	A2	B	C	D	D1	E	E1	F	G	K	M	M1	Y	Wt (lb)
15	3.6	8.27	9.7	4.49	3.78	1.75	1.89	1.4	1.54	2.74	2.38	0.33	3.54	3.7	3.78	9

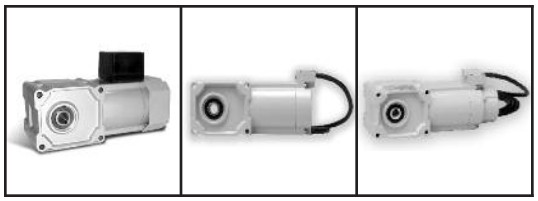
Dwg 3.6



Frame	Drawing	A	A2	B	C	D	D1	E	E1	F	G	K	M	M1	Y	Wt (lb)
15	3.7	8.82	9.75	4.49	3.78	1.75	1.89	1.4	1.54	2.74	2.38	0.33	3.54	2.58	3.78	11

Dwg 3.7





Spec Table 3.4

Specifications						Dimensional Drawing							
						Motor		Brakemotor		Motor IP-65		Brakemotor IP-65	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase
1/10	15	10	180	37	99	Dwg 3.8 A2	Dwg 3.8 A2	Dwg 3.8 A2	Dwg 3.8 A2	n/a	Dwg 3.9 A	n/a	Dwg 3.9 A2
		15	120	55	132								
		20	90	74	165								
		25	72	92	198								
		30	60	110	220								
		40	45	147	242								
		50	36	184	264								
		60	30	221	264								
		80	23	279	396								
		100	18	349	396								
		120	15	419	396								
		160	11	477	396								
		200	9	477	396								
		240	7.5	477	396								

Notes:

1. Motor and brakemotor electrical data shown on Pages 10~13.
2. The gearmotor length dimension that applies is noted as A or A2 in the "Motor" and "Brakemotor" columns.
3. Brother 3 phase gearmotors are suitable for use with a VFD. See Fig 1.18, Page 15 for details.
4. Bore dimension details and options shown on Page 48 Fig 3.1.
5. Hollow bore mounting details and options shown on Pages 48~52.

Model Number for Ordering

F2	S	15	N	030	-	B	M	RG	2	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
F2: F2 Series	S: Hollow Bore	15	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1		B: UL/CSA	M: Motor B: Brakemotor WM: IP-65 Motor WB: IP-65 Brakemotor	RF: 1/15 Hp (60w)	Single Phase 1: 115V, 60Hz 5: 220V, 60Hz 6: 230V, 60Hz 7: OEM Spec (Fig 1.6, Pg 11) Three Phase 2: 208/230V, 60Hz 3: 460V, 60Hz* 8: OEM Spec (Fig 1.5, Pg 11) *No 460V for IP-65	Standard Type A: Die Cast Box (IP-44) C: Plastic Box (IP-20) N: Leads 11.8 in, IP-20 IP-65 Motor N: Cord, 6 ft IP-65 Brakemotor N: Cord, 6 ft	Blank: Standard Type X: Special Spec

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

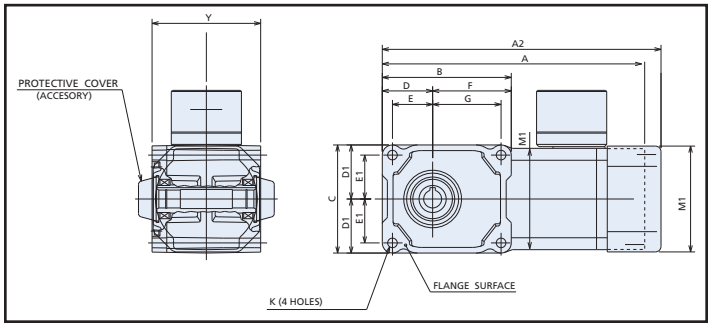
Special Specs

Notes:

1. Special Voltage: specify the Voltage/Frequency from Page 11, Fig 1.5.(3 phase) or Fig 1.6 (1 phase) on your purchase order.
2. Special bore options, see Page 48, Fig 3.1.
3. For any other special OEM requirement, please consult Brother.

Frame	Drawing	A	A2	B	C	D	D1	E	E1	F	G	K	M	M1	Y	Wt (lb)
15	3.8	8.27	9.7	4.49	3.78	1.75	1.89	1.4	1.54	2.74	2.38	0.33	3.54	3.7	3.78	9

Dwg 3.8



Frame	Drawing	A	A2	B	C	D	D1	E	E1	F	G	K	M	M1	Y	Wt (lb)
15	3.9	8.82	9.75	4.49	3.78	1.75	1.89	1.4	1.54	2.74	2.38	0.33	3.54	2.58	3.78	11

Dwg 3.9

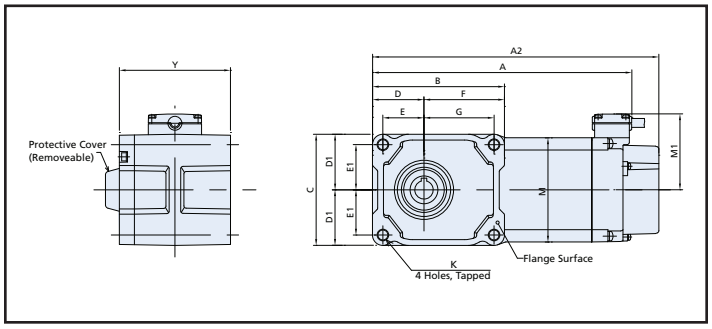
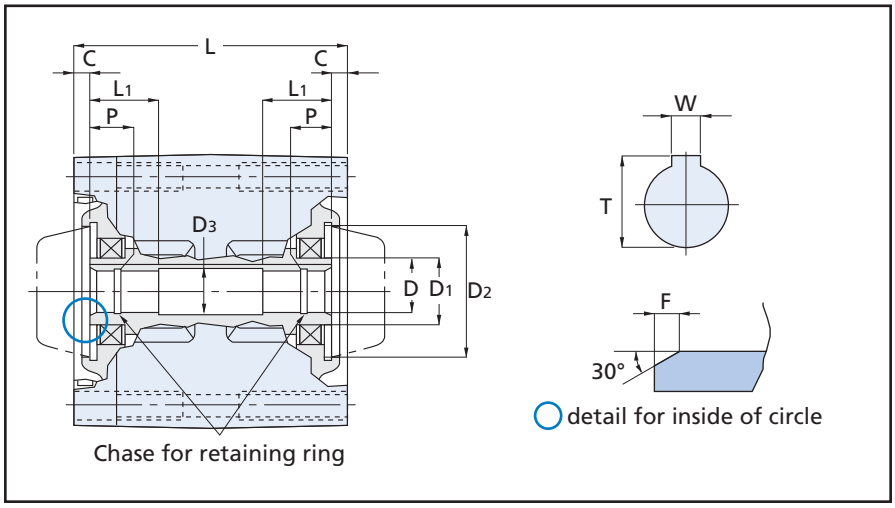


Fig 3.1: Standard Bore and Optional Bore Dimensions



Frame	Standard or Option	Special Code (Note)	D	D1	D2	D3	W	T	L	L1	P	C	F
F2S12	Standard	B05I	0.5000~0.5011 inch	0.79 in	1.54 in	0.51 in	0.125 in	0.56 in	3.19 in	0.79 in	0.31 in	0.22 in	0.08 in
	Option	B12M	12 mm H8	20 mm	39 mm H8	13 mm	4 mm	13.8 mm	81 mm	20 mm	8 mm	5.5 mm	2 mm
F2S15	Standard	B06I	0.6250~0.6261 inch	0.94 in	1.54 in	0.63 in	0.1875 in	0.71 in	3.78 in	0.83 in	0.35 in	0.16 in	0.08 in
	Option	B15M	15 mm (H8)	24 mm	39 mm H8	16 mm	5 mm	17.3 mm	96 mm	21 mm	9 mm	4 mm	2 mm

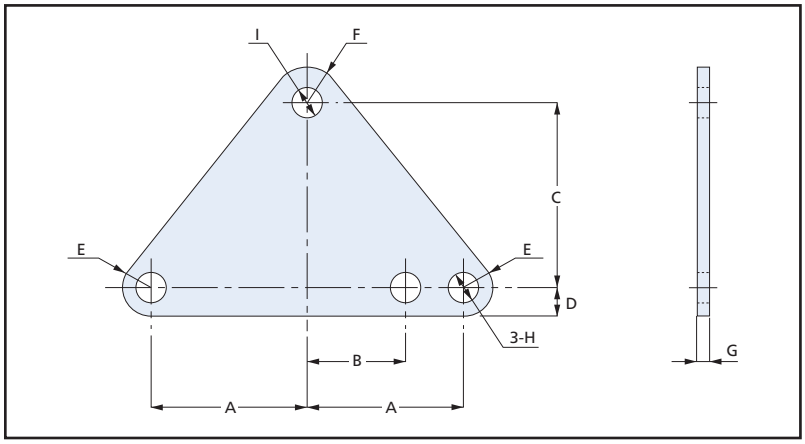
Note:

When specifying an optional bore, please use the special part code "X" at the end of the part number and designate the bore size by the code on your purchase order. There is no need to add the "X" or specify the bore code when ordering the standard designated bore.

Fig 3.2: Metric Tolerances (mm)

Dimension	Bore: H8 (Ref D)	Shaft/Pilot: H7 (Ref D2)
Over 10~18 mm	+0.027/-0.000	+0.000/-0.018
Over 18~30 mm	+0.033/-0.000	+0.000/-0.021

Fig 3.3: Optional Torque Arm



Frame	Part Number	A in (mm)	B in (mm)	C in (mm)	D in (mm)	E in (mm)	F in (mm)	G in (mm)	H in (mm)	I in (mm)
F2S12	TAF2S-12	1.69	0.94	1.48	0.28	0.28	0.35	0.13	0.33	0.28
		(43)	(24)	(37.5)	(7)	(7)	(9)	(3.2)	(8.4)	(7)
F2S15	TAF2S-15	1.89	1.18	2.22	0.35	0.35	0.43	0.13	0.41	0.35
		(48)	(30)	(56.5)	(9)	(9)	(11)	(3.2)	(10.5)	(9)

Material: SS400, Surface treatment: uni-chrome, Color: white

Tightening Torque

When installing a reducer with a torque arm, tighten the bolt using a helical spring lock washer and plain washer. Proper tightening torques, are shown in the table.

Fig 3.4: Tightening Torque

Part Number	Bolt Size		Tightening Torque	
	Metric	Inch	N-m (kgf-m)	in-lb
TAF3S-20-2	M8	5/16-18	13 (1.3)	115
TAF3S-55-3	M20	3/4-10	294 (30)	2600

Fig 3.5: How to Apply the Torque Arm Fixing Element

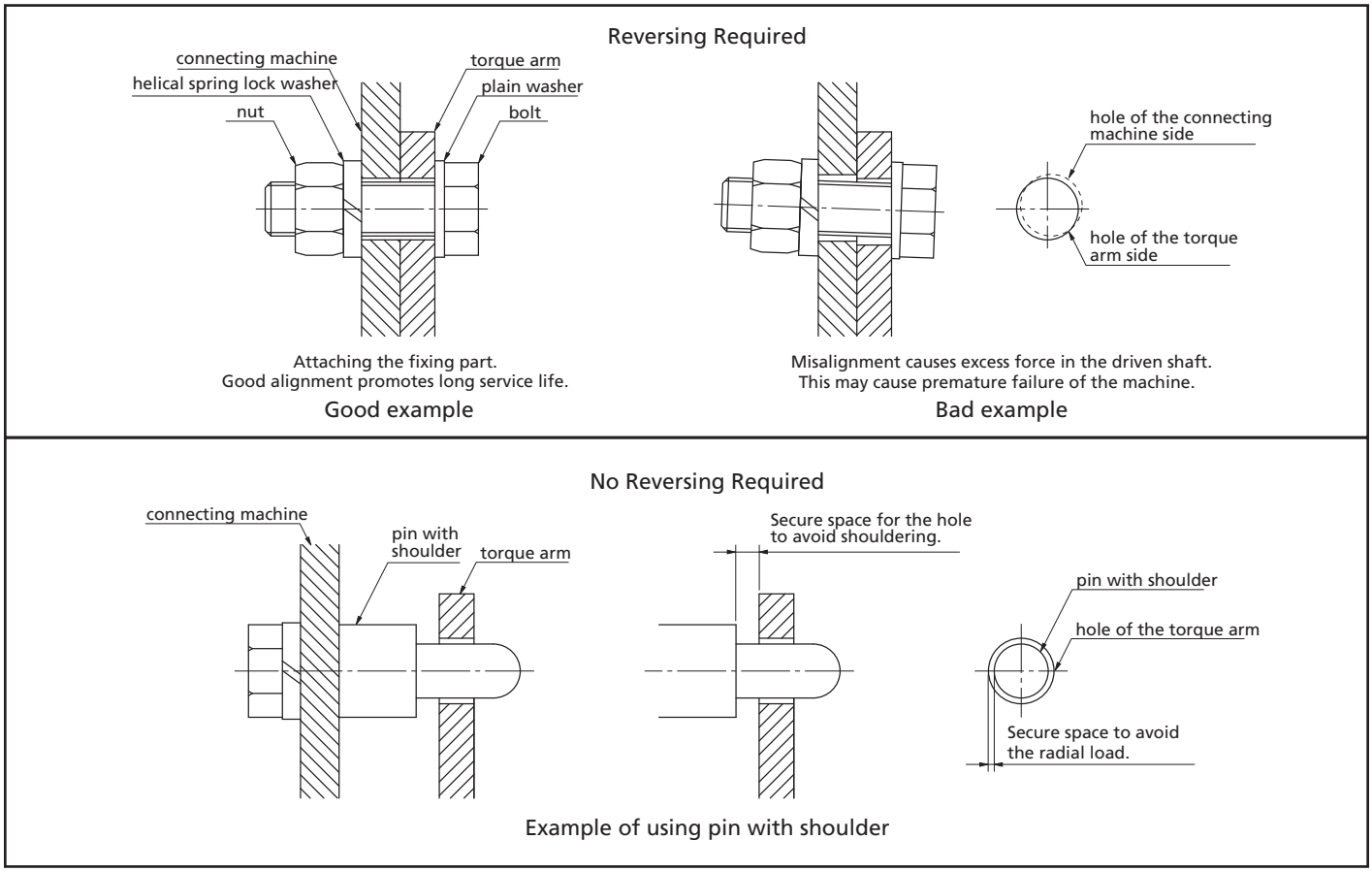
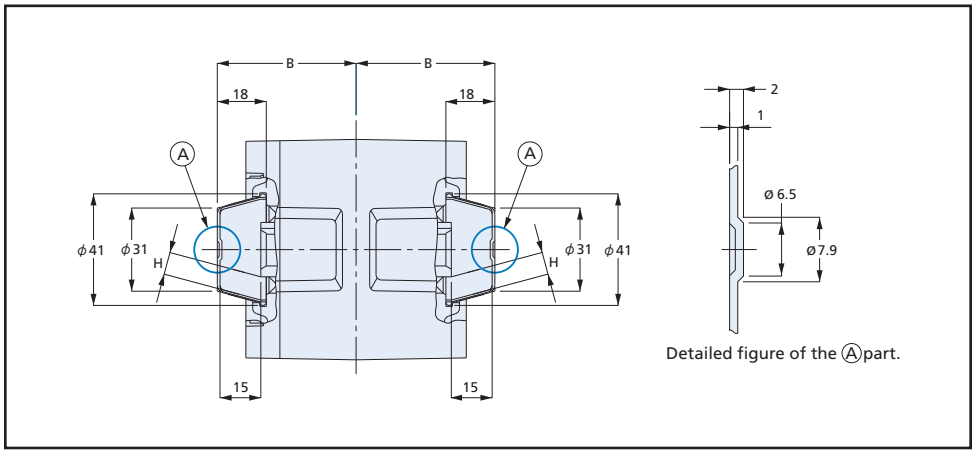


Fig 3.6: Safety Cap Diemsions



F2S Safety Cap Dimensions

Frame	A in (mm)	H in (mm)
F2S12	2.01 (51)	0.32 (8.2)
F2S15	2.36 (60)	0.25 (6.3)

Fig 3.7: Inserting the Shaft

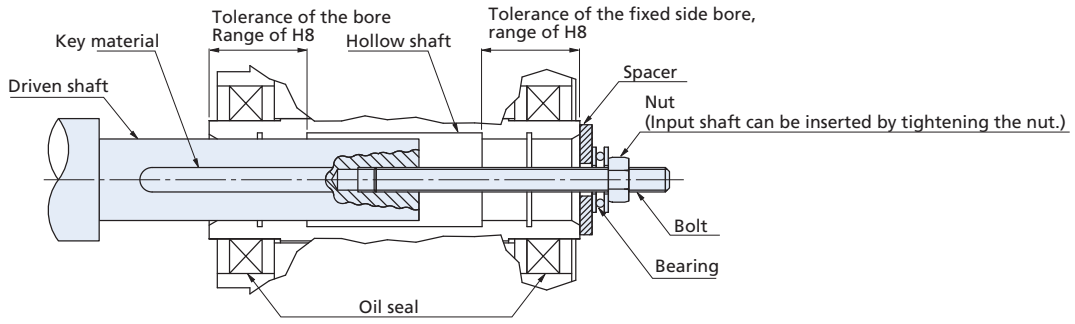
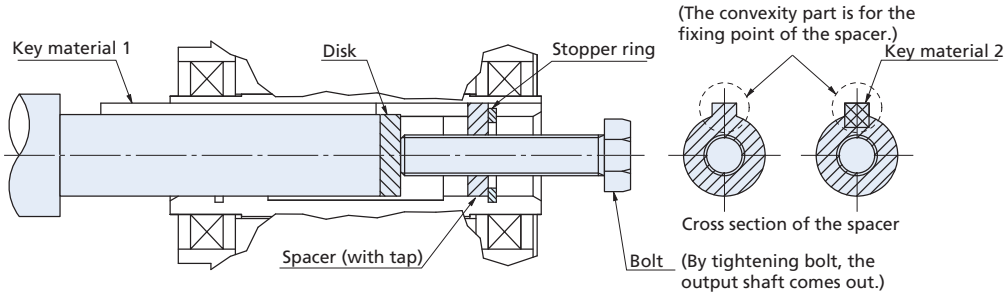
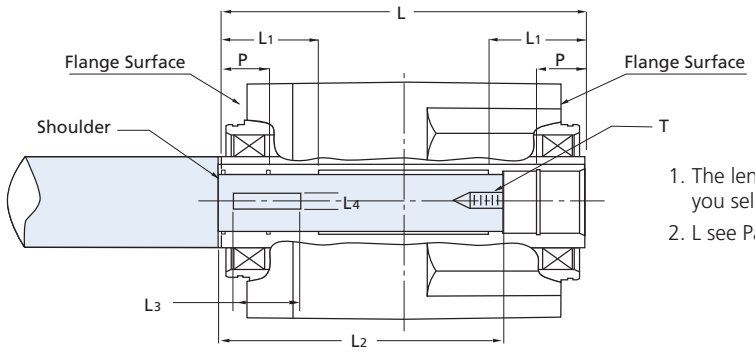


Fig 3.8: How to Remove the Shaft



* The spacer, disk, belt, stopper ring are not supplied by Brother.

Fig 3.9: Recommended Dimensions of Shaft from the Shoulder



1. The length of L2 can vary depending on the type of connection you select. See note 3 below for minimum length requirements.
2. L see Page 54, Fig 3.1.

Note: The shaft is supplied by the OEM or User.

Frame Bore (Inch)	Shaft (Inch Dimension) O.D. (in)	L1 (in)	L2 (in)	L3 (in)	L4 (in)	Key (in)	Tap T
F2S-12 0.5000	0.5000	3.19	0.79	2.50	0.750	0.1250	1/4-20X0.50
F25-15 0.6250	0.6250	3.78	0.83	3.15	0.938	0.1875	1/4-20X0.50

Frame Bore (mm)	Shaft (Inch Dimension) O.D. (in)	L1 (in)	L2 (in)	L3 (in)	L4 (in)	Key (in)	Tap T
F2S-12 12 mm	12 h_7	81	20	65	18	4	M6X12
F25-15 15 mm	15 h_7	96	21	80	22.5	5	M6X12

Tolerances are for low impact or uniform loading. For high impact loading or high radial loading, use tighter tolerances.

Designing your Own Shaft

1. The usable key length should be greater than 1.5X the diameter of the driven shaft.
2. The Key should be engaged with at least half of the length L1. See Fig 3.1 for the dimension L.
3. The minimum length of shaft engaged inside the bore is approximately (L - L1) + ((L1-P)/2). See Fig 3.1 for details.

Fig 3.10A Securing the Shaft with a Shoulder
Fixing by Spacer and Stopper Ring

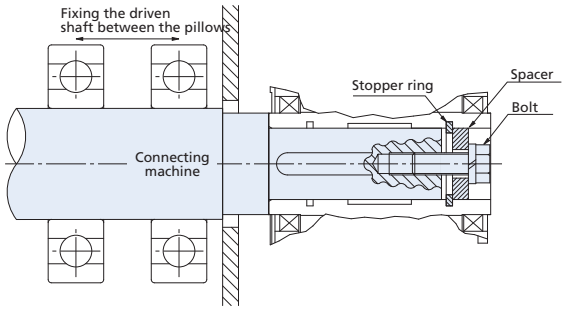


Fig 3.10B Securing the Shaft with a Shoulder
Fixing by End Plate

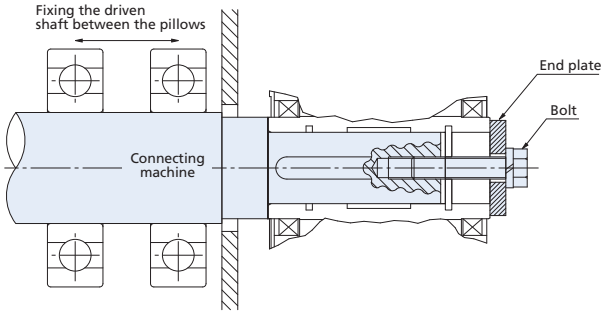


Fig 3.11A Securing the Shaft without a Shoulder
Fixing by Spacer and Stopper Ring

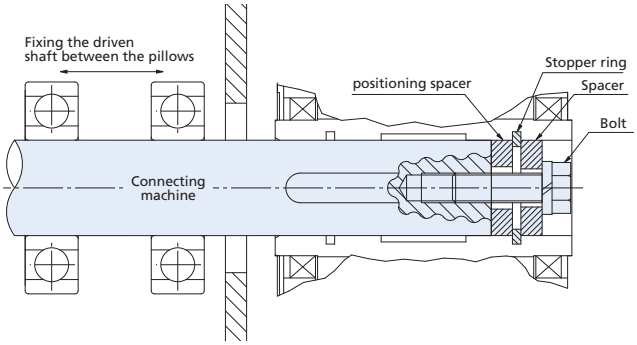


Fig 3.11B Securing the Shaft without a Shoulder
Fixing by End Plate

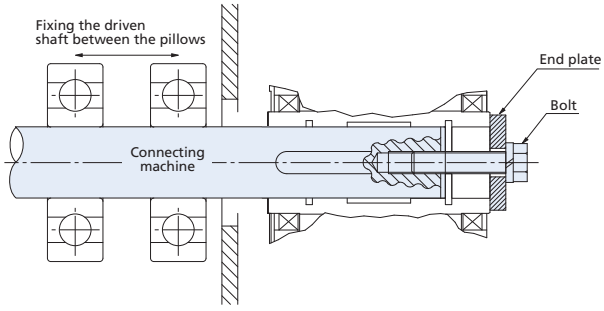


Fig 3.12A: Fixing Element Parts; Inch

Bore (mm)	Bolt		O.D. (in)	I.D. (in)	T (in)
	Internal	External			
0.5000	1/4-20X0.50	1/4-20x1.75	0.48	0.28	0.125
0.6250	1/4-20X0.50	1/4-20x1.75	0.61	0.28	0.125

Note: Fixing element parts not supplied by Brother.

Fig 3.12B: Fixing Element Parts; Metric

Bore (mm)	Bolt		O.D. (in)	I.D. (in)	T (in)
	Internal	External			
12	M6X16	M6X30	11.5	6	3
15	M6X16	M6X30	14.5	7	3

Note: Fixing element parts not supplied by Brother.

Why Use A Hypoid/Helical Hollow Bore

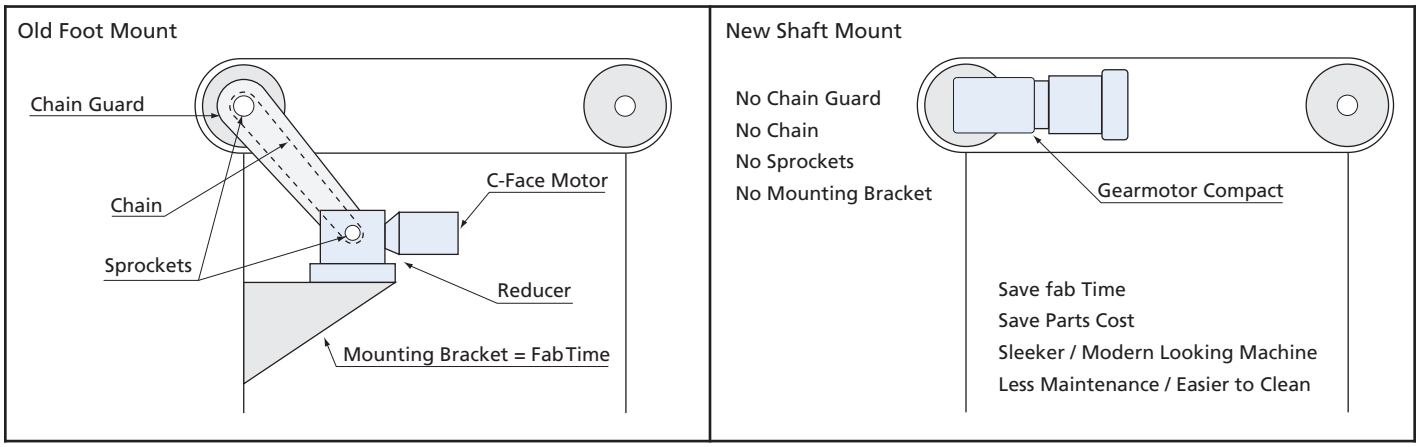
Flange Mounted

Positive Aspects

- Direct attachment to the machine is possible.
- Space is saved.
- Few parts are required.
- Base mounts, chains, sprockets, and chain guarding are not required.
- Easy to sanitize in food service environment (IP-65 Type).

Negative Aspects

- Alignment of the reducer bearings with the machine bearing is required.
- (4) bolts are needed to securing the reducer flange to the mounting surface.
- Changing the reducer may be more difficult.



Torque Arm Mounted

Positive Aspects

- Easy alignment with the connecting machine.
- Only one fixing point is needed to transmit the torque.
- Changing the reducer is simpler.
- Easy to sanitize in food service environment (IP-65 Type).

Negative Aspects

- Torque arm is needed.
- Space for attaching torque arm is needed.

Compared to a Worm

Positive Aspects

- Service Life is greater than 2X longer = superior cost of ownership.
- HRH/H is more energy efficient = lower operating cost.
- HRH/H is lighter and more compact = easier to mount.
- HRH/H is symetric = mounting is simple and flexable.
- HRH/H operating temperature is lower = longer life.
- No breather hole is required = easier to mount, no external ingress point.
- Mounting is 100% flexable, any angle any direction = easier to apply.

Negative Aspects

- HRH/H is not self locking. If backdrive is not acceptable, a brake is required.

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Terms and Conditions of Sale

BROTHER INTERNATIONAL CORPORATION
GEARMOTOR/OEM DIVISION

General
These standard Terms and Conditions of Sale shall be incorporated into any contract between Purchaser and Brother International Corporation (hereafter Brother) and shall apply to all purchase orders issued by Purchaser. Unless specifically provided herein or in a separate written agreement duly executed by Brother, the quotation and this form constitute the entire agreement between Brother and Purchaser and no other terms or conditions oral or written shall be of any effect. All orders, whether placed pursuant to a quotation or not, are accepted only upon express condition that purchaser agrees to the Terms and Conditions as specified herein.

Price and Delivery Terms
Price and delivery terms are F.O.B. Brothers nearest U.S. facility and do not include sales, use, excise, or any other taxes. Our responsibility ceases when delivery is made to the transportation company and any claims for loss or damage in transit must be handled by the Purchaser with the carrier.

Packing
No charge is made for standard boxing for domestic shipments. Purchaser will be quoted and charged separately for export or special packing requirements.

Payment Terms
To Purchasers with credit standing satisfactory to Brother, terms of payment are cash in full, net 30 days. If at any time Brother deems that by reason of financial condition of the Purchaser or otherwise, the continuance of production or shipments is not justified, Brother may revoke its extension of credit, enforce any security interest(s) created hereby on all goods furnished by Brother to the Purchaser and otherwise secure itself as to Purchasers performance of its obligation.

Cancellation
Changes, suspension or cancellation of any order by Purchaser may be made only upon written approval of an authorized officer of Brother.

Warranty
All Brother gearmotor product are warranted against defects in materials and workmanship for a period of 2 years from the date of manufacture. This constitutes Brother's only warranty in connection with this sale, and is in lieu of all other warranties expressed or implied, written or oral. There are no implied warranties of merchantability or fitness for a particular purpose that apply to this sale. If performance guarantees are requested, they should be requested in writing. Full consideration will be given to such requests when complete details of the proposed application are included.

Limitation of Remedy
Brother will repair or replace, at brother's option, F.O.B. Brother's factory, freight prepaid, any Brother gearmotor proved defective in materials or workmanship if immediate written notice of claim is made to Brother by Purchaser within 2 years from the date of manufacture. It is agreed that such repair or replacement is the exclusive remedy available from Brother. Under no circumstances shall Brother be liable to anyone for any special, incidental or consequential damages, whether the result of negligence or otherwise.

Warranty Exclusions
The Warranty of Brother gearmotor products does not cover and Brother makes no warranty with respect to:

1. Failures not reported in writing to Brother within the warranty period of 2 years after the date of manufacture.
2. Failures or damages due to miss-application, abuse, improper installation or abnormal conditions of temperature, humidity, dirt or corrosive matter.
3. Failures due to operation, either intentional or otherwise, above rated capacities or in an otherwise improper manner.
4. Product which has in any way been tampered with or altered by anyone other than an authorized representative of Brother.
5. Expenses incurred by the Purchaser in an attempt to repair or rework an allegedly defective product.
6. Product damaged in shipment or otherwise without the fault of Brother.

Returns
No product will be accepted for return unless authorized in writing with a returned merchandise authorization (RMA) number assigned. Any returned goods must be returned with transportation charges prepaid.

Regulatory Laws and/or Standards
It is the Purchaser's obligation to install and operate all Brother gearmotor products in conformance with all applicable national or local laws and safety codes.

Patents
Brother represents that its gearmotors are designed and manufactured such that they do not infringe on any United States Patent(s), and that Brother will, at its expense, defend any claim charging such infringement and will save Purchaser harmless from any adverse judgments resulting there from. Purchaser agrees to give Brother, prompt written notice of any claim of infringement and to turn over to Brother the complete control of any litigation involving such claims including the right to settle such claims. This indemnity does not apply to Products which are incorporated by the Purchaser into Products which are changed to infringe a Patent or to Product which is used by Purchaser in performance of a method or process which is charged to infringe a Patent.

Law
These Standard terms and Conditions of Sale shall be interpreted in accordance with the Laws of the State of New Jersey.

Severability
If any of the terms and Conditions shown here are determined to be invalid, illegal, or unenforceable the remainder of these Terms and Conditions shall remain in full force and effect.

Brother International Corporation
Gearmotor Division

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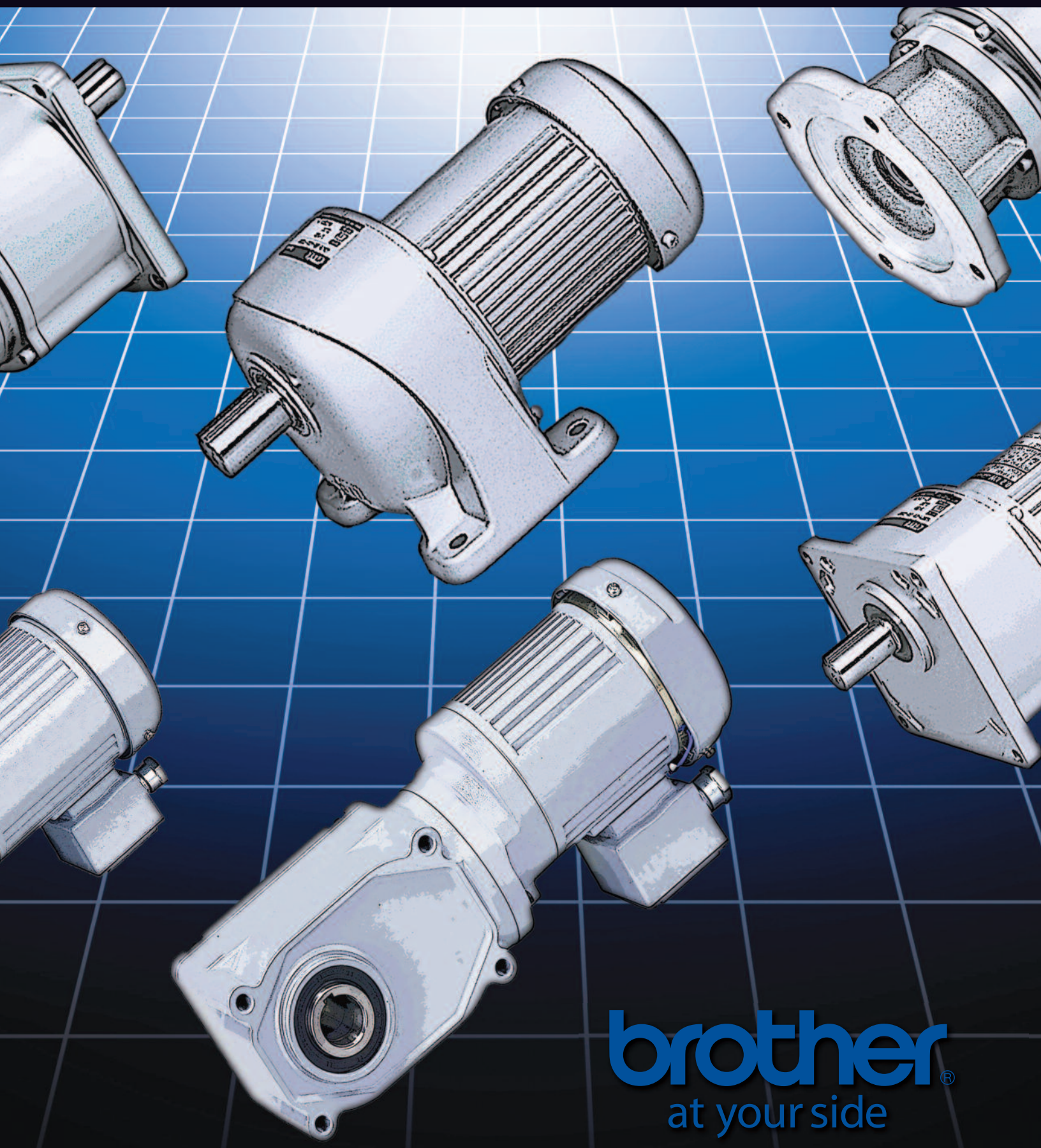
Bridgewater, NJ 08807
(866) 523-6283 • Fax (908) 575-3743
www.BrotherGearmotors.com

GTR MID SERIES GEARMOTORS



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HELICAL IN-LINE & HYPOID/HELICAL RIGHT-ANGLE

brother
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WITH BROTHER GEARMOTORS...
Your Options are Standard!

About Brother
Brother International Corporation, with its corporate headquarters located in Bridgewater, NJ, was established in the U.S. on April 21, 1954. Brother markets many industrial products, home appliances, and business products manufactured by its parent company, Brother Industries, Ltd. of Nagoya, Japan. Currently, Brother and its subsidiaries employ over 1,100 people in the Americas and recorded consolidated net sales of $1.5 billion for the fiscal year ending December 2008.

Brother Industries Ltd. began manufacturing sewing machines in 1928 and took its present corporate form in 1934 as a multinational, diversified sales, distribution, engineering and manufacturing company. With an aggressive program for boosting worldwide sales while providing quality products and superior customer service, the company aims to tighten the focus on core competencies and boost global competitiveness.

About Brother Gearmotors
The line of gearmotors and reducers, detailed in this catalog, is an example of advanced technology brought to industry by Brother. The GTR Series of gearmotors was designed in response to industrial demand for smaller, lighter, more reliable, and energy efficient power transmission. Our energy efficient High Ratio Hypoid right-angle gearing, CBN grinding process, and quality aluminum die cast housings are examples of superior technology brought to you by Brother.

Manufactured using the best machinery available in the World, Brother gears are processed on equipment by Gleason Pfauter, Mikron, Reishauer, Kashifuji, Koyo-Lindberg, and Zeiss. The quality equipment, fifty plus years of experience in gear manufacturing, combined with our commitment to advanced technology, make Brother second to none in gear and gearmotor manufacturing technology. We invite you to challenge us with your power transmission needs.

The Brother line of gearmotors offer more voltage choices, a wider range of mounting configurations and greater efficiency (for smaller drive packages).

With Brother Gearmotors, you can design a more efficient machine at a lower overall cost.

Our Helical and Hypoid gearmotors feature:

- Steel carbonitrided and die quenched gears which translates into longer life.
- A selection of 1/50 HP to 3 HP.
- 9 voltage choices in 50hz or 60hz.
- 28 ratio choices.
- Flexibility in mounting styles—with over 10 mounting configurations—helical in-line and hypoid right-angle.
- Hypoid gearing in our right-angle units is the same gearing used in an automobile differential—which allows Brother Gearmotors to boast the most efficient and durable right-angle package commercially available!
- European and other worldwide voltages are available.
- Lubricated for life with high grade synthetic grease and sealed with machine slip fit “O” rings eliminating costly downtime for lubrication changes!
- Two Year Warranty!

Design your machine around your goals, not your gearmotor.

Brother Gearmotors—your options are standard.

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Table of Contents

Mid Type G3 In-line Torque Table (in-lb) (Frame / Torque)

Ratio	RPM	1/8 Hp	1/4 Hp	1/2 Hp	1 Hp	2 Hp	3 Hp
5	360	22.5	45	89	167	338	494
10	180	44	89	178	335	668	980
15	120	67	134	268	502	1006	1474
20	90	86.7	178	357	669	1335	1959
25	72	113	223	446	837	1673	2454
30	60	130	268	535	1004	2003	2939
40	45	173	346	691	1296	2592	3797
50	36	217	432	864	1620	3234	4751
60	30	260	519	1037	1944	3884	5696
80	22.5	346	691	1383	2593	5176	7595
100	18	432	864	1728	3241	6476	9537
120	15	519	1037	2074	3889	7768	
160	11.2	691	1383	2765	5185	10317	
200	9	864	1728	3457	6481	10838	
300	6	1155	2311	4621	8665		
375	4.8	1444	2888	5777	10832		
450	4	1733	3466	6770	10850		
600	3	2311	4621	9243			
750	2.4	2888	5777	10850			
900	2	3466	6770	10850			
1200	1.5	3819	6770	10850			

Foot Mount	Flange Mount	Description
		1/8 ~3 Hp 5:1~200:1 3 Ph Std 3 Ph IP-65 1 Ph Std Optional Brake Pages 18~27
		1/8 ~1 Hp 300:1~1200:1 3 Ph Std 3 Ph IP-65 1 Ph Std Optional Brake Pages 18~25
		1/4 ~1 Hp 5:1~200:1 NEMA 56C Pages 28~29

Mid Type H2 Rt-Angle Torque Table (in-lb) (Frame / Torque)

Ratio	RPM	1/8 Hp	1/4 Hp	1/2 Hp	1 Hp	2 Hp	3 Hp
5	360	21	42	85	159	321	468
10	170	42	85	169	317	633	928
15	120	63	127	254	476	954	1396
20	90	85	169	338	634	1266	1855
25	72	106	211	423	793	1587	2324
30	60	127	254	507	951	1899	2783
40	45	169	338	676	1268	2454	3563
50	36	211	423	845	1585	3061	4491
60	30	254	507	1014	1902	3676	5384
80	22.5	328	654	1308	2452	4899	7187
100	18	410	817	1634	3065	6121	9017
120	15	491	981	1961	3677	7343	10751
160	11.2	655	1308	2615	4903	9797	
200	9	819	1634	3269	6129	10838	
240	7.5	983	1961	3819	6770	10838	
300	6	1069	2170	4227	7926		
375	4.8	1336	2712	5284	9908		
450	4	1603	3255	6341	10850		
600	3	2113	4339	8455			
750	2.4	2642	5424	10568			
900	2	3170	6509	10850			
1200	1.5	3819	6770	10850			
1500	1.2	3818					

Foot Mount	Description
	1/8 ~3 Hp 5:1~240:1 3 Ph Std 3 Ph IP-65 1 Ph Std Optional Brake Pages 30~39
	1/8 ~1 Hp 300:1~1500:1 3 Ph Std 3 Ph IP-65 1 Ph Std Optional Brake Pages 30~37
	1/4 ~1 Hp 5:1~200:1 NEMA 56C Pages 40~41

Mid Type F3 Rt-Angle Hollow Bore Torque Table (in-lb) (Frame / Torque)

Ratio	RPM	1/8 Hp	1/4 Hp	1/2 Hp	1 Hp	2 Hp	3 Hp
5	360	19	40	81	159	300	451
7.5	240	28	61	123	221	460	672
10	170	38	81	168	300	619	902
12.5	144	47	106	212	380	761	1115
15	120	57	123	238	460	920	1345
20	90	76	168	327	619	1221	1796
25	72	97	212	407	761	1531	2248
30	60	115	238	486	920	1841	2699
40	45	159	327	654	1221	2442	3593
50	36	194	407	814	1531	3053	4496
60	30	221	486	982	1841	3682	5390
80	22.5	283	628	1239	2327	4655	6824
100	18	362	770	1548	2903	5823	8532
120	15	433	929	1867	3496	6983	10231
160	11.2	584	1239	2389	4655	9284	
200	9	716	1548	2389	4903	11187	
240	7.5	867	1628	2389	4903	11187	
300	6	973	2079	4168	7824		
375	4.8	1212	2602	5213			
450	4	1460	3124	6257			
600	3	1832	3947	8346			
750	2.4	2292	4930				
900	2	2956	6257				
1200	1.5	3938	8346				
1500	1.2	5213					

Shaft/Flange Mount	Description
	1/8 ~3 Hp 5:1~240:1 3 Ph Std 3 Ph IP-65 1 Ph Std Optional Brake Pages 42~51
	1/8 ~1 Hp 300:1~1500:1 3 Ph Std 3 Ph IP-65 1 Ph Std Optional Brake Pages 42~49
	1/4 ~1 Hp 5:1~240:1 NEMA 56C Pages 52~53

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Part Numbers GTR Mid Series

G3	K	22	N	025	–	B	M	L	4	A	X
H2	L	22	T	030	–	B	WB	H	4	E	
F3	S	25	N	060	–	N	C	K			

Type
G3: G3 Series
H2: H2 Series
F3: F3 Series

Mount Form
L: Foot Mount
K: Flange Mount
S: Hollow Shaft
(F3 Series)

Frame

G3	H2	F3
18	22	20
22	28	25
28	32	30
32	40	35
40	50	45
50		55

Shaft/Bore Arrangement
G3 Series
N: Common Code
H2 Series
L: Left Extension
R: Right Extension
T: Double Extension
F3 Series
N: Common Code

Gear Ratio
007 : 7.5:1
010 : 10:1
012 : 12.5:1
120 : 120:1
12X : 1200:1

UL/CSA
B : UL/CSA
N : Not UL/CSA

Motor Type
M: Motor
B: Brakemotor
J: Brakemotor
(w/ manual release)
WM: Motor
(Water-resistant, IP-65)
WB: Brakemotor
(Water-resistant, IP-65)
C: NEMA56C

Motor Power
H: 1/8HP (100W)
K: 1/4HP (200W)
L: 1/2HP (400W)
M: 1HP (750W)
P: 2HP (1500W)
R : 3HP (2200W)

Supply Voltage
1: 115V, 60Hz, 1ph
4: 208/230/460V, 60Hz, 3ph
5: 220V, 60Hz, 1ph
6: 230V, 60Hz, 1ph
7: OEM Spec. 1ph
8: OEM Spec. 3ph
Blank: NEMA56C

Terminal Box/Leads
A: Die Cast Box
E: Die Cast Box IP-65
S: Steel Box
N: Leads
Blank: NEMA56C

Special Spec
X: Provided
Blank: Std

Right-Angle Gearmotors

- Longer Life
- High Reductions/Small Size
- Mounting in Any Direction
- Lightweight and Compact
- Low-Noise Brake
- Maintenance Free
- Brother Hypoid Gearing

Longer Life
Brother Hypoid gearmotors and reducers use hardened steel gears throughout. This gives Hypoid gearing far superior wear life compared to worm gears which use softer bronze on the output gear.

High Reductions/Small Size
Brother offers reductions up to 1500:1 in most sizes. Hypoid gearing makes our high reductions significantly more compact and light weight compared to worm/worm and helical/worm designs.

Mounting in Any Direction
Brother gearboxes are sealed with machine "slip" fit "o" rings and double lip spring shaft seals on both the motor input shaft and output drive shaft. They do not require breather plugs or expansion bladders. They can be mounted in any conceivable direction without concern for lubrication leakage.

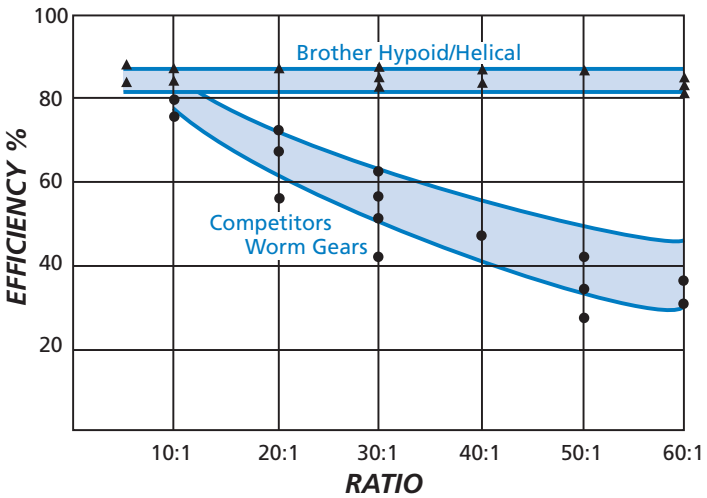
Lightweight and Compact
Die cast aluminum gearmotors and reducers are light in weight allowing engineers to design more economical mounting provisions.

Low-Noise Brake
The brake system developed exclusively by Brother, uses vibration damping sheet steel for the armature, which dramatically reduces noise associated with the brake.

Maintenance Free
High-quality synthetic grease is used in all Brother gearboxes. It is filled at the factory and does not require maintenance filling or level checks. This saves valuable set-up and maintenance time compared to worm gear boxes. With no oil changes required, there is less concern for the costly disposal of oil as required by the EPA.

Brother Hypoid Gearing
As the world's largest fine pitch gear manufacturer, Brother provides highly efficient Hypoid gearing in all right-angle designs. Gears are made of chromium molybdenum steel that has undergone precision carbonitriding. The superior efficiency, gear materials, and heat treatment allows engineers to design-in the most compact gearmotor per output torque.

Gearbox Efficiency Comparison – Right-Angle Hypoid/Helical vs. Worm Gear



Input Speed – 1800 RPM
Hypoid – Grease Lubrication
Worm – Oil Lubrication

The graph at left shows actual measured efficiency, 1/4 Hp to 3 Hp.

Because of the high efficiency of the Hypoid/Helical combination, there is no self-locking in the back drive direction.

Big Energy Savings, Smaller Motor Hp Input
Due to the superior efficiency, it is often possible to replace worm gearbox/motor combination with a smaller Hp input in a Hypoid and actually receive greater torque at the driven shaft. Also, with smaller motor Hp, less electrical current is required, resulting in big savings on electric bills.

Industry Leader
Brother is the pioneer and leading manufacturer of Hypoid Bevel gearmotors. This unique right-angle type gearmotor has much higher power transmission efficiency than conventional worm gears. Growing demand is due to its COMPACTNESS, HIGH EFFICIENCY, and superior wear life, which meet the latest primary requirements for industrial applications.

brother at your side

In-Line Gearmotors

- Lightweight and Compact
- Longer Life
- Low-Noise Brake
- Maintenance Free
- Mounting in Any Direction
- Brother Helical Gearing

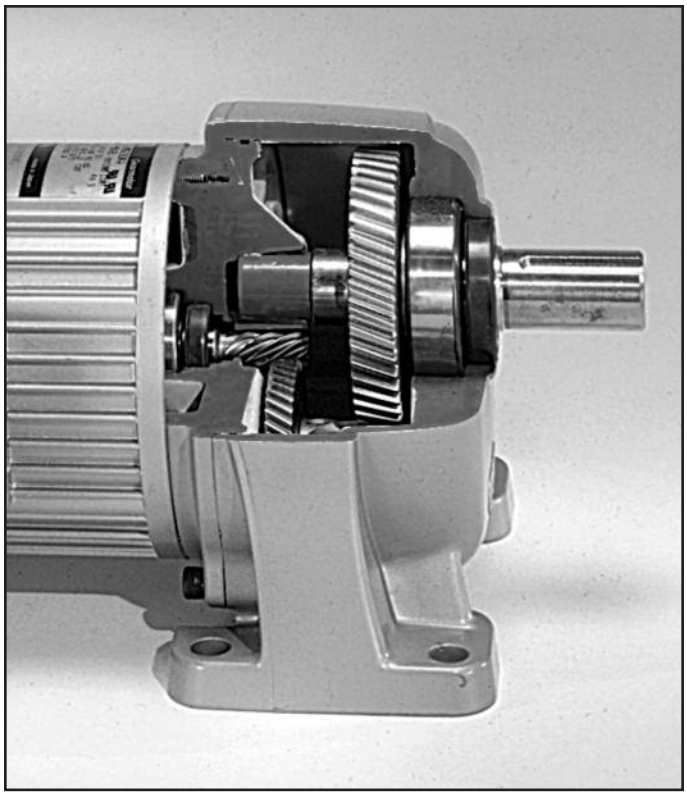
Lightweight and Compact
Die cast aluminum gear housings and motors make Brother gearmotors and reducers light in weight, allowing engineers to design more economical mounting provisions.

Longer Life
Compared to a spur gear of approximately the same pitch diameter, Helical gears can transfer higher loads at greater speeds. This is due to the gradual engagement of the teeth and smooth transfer of the load. Size for size Brother all Helical gearmotors will out perform the competition.

Low-Noise Brake
The brake system developed exclusively by Brother uses vibration damping sheet steel for the armature, which dramatically reduces noise associated with the brake.

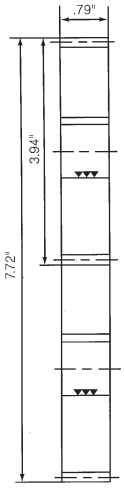
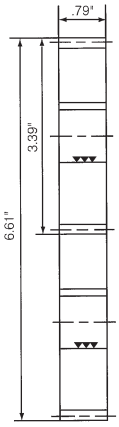
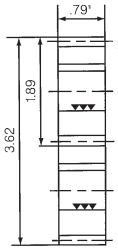
Maintenance Free
High-quality synthetic grease is used in all Brother gearboxes. They are filled at the factory and do not require maintenance filling or level checks. This saves valuable time at set-up and eliminates concern for costly oil disposal required by the EPA!

Mounting in Any Direction
Brother gearboxes are sealed with machine "slip" fit "O" rings and double lip spring shaft seals on both the motor input shaft and output drive shaft. Thus, they can be mounted in any conceivable direction without concern for the position of a breather plug.



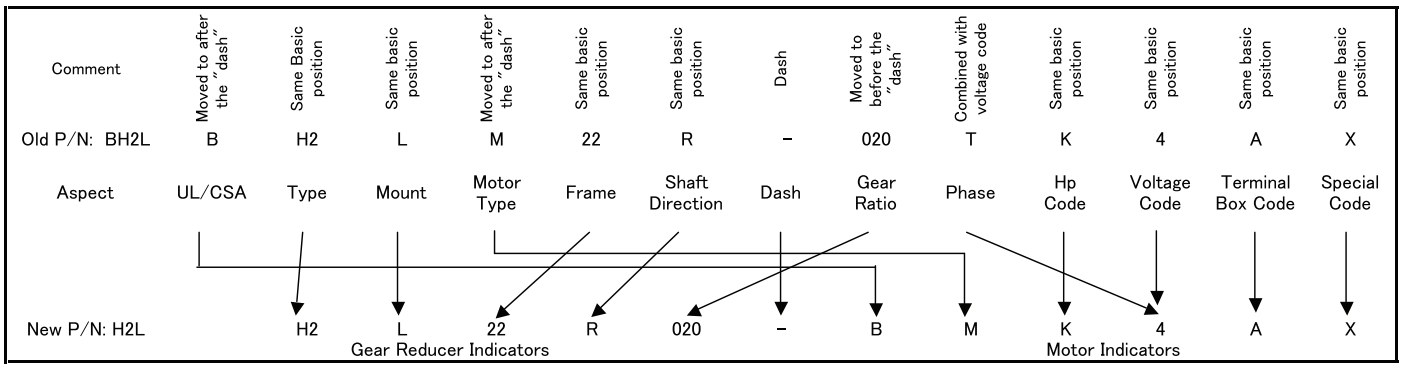
Brother Helical Gearing
As the world's largest fine pitch gear manufacturer, Brother provides all Helical gearing for in-line designs. Gears are made of chromium molybdenum steel that has undergone precision carbonitriding. Brother Helical gears out-perform spur gears by a great margin as shown in the chart below. Most of our competition use a combination of Spur/Helical.

Spur vs. Helical Gear Comparison

Condition	Same Load Rating, 1800 RPM Speed Ration 1:1 Based on Bending Moment Strength		
Gear Type	Spur Gear	Spur Gear	Helical Gear
Material	S-45C	S45C	SCM415
Hardness/ Heat Treatment	None (typical for Spur type gear)	HRC 50	HRC 60
Helix Angle	0	0	15°
Size Ratios			 Diagrams and size comparisons reveal that a Spur type gear must be significantly larger to have the same load capacity as the Helical gear.
Size Comparison	113% Larger	82% Larger	Reference

The New Brother Gearmotor Part Numbering System

In order to better accommodate third party listing issues (UL/CSA and CCC), as well as USA and International compliance issues, Brother has changed their Gearmotor part numbering system. This new part numbering system will more readily be in compliance with the new international standards, such as CCC.

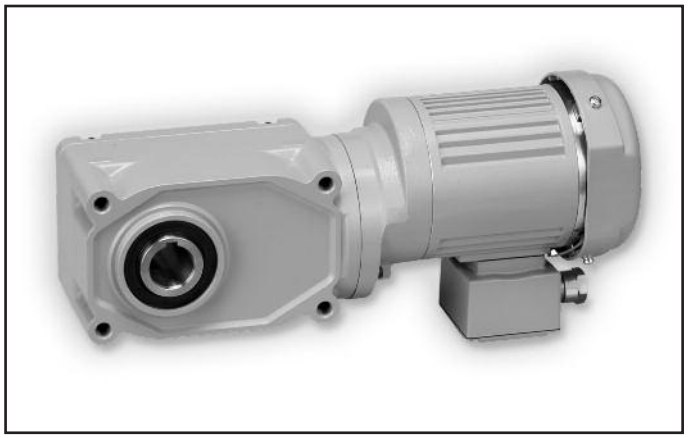


What Changed?

We have separated the gear reducer indicators before the "dash" and the motor indicators after the "dash". To better illustrate, we have shown an example (above) of the how to convert the old part number to the new part number.

The New F3 Design

We are pleased to introduce the upgraded "F3" design. The F3 is primarily a substitute for the F2. However, it may also be a substitute for the F type. Most OEMs and end-users should be able to easily switch to the F3 design. The F3 and the F2 designs, from 5:1 to 60:1, are compatible from the aspect of the bore diameter and the flange mounting pattern. There may be a challenge changing from the F to the F3 design and this change may require an adapter bracket.



Note: Brother will be focusing on the manufacture of this new F3 design. If it is possible to change to the new F3 design, it would be worth the effort. **The "F2" and the "F" designs have not been discontinued.** If your existing design cannot accommodate the F3 gearmotor, we are still able to fulfill your order for the F or F2.

For a technical assistance changing from "F2" or "F" to the new "F3", please consult Brother.

brother at your side

Mid G3

Gearing: 100% Hardened steel helical gearing
Helical gearing runs quieter and provides greater torque and shock load capacity than competitive spur/helical selectively hardened combinations.

Bearings: Ball (Output shaft ball/sleeve comb.)
Premium ball bearings provide quiet efficient torque transfer and high overhung load capacity.

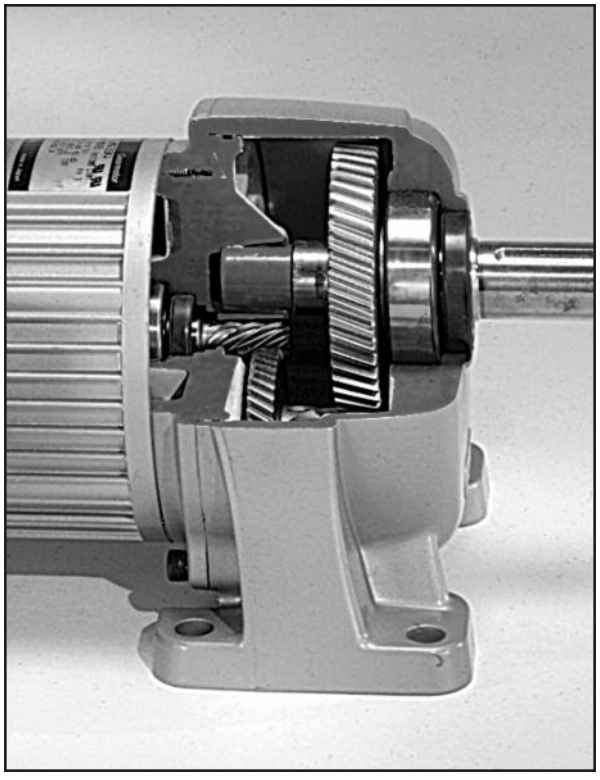
Lubricant: High grade synthetic grease
Synthetic grease provides extended lubrication life over a wide temperature range. The viscosity resists leakage and does not require breather holes.

Shaft seals: NBR Rubber, lip type spring loaded
Provides a good seal over a wide range of operating temperatures.

Housing seals: Machine "slip-fit" O ring.
O ring seals provide a longer and more reliable housing seal compared to competitive gasket sealed housings.

Mounting: Universal mounting in any position and at any angle!
The combination of synthetic grease, NBR shaft seals, O ring housing seals, and the lack of breather holes allows for fast, safe mounting in any position.

Housing: Die cast aluminum
Aluminum is light weight, corrosion resistant, and provides good heat dissipation, strength and durability.



Mid H2 ▲

Gearing: 100% Hardened steel Hypoid/Helical gearing
Hypoid gearing is up to 80% more efficient than competitive worm gears. The Brother all steel Hypoid/Helical combination has much better wear properties than softer bronze worm gearing. Brother Hypoid gearmotors last longer!

Hypoid gearing runs cooler than worm gears.

Bearings: Premium Ball
Premium ball bearings provide quiet efficient torque transfer and high overhung load capacity.

Lubricant: High grade synthetic grease
Synthetic grease provides extended lubrication life over a wide temperature range. The viscosity resists leakage and does not require breather holes.

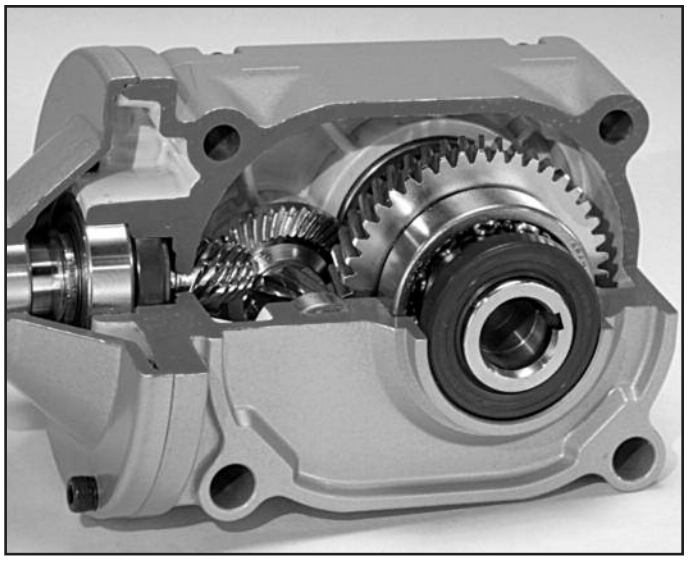
Shaft seals: NBR Rubber, lip type spring loaded
Provides a good seal over a wide range of operating temperatures.

Housing seals: Machine "slip-fit" O ring
O ring seals provide a longer and more reliable housing seal compared to competitive gasket sealed housings.

Mounting: Universal mounting in any position and at any angle!
The combination of synthetic grease, NBR shaft seals, O ring housing seals, and the lack of breather holes allows for fast, safe mounting in any position.

Housing: Die cast aluminum
Aluminum is light weight, corrosion resistant, and provides good heat dissipation, strength and durability.

Mid F3



Gearing: 100% Hardened steel Hypoid/Helical gearing
Hypoid gearing is up to 80% more efficient than competitive worm gears. The Brother all steel Hypoid/Helical combination has much better wear properties than softer bronze worm gearing. Brother Hypoid gearmotors last longer!

Hypoid gearing runs cooler than worm gears.

Bearings: Premium Ball
Premium ball bearings provide quiet efficient torque transfer and high overhung load capacity.

Lubricant: High grade synthetic grease
Synthetic grease provides extended lubrication life over a wide temperature range. The viscosity resists leakage and does not require breather holes.

Shaft seals: NBR Rubber, lip type spring loaded
Provides a good seal over a wide range of operating temperatures.

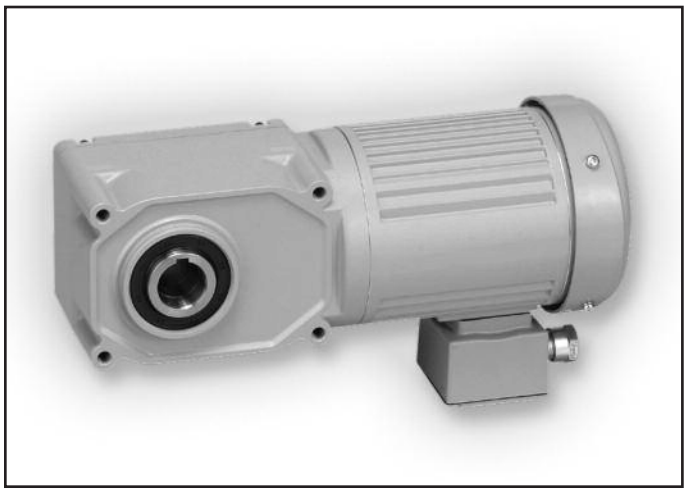
Housing seals: Machine "slip-fit" O ring
O ring seals provide a longer and more reliable housing seal compared to competitive gasket sealed housings.

Mounting: Universal mounting in any position and at any angle!
The combination of synthetic grease, NBR shaft seals, O ring housing seals, and the lack of breather holes allows for fast, safe mounting in any position. The design of the gearmotor flange allows for shaft or flange mounting for simple and clean appearance.

Eliminate Chain/Sprockets
The F3 type gearmotors and reducers are ideal for eliminating chain and sprocket assemblies which are unsafe, cumbersome, and a maintenance hassle. In contrast to traditional worm gears, with the high efficiency Brother Hypoid/Helical combination you can maintain a compact drive package at higher ratios.

By flange mounting the F3 product it can be used as the support bearing for one side of a conveyor pulley. This can save assembly time, material costs, and present a clean modern appearance to the end product.

Housing: Die cast aluminum
Aluminum is light weight, corrosion resistant, and provides good heat dissipation, strength and durability.



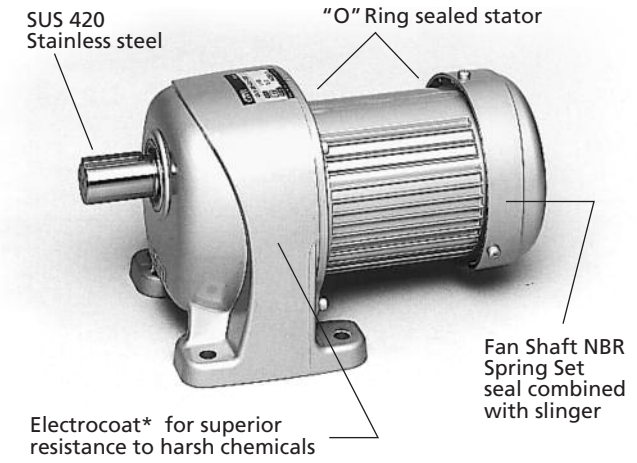
IP-65

Brother IP-65 washdown gearmotors offer superior resistance to water ingress and superior resistance to harsh chemicals used in food processing plants.

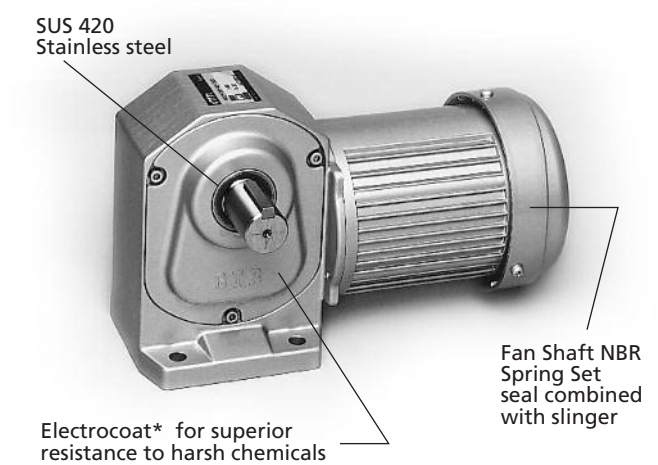
- Designed to keep water out, they outlast the competition!
- Protected against pressure jets of water
- Totally protected against dust
- Terminal Boxes are specially designed, sealed and gasketed. Complete with stainless steel IP-65 cord grip.

When placing an order be sure to specify a "WM" or "WB" type motor.

Helical In-Line



HRH Right-Angle



HRH Right-Angle Shaft Mount

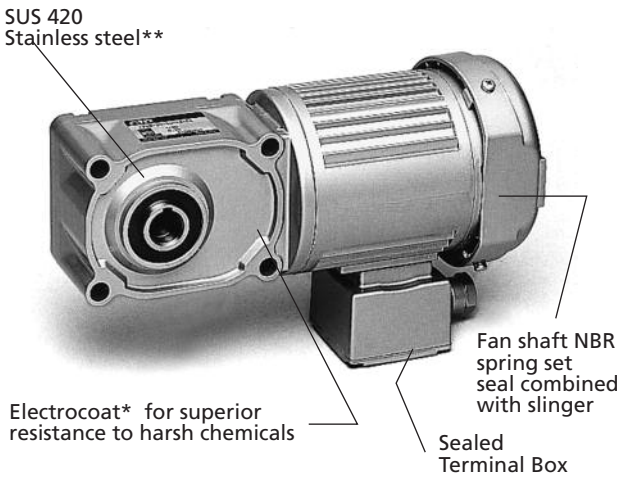
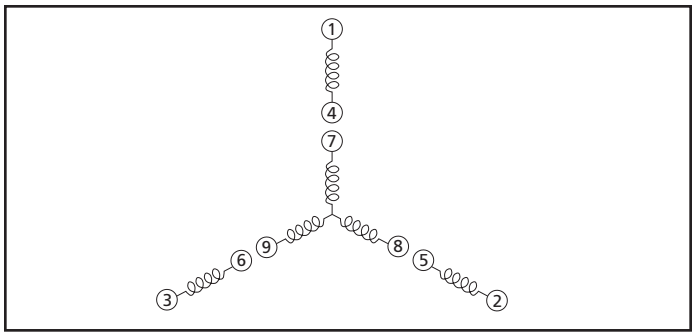


Fig. 1.1: 1/8, 1/4, 1/2, 1 Hp Three Phase Voltages



208/230V		460V	
Line	Lead Label	Line	Lead Label
L1	1 7 4	L1	1 7 4
L2	2 8 5	L2	2 8 5
L3	3 9 6	L3	3 9 6

Fig 1.2 UL/CSA/CE/RoHS

Voltage	Horsepower	UL/cUL File No.	RoHS	CE Details
Three Phase	1/8 Hp, 1/4 Hp, 1/2 Hp 1 Hp, 2 Hp, 3 Hp	E172017	Yes	Low Voltage Directive 73/23/EEC EN Standards: EN60034-1 (Regulations on motors in general)
Single Phase	1/4 Hp, 1/2 Hp	E172017	Yes	
Single Phase	1/8 Hp	E153713	Yes	

Notes:

1. Motors in File E172017 comply to UL1004 Standard for Safety Electric Motors.
2. Motors in UL File E153713 comply to UL2111 Overheating Protection for Motors.
3. Products bear the UL component recognition marking for UL and cUL (CSA).
4. Products with the cUL marking comply with CSA standards and can be legally sold in Canada.
5. Products bear the CE marking on the namplate.

Table 1.1: Three Phase 1/8, 1/4, 1/2, 1, 2, 3 Hp Motors

Hp	Voltage V	Full Load (RPM) nmotor	Full Load Current (A) Imotor	Starting Current (A) Istart	Torque (in-lbs) Tmotor	Start Torque (in-lbs) Tstart	Starts per Minute
1/8 Hp	208	1670	0.56	2.32	5.58	10.20	10
	230	1720	0.57	2.56	5.42	12.50	
	460	1720	0.29	1.28	5.42	12.50	
1/4 Hp	208	1690	1.00	4.72	9.61	22.70	10
	230	1720	1.00	5.22	9.44	27.80	
	460	1720	0.50	2.61	9.44	27.80	
1/2 Hp	208	1690	1.80	8.57	20.20	39.00	10
	230	1710	1.80	9.48	20.00	47.70	
	460	1710	0.90	4.74	20.00	47.70	
1Hp	208	1730	3.10	15.50	36.70	80.60	10
	230	1730	3.00	17.10	36.70	98.80	
	460	1740	1.52	8.60	36.70	98.80	
2Hp	208	1730	5.8	30.80	74.60	171.8	10
	230	1720	5.8	34.44	73.80	210.0	
	460	1720	2.9	17.22	73.80	210.0	
3Hp	208	1710	8.0	42.50	111.9	257.7	10
	230	1720	8.0	47.50	110.7	315.0	
	460	1720	4.0	23.75	110.7	315.0	

Fig 1.3 Three Phase Special Voltages 1/8~ 3Hp

Voltage	Frequency (Hz)	UL/CSA	CE
220	50	No	Yes
230	50		
240	50		
380	50		
400/400/440	50/60/60		
415	50		
420	50		
440	50		
200/200/220	50/60/60	Yes	Yes
208/230	60/60		
220/230/240/240	50/50/50/60		
380/400/400/440	50/50/60/60		
380	60		
415/460	50/60		
420/440/480	50/50/60		
575	60		

Note: When selecting any of the above voltages:
Use special voltage code "8" in the part number
Specifiy the voltage/frequency rating on your P.O.

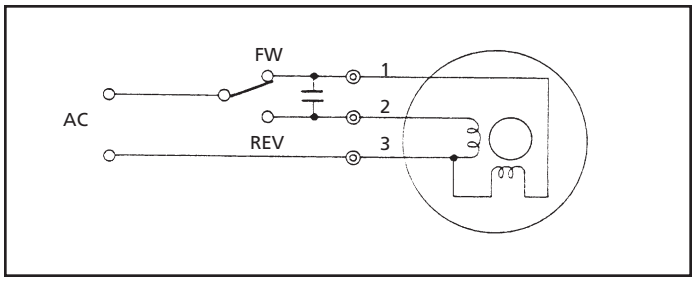
Fig 1.4 Single Phase Special Voltages 1/8~ 1/2Hp

Voltage	Frequency (Hz)	UL/CSA	CE
100/100	50/60	No	Yes
120	60		
200/200	50/60		
220	60		
230	60		
240	60		
110	50	No	
115	50		
120	50		
220	50		
230	50		
240	50		

Note: When selecting any of the above voltages:
Use special voltage code "7" in the part number
Specifiy the voltage/frequency rating on your P.O.

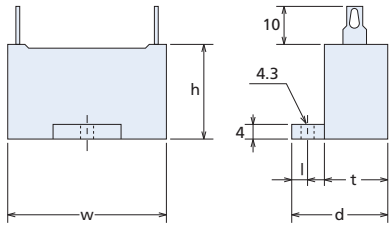
brother at your side

Fig. 1.5: 1/8 Hp Single Phase Voltages



Wire	Color Code 115V	Color Code 220V, 230V
1	Blue	Brown
2	Black	Black
3	Grey	Grey

Fig. 1.6: Capacitors for 1/8 Hp Single Phase

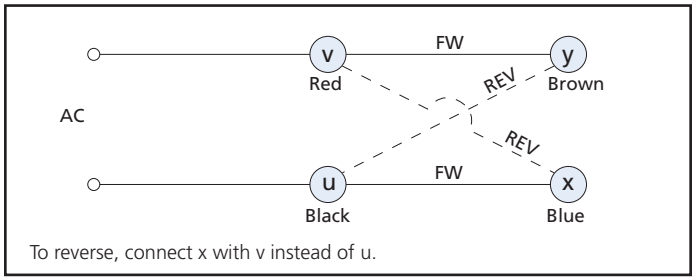


1/8 Hp Single Phase Motor Capacitors

Part No.	mFd	Volts*	W	h	t	d	l
C24M220V	24	220V *	2.28	1.46	0.93	1.52	0.28
C6.0M440V	6	440V **	2.28	1.61	1.14	1.73	0.28

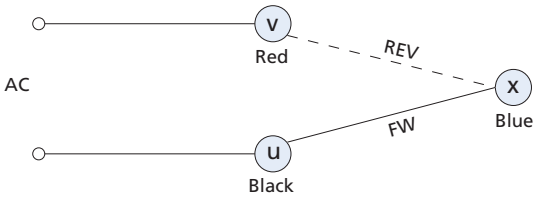
* 220V Capacitors are for operation with 115V Motors
** 440V Capacitors are for operation with 220V or 230V motors.

Fig. 1.7: 1/4, 1/2 Hp Single Phase Voltage 115V



To reverse, connect x with v instead of u.

Fig. 1.8: 1/4, 1/2 Hp Single Phase Voltage 220, 230V

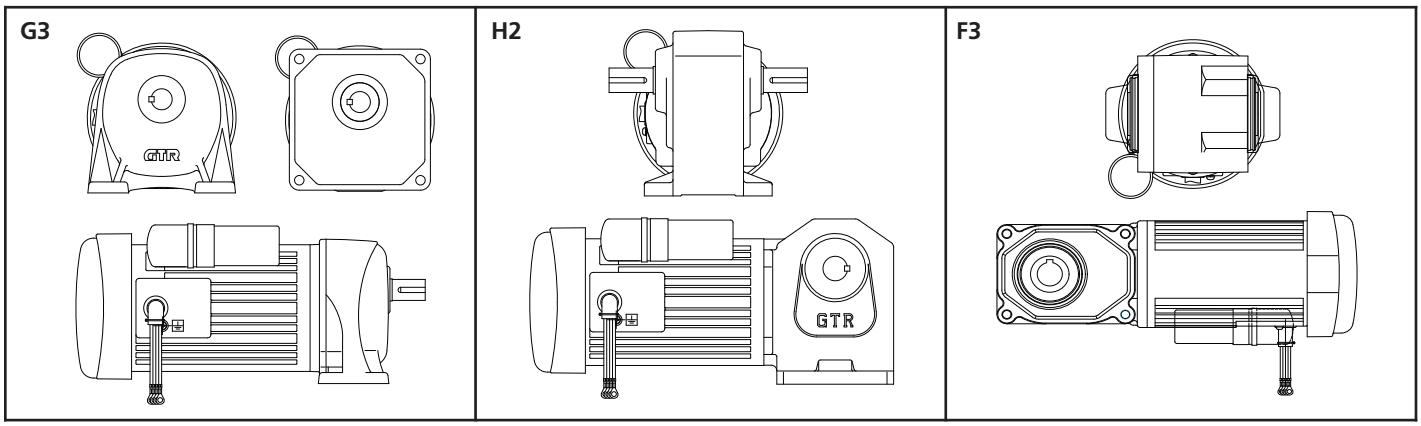


To reverse, switch y and x as shown by dotted lines.

Table 1.2: Single Phase 1/8, 1/4, 1/2 Hp Motors

Hp	Motor Type	Voltage V	Full Load (RPM) nmotor	Full Load Current (A) Imotor	Torque (in-lbs) Tmotor	Start Torque (in-lbs) Tstart	Starts per Minute	Capacitor (mFd)	Capacitor Volts
1/8 Hp	PSC	115	1730	1.50	4.89	3.83	10	24	220
		220	1720	0.75	4.92	4.20		6	440
		230	1730	0.75	4.89	4.20		6	440
1/4 Hp	Cap Start	115	1700	3.90	9.95	31.00	6	250	220
		220	1690	2.00	10.00	22.80		250	440
		230	1700	1.95	9.95	23.90		250	440
1/2 Hp	Cap Start	115	1730	6.70	19.50	41.60	6	250	220
		220	1730	3.50	19.50	39.80		250	440
		230	1730	3.30	19.50	43.40		250	440

Fig 1.9 1/4 and 1/2 Hp Capacitor Start Models



Notes:

1.These are capacitor start gearmotors using a govenor switch to cut-out the starting capacitor.

2. For specific dimensions please consult Brother. Drawings are also available at www.BrotherGearmotors.com

Table 1.3: Brake Data G3, H2, F3 Mid Type 1/8 to 3 Hp Three and Single Phase Standard

Horsepower	1/8 Hp	1/4 Hp	1/2 Hp	1 Hp	2 Hp	3 Hp	1/8 Hp	1/4 Hp	1/2 Hp
Voltage DC (average) (Vdc)	90 Vdc								
Motor	Power Off-Brake On, Spring Close								
Brake Type	Three Phase						Single Phase		
Static Friction Torque (in-lb)	8.67	17.35	34.70	65	130	191	8.67	17.35	34.70
Dynamic Friction Torque (in-lb)	6.90	13.90	27.79	52	104	152	6.90	13.90	27.79
Power (@ 75C) (W)	14	14	16	24	46	46	14	14	24
Current (at 75C) (A)	0.15	0.15	0.18	0.27	0.51	0.51	0.15	0.15	0.27
Allowable Total Work Emax (in-lb)	$1.3x10^9$	$1.3x10^9$	$1.3x10^9$	$3.47x10^9$	$5.2x10^9$	$5.2x10^9$	$1.3x10^9$	$1.3x10^9$	$3.47x10^9$
Allowable Braking Frequency (times/minute)	10/min						6/min		

Fig. 1.10: G3, H2, F3 Mid Type 1/8 to 1/2 Hp Three Phase and Single Phase

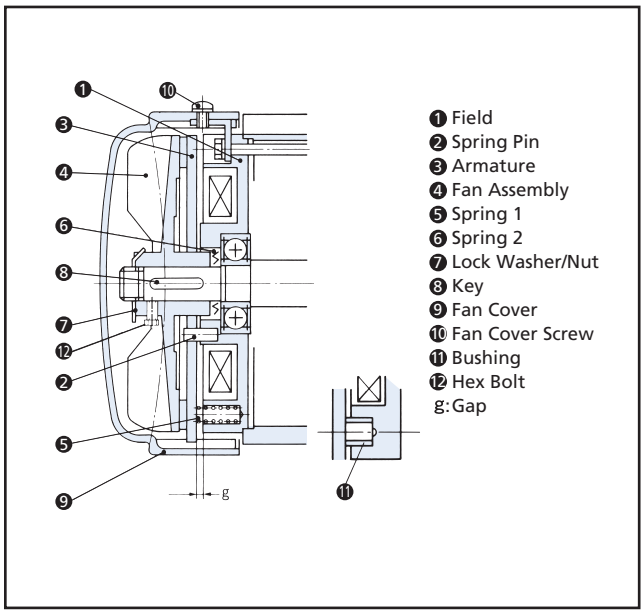


Fig. 1.11: G3, H2, F3 Mid Type 1 to 3 Hp Three Phase

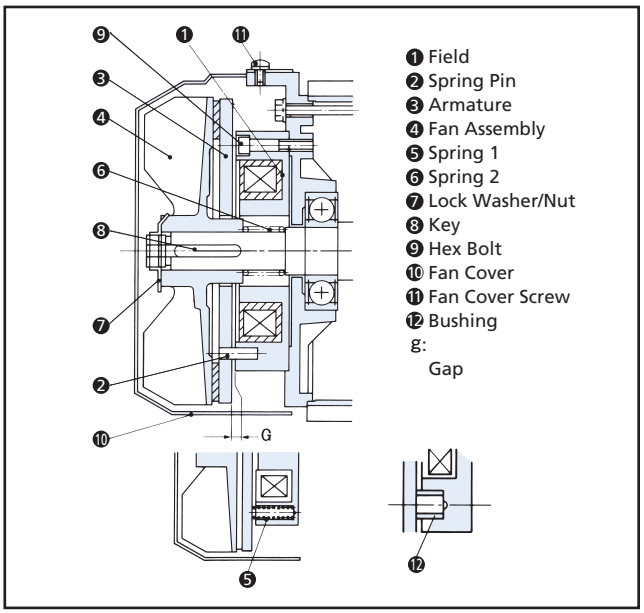
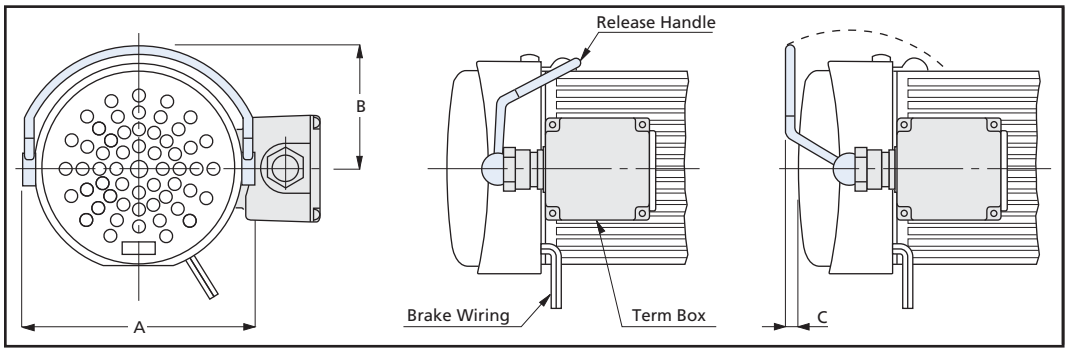


Table 1.4: Manual Release Dimensions

Dim (in)	Hp	1\8	1\4	1\2	1	2	3
A	6.14	6.14	6.14	6.14	7.09	8.35	8.35
B	3.27	3.27	3.27	3.27	4.02	4.88	4.88
C	0.32	0	0	0	0.08	0.24	0.24

Fig. 1.12: Manual Brake Release



Note: Manual Brake release is optional and must be specified on your order.

Table 1.5: Brake Data G3, H2, F3 Mid Type 1/8 to 3 Hp Three Phase IP-65

Horsepower	1/8 Hp	1/4 Hp	1/2 Hp	1 Hp	2 Hp	3 Hp
Brake Type	Power Off-Brake On, Spring Close				n/a	
Static Friction Torque (in-lb)	8.67	17.35	34.70	65	n/a	
Dynamic Friction Torque (in-lb)	6.90	13.90	27.79	52	n/a	
Voltage DC (average) (Vdc)	90 Vdc				n/a	
Power (@ 75C) (W)	10	16	18	22	n/a	
Current (at 75C) (A)	0.11	0.18	0.20	0.25	n/a	
Allowable Total Work Emax (in-lb)	$1.3x10^9$	$1.3x10^9$	$1.3x10^9$	$3.47x10^9$	n/a	
Allowable Braking Frequency (times/minute)	10/min				n/a	

Fig 1.13: 1/8 Hp IP-65 Brake

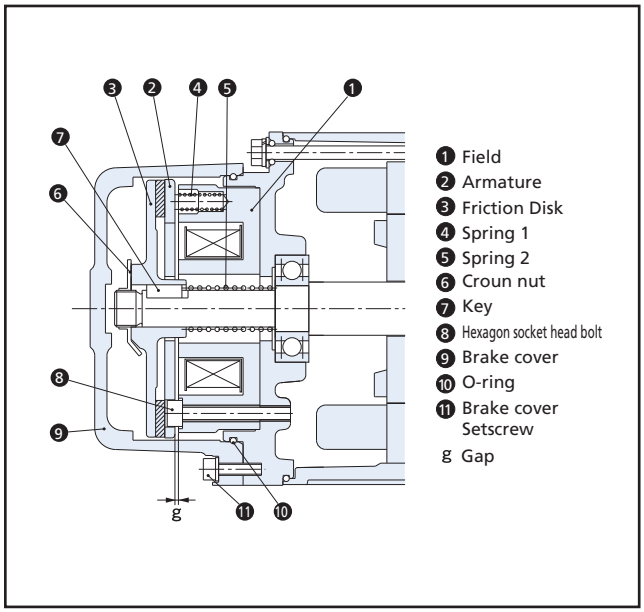
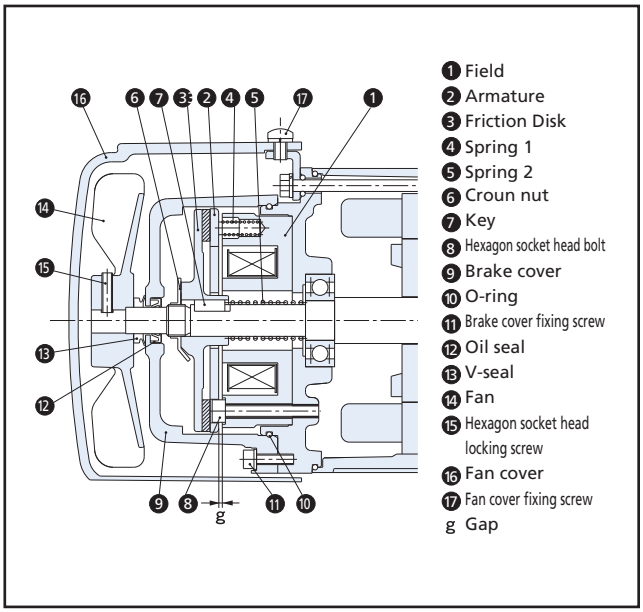


Fig 1.14: 1/4 to 3 Hp IP-65 Brake



Lubrication: NLGI 0 Grease w/ EP Additives (Grams)

Table 1.6A

G3 Frame	Gear Reduction Range		
	5:1~200:1	80:1~240:1	300:1~1500:1
18	65	n/a	n/a
22	130	n/a	n/a
28	210	250	n/a
32	350	400	390
40	580	680	630
50	1000	1150	1100

Table 1.6B

H2 Frame	Gear Reduction Range		
	5:1~200:1	300:1~450:1	600:1~1500:1
22	105	n/a	n/a
28	190	230	n/a
32	370	420	410
40, 1 Hp	500	700	550
40, 2 Hp	600	700	550
50	1200	1350	1300

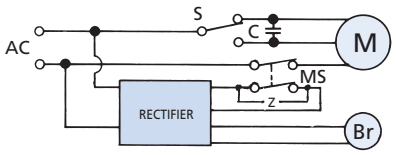
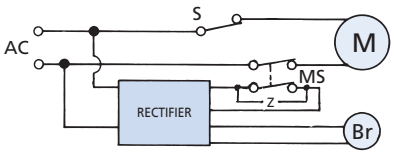
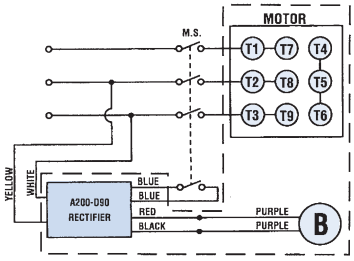
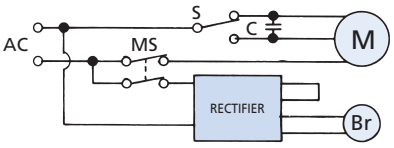
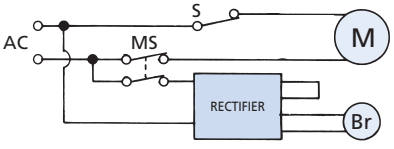
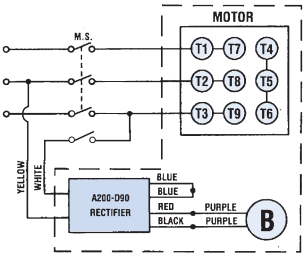
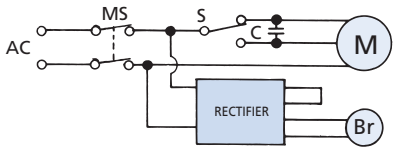
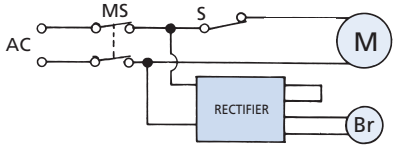
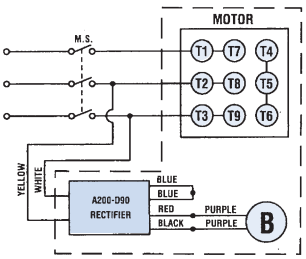
Table 1.6C

F3 Frame	Gear Reduction Range		
	5:1~60:1	80:1~240:1	300:1~1500:1
20	130	n/a	n/a
25	200	270	n/a
30	320	450	590
35	480	700	930
45	1070	1440	1780
50	2200	n/a	n/a
55	n/a	3800	4190

Notes:

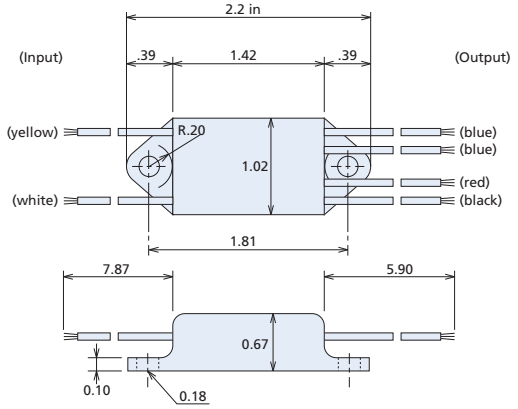
1. The standared grease is lithium based with extreme pressure additives. It is equivalent to NLGI 0 or NLGI 00.
2. MSDS for the grease are available. Please consult Brother or your Brother distributor.
3. If Food Grade grease is required, please use the common code "X" in your part number and specify H1 grease on your purchase order.
4. Food grade grease requires an upcharge from the basic price.

Fig. 1.15: Mid Type: 1/8, 1/4, 1/2, 1, 2, and 3 Hp

Type	115V, 220V, 230V Single Phase 1/8 Hp	115V, 220V, 230V Single Phase 1/4, 1/2 Hp	208/230V Three Phase 1/8, 1/4, 1/2 and 1, 2, 3 Hp
DC Switching Fast Response	 115V use A100-D90 Rectifier 220-230V use A200-D90 Rectifier	 115V use A100-D90 Rectifier 220-230V use A200-D90 Rectifier	
AC Switching (1) Normal Response	 115V use A100-D90 Rectifier 220-230V use A200-D90 Rectifier	 115V use A100-D90 Rectifier 220-230V use A200-D90 Rectifier	
AC Switching (2) Normal Response	 115V use A100-D90 Rectifier 220-230V use A200-D90 Rectifier	 115V use A100-D90 Rectifier 220-230V use A200-D90 Rectifier	

M: Motor Br: Brake S: Reversing switch C: Capacitor MS: Magnetic switch Z: R-C circuit (OP-CRM-2)

Fig. 1.16A Rectifier



Dimensions of A200-D90 Input Voltage: 200-220VAC / Output: 90VDC
(A100-D45) (Input Voltage: 100-110VAC / Output: 45VDC)

A200-D90, (A100/D45), A100-D90 Input Voltage
100-110VAC / Output 90VDC
Rectifier Dimensions

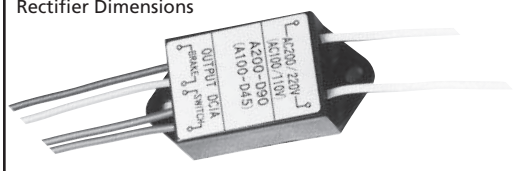
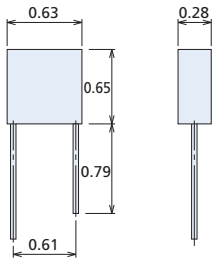


Fig. 1.16B Snubber



(Z) OP-CRM-2
(120 Ohm-0.1 mFd)
R-C Circuit Dimensions

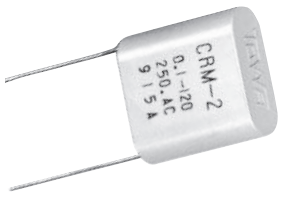
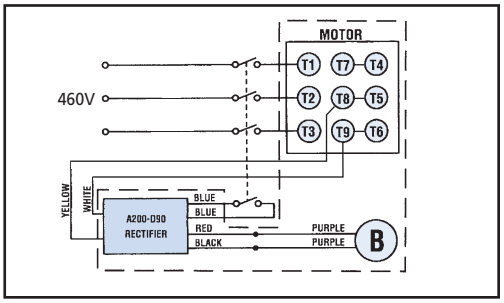


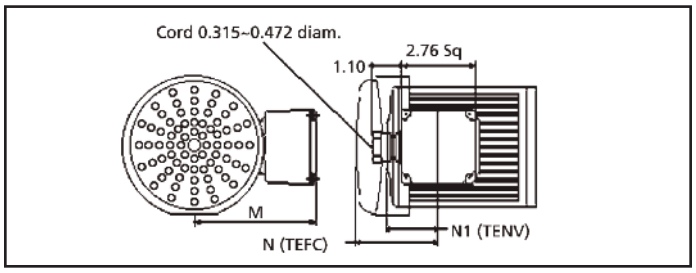
Fig. 1.17: 1/8 - 3 Hp 460V Wiring



*** For Wiring with a VFD (Invertor) see page 17.**

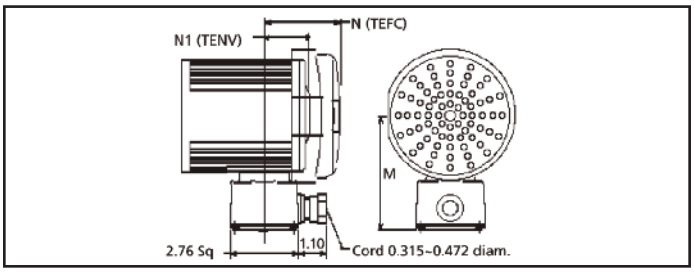
brother at your side

Fig. 1.18: "A" Box: G3, H2 Models
3 Phase: 1/8, 1/4, 1/2 Hp; 1 Phase: 1/8, 1/4 Hp



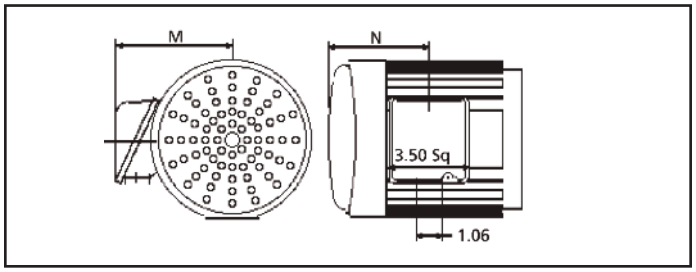
Dim	Three Phase 1/8 Hp	1/4 Hp	1/2 Hp	Single Phase 1/8 Hp	1/4 Hp
N1 (1/8 Hp 3Ø only)	1.87	—	—	—	—
N (motor)	—	3.09	3.33	3.09	3.29
N (Brakemotor)	3.44	3.76	4.10	3.44	3.96
M	4.61	4.61	4.84	4.61	4.61

Fig. 1.19: "A" Box: F3 Model
3 Phase: 1/8, 1/4, 1/2 Hp; 1 Phase: 1/8, 1/4 Hp



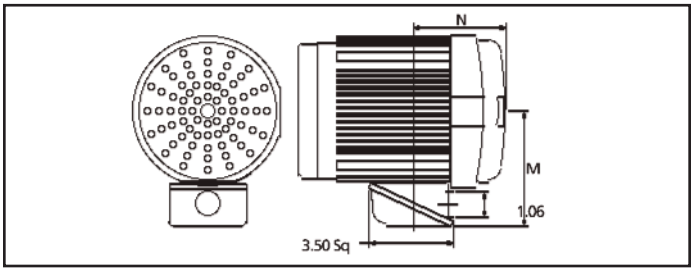
Dim	Three Phase 1/8 Hp	1/4 Hp	1/2 Hp	Single Phase 1/8 Hp	1/4 Hp
N1 (1/8 Hp 3Ø only)	1.87	—	—	—	—
N (motor)	—	3.09	3.33	3.09	3.29
N (Brakemotor)	3.44	3.76	4.10	3.44	3.96
M	4.61	4.61	4.84	4.61	4.61

Fig. 1.20: "S" Box: G3, H2 Models
1/2 Hp Single Phase; 1, 2, 3 Hp Three Phase



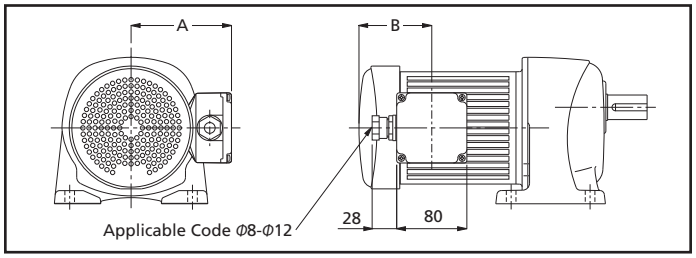
Dim	Single Phase 1/2 Hp	Three Phase 1 Hp	2 HP	3 Hp
N (motor)	3.98	2.36	2.78	2.78
N (Brakemotor)	4.25	2.78	3.58	3.58
M	4.80	4.80	5.24	5.24

Fig. 1.21: "S" Box: F3 Models
1/2 Hp Single Phase; 1, 2, 3 Hp Three Phase



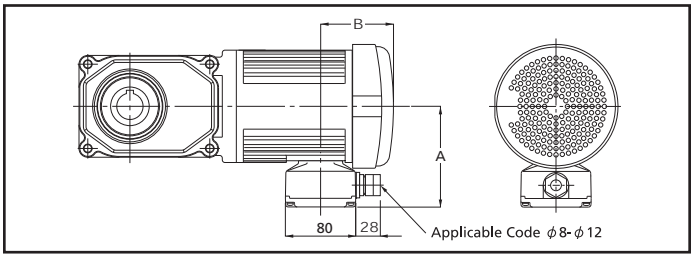
Dim	Single Phase 1/2 Hp	Three Phase 1 Hp	2 HP	3 Hp
N (motor)	—	2.36	2.78	2.78
N (Brakemotor)	—	2.78	3.58	3.58
M	—	4.80	5.24	5.24

Fig 1.22: "E" Box: IP-65 G3, H2 Models
1/8, 1/4, 1/2, 1, 2, 3 Hp



Dim	1/8 Hp	1/4 Hp	1/2 Hp	1 Hp	2 Hp	3 Hp
A	4.27	4.27	4.51	4.98	5.41	5.41
N (motor)	1.87	3.07	3.27	3.70	4.35	4.35
N (Brakemotor)	3.90	5.04	5.55	6.44	n/a	n/a

Fig 1.23: "E" Box: IP-65 F3 Models
1/8, 1/4, 1/2, 1, 2, 3 Hp



Dim	1/8 Hp	1/4 Hp	1/2 Hp	1 Hp	2 Hp	3 Hp
A	4.27	4.27	4.51	4.98	5.41	5.41
N (motor)	1.87	3.07	3.27	3.70	4.35	4.35
N (Brakemotor)	3.90	5.04	5.55	6.44	n/a	n/a

Fig. 1.24: 1/8 Hp 3 Phase
G3, H2, F3 Models

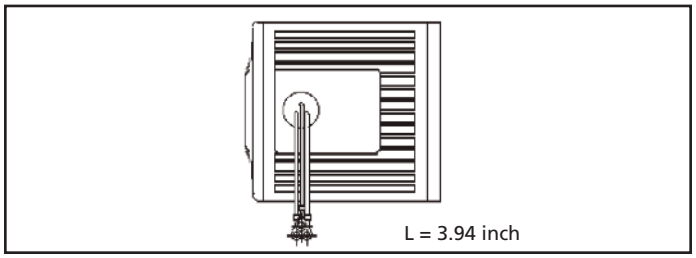


Fig. 1.25: 1/8, 1/4, 1/2 Hp 1 Phase & 3 Phase
G3, H2, F3 Models

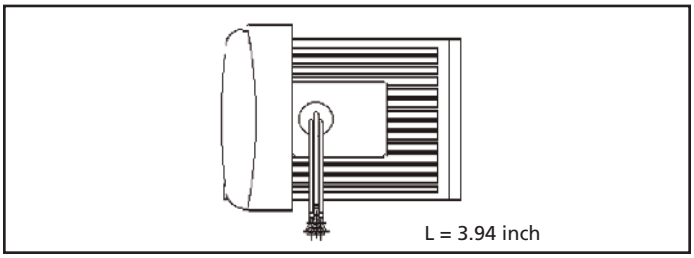
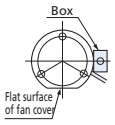
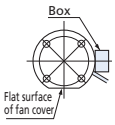


Fig 1.24A: Directing the Position of the Terminal Box or Lead Wires

G3, H2: 1/8, 1/4 Hp	G3, H2: 1/2, 1, 2, 3 Hp
	
Standard T3	Standard T3
	
T(upper)	T(upper)
TZ	TZ
	
T(left)	T(left)
T9	T9
	
T(lower)	T(lower)
T6	T6

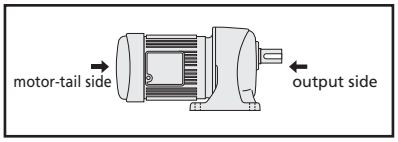
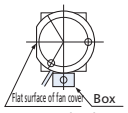
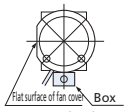
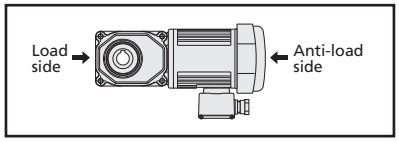


Fig 1.24B: Directing the Position of the Terminal Box or Lead Wires

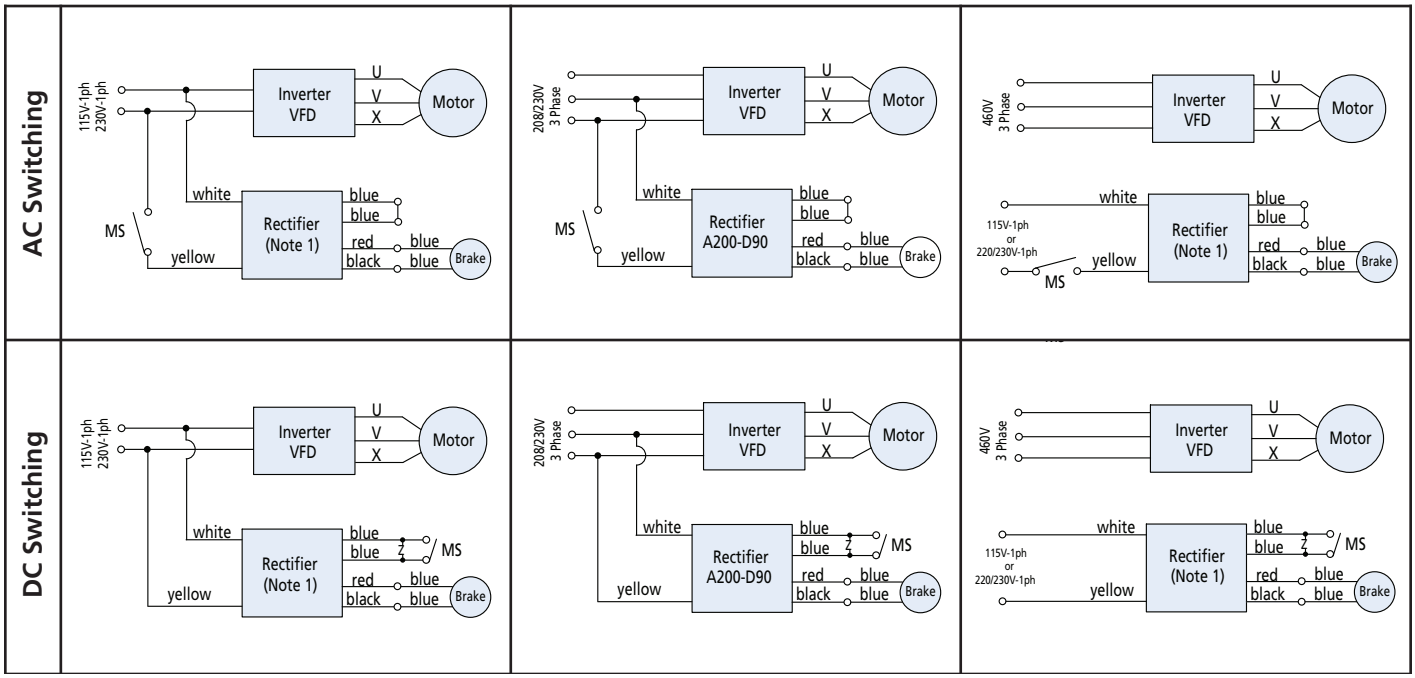
F3: 1/8, 1/4 Hp	F3: 1/2, 1, 2, 3 Hp
	
Standard	Standard
Standard T6	Standard T6
	
T(right)	T(right)
T3	T3
	
T(upper)	T(upper)
TZ	TZ
	
T(left)	T(left)
T9	T9



Notes:

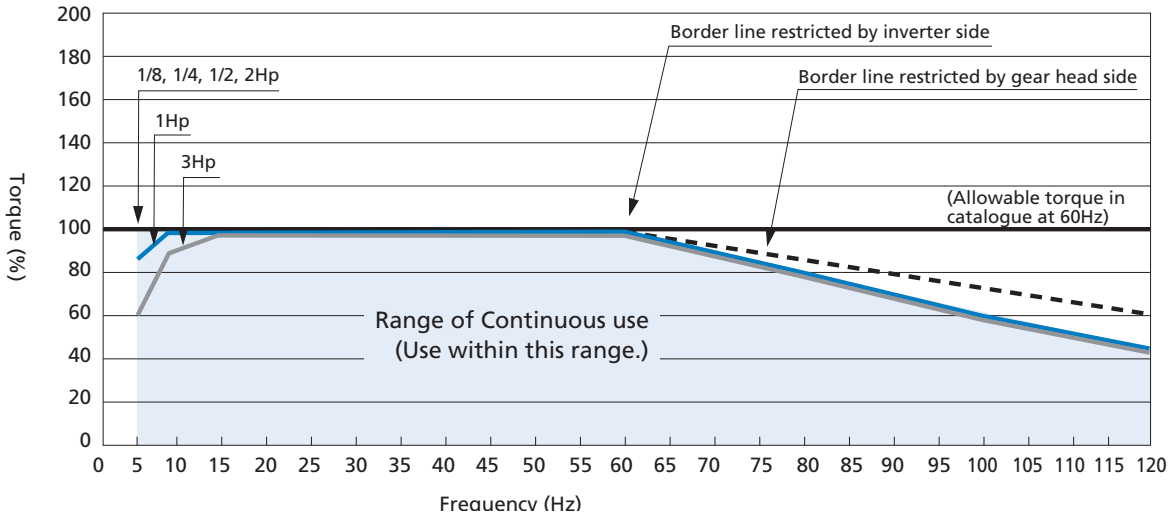
1. Please select the "X" at the end of the gearmotor part number and indicate the position code per the applicable chart.
2. If the standard box position is desired or acceptable, there is no need to make any designation.
3. The position of the 1/8 and 1/4 Hp models cannot be rotated in the field in 90 degree increments. Positioning at 90 degree increments is achieved in the factory by position of the tapped mounting holes. Please be careful and specify prior to shipment.

Fig 1.26A: VFD Wiring 115V 1 Phase 220/230V 1 Phase **Fig 1.26B: VFD Wiring 208/230V 3 Phase** **Fig 1.26C: VFD Wiring 460V**



Note: If the input power is 115V 1 phase, use Rectifier A100-D90. If the input power is 220/230V 1 phase, use rectifier A200-D90. (Input power to the brake is 90vdc)
MS: Magnetic Switch (not supplied by Brother) Z : Surge Suppressor. Optional Part OP-ENE471D-10A

Fig 1.27 Speed/Torque with a VFD (1/8, 1/4, 1/2 Hp, 1, 2, 3 Hp)



Cautionary Notes for Use with a VFD:

1. In general operation from 5~120 Hz ia allowed if the torque capacity can be handled.
2. In applications requiring operation above 60 hz, vibration and noise will increase. The life of the oil seal will also be reduced due to increased circumferential velocity.
3. In low speed operations the effect of the cooling fan decreases. Be sure to check the motor temperature rise remains below allowable limits. The surface temperature of the motor should not exceed 176°F (80°C).
4. The torque characteristics of the motor differ according to the VFD brand and type used. The above speed/torque curves were generated using a commercially available Volts/Hertz VFD. You should test the brand you use to confirm the performance.
5. When using a brake equipped motor, be sure to bypass the VFD and power the rectifier on the input side. Powering the rectifier using the output wires from the VFD to the motor will result in motor and/or brake failure.
6. When operating a VFD at 400~480V a repetitive surge voltage may arise and weaken the insulation of the motor causing premature failure. There are two ways to supress surge voltage…
   A. **Output Reactor:** may be effective if the lead wires are reletively short. Install it on the inverter output side.
   B. **Output Filter:** install it near the inverter output side.

The remedies A and B may be effective. However, we recommend you consult the inverter manufacturer for more detailed recommendations as the inverter settings, lead length, etc effect the recommendation.

Spec Table 1.1

Specifications						Dimensional Drawings Page 19											
						Motor						Brakemotor					
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	1 Phase Std		3 Phase Std		3 Phase IP-65		1 Phase Std		3 Phase Std		3 Phase IP-65	
						Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/8 Hp	18	5	360	22.5	132	Dwg 1.1	Dwg 1.3	Dwg 1.1	Dwg 1.3	Dwg 1.1	Dwg 1.3	Dwg 1.1	Dwg 1.3	Dwg 1.1	Dwg 1.3	Dwg 1.1	Dwg 1.3
		10	180	44	198												
		15	120	67	221												
		20	90	87	265												
		25	72	113	287												
		30	60	130	309												
		40	45	173	331												
		50	36	217	353												
	22	60	30	261	485	Dwg 1.1	Dwg 1.3	Dwg 1.1	Dwg 1.3	Dwg 1.1	Dwg 1.3	Dwg 1.1	Dwg 1.3	Dwg 1.1	Dwg 1.3	Dwg 1.1	Dwg 1.3
		80	22.5	346	551												
		100	18	432	551												
		120	15	519	551												
		160	11.2	691	551												
		200	9	864	551												
	28	300	6	1155	772	Dwg 1.2	Dwg 1.4	Dwg 1.2	Dwg 1.4	Dwg 1.2	Dwg 1.4	Dwg 1.2	Dwg 1.4	Dwg 1.2	Dwg 1.4	Dwg 1.2	Dwg 1.4
		375	4.8	1444	772												
		450	4	1733	772												
	32	600	3	2311	1323	Dwg 1.2	Dwg 1.4	Dwg 1.2	Dwg 1.4	Dwg 1.2	Dwg 1.4	Dwg 1.2	Dwg 1.4	Dwg 1.2	Dwg 1.4	Dwg 1.2	Dwg 1.4
		750	2.4	2888	1323												
		900	2	3466	1323												
		1200	1.5	3819	1323												

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase) and Page 11 Table 1.2 (1 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

G3	L	18	N	005	–	B	M	H	4	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
G3: G3 Series	L: Foot Mount K: Flange Mount	18 22 28 32	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor WB: IP-65 Brakemotor	H: 1/8 Hp	1: 115V, 60Hz, 1ph 4: 208/230V/460, 60Hz, 3ph 5: 220V, 60Hz, 1ph 6: 230V, 60Hz, 1ph 7: OEM Spec. 1ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10 Fig 1.4. Pg 10	A: Die Cast IP-44 N: Leads, (4.5 inch) E: Die Cast IP-65 Note 4 (above)	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

Notes:

1. Lead Wire or Terminal Box location: specify the code from Page 16, Fig 1.24A on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) or Fig 1.4 (1 Phase) on your purchase order.
3. For any other special OEM requirement, please consult Brother.

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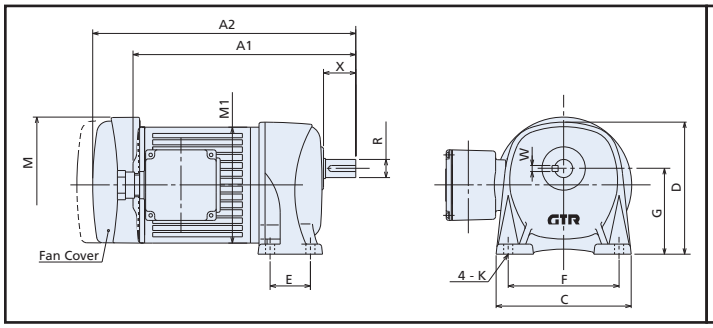
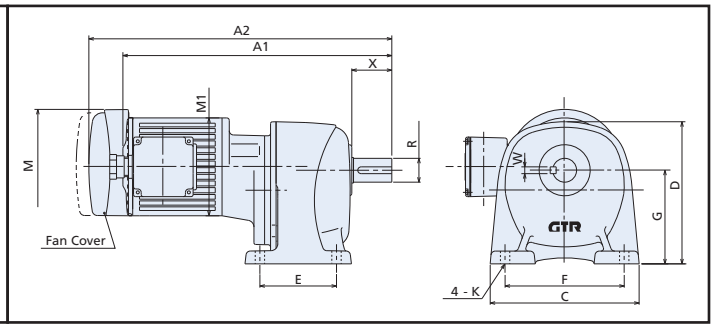
Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M1 (TENV) (Motor)	M (TEFC) (Brake)	C	D	E	F	G	K	R	W	X	Motor Wt	Brake-motor Wt
18	3 Phase Std	1.1	8.70	10.28	4.53	5.31	5.28	5.16	1.57	4.33	3.35	0.35	0.7500	0.1875	1.26	13.25	16.5
22		1.1	9.72	11.30	4.53	5.31	6.06	5.47	2.56	5.12	3.54	0.43	0.8750	0.1875	1.65	15.5	19
28		1.2	12.44	14.02	4.53	5.31	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	22	25.5
32		1.2	13.19	14.76	4.53	5.31	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	29	32
18	3 Phase IP-65	1.1	8.70	10.73	4.53	5.31	5.28	5.16	1.57	4.33	3.35	0.35	0.7500	0.1875	1.26	13.25	16.5
22		1.1	9.72	11.75	4.53	5.31	6.06	5.47	2.56	5.12	3.54	0.43	0.8750	0.1875	1.65	15.5	19
28		1.2	12.44	14.45	4.53	5.31	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	22	25.5
32		1.2	13.19	15.22	4.53	5.31	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	29	32
18	1 Phase Std	1.1	9.92	10.28	n/a	5.31	5.28	5.16	1.57	4.33	3.35	0.35	0.7500	0.1875	1.26	13.25	16.5
22		1.1	10.95	11.30	n/a	5.31	6.06	5.47	2.56	5.12	3.54	0.43	0.8750	0.1875	1.65	15.5	19
28		1.2	13.67	14.02	n/a	5.31	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	22	25.5
32		1.2	14.41	14.76	n/a	5.31	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	29	32

Dwg. 1.1



Note: Terminal box or lead wire dim see Page 15.

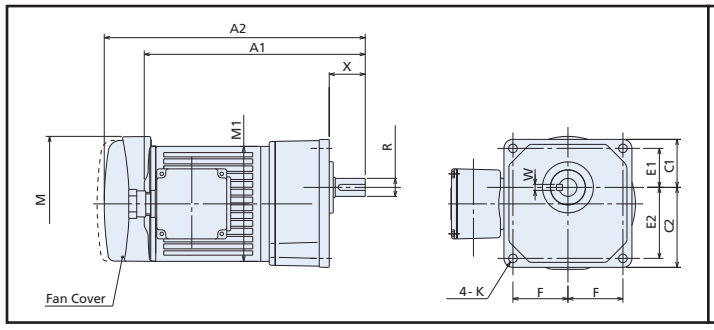
Dwg. 1.2



Note: Terminal box or lead wire dim see Page 15.

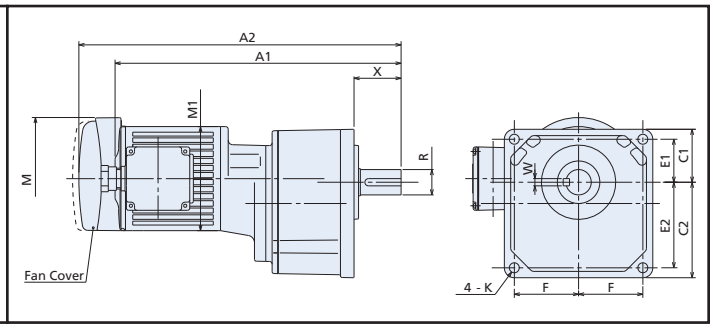
Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M1 (TENV) (Motor)	M (TEFC) (Brake)	C1	C2	E1	E2	F	K	R	W	X	Motor Wt	Brake-motor Wt
18	3 Phase Std	1.3	8.70	10.28	4.53	5.31	1.89	3.15	1.54	2.8	2.17	0.34	0.7500	0.1875	1.38	14.25	17.75
22		1.3	9.72	11.30	4.53	5.31	2.01	3.5	1.65	3.15	2.40	0.34	0.8750	0.1875	1.85	16.5	20
28		1.4	12.44	14.02	4.53	5.31	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	23.25	26.5
32		1.4	13.19	14.76	4.53	5.31	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	30	33
18	3 Phase IP-65	1.3	8.70	10.73	4.53	5.31	1.89	3.15	1.54	2.8	2.17	0.34	0.7500	0.1875	1.38	14.25	17.75
22		1.3	9.72	11.75	4.53	5.31	2.01	3.5	1.65	3.15	2.40	0.34	0.8750	0.1875	1.85	16.5	20
28		1.4	12.44	14.45	4.53	5.31	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	23.25	26.5
32		1.4	13.19	15.22	4.53	5.31	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	30	33
18	1 Phase Std	1.3	9.92	10.27	n/a	5.31	1.89	3.15	1.54	2.8	2.17	0.34	0.7500	0.1875	1.38	14.25	17.75
22		1.3	10.95	11.30	n/a	5.31	2.01	3.5	1.65	3.15	2.40	0.34	0.8750	0.1875	1.85	16.5	20
28		1.4	13.67	14.02	n/a	5.31	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	23.25	26.5
32		1.4	14.41	14.76	n/a	5.31	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	30	33

Dwg. 1.3



Note: Terminal box or lead wire dim see Page 15.

Dwg. 1.4



Note: Terminal box or lead wire dim see Page 15.

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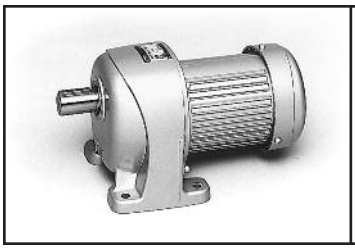
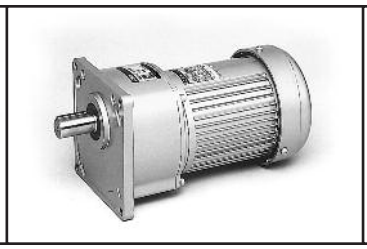
2. The drawings on this page are for rough sizing only and may not be visually accurate in all aspects. Please download the actual specification drawing from the www or call your Brother salesman or dealer to get a certified print.
3. Prints are available online using the Brother configurator by entering the complete part number. See www.BrotherGearmotors.com

Spec Table 1.2

Specifications						Dimensional Drawings Page 21											
						Motor						Brakemotor					
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	1 Phase Std		3 Phase Std		3 Phase IP-65		1 Phase Std		3 Phase Std		3 Phase IP-65	
						Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/4 Hp	18	5	360	45	55	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7
		10	180	89	121												
		15	120	134	176												
		20	90	178	242												
		25	72	223	264												
	22	30	60	268	341	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7
		40	45	346	352												
		50	36	432	363												
		60	30	519	374												
		80	22.5	691	385												
	28	100	18	864	572	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7	Dwg 1.5	Dwg 1.7
		120	15	1037	583												
		160	11.2	1383	605												
		200	9	1728	616												
	32	300	6	2311	1587	Dwg 1.6	Dwg 1.8	Dwg 1.6	Dwg 1.8	Dwg 1.6	Dwg 1.8	Dwg 1.6	Dwg 1.8	Dwg 1.6	Dwg 1.8	Dwg 1.6	Dwg 1.8
		375	4.8	2888	1587												
		450	4	3466	1587												
	40	600	3	4621	1587	Dwg 1.6	n/a	Dwg 1.6	n/a	Dwg 1.6	n/a	Dwg 1.6	n/a	Dwg 1.6	n/a	Dwg 1.6	n/a
		750	2.4	5777	1587												
		900	2	6770	1587												
		1200	1.5	6770	1587												

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase) and Page 11 Table 1.2 (1 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

G3	L	18	N	005	–	B	M	K	4	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
G3: G3 Series	L: Foot Mount K: Flange Mount	18 22 28 32 40	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor WB: IP-65 Brakemotor	K: 1/4 Hp	1: 115V, 60Hz, 1ph 4: 208/230V/460, 60Hz, 3ph 5: 220V, 60Hz, 1ph 6: 230V, 60Hz, 1ph 7: OEM Spec. 1ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10 Fig 1.4. Pg 10	A: Die Cast IP-44 N: Leads, (4.5 inch) E: Die Cast IP-65	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

Notes:

1. Lead Wire or Terminal Box location: specify the code from Page 16, Fig 1.24A on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) or Fig 1.4 (1 Phase) on your purchase order.
3. For any other special OEM requirement, please consult Brother.

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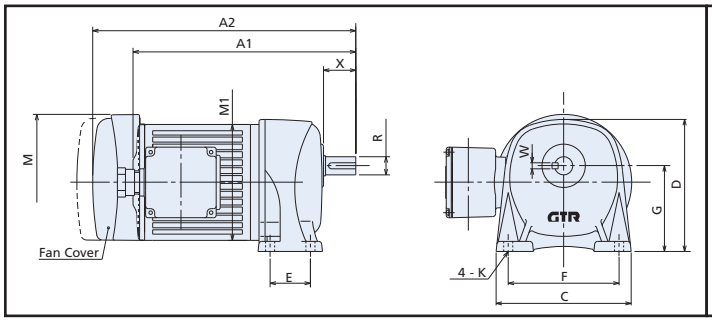
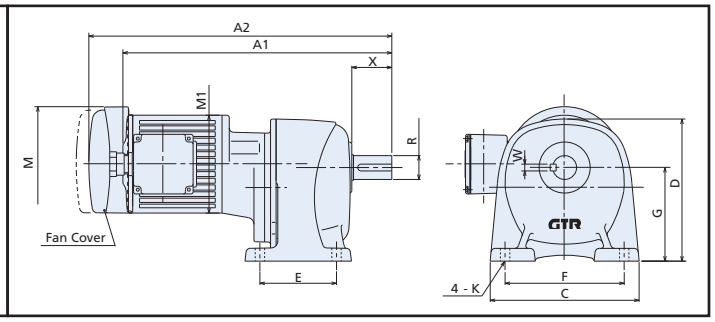
Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	C	D	E	F	G	K	R	W	X	Motor Wt	Brake-motor Wt
18	3 Phase Std	1.5	10.51	11.18	5.31	5.28	5.16	1.57	4.33	3.35	0.35	0.7500	0.1875	1.26	14.25	17.5
22		1.5	11.54	12.20	5.31	6.06	5.47	2.56	5.12	3.54	0.43	0.8750	0.1875	1.65	16.5	20
28		1.5	12.05	12.72	5.31	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	21	24.25
32		1.6	15.79	16.46	5.31	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	30	33
40		1.6	16.65	17.32	5.31	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	44	47.5
18	3 Phase IP-65	1.5	10.51	12.46	5.31	5.28	5.16	1.57	4.33	3.35	0.35	0.7500	0.1875	1.26	14.25	17.5
22		1.5	11.54	13.48	5.31	6.06	5.47	2.56	5.12	3.54	0.43	0.8750	0.1875	1.65	16.5	20
28		1.5	12.05	13.99	5.31	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	21	24.25
32		1.6	15.79	17.73	5.31	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	30	33
40		1.6	16.65	18.60	5.31	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	44	47.5
18	1 Phase Std (Note)	1.5	12.48	13.15	5.31	5.28	5.16	1.57	4.33	3.35	0.35	0.7500	0.1875	1.26	18.75	22
22		1.5	13.50	14.17	5.31	6.06	5.47	2.56	5.12	3.54	0.43	0.8750	0.1875	1.65	21	24.25
28		1.5	14.02	14.69	5.31	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	25.5	28.75
32		1.6	17.76	18.43	5.31	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	34.25	37.5
40		1.6	18.62	19.29	5.31	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	48.5	52

Dwg. 1.5



Dwg. 1.6



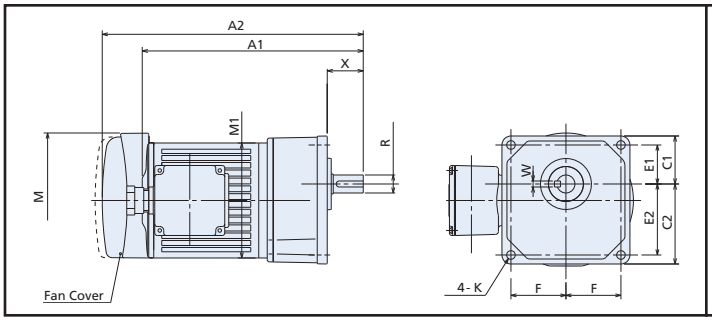
Note: Terminal box or lead wire dim see Page 15.

Note: 1 Phase Std motors have a capacitor mounted, see Page 11, Fig. 1.9.

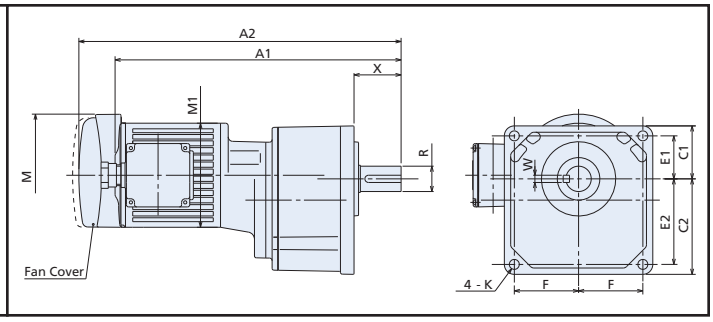
Note: Terminal box or lead wire dim see Page 15.

Frame	Motor/ Brake-motor	Dwg	A1 (motor)	A2 (Brake)	M	C1	C2	E1	E2	F	K	R	W	X	Motor Wt	Brake-motor Wt
18	3 Phase Std	1.7	10.51	11.18	5.31	1.89	3.15	1.54	2.8	2.17	0.34	0.7500	0.1875	1.38	15.5	19
22		1.7	11.54	12.20	5.31	2.01	3.5	1.65	3.15	2.40	0.34	0.8750	0.1875	1.85	17.5	21
28		1.7	12.05	12.72	5.31	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	22	25.5
32		1.8	15.79	16.46	5.31	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	31	34.25
18	3 Phase IP-65	1.7	10.51	12.46	5.31	1.89	3.15	1.54	2.8	2.17	0.34	0.7500	0.1875	1.38	15.5	19
22		1.7	11.54	13.48	5.31	2.01	3.5	1.65	3.15	2.40	0.34	0.8750	0.1875	1.85	17.5	21
28		1.7	12.05	14.00	5.31	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	22	25.5
32		1.8	15.79	17.74	5.31	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	31	34.25
18	1 Phase Std (Note)	1.7	12.48	13.15	5.31	1.89	3.15	1.54	2.8	2.17	0.34	0.7500	0.1875	1.38	15.5	19
22		1.7	13.50	14.17	5.31	2.01	3.5	1.65	3.15	2.40	0.34	0.8750	0.1875	1.85	17.5	21
28		1.7	14.02	14.69	5.31	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	22	25.5
32		1.8	17.76	18.43	5.31	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	31	34.25

Dwg. 1.7



Dwg. 1.8



Note: Terminal box or lead wire dim see Page 15.

Note: 1 Phase Std motors have a capacitor mounted, see Page 11, Fig. 1.9.

Note: Terminal box or lead wire dim see Page 15.

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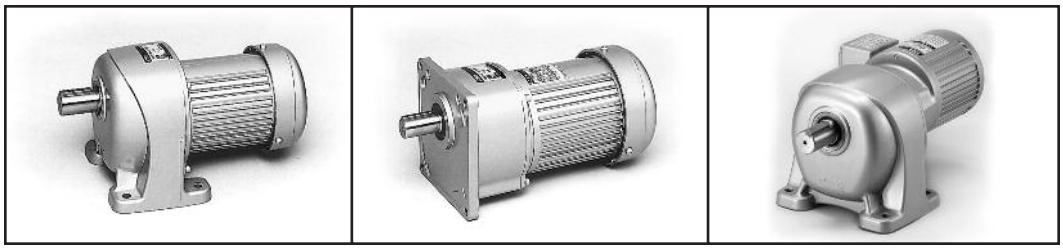


Spec Table 1.3

Specifications						Dimensional Drawings Page 23											
						Motor						Brakemotor					
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	1 Phase Std		3 Phase Std		3 Phase IP-65		1 Phase Std		3 Phase Std		3 Phase IP-65	
						Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1/2 Hp	22	5	360	89	88	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11
		10	180	178	176												
		15	120	268	242												
		20	90	357	308												
		25	72	446	330												
	28	30	60	535	484	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11
		40	45	691	506												
		50	36	864	528												
		60	30	1037	550												
		80	22.5	1383	572												
	32	100	18	1728	1030	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11	Dwg 1.9	Dwg 1.11
		120	15	2074	1060												
		160	11.2	2765	1120												
		200	9	3457	1140												
	40	300	6	4621	1587	Dwg 1.10	n/a	Dwg 1.10	n/a	Dwg 1.10	n/a	Dwg 1.10	n/a	Dwg 1.10	n/a	Dwg 1.10	n/a
		375	4.8	5777	1587												
		450	4	6770	1587												
	50	600	3	9243	2205	Dwg 1.10	n/a	Dwg 1.10	n/a	Dwg 1.10	n/a	Dwg 1.10	n/a	Dwg 1.10	n/a	Dwg 1.10	n/a
		750	2.4	10850	2205												
		900	2	10850	2205												
		1200	1.5	10850	2205												

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase) and Page 11 Table 1.2 (1 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

G3	L	22	N	005	–	B	M	L	4	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
G3: G3 Series	L: Foot Mount K: Flange Mount	22 28 32 40 50	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor WB: IP-65 Brakemotor	L: 1/2 Hp	1: 115V, 60Hz, 1ph 4: 208/230V/460, 60Hz, 3ph 5: 220V, 60Hz, 1ph 6: 230V, 60Hz, 1ph 7: OEM Spec. 1ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10 Fig 1.4. Pg 10	A: Die Cast IP-44, (3 Ph only) N: Leads, (4.5 inch) E: Die Cast IP-65 S: Steel, (1 Ph only)	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

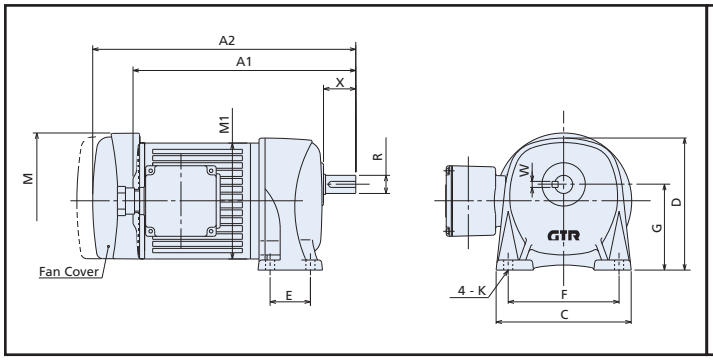
Special Specs

Notes:

1. Lead Wire or Terminal Box location: specify the code from Page 16, Fig 1.24A on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) or Fig 1.4 (1 Phase) on your purchase order.
3. For any other special OEM requirement, please consult Brother.

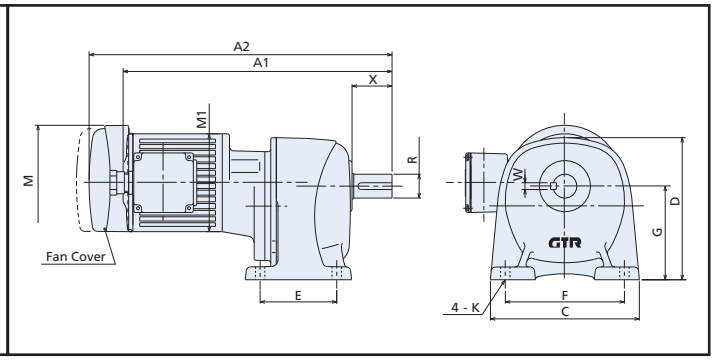
Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	C	D	E	F	G	K	R	W	X	Motor Wt	Brake-motor Wt
22	3 Phase Std	1.9	12.36	13.13	5.55	6.06	5.47	2.56	5.12	3.54	0.43	0.8750	0.1875	1.65	21	24.25
28			12.99	13.76	5.55	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	25.5	29
32			13.74	14.51	5.55	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	32	35.25
40		1.10	17.99	18.76	5.55	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	51	54
50			19.09	19.86	5.55	11.42	10.43	6.30	9.06	6.69	0.71	2.0000	0.5000	3.07	116	119
22	3 Phase IP-65	1.9	12.36	14.59	5.55	6.06	5.47	2.56	5.12	3.54	0.43	0.8750	0.1875	1.65	21	24.25
28			12.99	15.22	5.55	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	25.5	29
32			13.74	15.96	5.55	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	32	35.25
40		1.10	17.99	20.22	5.55	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	51	54
50			19.09	21.32	5.55	11.42	10.43	6.30	9.06	6.69	0.71	2.0000	0.5000	3.07	116	119
22	1 Phase Std (Note)	1.9	15.39	15.67	6.38	6.06	5.47	2.56	5.12	3.54	0.43	0.8750	0.1875	1.65	33	38.5
28			16.02	16.30	6.38	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	37.5	43
32			16.77	17.05	6.38	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	44	49.75
40		1.10	21.02	21.30	6.38	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	63	68.5
50			22.13	22.40	6.38	11.42	10.43	6.30	9.06	6.69	0.71	2.0000	0.5000	3.07	128	133.5

Dwg. 1.9



Note: Terminal box or lead wire dim see Page 15.
Note: 1 Phase Std motors have a capacitor mounted, see Page 11, Fig. 1.9.

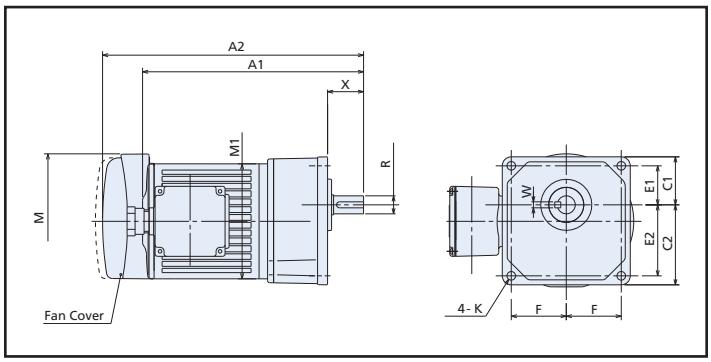
Dwg. 1.10



Note: Terminal box or lead wire dim see Page 15.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	C1	C2	E1	E2	F	K	R	W	X	Motor Wt	Brake-motor Wt
22	3 phase Std	1.11	12.36	13.13	5.55	2.01	3.5	1.65	3.15	2.40	0.34	0.8750	0.1875	1.85	22	25.5
28			12.99	13.76	5.55	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	26.5	30
32			13.74	14.51	5.55	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	33	36.5
22	3 Phase IP-65	1.11	12.36	14.59	5.55	2.01	3.5	1.65	3.15	2.40	0.34	0.8750	0.1875	1.85	22	25.5
28			12.99	15.22	5.55	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	26.5	29.75
32			13.74	15.96	5.55	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	33	36.5
22	1 Phase Std (Note)	1.11	15.39	15.67	6.38	2.01	3.5	1.65	3.15	2.40	0.34	0.8750	0.1875	1.85	34	39.75
28			16.02	16.30	6.38	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	38.75	44
32			16.77	17.05	6.38	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	45.25	50.75

Dwg. 1.11



Note: Terminal box or lead wire dim see Page 15.
Note: 1 Phase Std motors have a capacitor mounted, see Page 11, Fig. 1.9.

Notes/Disclaimer:

1. Every effort is made to assure the accuracy of the drawings. However, certified prints should be requested for critical applications.
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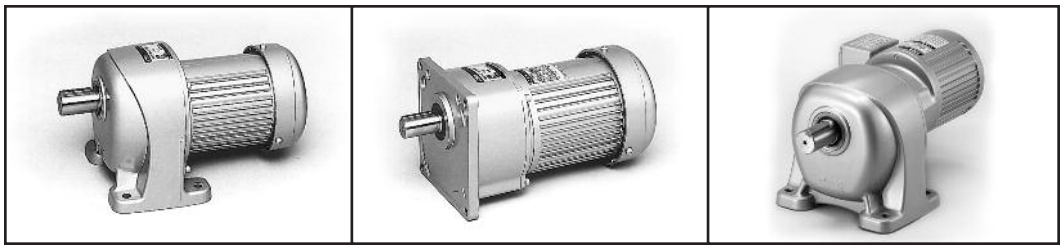
3. Prints are available online using the Brother configurator by entering the complete part number. See www.BrotherGearmotors.com



Spec Table 1.4

Specifications						Dimensional Drawings Page 25							
						Motor				Brakemotor			
						3 Phase Std		3 Phase IP-65		3 Phase Std		3 Phase IP-65	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
1 Hp	28	5	360	167	110	Dwg 1.12	Dwg 1.14	Dwg 1.12	Dwg 1.14	Dwg 1.12	Dwg 1.14	Dwg 1.12	Dwg 1.14
		10	180	335	220								
		15	120	502	308								
		20	90	669	396								
		25	72	837	440								
	32	30	60	1004	891	Dwg 1.12	Dwg 1.14	Dwg 1.12	Dwg 1.14	Dwg 1.12	Dwg 1.14	Dwg 1.12	Dwg 1.14
		40	45	1296	935								
		50	36	1620	968								
		60	30	1944	990								
		80	22.5	2593	1010								
	40	100	18	3241	1450	Dwg 1.12	n/a	Dwg 1.12	n/a	Dwg 1.12	n/a	Dwg 1.12	n/a
		120	15	3889	1480								
		160	11.2	5185	1550								
		200	9	6481	1580								
	50	300	6	8665	2205	Dwg 1.13	n/a	Dwg 1.13	n/a	Dwg 1.13	n/a	Dwg 1.13	n/a
		375	4.8	10832	2205								
		450	4	10850	2205								

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

G3	L	28	N	005	–	B	M	M	4	S	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
G3: G3 Series	L: Foot Mount K: Flange Mount	28 32 40 50	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1 450 : 450:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor WB: IP-65 Brakemotor	M: 1 Hp	4: 208/230V/460, 60Hz, 3ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10	S: Steel IP-44 N: Leads, (4.5 inch) E: Die Cast IP-65	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

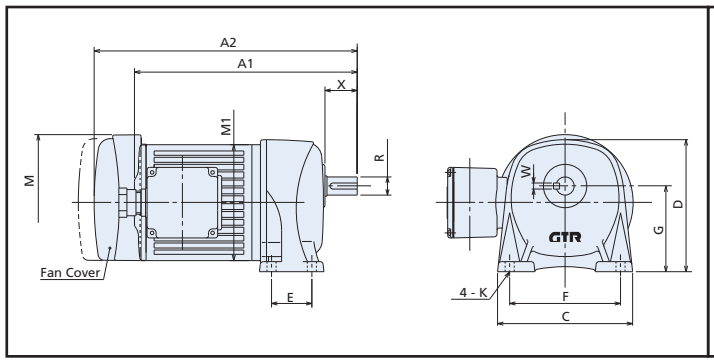
Special Specs

Notes:

1. Lead Wire or Terminal Box location: specify the code from Page 16, Fig 1.24A on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) on your purchase order.
3. For any other special OEM requirement, please consult Brother.

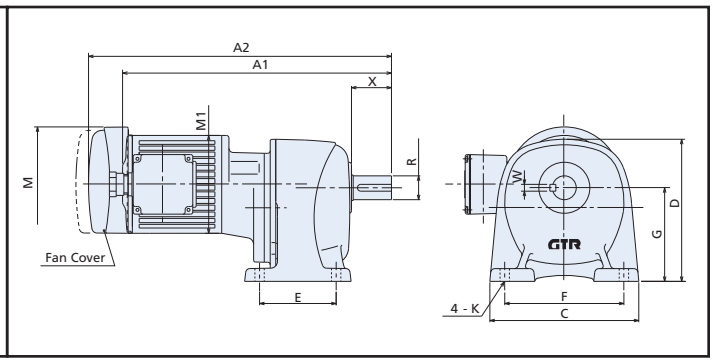
Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	C	D	E	F	G	K	R	W	X	Motor Wt	Brake-motor Wt
28	3 Phase Std	1.12	13.80	14.07	6.38	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	33	38.5
32			14.94	15.22	6.38	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	41	46.25
40			15.81	16.08	6.38	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	55	60.5
50		1.13	20.30	20.57	6.38	11.42	10.43	6.30	9.06	6.69	0.71	2.0000	0.5000	3.07	124.5	130
28	3 Phase IP-65	1.12	13.8	16.48	6.38	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	33	38.5
32			14.94	17.62	6.38	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	41	46.5
40			15.81	18.48	6.38	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	55	60.75
50		1.13	20.30	22.97	6.38	11.42	10.43	6.30	9.06	6.69	0.71	2.0000	0.5000	3.07	124.5	130

Dwg. 1.12



Note: Terminal box or lead wire dim see Page 15.

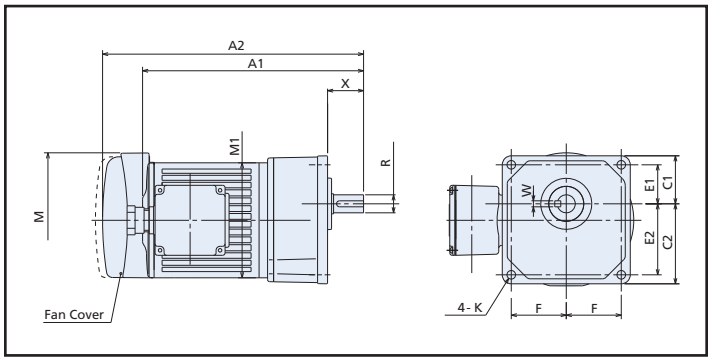
Dwg. 1.13



Note: Terminal box or lead wire dim see Page 15.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	C1	C2	E1	E2	F	K	R	W	X	Motor Wt	Brake-motor Wt
28	3 Phase Std	1.14	13.80	14.07	6.38	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	34.25	40
32			14.94	15.22	6.38	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	42	47.5
28	3 Phase IP-65	1.14	13.8	16.48	6.38	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	34.25	40
32			14.94	17.62	6.38	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	42	47.5

Dwg. 1.14



Note: Terminal box or lead wire dim see Page 15.

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2. The drawings on this page are for rough sizing only and may not be visually accurate in all aspects. Please download the actual specification drawing from the www or call your Brother salesman or dealer to get a certified print.
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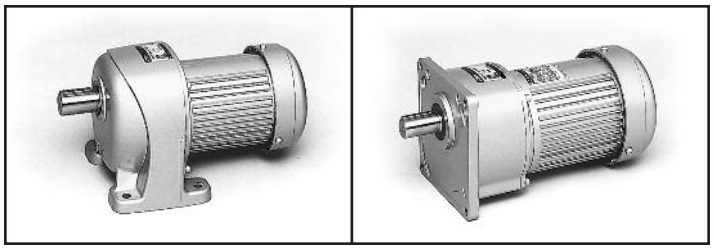


Spec Table 1.5

Specifications						Dimensional Drawings Page 27							
						Motor				Brakemotor			
						3 Phase Std		3 Phase IP-65		3 Phase Std		3 Phase IP-65	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange	Foot	Flange	Foot	Flange	Foot	Flange
2 Hp	32	5	360	338	397	Dwg 1.15	Dwg 1.16	Dwg 1.15	Dwg 1.16	Dwg 1.15	Dwg 1.16	n/a	n/a
		10	180	668	551								
		15	120	1006	639								
		20	90	1335	728								
		25	72	1673	860								
	40	30	60	2003	1147	Dwg 1.15	n/a	Dwg 1.15	n/a	Dwg 1.15	n/a	n/a	n/a
		40	45	2592	1323								
		50	36	3234	1588								
		60	30	3884	1588								
		80	22.5	5176	1588								
	50	100	18	6476	2205	Dwg 1.15	n/a	Dwg 1.15	n/a	Dwg 1.15	n/a	n/a	n/a
		120	15	7768	2205								
		160	11.2	10317	2205								
		200	9	10838	2205								
3 Hp	40	5	360	494	485	Dwg 1.17	n/a	Dwg 1.17	n/a	Dwg 1.17	n/a	n/a	n/a
		10	180	980	706								
		15	120	1474	794								
		20	90	1959	904								
		25	72	2454	1058								
	50	30	60	2939	1566	Dwg 1.17	n/a	Dwg 1.17	n/a	Dwg 1.17	n/a	n/a	n/a
		40	45	3797	1632								
		50	36	4751	1940								
		60	30	5696	2205								
		80	22.5	7595	2205								
		100	18	9537	2205								

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

G3	L	32	N	005	–	B	M	P	4	S	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
G3: G3 Series	L: Foot Mount K: Flange Mount	32 40 50	N: Common Code	005 : 5:1 030 : 30:1 100 : 100:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor	P: 2 Hp R: 3 Hp	4: 208/230V/460, 60Hz, 3ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10	S: Steel IP-44 N: Leads, (4.5 inch) E: Die Cast IP-65	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

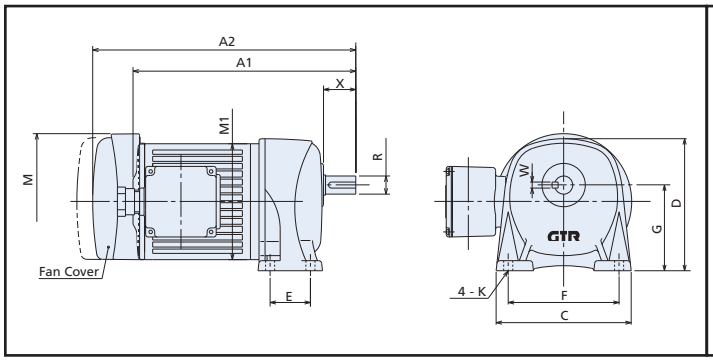
Notes:

1. Lead Wire or Terminal Box location: specify the code from Page 16, Fig 1.24A on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) on your purchase order.
3. For any other special OEM requirement, please consult Brother.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	C	D	E	F	G	K	R	W	X	Motor Wt	Brake-motor Wt
32	3 Phase Std	1.15	16.56	17.36	7.32	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	54	62
40			18.01	18.82	7.32	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	69.5	77
50			19.11	19.92	7.32	11.42	10.43	6.30	9.06	6.69	0.71	2.0000	0.5000	3.07	134.5	142
32	3 Phase IP-65	1.15	16.56	n/a	7.32	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	54	n/a
40			18.01	n/a	7.32	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	69.5	n/a
50			19.11	n/a	7.32	11.42	10.43	6.30	9.06	6.69	0.71	2.0000	0.5000	3.07	134.5	n/a

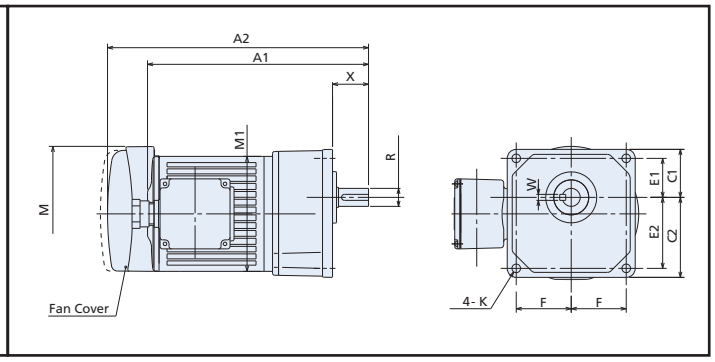
Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	C1	C2	E1	E2	F	K	R	W	X	Motor Wt	Brake-motor Wt
32	3 Phase Std	1.16	16.56	17.36	7.32	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	55	63
32	3 Phase IP-65	1.16	16.56	n/a	7.32	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	55	n/a

Dwg. 1.15 (2 Hp)



Note: Terminal box or lead wire dim see Page 15.

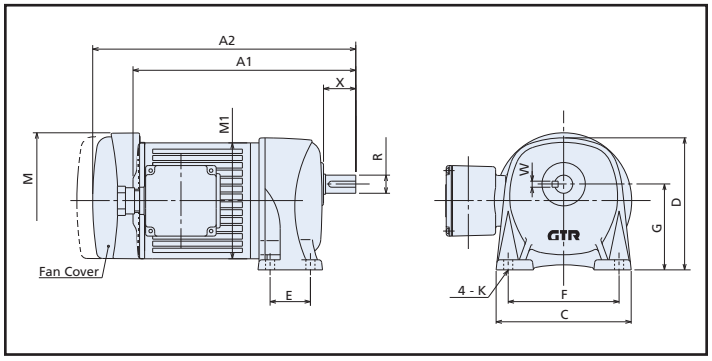
Dwg. 1.16 (2 Hp)



Note: Terminal box or lead wire dim see Page 15.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	C1	C2	E1	E2	F	K	R	W	X	Motor Wt	Brake-motor Wt
40	3 Phase Std	1.17	18.37	19.17	7.32	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	76	84
50			20.10	20.91	7.32	11.42	10.43	6.30	9.06	6.69	0.71	2.0000	0.5000	3.07	142	150
40	3 Phase IP-65	1.17	18.37	n/a	7.32	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	76	n/a
50			20.10	n/a	7.32	11.42	10.43	6.30	9.06	6.69	0.71	2.0000	0.5000	3.07	142	n/a

Dwg. 1.17 (3 Hp)



Note: Terminal box or lead wire dim see Page 15.

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3. Prints are available online using the Brother configurator by entering the complete part number. See www.BrotherGearmotors.com

Spec Table 1.6

Specifications						Dimensional Drawings Page 29	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot	Flange
1/4 Hp	18	5	360	45	55	Dwg 1.18	Dwg 1.19
		10	180	89	121		
		15	120	134	176		
		20	90	178	242		
		25	72	223	264		
	22	30	60	268	341	Dwg 1.18	Dwg 1.19
		40	45	346	352		
		50	36	432	363		
		60	30	519	374		
		80	22.5	691	385		
	28	100	18	864	572	Dwg 1.18	Dwg 1.19
		120	15	1037	583		
		160	11.2	1383	605		
		200	9	1728	616		
1/2 Hp	22	5	360	89	88	Dwg 1.18	Dwg 1.19
		10	180	178	176		
		15	120	268	242		
		20	90	357	308		
		25	72	446	330		
	28	30	60	535	484	Dwg 1.18	Dwg 1.19
		40	45	691	506		
		50	36	864	528		
		60	30	1037	550		
		80	22.5	1383	572		
	32	100	18	1728	1030	Dwg 1.18	Dwg 1.19
		120	15	2074	1060		
		160	11.2	2765	1120		
		200	9	3457	1140		
1 Hp	28	5	360	167	110	Dwg 1.18	Dwg 1.19
		10	180	335	220		
		15	120	502	308		
		20	90	669	396		
		25	72	837	440		
	32	30	60	1004	891	Dwg 1.18	Dwg 1.19
		40	45	1296	935		
		50	36	1620	968		
		60	30	1944	990		
		80	22.5	2593	1010		
	40	100	18	3241	1450	Dwg 1.18	Dwg 1.19
		120	15	3889	1480		
		160	11.2	5185	1550		
		200	9	6481	1580		

Model Number for Ordering

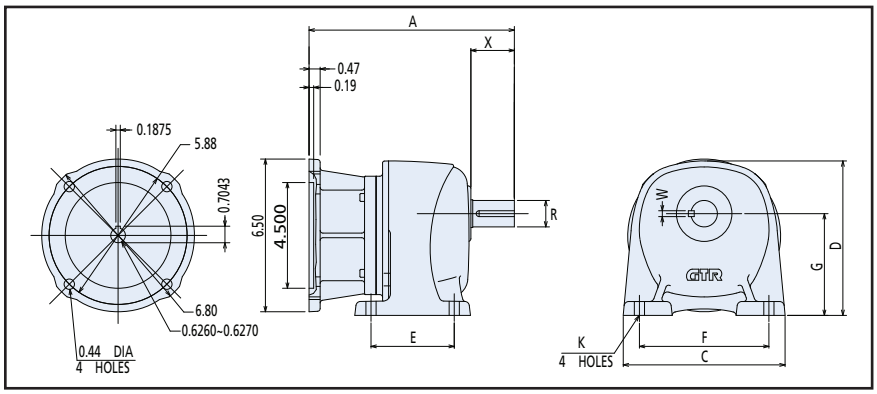
G3	L	18	N	005	–	N	C	K	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Special Spec
G3: G3 Series	L: Foot Mount K: Flange Mount	18 22 28 32 40	N: Common Code	005 : 5:1 030 : 30:1 120 : 120:1		N: Common Code (no UL)	C: NEMA 56CReducer	K: 1/4 Hp L: 1/2 Hp M: 1 Hp	Blank: Standard Type X: Special Spec Special Specs, consult Brother

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

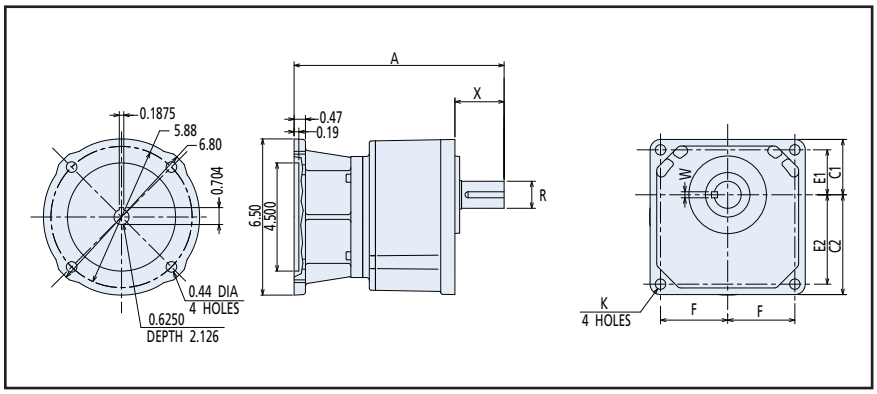
Hp	Frame	Dwg	A	C	D	E	F	G	K	R	W	X	Wt
1/4 Hp	18	1.18	6.97	5.28	5.16	1.57	4.33	3.35	0.35	0.7500	0.1875	1.26	8
	22		7.99	6.06	5.47	2.56	5.12	3.54	0.43	0.8750	0.1875	1.65	10
	28		8.51	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	14
1/2 Hp	22	1.18	8.11	6.06	5.47	2.56	5.12	3.54	0.43	0.8750	0.1875	1.65	10
	28		8.74	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	14
	32		9.49	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	25
1 Hp	28	1.18	8.80	6.89	6.57	3.54	5.51	4.33	0.43	1.1250	0.2500	1.85	14
	32		9.95	8.19	7.80	5.12	6.69	5.12	0.51	1.2500	0.2500	2.28	25
	40		10.81	10.00	9.06	5.91	8.72	5.91	0.59	1.6250	0.3750	2.68	40

Dwg. 1.18



Hp	Frame	Dwg	A	C1	C2	E1	E2	F	K	R	W	X	Wt
1/4 Hp	18	1.19	6.97	1.89	3.15	1.54	2.8	2.17	0.34	0.7500	0.1875	1.38	9
	22		7.99	2.01	3.5	1.65	3.15	2.40	0.34	0.8750	0.1875	1.85	11
	28		8.51	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	15
1/2 Hp	22	1.19	8.11	2.01	3.5	1.65	3.15	2.40	0.34	0.8750	0.1875	1.85	12
	28		8.74	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	16.5
	32		9.49	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	23
1 Hp	28	1.19	8.80	2.30	4.15	1.87	3.72	2.80	0.43	1.1250	0.2500	1.97	15.5
	32		9.95	2.81	4.98	2.30	4.47	3.39	0.51	1.2500	0.2500	2.36	23

Dwg. 1.19



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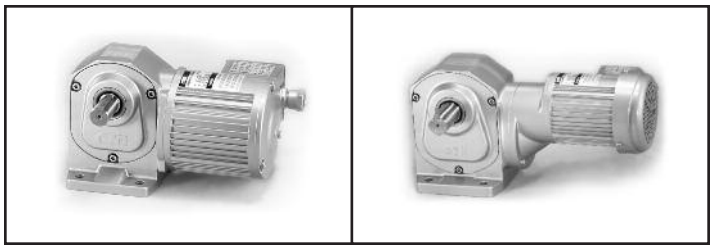

Spec Table 2.1

Specifications						Dimensional Drawings Page 31					
						Motor			Brakemotor		
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	1 Phase Std	3 Phase Std	3 Phase IP-65	1 Phase Std	3 Phase Std	3 Phase IP-65
1/8 Hp	22	5	360	21	132	Dwg 2.1	Dwg 2.1	Dwg 2.1	Dwg 1.9	Dwg 1.9	Dwg 1.9
		10	170	42	209						
		15	120	63	232						
		20	90	85	265						
		25	72	106	287						
		30	60	127	309						
		40	45	169	353						
		50	36	211	386						
		60	30	254	397						
		80	22.5	328	397						
		100	18	410	397						
		120	15	491	397						
		160	11.2	655	397						
		200	9	819	397						
		240	7.5	983	397						
	28	300	6	1069	639	Dwg 2.2	Dwg 2.2	Dwg 2.2	Dwg 2.2	Dwg 2.2	Dwg 2.2
		375	4.8	1336	639						
		450	4	1603	639						
	32	600	3	2113	926	Dwg 2.2	Dwg 2.2	Dwg 2.2	Dwg 2.2	Dwg 2.2	Dwg 2.2
		750	2.4	2642	926						
		900	2	3170	926						
		1200	1.5	3819	926						
		1500	1.2	3818	926						

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase) and Page 11 Table 1.2 (1 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

H2	L	22	R	010	–	B	M	H	4	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
H2: H2 Series	L: Foot Mount	22 28 32	R: Right Shaft L: Left Shaft T: Double Shaft Ref: Fig 2.1	005 : 5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor WB: IP-65 Brakemotor	H: 1/8 Hp	1: 115V, 60Hz, 1ph 4: 208/230V/460, 60Hz, 3ph 5: 220V, 60Hz, 1ph 6: 230V, 60Hz, 1ph 7: OEM Spec. 1ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10 Fig 1.4. Pg 10	A: Die Cast IP-44 N: Leads, (4.5 inch) E: Die Cast IP-65	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

Notes:

1. Lead Wire or Terminal Box location: specify the code from Page 16, Fig 1.24A on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) or Fig 1.4 (1 Phase) on your purchase order.
3. For any other special OEM requirement, please consult Brother.

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Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M1 (TENV) (Motor)	M (TEFC) (Brake)	B	C	D	E	F	G	K	V	Y	R	W	P	Motor Wt	Brake-motor Wt
22	3 Phase Std	2.1	9.23	10.81	4.53	5.31	4.17	4.57	5.91	2.76	3.54	4.13	0.43	2.09	3.54	0.8750	0.1875	1.57	14.25	17.5
	3 Phase IP-65	2.1	9.23	11.26	4.53	5.31	4.17	4.57	5.91	2.76	3.54	4.13	0.43	2.09	3.54	0.8750	0.1875	1.57	14.25	17.5
	1 Phase Std	2.1	10.46	10.81	n/a	5.31	4.17	4.57	5.91	2.76	3.54	4.13	0.43	2.09	3.54	0.8750	0.1875	1.57	14.25	17.5

Dwg. 2.1

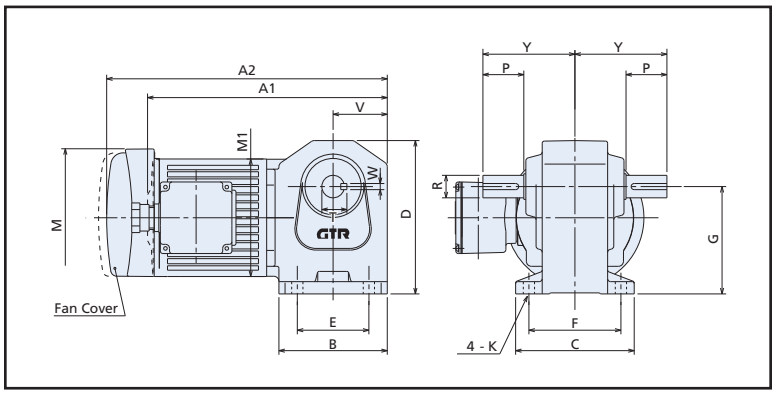
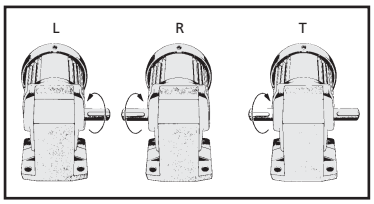


Fig. 2.1



Note: Terminal box or lead wire dim see Page 15.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M1 (TENV) (Motor)	M (TEFC) (Brake)	B	C	D	E	F	G	K	V	Y	R	W	P	Motor Wt	Brake-motor Wt
28	3 Phase Std	2.2	12.26	13.49	4.53	5.31	4.92	4.96	6.87	3.15	3.94	4.72	0.43	2.46	3.94	1.1250	0.2500	1.77	22	25.25
32			13.01	14.24	4.53	5.31	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	29	32
28	3 Phase IP-65	2.2	12.26	14.29	4.53	5.31	4.92	4.96	6.87	3.15	3.94	4.72	0.43	2.46	3.94	1.1250	0.2500	1.77	22	25.25
32			13.01	15.04	4.53	5.31	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	29	32
28	1 Phase Std	2.2	13.49	13.84	n/a	5.31	4.92	4.96	6.87	3.15	3.94	4.72	0.43	2.46	3.94	1.1250	0.2500	1.77	22	25.25
32			14.24	14.59	n/a	5.31	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	29	32

Dwg. 2.2

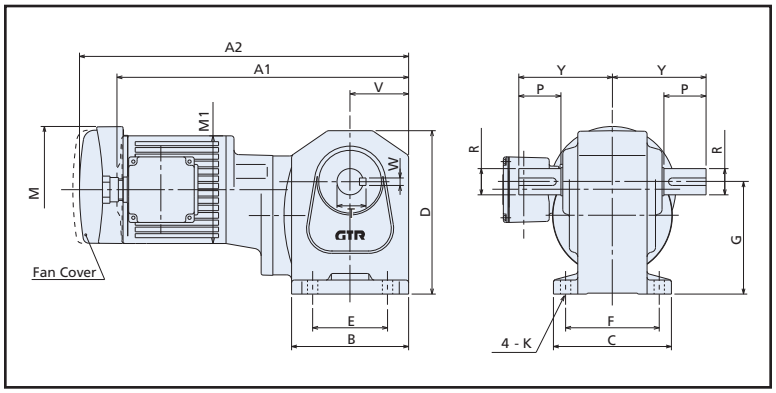
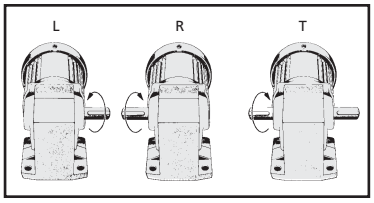


Fig. 2.1



Note: Terminal box or lead wire dim see Page 15.

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Spec Table 2.2

Specifications						Dimensional Drawings Page 33					
						Motor			Brakemotor		
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	1 Phase Std	3 Phase Std	3 Phase IP-65	1 Phase Std	3 Phase Std	3 Phase IP-65
1/4 Hp	22	5	360	42	132	Dwg 2.3	Dwg 2.3	Dwg 2.3	Dwg 2.3	Dwg 2.3	Dwg 2.3
		10	180	85	209						
		15	120	127	231						
		20	90	169	264						
		25	72	211	286						
		30	60	254	308						
		40	45	338	352						
		50	36	423	385						
		60	30	507	407						
	28	80	22.5	654	550	Dwg 2.3	Dwg 2.3	Dwg 2.3	Dwg 2.3	Dwg 2.3	Dwg 2.3
		100	18	817	594						
		120	15	981	616						
		160	11.2	1308	638						
		200	9	1634	638						
		240	7.5	1961	638						
	32	300	6	2170	860	Dwg 2.4	Dwg 2.4	Dwg 2.4	Dwg 2.4	Dwg 2.4	Dwg 2.4
		375	4.8	2712	926						
		450	4	3255	926						
	40	600	3	4339	1521	Dwg 2.4	Dwg 2.4	Dwg 2.4	Dwg 2.4	Dwg 2.4	Dwg 2.4
		750	2.4	5424	1521						
		900	2	6509	1521						
		1200	1.5	6770	1521						

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase) and Page 11 Table 1.2 (1 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

H2	L	22	R	012	–	B	M	K	4	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
H2: H2 Series	L: Foot Mount	22 28 32 40	R: Right Shaft L: Left Shaft T: Double Shaft Ref: Fig 2.1	005 : 5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor WB: IP-65 Brakemotor	K: 1/4 Hp	1: 115V, 60Hz, 1ph 4: 208/230V/460, 60Hz, 3ph 5: 220V, 60Hz, 1ph 6: 230V, 60Hz, 1ph 7: OEM Spec. 1ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10 Fig 1.4. Pg 10	A: Die Cast IP-44 N: Leads, (4.5 inch) E: Die Cast IP-65	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

Notes:

1. Lead Wire or Terminal Box location: specify the code from Page 16, Fig 1.24A on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) or Fig 1.4 (1 Phase) on your purchase order.
3. For any other special OEM requirement, please consult Brother.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	V	Y	R	W	P	Motor Wt	Brake-motor Wt
22	3 Phase Std	2.3	11.04	11.71	5.31	4.17	4.57	5.91	2.76	3.54	4.13	0.43	2.09	3.54	0.8750	0.1875	1.57	16.5	20
28			11.54	12.20	5.31	4.92	4.96	6.87	3.15	3.94	4.72	0.43	2.46	3.94	1.1250	0.2500	1.77	21	24.25
22	3 Phase IP-65	2.3	11.04	12.99	5.31	4.17	4.57	5.91	2.76	3.54	4.13	0.43	2.09	3.54	0.8750	0.1875	1.57	16.5	20
28			11.54	13.48	5.31	4.92	4.96	6.87	3.15	3.94	4.72	0.43	2.46	3.94	1.1250	0.2500	1.77	21	24.25
22	1 Phase Std (Note)	2.3	13.01	13.68	5.31	4.17	4.57	5.91	2.76	3.54	4.13	0.43	2.09	3.54	0.8750	0.1875	1.57	21	24.25
28			13.50	14.17	5.31	4.92	4.96	6.87	3.15	3.94	4.72	0.43	2.46	3.94	1.1250	0.2500	1.77	25.5	28.75

Dwg. 2.3

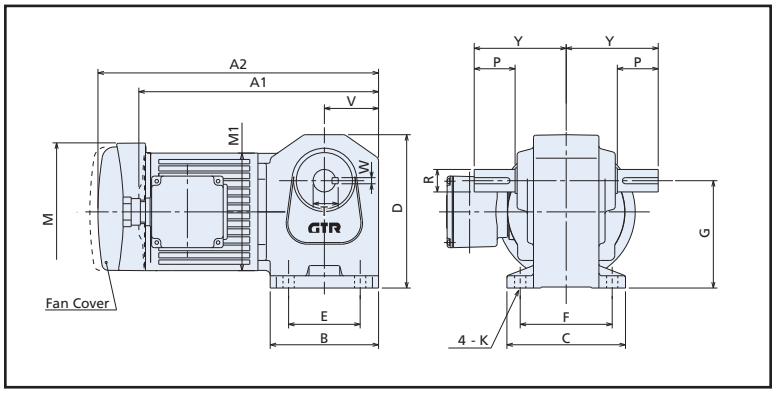
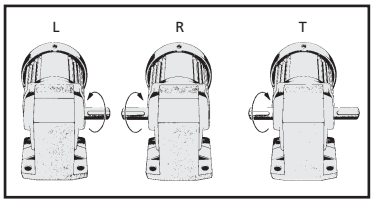


Fig. 2.1



Note: Terminal box or lead wire dim see Page 15.

Note: 1 Phase Std motors have a capacitor mounted, see Page 11, Fig. 1.9.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	V	Y	R	W	P	Motor Wt	Brake-motor Wt
32	3 Phase Std	2.4	15.57	16.24	5.31	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	30	33
40			16.30	16.97	5.31	7.09	7.09	9.55	4.72	5.51	6.5	0.59	3.54	5.51	1.6250	0.3750	2.56	48.5	52
32	3 Phase IP-65	2.4	15.57	17.52	5.31	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	30	33
40			16.30	18.25	5.31	7.09	7.09	9.55	4.72	5.51	6.5	0.59	3.54	5.51	1.6250	0.3750	2.56	48.5	52
32	1 Phase Std (Note)	2.4	17.54	18.21	5.31	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	34.25	37.5
40			18.27	18.94	5.31	7.09	7.09	9.55	4.72	5.51	6.5	0.59	3.54	5.51	1.6250	0.3750	2.56	53	56

Dwg. 2.4

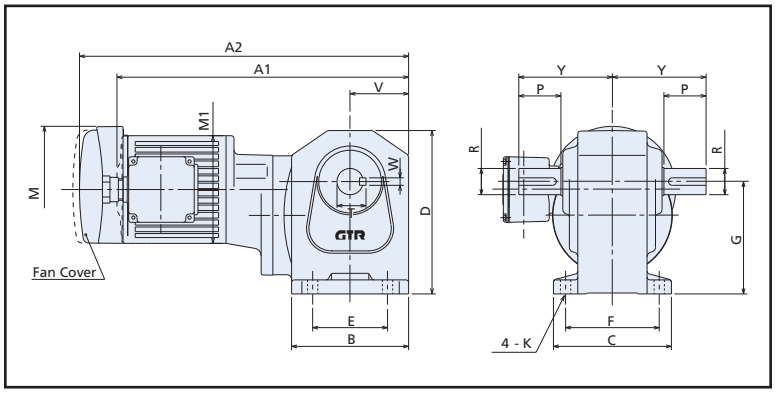
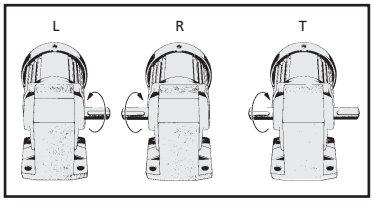


Fig. 2.1



Note: Terminal box or lead wire dim see Page 15.

Note: 1 Phase Std motors have a capacitor mounted, see Page 11, Fig. 1.9.

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Spec Table 2.3

Specifications						Dimensional Drawings Page 35					
						Motor			Brakemotor		
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	1 Phase Std	3 Phase Std	3 Phase IP-65	1 Phase Std	3 Phase Std	3 Phase IP-65
1/2 Hp	28	5	360	85	209	Dwg 2.5	Dwg 2.5	Dwg 2.5	Dwg 2.5	Dwg 2.5	Dwg 2.5
		10	180	169	330						
		15	120	254	374						
		20	90	338	418						
		25	72	423	451						
		30	60	507	495						
		40	45	676	550						
		50	36	845	594						
		60	30	1014	616						
	32	80	22.5	1308	770	Dwg 2.5	Dwg 2.5	Dwg 2.5	Dwg 2.5	Dwg 2.5	Dwg 2.5
		100	18	1634	858						
		120	15	1961	924						
		160	11.2	2615	924						
		200	9	3269	924						
		240	7.5	3819	924						
	40	300	6	4227	1521	Dwg 2.6	Dwg 2.6	Dwg 2.6	Dwg 2.6	Dwg 2.6	Dwg 2.6
		375	4.8	5284	1521						
		450	4	6341	1521						
	50	600	3	8455	2138	Dwg 2.6	Dwg 2.6	Dwg 2.6	Dwg 2.6	Dwg 2.6	Dwg 2.6
		750	2.4	10568	2138						
		900	2	10850	2138						
		1200	1.5	10850	2138						

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase) and Page 11 Table 1.2 (1 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

H2	L	28	R	020	–	B	M	L	4	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
H2: H2 Series	L: Foot Mount	28 32 40 50	R: Right Shaft L: Left Shaft T: Double Shaft Ref: Fig 2.1	005 : 5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor WB: IP-65 Brakemotor	L: 1/2 Hp	1: 115V, 60Hz, 1ph 4: 208/230V/460, 60Hz, 3ph 5: 220V, 60Hz, 1ph 6: 230V, 60Hz, 1ph 7: OEM Spec. 1ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10 Fig 1.4. Pg 10	A: Die Cast IP-44, (3 Ph only) N: Leads, (4.5 inch) E: Die Cast IP-65 S: Steel, (1 Ph only)	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

Notes:

1. Lead Wire or Terminal Box location: specify the code from Page 16, Fig 1.24A on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) or Fig 1.4 (1 Phase) on your purchase order.
3. For any other special OEM requirement, please consult Brother.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	V	Y	R	W	P	Motor Wt	Brake-motor Wt
28	3 Phase Std	2.5	12.81	13.58	5.55	4.92	4.96	6.87	3.15	3.94	4.72	0.43	2.46	3.94	1.1250	0.2500	1.77	24.25	27.5
32			13.56	14.33	5.55	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	31	34.25
28	3 Phase IP-65	2.5	12.81	15.04	5.55	4.92	4.96	6.87	3.15	3.94	4.72	0.43	2.46	3.94	1.1250	0.2500	1.77	24.25	27.5
32			13.56	15.79	5.55	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	31	27.5
28	1 Phase Std (Note)	2.5	15.85	16.12	6.38	4.92	4.96	6.87	3.15	3.94	4.72	0.43	2.46	3.94	1.1250	0.2500	1.77	36.5	42
32			16.59	16.87	6.38	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	43	48.5

Dwg. 2.5

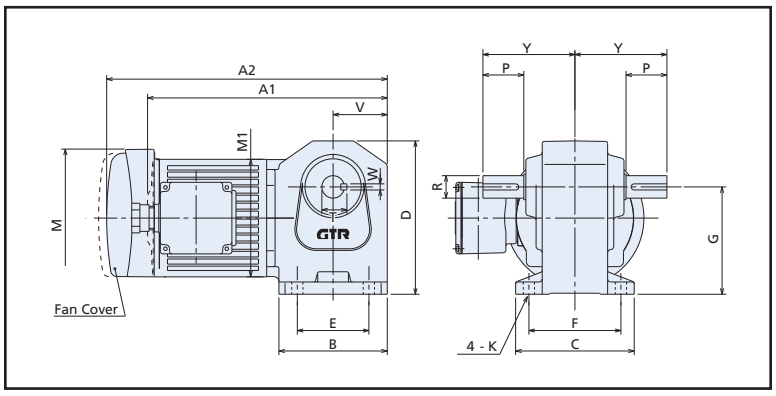
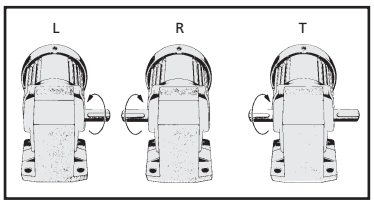


Fig. 2.1



Note: Terminal box or lead wire dim see Page 15.

Note: 1 Phase Std motors have a capacitor mounted, see Page 11, Fig. 1.9.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	V	Y	R	W	P	Motor Wt	Brake-motor Wt
40	3 Phase Std	2.6	17.95	18.72	5.55	7.09	7.09	9.55	4.72	5.51	6.5	0.59	3.54	5.51	1.6250	0.3750	2.56	54	57.25
50			18.70	19.47	5.55	8.27	9.06	12.13	5.91	7.09	7.87	0.71	4.13	6.5	2.0000	0.5000	2.95	120	123.5
40	3 Phase IP-65	2.6	17.95	20.18	5.55	7.09	7.09	9.55	4.72	5.51	6.5	0.59	3.54	5.51	1.6250	0.3750	2.56	54	57.25
50			18.70	20.93	5.55	8.27	9.06	12.13	5.91	7.09	7.87	0.71	4.13	6.5	2.0000	0.5000	2.95	120	123.5
40	1 Phase Std (Note)	2.6	20.98	21.26	6.38	7.09	7.09	9.55	4.72	5.51	6.5	0.59	3.54	5.51	1.6250	0.3750	2.56	66.25	71.75
50			21.73	22.01	6.38	8.27	9.06	12.13	5.91	7.09	7.87	0.71	4.13	6.5	2.0000	0.5000	2.95	132.5	138

Dwg. 2.6

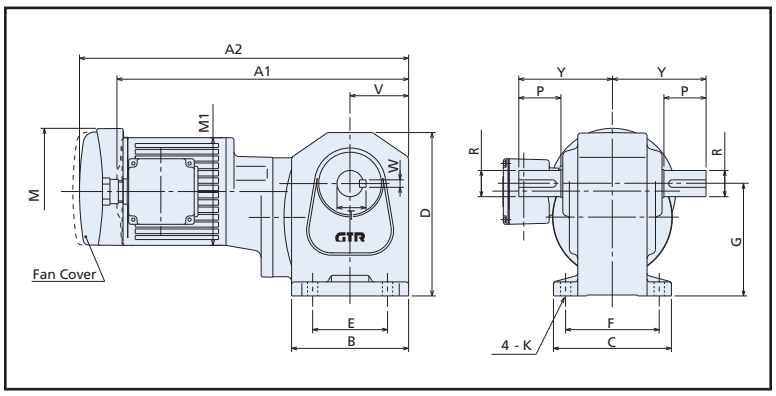
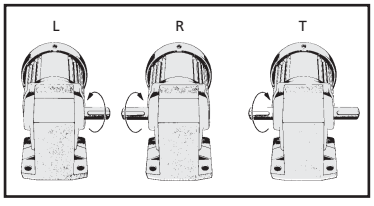


Fig. 2.1



Note: Terminal box or lead wire dim see Page 15.

Note: 1 Phase Std motors have a capacitor mounted, see Page 11, Fig. 1.9.

Notes/Disclaimer:

1. Every effort is made to assure the accuracy of the drawings. However, certified prints should be requested for critical applications.
2. The drawings on this page are for rough sizing only and may not be visually accurate in all aspects. Please download the actual specification drawing from the www or call your Brother salesman or dealer to get a certified print.
3. Prints are available online using the Brother configurator by entering the complete part number. See www.BrotherGearmotors.com

Spec Table 2.4

Specifications						Dimensional Drawings Page 37			
						Motor		Brakemotor	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	3 Phase Std	3 Phase IP-65	3 Phase Std	3 Phase IP-65
1 Hp	32	5	360	159	341	Dwg 2.7	Dwg 2.7	Dwg 2.7	Dwg 2.7
		10	180	317	451				
		15	120	476	495				
		20	90	634	550				
		25	72	793	616				
		30	60	951	660				
		40	45	1268	770				
		50	36	1585	858				
		60	30	1902	924				
	40	80	22.5	2452	1300	Dwg 2.7	Dwg 2.7	Dwg 2.7	Dwg 2.7
		100	18	3065	1360				
		120	15	3677	1410				
		160	11.2	4903	1450				
		200	9	6129	1500				
		240	7.5	6770	1500				
	50	300	6	7926	1742	Dwg 2.8	Dwg 2.8	Dwg 2.8	Dwg 2.8
		375	4.8	9908	1808				
		450	4	10850	1918				

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

H2	L	32	R	020	–	B	M	M	4	S	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
H2: H2 Series	L: Foot Mount	32 40 50	R: Right Shaft L: Left Shaft T: Double Shaft Ref: Fig 2.1	005 : 5:1 030 : 30:1 120 : 120:1 450 : 450:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor WB: IP-65 Brakemotor	M: 1 Hp	4: 208/230V/460, 60Hz, 3ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10	S: Steel IP-44 N: Leads, (4.5 inch) E: Die Cast IP-65	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

Notes:

1. Lead Wire or Terminal Box location: specify the code from Page 16, Fig 1.24A on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10 , Fig 1.3 (3 Phase) on your purchase order.
3. For any other special OEM requirement, please consult Brother.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	V	Y	R	W	P	Motor Wt	Brake-motor Wt
32	3 Phase Std	2.7	14.72	15.00	6.38	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	38.5	44
40			15.45	15.73	6.38	7.09	7.09	9.55	4.72	5.51	6.5	0.59	3.54	5.51	1.6250	0.3750	2.56	57.25	63
32	3 Phase IP-65	2.7	14.72	17.40	6.38	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	38.5	44
40			15.45	18.13	6.38	7.09	7.09	9.55	4.72	5.51	6.5	0.59	3.54	5.51	1.6250	0.3750	2.56	57.25	63

Dwg. 2.7

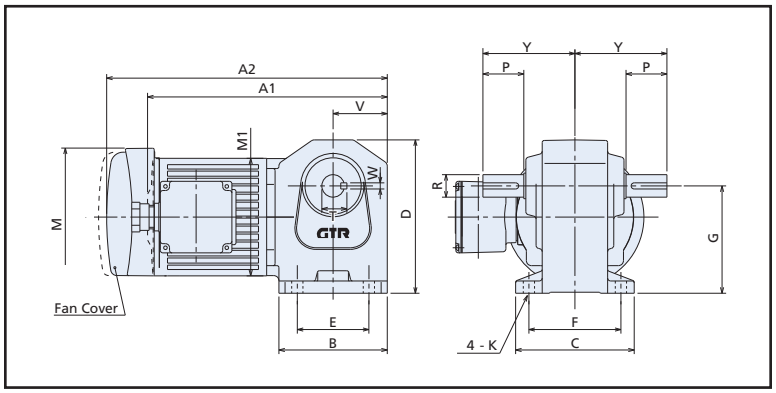
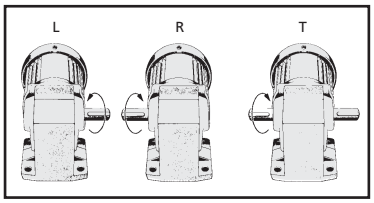


Fig. 2.1



Note: Terminal box or lead wire dim see Page 15.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	V	Y	R	W	P	Motor Wt	Brake-motor Wt
50	3 Phase Std	2.8	19.90	20.18	6.38	8.27	9.06	12.13	5.91	7.09	7.87	0.71	4.13	6.5	2.0000	0.5000	2.95	129	134.5
50	3 Phase IP-65	2.8	19.90	22.58	6.38	8.27	9.06	12.13	5.91	7.09	7.87	0.71	4.13	6.5	2.0000	0.5000	2.95	129	134.5

Dwg. 2.8

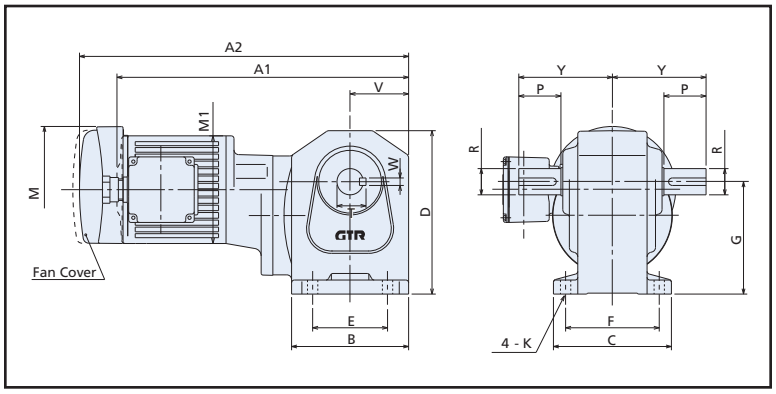
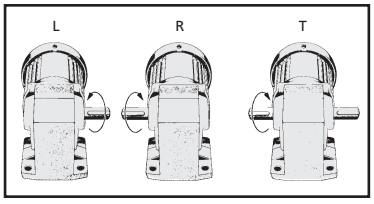


Fig. 2.1



Note: Terminal box or lead wire dim see Page 15.

Notes/Disclaimer:

1. Every effort is made to assure the accuracy of the drawings. However, certified prints should be requested for critical applications.
2. The drawings on this page are for rough sizing only and may not be visually accurate in all aspects. Please download the actual specification drawing from the www or call your Brother salesman or dealer to get a certified print.
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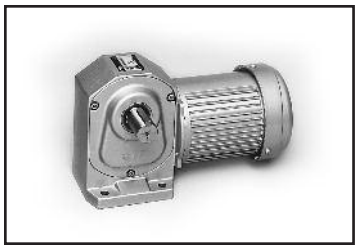


Spec Table 2.5

Specifications						Dimensional Drawings Page 39			
						Motor		Brakemotor	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	3 Phase Std	3 Phase IP-65	3 Phase Std	3 Phase IP-65
2 Hp	40	5	360	321	595	Dwg 2.9	Dwg 2.9	Dwg 2.9	n/a
		10	180	633	794				
		15	120	954	992				
		20	90	1266	1058				
		25	72	1587	1147				
		30	60	1899	1191				
		40	45	2454	1257				
		50	36	3061	1323				
		60	30	3676	1367				
	50	80	22.5	4899	1918	Dwg 2.9	Dwg 2.9	Dwg 2.9	n/a
		100	18	6121	1985				
		120	15	7343	2029				
		160	11.2	9797	2095				
		200	9	10838	2139				
		240	7.5	10838	2139				
3 Hp	50	5	360	468	882	Dwg 2.10	Dwg 2.10	Dwg 2.10	n/a
		10	180	928	992				
		15	120	1396	1103				
		20	90	1855	1235				
		25	72	2324	1367				
		30	60	2783	1477				
		40	45	3563	1588				
		50	36	4491	1698				
		60	30	5384	1830				
		80	22.5	7187	1896				
		100	18	9017	1985				
		120	15	10751	1985				

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

H2	L	40	R	020	–	B	M	P	4	S	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
H2: H2 Series	L: Foot Mount	40 50	R: Right Shaft L: Left Shaft T: Double Shaft Ref: Fig 2.1	005 : 5:1 030 : 30:1 120 : 120:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor	P: 2 Hp R: 3 Hp	4: 208/230V/460, 60Hz, 3ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10	S: Steel IP-44 N: Leads, (4.5 inch) E: Die Cast IP-65	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

Notes:

1. Lead Wire or Terminal Box location: specify the code from Page 16, Fig 1.24A on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10 , Fig 1.3 (3 Phase) on your purchase order.
3. For any other special OEM requirement, please consult Brother.

brother at your side

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	V	Y	R	W	P	Motor Wt	Brake-motor Wt
40	3 Phase Std	2.9	17.97	18.78	7.32	7.09	7.09	9.55	4.72	5.51	6.5	0.59	3.54	5.51	1.6250	0.3750	2.56	73	80.5
50			18.72	19.53	7.32	8.27	9.06	12.13	5.91	7.09	7.87	0.71	4.13	6.5	2.0000	0.5000	2.95	137	144.5
40	3 Phase IP-65	2.9	17.97	n/a	7.32	7.09	7.09	9.55	4.72	5.51	6.5	0.59	3.54	5.51	1.6250	0.3750	2.56	73	n/a
50			18.72	n/a	7.32	8.27	9.06	12.13	5.91	7.09	7.87	0.71	4.13	6.5	2.0000	0.5000	2.95	137	n/a

Dwg. 2.9 (2 Hp)

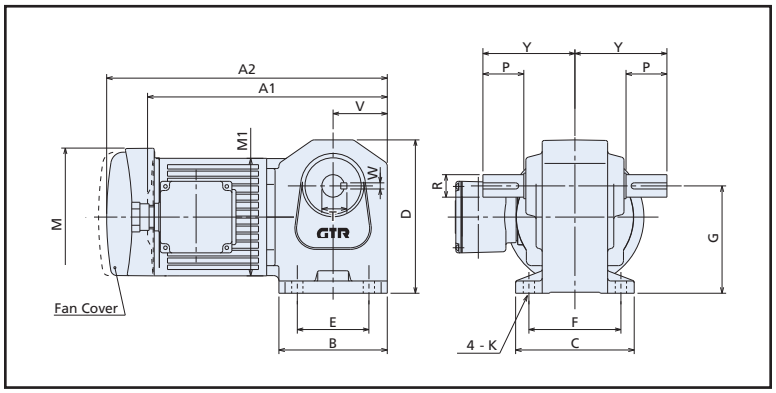
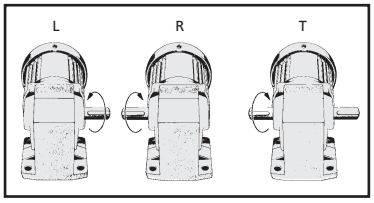


Fig. 2.1



Note: Terminal box or lead wire dim see Page 15.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	V	Y	R	W	P	Motor Wt	Brake-motor Wt
50	3 Phase Std	2.8	19.90	20.18	6.38	8.27	9.06	12.13	5.91	7.09	7.87	0.71	4.13	6.5	2.0000	0.5000	2.95	129	134.5
50	3 Phase IP-65	2.8	19.90	22.58	6.38	8.27	9.06	12.13	5.91	7.09	7.87	0.71	4.13	6.5	2.0000	0.5000	2.95	129	134.5

Dwg. 2.10 (3 Hp)

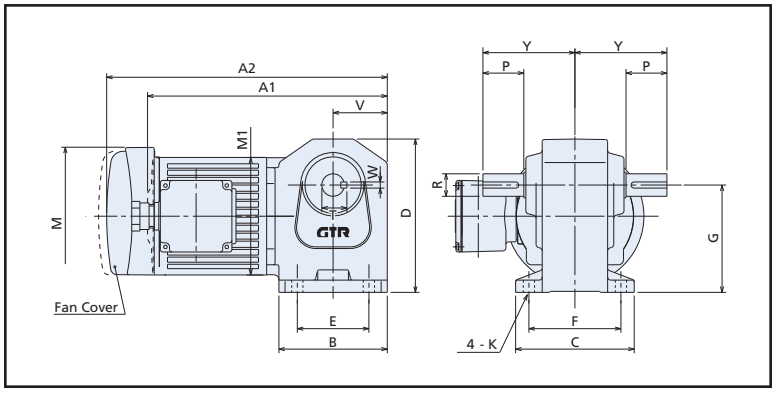
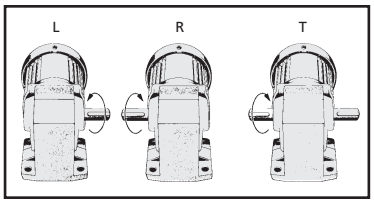


Fig. 2.1



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3. Prints are available online using the Brother configurator by entering the complete part number. See www.BrotherGearmotors.com

Spec Table 2.6

Specifications						Dimensional Drawings Page 41
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	Foot Mount
1/4 Hp	22	5	360	42	132	Dwg 2.11
		10	180	85	209	
		15	120	127	231	
		20	90	169	264	
		25	72	211	286	
		30	60	254	308	
		40	45	338	352	
		50	36	423	385	
		60	30	507	407	
	28	80	22.5	654	550	Dwg 2.11
		100	18	817	594	
		120	15	981	616	
		160	11.2	1308	638	
		200	9	1634	638	
		240	7.5	1961	638	
1/2 Hp	28	5	360	85	209	Dwg 2.11
		10	180	169	330	
		15	120	254	374	
		20	90	338	418	
		25	72	423	451	
		30	60	507	495	
		40	45	676	550	
		50	36	845	594	
		60	30	1014	616	
	32	80	22.5	1308	770	Dwg 2.11
		100	18	1634	858	
		120	15	1961	924	
		160	11.2	2615	924	
		200	9	3269	924	
		240	7.5	3819	924	
1 Hp	32	5	360	159	341	Dwg 2.11
		10	180	317	451	
		15	120	476	495	
		20	90	634	550	
		25	72	793	616	
		30	60	951	660	
		40	45	1268	770	
		50	36	1585	858	
		60	30	1902	924	
	40	80	22.5	2452	1300	Dwg 2.11
		100	18	3065	1360	
		120	15	3677	1410	
		160	11.2	4903	1450	
		200	9	6129	1500	
		240	7.5	6770	1500	

Model Number for Ordering

H2	L	22	R	012	–	N	C	K	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Special Spec
H2: H2 Series	L: Foot Mount	22 28 32 40	R: Right Shaft L: Left Shaft T: Double Shaft Ref: Fig 2.2	005 : 5:1 030 : 30:1 120 : 120:1		N: Common Code (no UL)	C: NEMA 56CReducer	K: 1/4 Hp L: 1/2 Hp M: 1 Hp	Blank: Standard Type X: Special Spec Special Specs, consult Brother

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Hp	Frame	Dwg	A	B	C	D	E	F	G	K	V	Y	R	W	P	Wt
1/4 Hp	22	2.11	7.50	4.17	4.57	5.91	2.76	3.54	4.13	0.43	2.09	3.54	0.8750	0.1875	1.57	10
	28		7.99	4.92	4.96	6.87	3.15	3.94	4.72	0.43	2.46	3.94	1.1250	0.2500	1.77	14
1/2 Hp	28	2.11	8.56	4.92	4.96	6.87	3.15	3.94	4.72	0.43	2.46	3.94	1.1250	0.2500	1.77	14
	32		9.31	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	20
1 Hp	32	2.11	9.31	5.98	5.91	8.07	3.74	4.72	5.51	0.51	2.99	4.72	1.2500	0.2500	2.17	20
	40		10.46	7.09	7.09	9.55	4.72	5.51	6.5	0.59	3.54	5.51	1.6250	0.3750	2.56	43

Dwg. 2.11

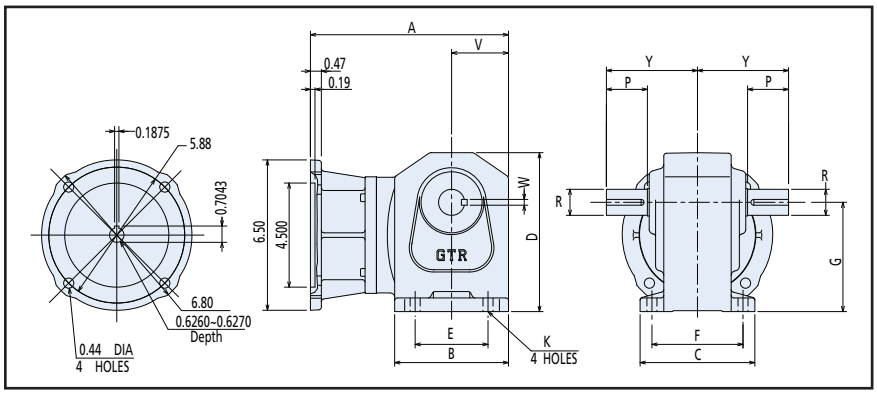
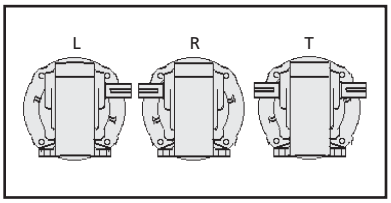


Fig. 2.2



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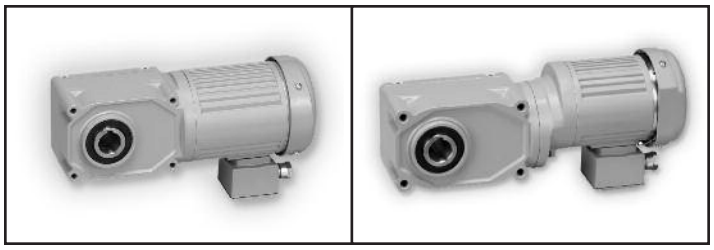

Spec Table 3.1

Specifications						Dimensional Drawings Page 43					
						Motor			Brakemotor		
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	1 Phase Std	3 Phase Std	3 Phase IP-65	1 Phase Std	3 Phase Std	3 Phase IP-65
1/8 Hp	20	5	360	19	221	Dwg 3.1	Dwg 3.1	Dwg 3.1	Dwg 3.1	Dwg 3.1	Dwg 3.1
		7.5	240	28	243						
		10	170	38	265						
		12.5	144	48	287						
		15	120	58	298						
		20	90	76	331						
		25	72	97	353						
		30	60	115	375						
		40	45	159	408						
		50	36	195	419						
		60	30	221	419						
	25	80	22.5	283	573	Dwg 3.1	Dwg 3.1	Dwg 3.1	Dwg 3.1	Dwg 3.1	Dwg 3.1
		100	18	363	573						
		120	15	434	573						
		160	11.2	584	573						
		200	9	717	573						
		240	7.5	867	573						
	30	300	6	974	706	n/a	Dwg 3.2	Dwg 3.2	n/a	Dwg 3.2	Dwg 3.2
		375	4.8	1213	706						
	35	450	4	1460	816	n/a	Dwg 3.2	Dwg 3.2	n/a	Dwg 3.2	Dwg 3.2
		600	3	1832	816						
		750	2.4	2292	816						
	45	900	2	2956	1169	n/a	Dwg 3.2	Dwg 3.2	n/a	Dwg 3.2	Dwg 3.2
		1200	1.5	3939	1169						
	55	1500	1.2	5213	2205	n/a	Dwg 3.2	Dwg 3.2	n/a	Dwg 3.2	Dwg 3.2

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase) and Page 11 Table 1.2 (1 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

F3	S	28	N	010	–	B	M	H	4	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
F3: F3 Series	S: Hollow Bore	20 25 30 35 45 55	N: Common Code	005 : 5:1 007 : 7.5:1 012: 12.5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor WB: IP-65 Brakemotor	H: 1/8 Hp	1: 115V, 60Hz, 1ph 4: 208/230V/460, 60Hz, 3ph 5: 220V, 60Hz, 1ph 6: 230V, 60Hz, 1ph 7: OEM Spec. 1ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10 Fig 1.4. Pg 10	A: Die Cast IP-44 N: Leads, (4.5 inch) E: Die Cast IP-65	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

Notes:

1. Lead Wire or Terminal Box Location: specify the code from Page 16, Fig 1.24B on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) or Fig 1.4 (1 Phase) on your purchase order.
3. Special Bore Size: see Page 54, Fig 3.1 for available options.
4. For any other special OEM requirement, please consult Brother.

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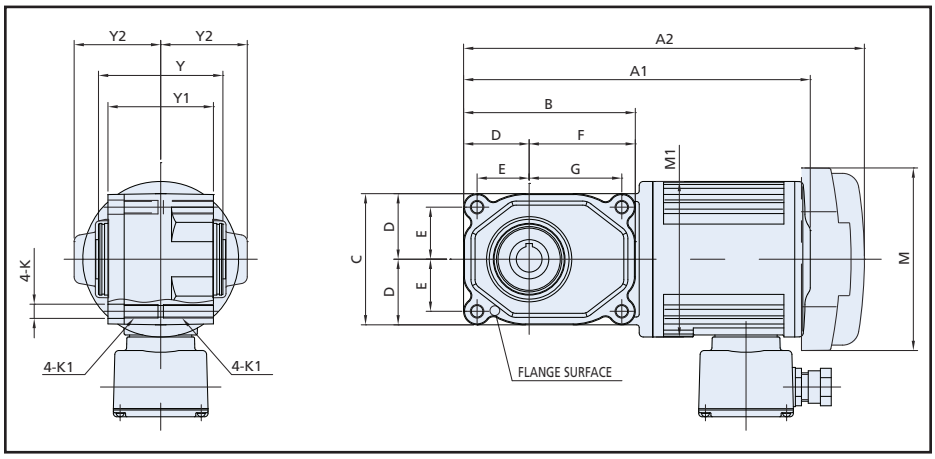
Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M1 (TENV) (Motor)	M (TEFC) (Brake)	B	C	D	E	F	G	K	K1	Y	Y1	Y2	Motor Wt	Brake-motor Wt
20	3 Phase Std	3.1	10.10	11.67	4.53	5.31	5.00	3.82	1.91	1.52	3.09	2.70	0.41	M10	3.62	3.07	2.52	13.25	16.5
25			11.32	12.89	4.53	5.31	6.26	4.21	2.11	1.71	4.15	3.76	0.41	M10	4.49	3.94	3.11	17.75	21
20	3 Phase IP-65	3.1	10.10	12.13	4.53	5.31	5.00	3.82	1.91	1.52	3.09	2.70	0.41	M10	3.62	3.07	2.52	14.5	17.75
25			11.32	13.35	4.53	5.31	6.26	4.21	2.11	1.71	4.15	3.76	0.41	M10	4.49	3.94	3.11	17.75	21
20	1 Phase Std	3.1	11.67	11.67	n/a	5.31	5.00	3.82	1.91	1.52	3.09	2.70	0.41	M10	3.62	3.07	2.52	13.25	16.5
25			12.89	12.89	n/a	5.31	6.26	4.21	2.11	1.71	4.15	3.76	0.41	M10	4.49	3.94	3.11	17.75	21

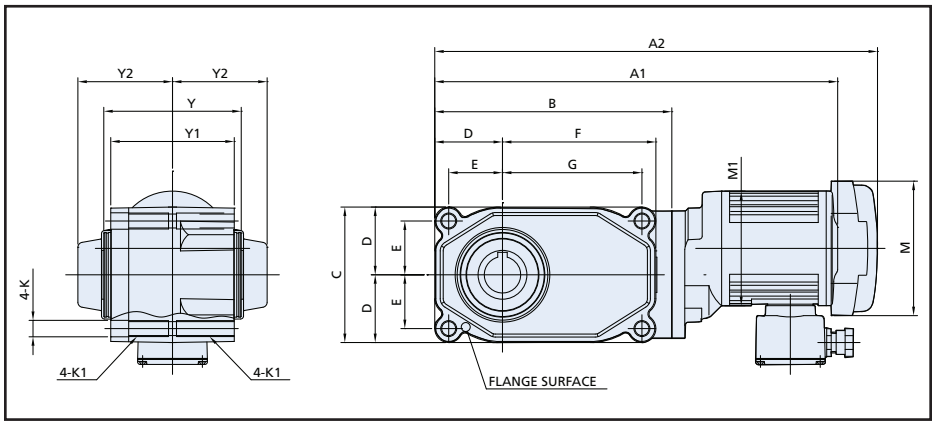
Dwg. 3.1



Note: Bore Dimensions see Page 54, Fig 3.1.
Terminal box or lead wire dim see Page 15.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M1 (TENV) (Motor)	M (TEFC) (Brake)	B	C	D	E	F	G	K	K1	Y	Y1	Y2	Motor Wt	Brake-motor Wt
30	3 Phase Std	3.2	14.11	15.69	4.53	5.31	7.56	4.57	2.28	1.81	4.80	4.33	0.41	M10	4.72	4.17	3.23	23.25	26.5
35			15.93	17.50	4.53	5.31	9.37	5.35	2.68	2.13	6.06	5.51	0.65	M16	5.43	4.88	3.74	31	34.25
45			18.37	19.94	4.53	5.31	11.48	6.85	3.43	2.72	7.28	6.57	0.81	M20	6.46	5.91	4.25	46.5	49.75
55			21.04	22.62	4.53	5.31	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	168	171
30	1 Phase Std	3.2	14.11	16.14	4.53	5.31	7.56	4.57	2.28	1.81	4.80	4.33	0.41	M10	4.72	4.17	3.23	23.25	26.5
35			15.93	17.95	4.53	5.31	9.37	5.35	2.68	2.13	6.06	5.51	0.65	M16	5.43	4.88	3.74	31	34.25
45			18.37	20.39	4.53	5.31	11.48	6.85	3.43	2.72	7.28	6.57	0.81	M20	6.46	5.91	4.25	46.5	49.75
55			21.04	22.62	4.53	5.31	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	168	171

Dwg. 3.2



Note: Bore Dimensions see Page 54, Fig 3.1.
Terminal box or lead wire dim see Page 15.

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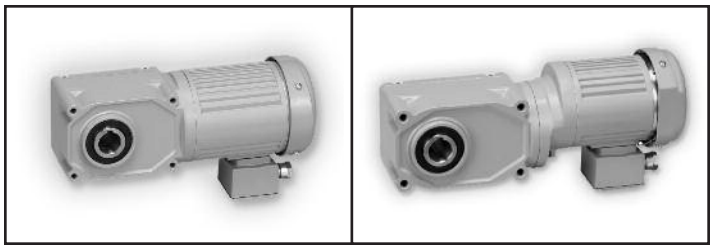

Spec Table 3.2

Specifications						Dimensional Drawings Page 45					
						Motor			Brakemotor		
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	1 Phase Std	3 Phase Std	3 Phase IP-65	1 Phase Std	3 Phase Std	3 Phase IP-65
1/4 Hp	25	5	360	41	276	Dwg 3.3	Dwg 3.3	Dwg 3.3	Dwg 3.3	Dwg 3.3	Dwg 3.3
		7.5	240	62	309						
		10	170	81	342						
		12.5	144	106	364						
		15	120	124	386						
		20	90	168	419						
		25	72	212	452						
		30	60	239	474						
		40	45	327	518						
		50	36	407	551						
		60	30	487	573						
	30	80	22.5	628	695	Dwg 3.3	Dwg 3.3	Dwg 3.3	Dwg 3.3	Dwg 3.3	Dwg 3.3
		100	18	770	706						
		120	15	929	706						
		160	11.2	1239	706						
		200	9	1549	706						
		240	7.5	1629	706						
	35	300	6	2080	816	Dwg 3.4	Dwg 3.4	Dwg 3.4	Dwg 3.4	Dwg 3.4	Dwg 3.4
		375	4.8	2602	816						
	45	450	4	3124	1169	Dwg 3.4	Dwg 3.4	Dwg 3.4	Dwg 3.4	Dwg 3.4	Dwg 3.4
		600	3	3948	1169						
		750	2.4	4930	1169						
	55	900	2	6258	2205	Dwg 3.4	Dwg 3.4	Dwg 3.4	Dwg 3.4	Dwg 3.4	Dwg 3.4
		1200	1.5	8346	2205						

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase) and Page 11 Table 1.2 (1 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

F3	S	25	N	012	–	B	M	K	4	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
F3: F3 Series	S: Hollow Bore	25 30 35 45 55	N: Common Code	005 : 5:1 007 : 7.5:1 012: 12.5:1 030 : 30:1 120 : 120:1 900 : 900:1 12X : 1200:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor WB: IP-65 Brakemotor	K: 1/4 Hp	1: 115V, 60Hz, 1ph 4: 208/230V/460, 60Hz, 3ph 5: 220V, 60Hz, 1ph 6: 230V, 60Hz, 1ph 7: OEM Spec. 1ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10 Fig 1.4. Pg 10	A: Die Cast IP-44 N: Leads, (4.5 inch) E: Die Cast IP-65	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

Notes:

1. Lead Wire or Terminal Box Location: specify the code from Page 16, Fig 1.24B on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) or Fig 1.4 (1 Phase) on your purchase order.
3. Special Bore Size: see Page 54, Fig 3.1 for available options.
4. For any other special OEM requirement, please consult Brother.

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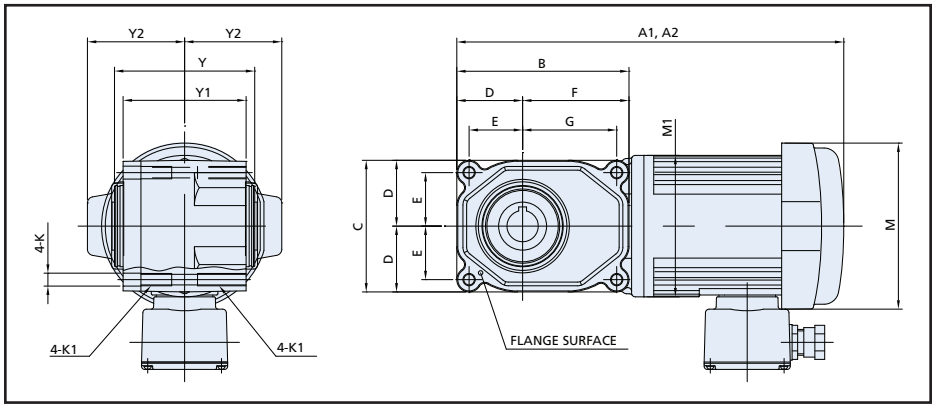
Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	K1	Y	Y1	Y2	Motor Wt	Brake-motor Wt
25	3 Phase std	3.3	12.40	13.07	5.31	5.51	4.21	2.11	1.71	3.41	3.01	0.41	M10	4.49	3.94	3.11	18.75	22
30			13.96	14.63	5.31	7.09	4.57	2.28	1.81	4.80	4.33	0.49	M12	4.72	4.17	3.23	22	25.5
25	3 Phase IP-65	3.3	12.38	14.35	5.31	5.51	4.21	2.11	1.71	3.41	3.01	0.41	M10	4.49	3.94	3.11	18.75	22
30			13.94	15.91	5.31	7.09	4.57	2.28	1.81	4.80	4.33	0.49	M12	4.72	4.17	3.23	22	25.5
25	1 Phase Std (Note)	3.3	14.37	15.04	5.31	5.51	4.21	2.11	1.71	3.41	3.01	0.41	M10	4.49	3.94	3.11	25.5	28.75
30			15.96	16.59	5.31	7.09	4.57	2.28	1.81	4.80	4.33	0.49	M12	4.72	4.17	3.23	28.75	32

Dwg. 3.3

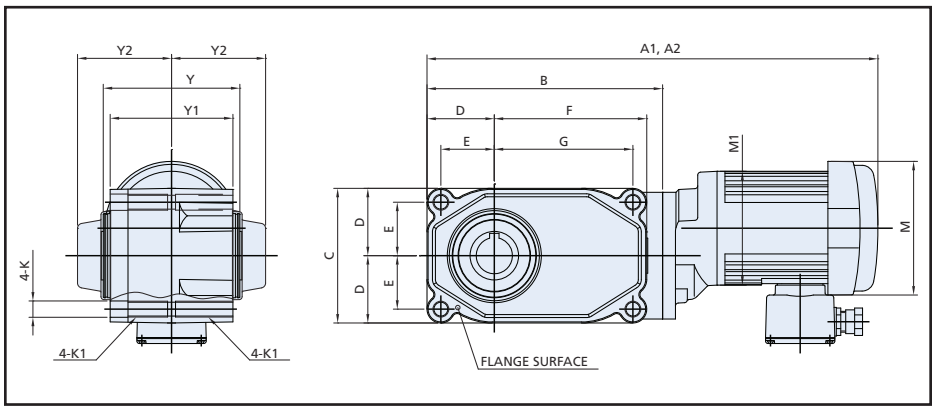


Note: Bore Dimensions see Page 54, Fig 3.1.
Terminal box or lead wire dim see Page 15.

Note: 1 Phase Std motors have a capacitor mounted, see Page 11, Fig. 1.9.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	K1	Y	Y1	Y2	Motor Wt	Brake-motor Wt
35	3 Phase std	3.4	17.93	18.60	5.31	9.37	5.35	2.68	2.13	6.06	5.51	0.65	M16	5.43	4.88	3.74	33	36.5
45			20.20	20.87	5.31	11.48	6.85	3.43	2.72	7.28	6.57	0.81	M20	6.46	5.91	4.25	48.5	52
55			22.85	23.52	5.31	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	170	173
35	3 Phase IP-65	3.4	17.93	19.88	5.31	9.37	5.35	2.68	2.13	6.06	5.51	0.65	M16	5.43	4.88	3.74	33	36.5
45			20.18	22.15	5.31	11.48	6.85	3.43	2.72	7.28	6.57	0.81	M20	6.46	5.91	4.25	48.5	52
55			22.83	24.80	5.31	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	170	173
35	1 Phase Std (Note)	3.4	19.90	20.57	5.31	9.37	5.35	2.68	2.13	6.06	5.51	0.65	M16	5.43	4.88	3.74	37.5	41
45			22.17	22.83	5.31	11.48	6.85	3.43	2.72	7.28	6.57	0.81	M20	6.46	5.91	4.25	53	56.25
55			24.82	25.49	5.31	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	174.25	177.5

Dwg. 3.4



Note: Bore Dimensions see Page 54, Fig 3.1.
Terminal box or lead wire dim see Page 15.

Note: 1 Phase Std motors have a capacitor mounted, see Page 11, Fig. 1.9.

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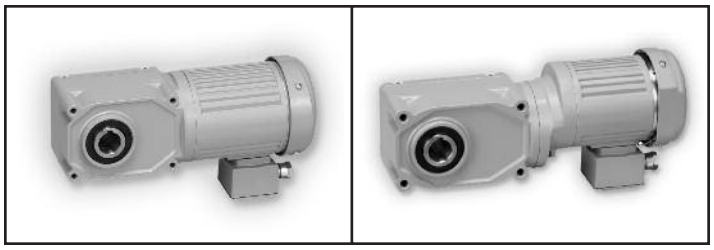


Spec Table 3.3

Specifications						Dimensional Drawings Page 47					
						Motor			Brakemotor		
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	1 Phase Std	3 Phase Std	3 Phase IP-65	1 Phase Std	3 Phase Std	3 Phase IP-65
1/2 Hp	30	5	360	81	342	Dwg 3.5	Dwg 3.5	Dwg 3.5	Dwg 3.5	Dwg 3.5	Dwg 3.5
		7.5	240	124	397						
		10	170	168	430						
		12.5	144	212	463						
		15	120	239	485						
		20	90	327	540						
		25	72	407	573						
		30	60	487	595						
		40	45	655	639						
		50	36	814	673						
		60	30	982	695						
	35	80	22.5	1239	783	Dwg 3.5	Dwg 3.5	Dwg 3.5	Dwg 3.5	Dwg 3.5	Dwg 3.5
		100	18	1549	794						
		120	15	1868	794						
		160	11.2	2390	816						
		200	9	2390	816						
		240	7.5	2390	816						
	45	300	6	4169	1169	Dwg 3.6	Dwg 3.6	Dwg 3.6	Dwg 3.6	Dwg 3.6	Dwg 3.6
		375	4.8	5213	1169						
	55	450	4	6258	2205	Dwg 3.6	Dwg 3.6	Dwg 3.6	Dwg 3.6	Dwg 3.6	Dwg 3.6
		600	3	8346	2205						

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase) and Page 11 Table 1.2 (1 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

F3	S	30	N	015	–	B	M	L	4	A	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
F3: F3 Series	S: Hollow Bore	30 35 45 55	N: Common Code	005 : 5:1 007 : 7.5:1 012: 12.5:1 030 : 30:1 120 : 120:1 900 : 900:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor WB: IP-65 Brakemotor	L: 1/2 Hp	1: 115V, 60Hz, 1ph 4: 208/230V/460, 60Hz, 3ph 5: 220V, 60Hz, 1ph 6: 230V, 60Hz, 1ph 7: OEM Spec. 1ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10 Fig 1.4. Pg 10	A: Die Cast IP-44, (3 Ph only) N: Leads, (4.5 inch) E: Die Cast IP-65 S: Steel, (1 Ph only)	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

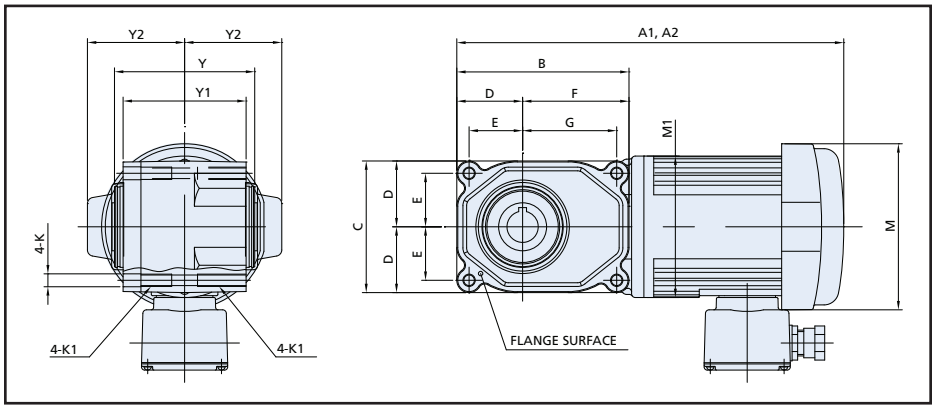
Special Specs

Notes:

1. Lead Wire or Terminal Box Location: specify the code from Page 16, Fig 1.24B on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) or Fig 1.4 (1 Phase) on your purchase order.
3. Special Bore Size: see Page 54, Fig 3.1 for available options.
4. For any other special OEM requirement, please consult Brother.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	K1	Y	Y1	Y2	Motor Wt	Brake-motor Wt
30	3 Phase std	3.3	3.5	14.17	14.94	5.55	6.26	4.57	2.28	1.89	3.98	3.58	0.41	M10	4.72	4.17	3.23	25.5
35			3.5	16.48	17.24	5.55	8.74	5.35	2.68	2.13	6.06	5.51	0.65	M16	5.43	4.88	3.74	33
30	3 Phase IP-65	3.3	3.5	14.11	16.40	5.55	6.26	4.57	2.28	1.89	3.98	3.58	0.41	M10	4.72	4.17	3.23	25.5
35			3.5	16.42	18.70	5.55	8.74	5.35	2.68	2.13	6.06	5.51	0.65	M16	5.43	4.88	3.74	33
30	1 Phase Std (Note)	3.3	3.5	17.20	17.48	5.55	6.26	4.57	2.28	1.89	3.98	3.58	0.41	M10	4.72	4.17	3.23	38.75
35			3.5	19.51	19.78	5.55	8.74	5.35	2.68	2.13	6.06	5.51	0.65	M16	5.43	4.88	3.74	46.5

Dwg. 3.5

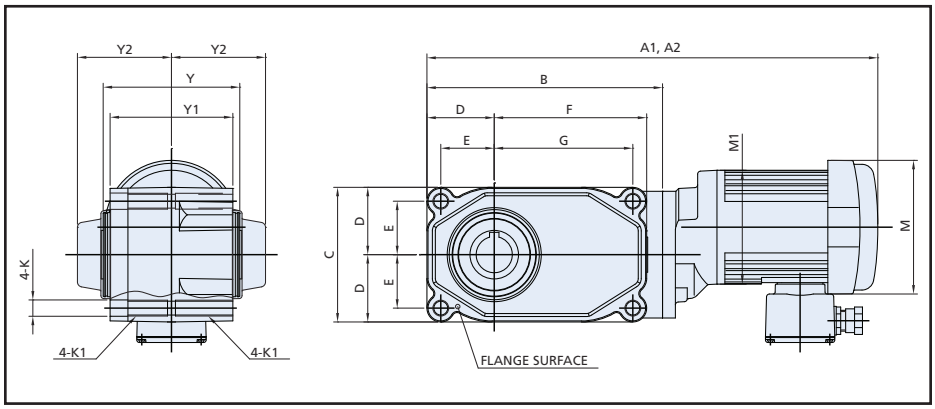


Note: Bore Dimensions see Page 54, Fig 3.1.
Terminal box or lead wire dim see Page 15.

Note: 1 Phase Std motors have a capacitor mounted, see Page 11, Fig. 1.9.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	K1	Y	Y1	Y2	Motor Wt	Brake-motor Wt
45	3 Phase std	3.6	21.14	21.91	5.55	11.48	6.85	3.43	2.72	7.28	6.57	0.81	M20	6.46	5.91	4.25	53	57.5
55			23.74	24.51	5.55	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	174.25	178.75
45	3 Phase IP-65	3.6	21.08	23.37	5.55	11.48	6.85	3.43	2.72	7.28	6.57	0.81	M20	6.46	5.91	4.25	53	57.5
55			23.68	25.96	5.55	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	174.25	178.75
45	1 Phase Std (Note)	3.6	24.17	24.45	6.38	11.48	6.85	3.43	2.72	7.28	6.57	0.81	M20	6.46	5.91	4.25	66.25	71.75
55			26.77	27.05	6.38	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	187.5	193

Dwg. 3.6



Note: Bore Dimensions see Page 54, Fig 3.1.
Terminal box or lead wire dim see Page 15.

Note: 1 Phase Std motors have a capacitor mounted, see Page 11, Fig. 1.9.

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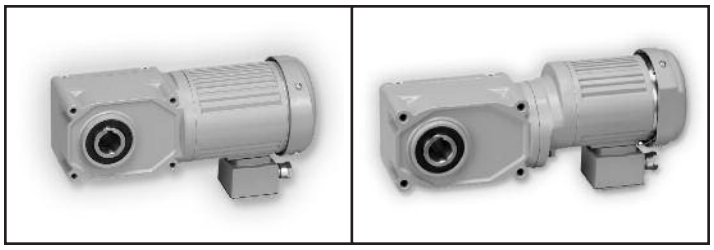
2. The drawings on this page are for rough sizing only and may not be visually accurate in all aspects. Please download the actual specification drawing from the www or call your Brother salesman or dealer to get a certified print.
3. Prints are available online using the Brother configurator by entering the complete part number. See www.BrotherGearmotors.com



Spec Table 3.4

Specifications						Dimensional Drawings Page 48			
						Motor		Brakemotor	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	3 Phase Std	3 Phase IP-65	3 Phase Std	3 Phase IP-65
1 Hp	35	5	360	159	441	Dwg 3.7	Dwg 3.7	Dwg 3.7	Dwg 3.7
		7.5	240	221	507				
		10	170	301	551				
		12.5	144	381	584				
		15	120	460	617				
		20	90	620	673				
		25	72	761	717				
		30	60	921	739				
		40	45	1221	783				
		50	36	1531	783				
		60	30	1841	783				
	45	80	22.5	2328	1069	Dwg 3.7	Dwg 3.7	Dwg 3.7	Dwg 3.7
		100	18	2903	1069				
		120	15	3496	1069				
		160	11.2	4656	1169				
		200	9	4903	1169				
		240	7.5	4903	1169				
	55	300	6	7824	2205	Dwg 3.8	Dwg 3.8	Dwg 3.8	Dwg 3.8

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

F3	S	35	N	015	–	B	M	M	4	S	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
F3: F3 Series	S: Hollow Bore	35 45 55	N: Common Code	005 : 5:1 007 : 7.5:1 012 : 12.5:1 030 : 30:1 120 : 120:1 300: 300:1		B: UL/CSA	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor WB: IP-65 Brakemotor	M: 1 Hp	4: 208/230V/460, 60Hz, 3ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10	S: Steel IP-44 N: Leads, (4.5 inch) E: Die Cast IP-65	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

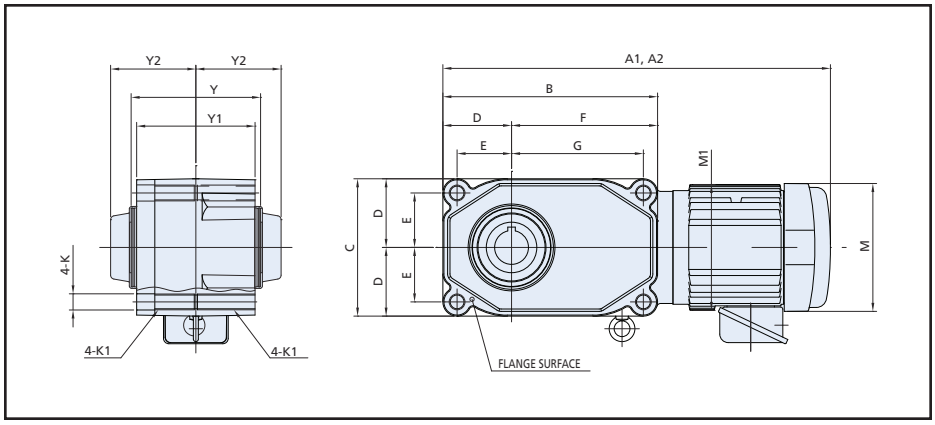
Special Specs

Notes:

1. Lead Wire or Terminal Box Location: specify the code from Page 16, Fig 1.24B on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) on your purchase order.
3. Special Bore Size: see Page 54, Fig 3.1 for available options.
4. For any other special OEM requirement, please consult Brother.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	K1	Y	Y1	Y2	Motor Wt	Brake-motor Wt
35	3 Phase std	3.7	16.00	16.28	6.38	7.28	5.35	2.68	2.20	4.61	4.13	0.49	M12	5.43	4.88	3.74	38.75	43
45			19.33	19.61	6.38	10.71	6.85	3.43	2.72	7.28	6.57	0.81	M20	6.46	5.91	4.25	55.25	59.5
35	3 Phase IP-65	3.7	15.94	18.68	6.38	7.28	5.35	2.68	2.20	4.61	4.13	0.49	M12	5.43	4.88	3.74	38.75	43
45			19.27	22.01	6.38	10.71	6.85	3.43	2.72	7.28	6.57	0.81	M20	6.46	5.91	4.25	55.25	59.5

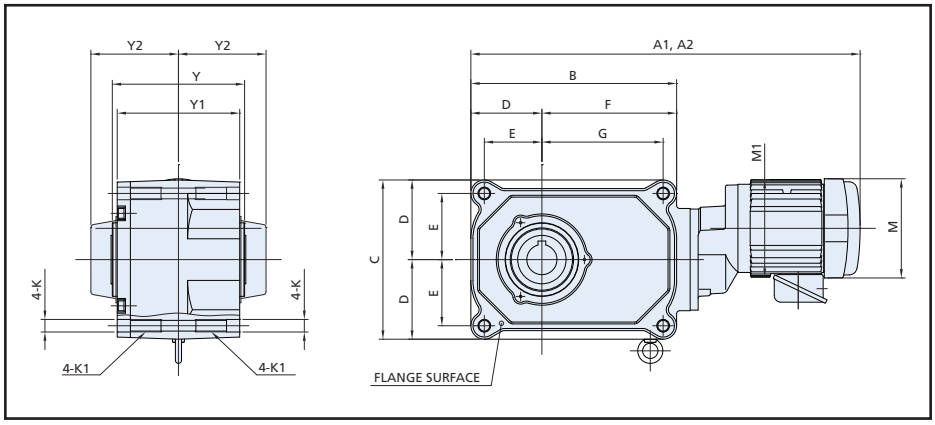
Dwg. 3.7



Note: Bore Dimensions see Page 54, Fig 3.1.
Terminal box or lead wire dim see Page 15.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	K1	Y	Y1	Y2	Motor Wt	Brake-motor Wt
55	3 Phase std	3.8	25.04	25.31	6.38	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	181	187.5
55	3 Phase IP-65	3.8	24.98	27.72	6.38	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	181	187.5

Dwg. 3.8



Note: Bore Dimensions see Page 54, Fig 3.1.
Terminal box or lead wire dim see Page 15.

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Spec Table 3.5

Specifications						Dimensional Drawings Page 51			
						Motor		Brakemotor	
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	3 Phase Std	3 Phase IP-65	3 Phase Std	3 Phase IP-65
2 Hp	45	5	360	301	662	Dwg 3.9	Dwg 3.9	Dwg 3.9	n/a
		7.5	240	460	750				
		10	170	620	816				
		12.5	144	761	882				
		15	120	921	915				
		20	90	1221	1003				
		25	72	1531	1058				
		30	60	1841	1069				
		40	45	2443	1069				
		50	36	3054	1069				
		60	30	3682	1069				
	55	80	22.5	4656	1444	Dwg 3.9	Dwg 3.9	Dwg 3.9	n/a
		100	18	5824	1444				
		120	15	6983	1687				
		160	11.2	9285	1874				
		200	9	11188	2029				
		240	7.5	11188	2205				
3 Hp	45	5	360	451	706	Dwg 3.10	Dwg 3.10	Dwg 3.10	n/a
		7.5	240	673	794				
		10	170	903	882				
		12.5	144	1115	926				
		15	120	1345	992				
		20	90	1797	1069				
		25	72	2248	1069				
		30	60	2700	1069				
	50	40	45	3594	1180	Dwg 3.10	Dwg 3.10	Dwg 3.10	n/a
		50	36	4496	1180				
		60	30	5390	1180				
	55	80	22.5	6824	1444	Dwg 3.10	Dwg 3.10	Dwg 3.10	n/a
		100	18	8532	1444				
		120	15	10232	1687				

Notes:

1. Motor and brakemotor electrical data shown on Page 10 Table 1.1 (3 Phase).
2. Brake electrical data shown on Pages 12~14.
3. Brother 3 Phase gearmotors are suitable for use with a VFD. See Page 17 for details.
4. See Page 15 for terminal box type or lead wire dimensional details.

Model Number for Ordering

F3	S	35	N	015	–	B	M	M	4	S	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Supply Voltage	Terminal Box/Leads	Special Spec
F3: F3 Series	S: Hollow Bore	45 50 55	N: Common Code	005 : 5:1 007 : 7.5:1 012 : 12.5:1 030 : 30:1 120 : 120:1		B: UL/CSA Blank: NEMA 56C	M: IP-44 Motor B: IP-44 Brakemotor J: IP-44 Brakemotor w/ manual release WM: IP-65 Motor	P: 2 Hp R: 3 Hp	Blank: NEMA 56C 4: 208/230V/460, 60Hz, 3ph 8: OEM Spec. 3ph Special Voltages Fig 1.3, Pg 10	Blank: NEMA 56C S: Steel IP-44 N: Leads, (4.5 inch) E: Die Cast IP-65	Blank: Standard Type X: Special Spec See Special Specs Below

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

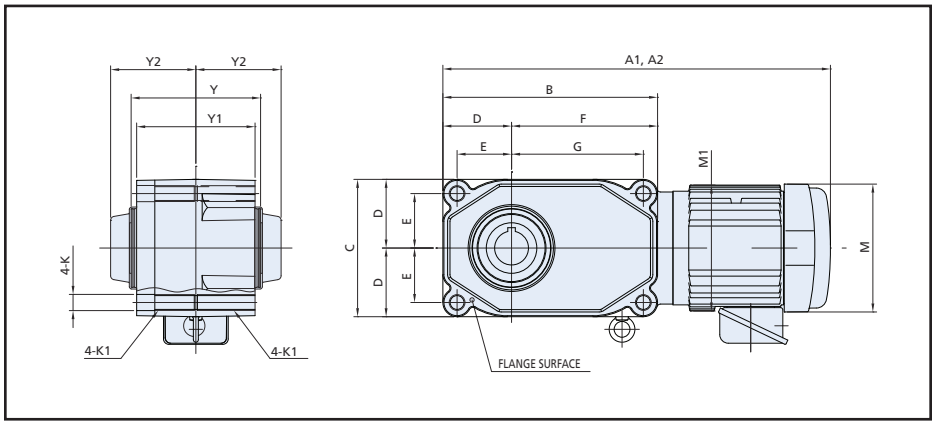
Special Specs

Notes:

1. Lead Wire or Terminal Box Location: specify the code from Page 16, Fig 1.24B on your purchase order.
2. Special Voltage: specify the Voltage/Frequency from Page 10, Fig 1.3 (3 Phase) on your purchase order.
3. Special Bore Size: see Page 54, Fig 3.1 for available options.
4. For any other special OEM requirement, please consult Brother.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	K1	Y	Y1	Y2	Motor Wt	Brake-motor Wt
45	3 Phase std	3.9	20.00	20.81	7.32	9.25	6.85	3.43	2.87	5.83	5.28	0.65	M16	6.46	5.91	4.25	70.5	77.25
55			23.56	24.37	7.32	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	189.75	196.25
45	3 Phase IP-65	3.9	19.96	n/a	7.32	9.25	6.85	3.43	2.87	5.83	5.28	0.65	M16	6.46	5.91	4.25	70.5	n/a
55			23.52	n/a	7.32	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	189.75	n/a

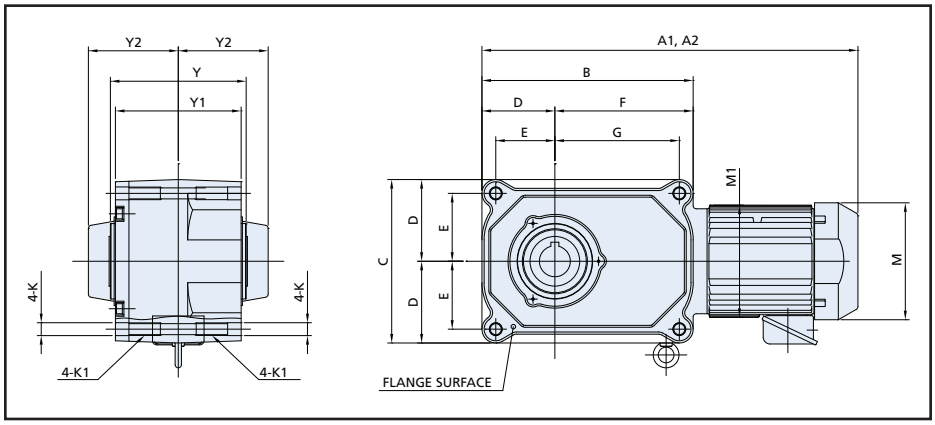
Dwg. 3.9 (2 Hp)



Note: Bore Dimensions see Page 54, Fig 3.1.
Terminal box or lead wire dim see Page 15.

Frame	Motor/ Brake-motor	Dwg	A1 (Motor)	A2 (Brake)	M	B	C	D	E	F	G	K	K1	Y	Y1	Y2	Motor Wt	Brake-motor Wt
45	3 Phase std	3.10	20.98	21.79	7.32	9.25	6.85	3.43	2.87	5.83	5.28	0.65	M16	6.46	5.91	4.25	77.25	84
50			24.09	24.90	7.32	11.97	8.35	4.65	4.02	7.32	6.69	0.65	M16	6.61	6.06	4.72	97	103.75
55			24.55	25.35	7.32	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	200.75	207.25
45	3 Phase IP-65	3.10	20.94	n/a	7.32	9.25	6.85	3.43	2.87	5.83	5.28	0.65	M16	6.46	5.91	4.25	77.25	n/a
50			24.06	n/a	7.32	11.97	8.35	4.65	4.02	7.32	6.69	0.65	M16	6.61	6.06	4.72	97.00	n/a
55			24.51	n/a	7.32	13.23	10.24	4.57	3.70	8.66	7.80	0.81	M20	8.50	7.87	5.63	200.75	n/a

Dwg. 3.10 (3 Hp)



Note: Bore Dimensions see Page 54, Fig 3.1.
Terminal box or lead wire dim see Page 15.

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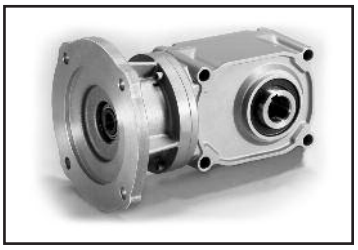
Spec Table 3.6

Specifications						Dimensional Drawings Page 53
Hp	Frame	Ratio X:1 GR	Nominal RPM n	Torque (in-lbs) TR	O.H.L. (lbs) OHL	NEMA 56C Reducer
1/4 Hp	25	5	360	41	276	Dwg 3.11
		7.5	240	62	309	
		10	170	81	342	
		12.5	144	106	364	
		15	120	124	386	
		20	90	168	419	
		25	72	212	452	
		30	60	239	474	
		40	45	327	518	
		50	36	407	551	
		60	30	487	573	
	30	80	22.5	628	695	Dwg 3.11
		100	18	770	706	
		120	15	929	706	
		160	11.2	1239	706	
		200	9	1549	706	
		240	7.5	1629	706	
1/2 Hp	30	5	360	81	342	Dwg 3.11
		7.5	240	124	397	
		10	170	168	430	
		12.5	144	212	463	
		15	120	239	485	
		20	90	327	540	
		25	72	407	573	
		30	60	487	595	
		40	45	655	639	
		50	36	814	673	
		60	30	982	695	
	35	80	22.5	1239	783	Dwg 3.11
		100	18	1549	794	
		120	15	1868	794	
		160	11.2	2390	816	
		200	9	2390	816	
		240	7.5	2390	816	
1 Hp	35	5	360	159	441	Dwg 3.11
		7.5	240	221	507	
		10	170	301	551	
		12.5	144	381	584	
		15	120	460	617	
		20	90	620	673	
		25	72	761	717	
		30	60	921	739	
		40	45	1221	783	
		50	36	1531	783	
		60	30	1841	783	
	45	80	22.5	2328	1069	Dwg 3.11
		100	18	2903	1069	
		120	15	3496	1069	
		160	11.2	4656	1169	
		200	9	4903	1169	
		240	7.5	4903	1169	



Model Number for Ordering

F3	S	25	N	012	–	N	C	K	X
Type	Mount Form	Frame	Shaft/Bore Arrangement	Gear Ratio		UL/CSA	Motor Type	Motor Power	Special Spec
F3: F3 Series	S: Hollow Bore	25 30 35 45	N: Common Code	005 : 5:1 007 : 7.5:1 012 : 12.5:1 030 : 30:1 120 : 120:1		N: Common Code (no UL)	C: NEMA 56CReducer	K: 1/4 Hp L: 1/2 Hp M: 1 Hp	Blank: Standard Type X: Special Spec Special Specs, consult Brother

CAD Drawings

Go to www.BrotherGearmotors.com and enter the desired model number in the configurator. DXF, 3D, and PDF files are available to view or download.

Special Specs

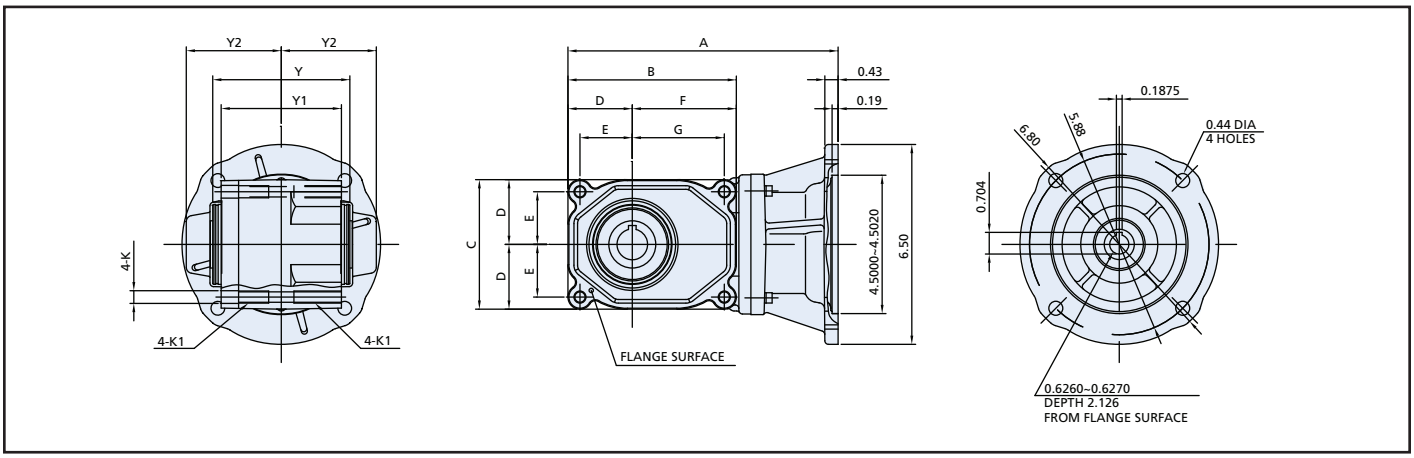
Notes:

1. Special Bore Size: see Page 54, Fig 3.1 for available options.
2. For any other special OEM requirement, please consult Brother.

brother at your side

Hp	Frame	Dwg	A	B	C	D	E	F	G	K (Hole)	K1 (Tap)	Y	Y1	Y2	Wt
1/4 Hp	25	3.11	8.86	5.51	4.21	2.11	1.71	3.41	3.01	0.41	M10	4.49	3.94	3.11	10
	30		10.42	7.09	4.57	2.28	1.81	4.80	4.33	0.49	M12	4.72	4.17	3.23	13.5
1/2 Hp	30	3.11	9.93	6.26	4.57	2.28	1.89	3.98	3.58	0.41	M10	4.72	4.17	3.23	13
	35		12.23	8.74	5.35	2.68	2.13	6.06	5.51	0.65	M16	5.43	4.88	3.74	20.75
1 Hp	35	3.11	11.01	7.28	6.85	3.43	2.72	7.28	6.57	0.81	M20	5.43	4.88	3.74	19
	45		14.34	10.71	6.85	3.43	2.72	7.28	6.57	0.81	M20	6.46	5.91	4.25	37.75

Dwg. 3.11



Note: Bore Dimensions see Page 54, Fig 3.1.

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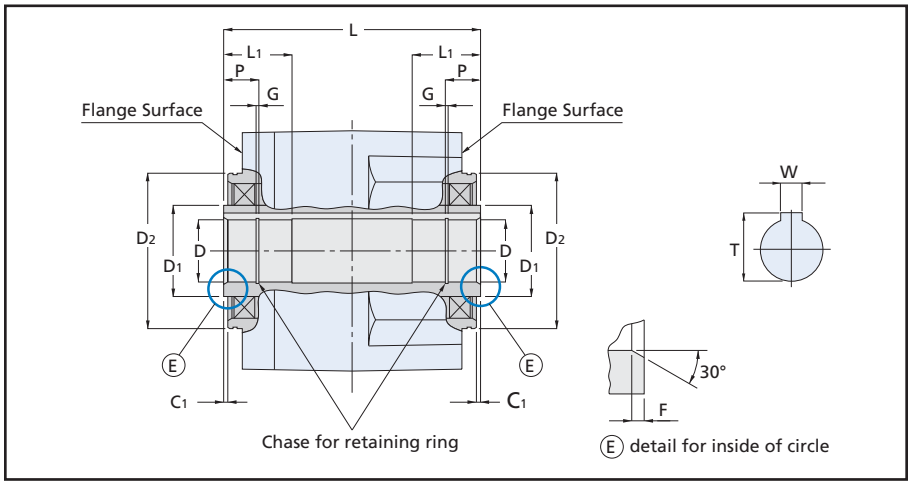
Fig 3.1: Standard Bore and Optional Bore Dimensions



Frame	Standard or Option	Special Code (Note)	D	W	T	D1 in (mm)	D2 in (mm)	L in (mm)	L1 in (mm)	P in (mm)	C1 in (mm)	F in (mm)	G in (mm)
F3S20	Standard	B07I	0.7500 in +0.0013/-0.0	0.1875 in	0.832 in	1.1417 (28)	2.0866 in +0.0/-0.0012 (53 h_7)	3.78 (96)	0.94 (24)	0.51 (13)	0.08 (2)	0.08 (2)	0.045 (1.15)
	Option	B20M	20 mm H_8	6 mm	22.8 m								
F3S25	Standard	B10I	1.0000 in +0.0013/-0.0	0.2500 in	1.110 in	1.5354 (39)	2.5984 in +0.0/-0.0012 (66 h_7)	4.65 (118)	1.06 (27)	0.55 (14)	0.08 (2)	0.08 (2)	0.053 (1.35)
	Option	B25M	25 mm H_8	8 mm	28.3 mm								
F3S30	Standard	B12I	1.2500 in +0.0013/-0.0	0.2500 in	1.366 in	1.7323 (44)	2.9528 in +0.0/-0.0012 (75 h_7)	4.88 (124)	1.3 (33)	0.67 (17)	0.08 (2)	0.08 (2)	0.053 (1.35)
	Option	B10I	1.0000 in +0.0013/-0.0	0.2500 in	1.110 in								
	Option	B30M	30 mm H_8	8 mm	33.3 mm								
F3S35	Standard	B14I	1.4375 in +0.0015/-0.0	0.3750 in	1.606 in	1.9291 (49)	3.3465 in +0.0/-0.0014 (85 h_7)	5.59 (142)	1.5 (38)	0.79 (20)	0.08 (2)	0.08 (2)	0.070 (1.75)
	Option	B12I	1.2500 in +0.0013/-0.0	0.2500 in	1.366 in								
	Option	B10I	1.0000 in +0.0013/-0.0	0.2500 in	1.110 in								
	Option	B35M	35 mm H_8	10 mm	38.3 mm								
F3S45	Standard	B16I	1.6875 in +0.0015/-0.0	0.3750 in	1.858 in	2.5197 (64)	3.9370 in +0.0/-0.0014 (100 h_7)	6.61 (168)	1.97 (50)	1.02 (26)	0.08 (2)	0.08 (2)	0.077 (1.95)
	Option	B45M	45 mm H_8	14 mm	48.8 mm								
F3S50	Standard	B19I	1.9375 in +0.0015/-0.0	0.5000 in	2.161 in	2.9134 (74)	4.3307 in +0.0/-0.0014 (110 h_7)	6.77 (172)	2.17 (55)	1.14 (29)	0.08 (2)	0.08 (2)	0.087 (2.2)
	Option	B50M	50 mm H_8	14 mm	53.8 mm								
F3S55	Standard	B19I	1.9375 in +0.0018/-0.0	0.5000 in	2.161 in	3.1102 (79)	4.7244 in +0.0/-0.0014 (120 h_7)	8.66 (220)	2.4 (61)	1.26 (32)	0.08 (2)	0.08 (2)	0.087 (2.2)
	Option	B55M	55 mm H_8	16 mm	59.3 mm								

Note: When specifying an optional bore, please use the special part code "X" at the end of the part number and designate the bore size by the code on your purchase order. When ordering the standard bore, you do not need to specify the bore code.

Fig 3.2: Metric Tolerances (mm)

Dimension	Bore: H8 (Ref D)	Shaft/Pilot: h7 (Ref D2)
Over 18~30 mm	+0.033/-0.000	+0.000/-0.021
Over 30~50 mm	+0.039/-0.000	+0.000/-0.030
Over 50~80 mm	+0.046/-0.000	+0.000/-0.035

F3S Type Hollow Shaft • Flange Mounted

When an F3S unit is flange mounted and used as the bearing supprt on one side of the driven load alignment should be precise to avoid burnout of the motor and/or damage to the bearings caused by misalignment.

- The F3 Series has a pilot D2 for guiding the attachment as shown in Fig. 3.1. The dimension tolerance for the bore φA is "h7". (Pilot D2 is inserted in φA)
- Four fixing bolts should be used as shown in Fig. 3.1 to assure a secure mount.

Fig 3.3: Flange Mounting

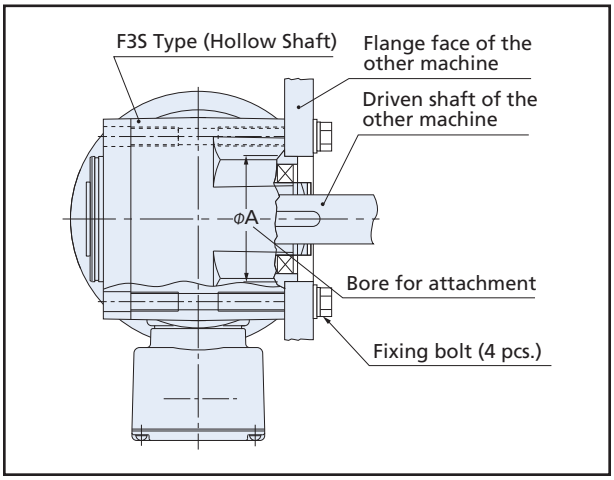
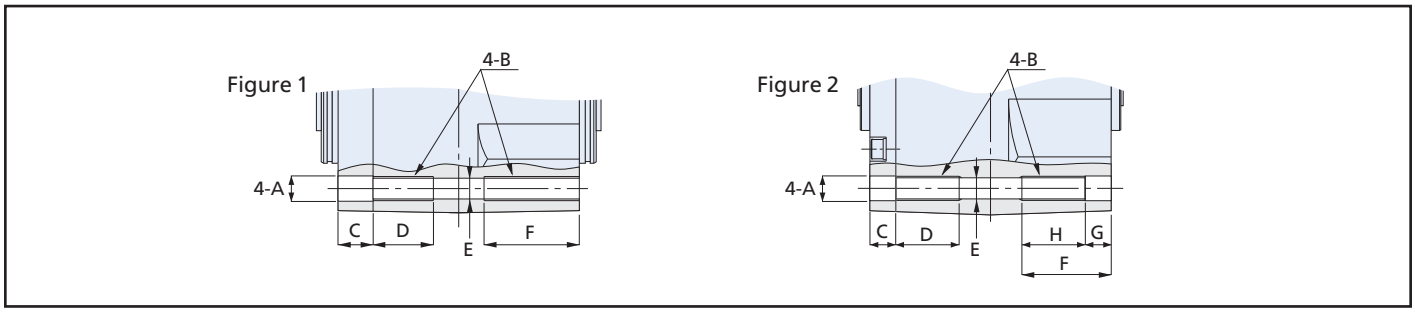
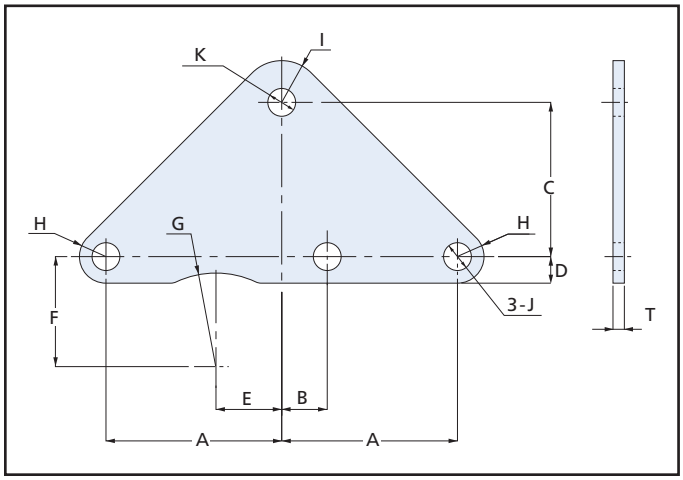


Fig 3.4: Mounting Hole Detail



Frame	Ratio	Hp	Figure	A	B	C	D	E	F	G	H
20	5:1~60:1	1/8 Hp	Fig.3.4: Figure 1	10.5	M10×P1.5	12	25	8.6	37	n/a	n/a
25	5:1~60:1	1/4 Hp				14.5			39.5		
	80:1~240:1	1/8 Hp				14.5			39.4		
30	5:1~60:1	1/2 Hp				15.5			40.5		
	80:1~240:1	1/4 Hp		12.5	M12×P1.75	15.5	30	10.6	45.5		
	300:1~375:1	1/8 Hp				15.8			45.5		
35	5:1~60:1	1 Hp				18			48		
	80:1~240:1	1/2 Hp		16.5	M16×P2	18	40	14	58		
	300:1~375:1	1/4 Hp				18			58		
	450:1~750:1	1/8 Hp				18			58		
45	5:1~60:1	2 Hp				23			63		
	5:1~30:1	3 Hp				23			63		
	80:1~240:1	1 Hp		20.5	M20×P2.5	23	50	17.5	73		
	300:1~375:1	1/2 Hp									
	450:1~750:1	1/4 Hp									
	900:1~1200:1	1/8 Hp									
50	40:1~60:1	3 Hp	Fig.3.4: Figure 2	16.6	M16×P2	19	40	14	59	19	40
55	80:1~240:1	2 Hp		20.5	M20×P2.5	21.5	50	17.5	71.5	21.5	50
	80:1~120:1	3 Hp									
	300:1	1 Hp									
	450:1~600:1	1/2 Hp									
	900:1~1200:1	1/4 Hp									
	1500:1	1/8 Hp									

Fig 3.5: Optional Torque Arm



Frame	Part Number	Hp	Reduction Ratio	A	B	C	D	E	F	G	H	I	J	K	T	Wt (lb)
F3S20	TAF3S-20-2	1/8 Hp	5:1~60:1	53.5	23.5	52	10.5	n/a	n/a	n/a	10.5	11	11	9	3.2	0.1
F3S25	TAF3S-25-2	1/4 Hp	5:1~60:1	60	27	61	10.5	16.5	43.5	37	10.5	15	11	9	3.2	0.2
	TAF3S-25-3	1/8 Hp	80:1~240:1	69.5	17.5	61	10.5	26	43.5	37	10.5	6.5	11	11	4.5	0.2
F3S30	TAF3S-30-2	1/2 Hp	5:1~60:1	69.5	26.5	70	10.5	21.5	48	41.5	10.5	15	11	11	4.5	0.3
	TAF3S-30-3	1/8 Hp	300:1~375:1	78	14	70	12	32	46	41.5	12	16.5	13.5	13.5	6	0.4
		1/4 Hp	80:1~240:1													
F3S35	TAF3S-35-2	1 Hp	5:1~60:1	80.5	31.5	94	12	24.5	56	46.5	12	18	13.5	13.5	6	0.6
	TAF3S-35-3	1/8 Hp	450:1~750:1	97	11	94	15	43	54	46.5	15	22.5	17.5	17.5	9	1.2
		1/4 Hp	300:1~375:1													
		1/2 Hp	80:1~240:1													
F3S45	TAF3S-45-2	2 Hp	5:1~60:1	13.5	42.5	110	15	n/a	n/a	n/a	16	20	17.5	17.5	9	1.4
		3 Hp	5:1~30:1													
	TAF3S-45-3	1/8 Hp	900:1~1200:1	118	20	110	18.5	49	69	54	18.5	28.5	22	22	9	1.7
		1/4 Hp	450:1~750:1													
		1/2 Hp	300:1~375:1													
		1 Hp	80:1~240:1													
F3S50	TAF3S-50-2	3 Hp	40:1~60:1	136	44	140	15	n/a	n/a	n/a	15	20	17.5	17.5	9	2.1
F3S55	TAF3S-55-3	1/8 Hp	1500:1	146	70	160	18.5	n/a	n/a	n/a	18.5	28.5	20.5	20.5	12	3.6
		1/4 Hp	900:1~1200:1													
		1/2 Hp	450:1~600:1													
		1 Hp	300:1													
		2 Hp	80:1~240:1													
		3 Hp	80:1~120:1													

Material: SS400, Surface treatment: uni-chrome, Color: white

Tightening Torque

A torque arms is subjected to a rotation reaction torque. They must use materials and fasteners strong enough to endure extended normal operation as well as a starting/braking and/or potential shock loading. Our standard parts are sized appropriately given the mating gearmotor or reducer.

When installing a reducer with a torque arm, tighten the bolt using a helical spring lock washer and plain washer. Proper tightening torques, are shown in the table.

Fig 3.2: Tightening Torque

Part Number	Bolt Size		Tightening Torque	
	Metric	Inch	N-m (kgf-m)	in-lb
TAF3S-20-2	M8	5/16-18	13 (1.3)	115
TAF3S-25-2	M8	5/16-18	13 (1.3)	115
TAF3S-25-3	M10	3/8-16	25 (2.6)	220
TAF3S-30-2	M10	3/8-16	25 (2.6)	220
TAF3S-30-3	M12	7/16-14	44 (4.5)	390
TAF3S-35-2	M12	7/16-14	44 (4.5)	390
TAF3S-35-3	M16	5/8-11	108 (11)	955
TAF3S-45-2	M16	5/8-11	108 (11)	955
TAF3S-45-3	M20	3/4-10	294 (30)	2600
TAF3S-50-2	M20	3/4-10	294 (30)	2600
TAF3S-55-3	M20	3/4-10	294 (30)	2600

Fig 3.7: How to Apply the Torque Arm Fixing Element

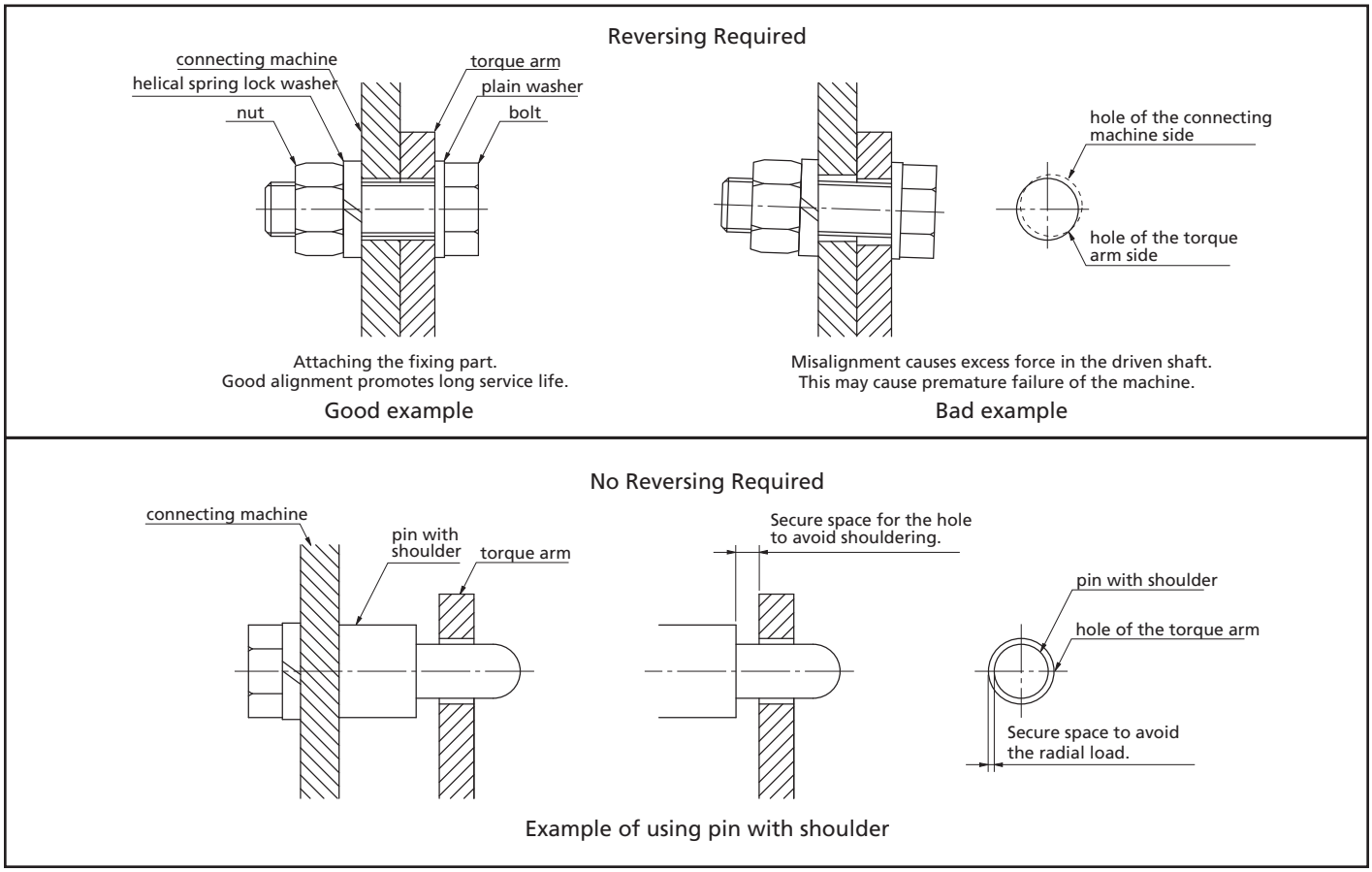
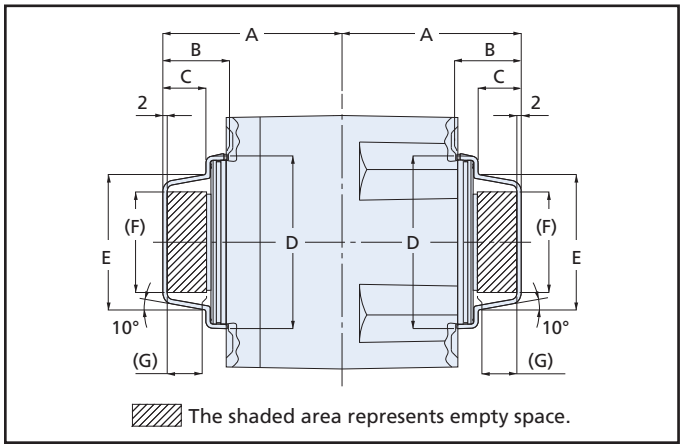


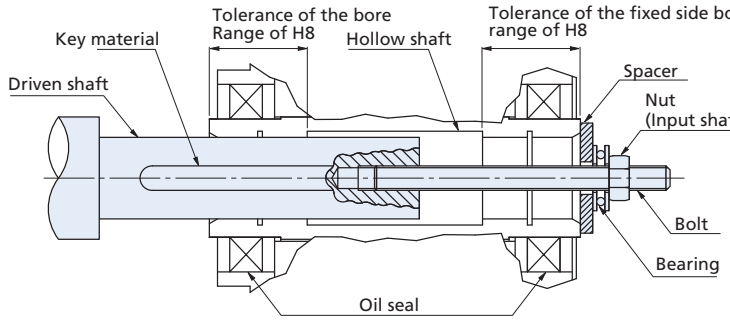
Fig 3.8: Safety Cap Diemsions



F3 S Safety Cap Dimensions

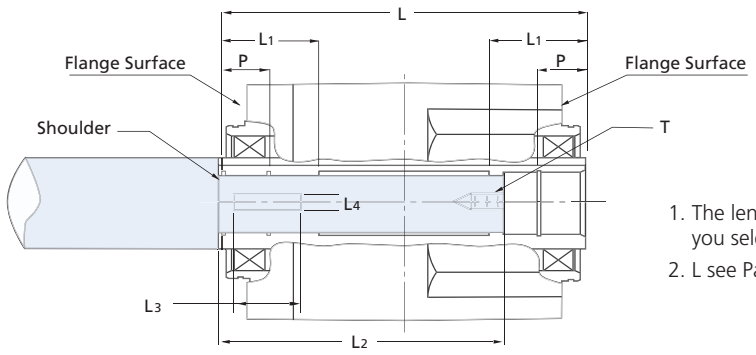
Frame	A	B	C	D	E	F	G
F3S20	64	25.5	15.7	57	40	26	14
F3S25	79	29.5	19.7	70	53	37.5	18
F3S30	82	19.5	19.7	79	62	46.5	18
F3S35	95	33.5	23.7	89	72	55	22
F3S45	108	33.5	23.7	104	87	70	22
F3S50	120	43	41	141	127.5	104	32
F3S55	143	43	41	141	127.5	104	32

Fig 3.9: Inserting the Shaft



1. Apply anti-siezing agent such as molybdenum disulfide to ease insertion.
2. If the fit is tight, tap the edge of the hollow drive shaft with a plastic hammer. Do not hit the gear case with a hammer.

Fig 3.10: Recommended Dimensions of Shaft from the Shoulder



1. The length of L2 can vary depending on the type of connection you select. See note 3 below for minimum length requirements.
2. L see Page 54, Fig 3.1.

Note: The shaft is supplied by the OEM or User.

Bore Diameter (Inch)	Shaft (Inch Dimension) O.D. (in)	L1 (in)	L2 (in)	L3 (in)	L4 (in)	Key (in)	Tap T
F3-20 0.7500	0.7500 in +0.0/-0.0008	0.945	3.125	1.500	0.1875	0.1875	1/4-20X0.50
F3-25 1.0000	1.0000 in +0.0/-0.0008	1.063	3.938	2.000	0.2500	0.2500	1/4-20X0.50
F3-30 1.2500	1.2500 in +0.0/-0.0008	1.063	4.000	3.375	0.2500	0.2500	5/16-18X0.63
F3-35 1.4375	1.4375 in +0.0/-0.0010	1.496	4.500	2.938	0.3750	0.3750	3/8-16X0.75
F3-45 1.6875	1.6875 in +0.0/-0.0010	1.969	5.375	3.375	0.3750	0.3750	3/8-16X0.75
F3-50 1.9375	1.9375 in +0.0/-0.0010	2.165	5.375	3.938	0.5000	0.5000	7/16-14X1.0
F3-55 2.0000	1.9375 in +0.0/-0.0010	1.063	7.125	4.000	0.5000	0.5000	7/16-14X1.0

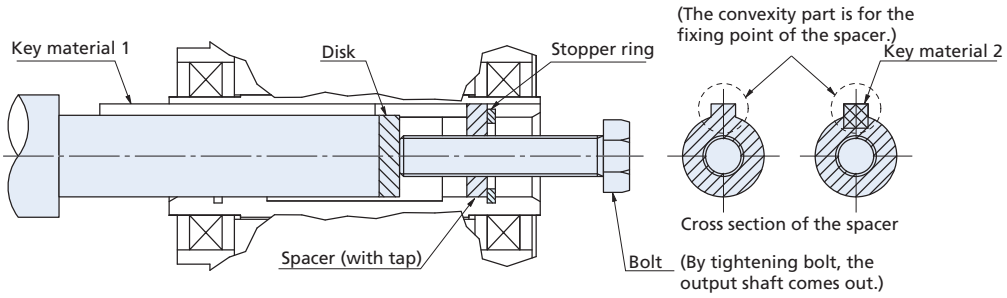
Bore Diameter (Inch)	Shaft (Inch Dimension) O.D. (in)	L1 (in)	L2 (in)	L3 (in)	L4 (in)	Key (in)	Tap T
F3-20 20	20 h_7	0.945	80	30	6	6	M6X12
F3-25 25	25 h_7	1.063	100	37.5	8	8	M6X12
F3-30 30	30 h_7	1.063	102	45	8	8	M8X16
F3-35 35	35 h_7	1.496	117	52.5	10	10	M10X20
F3-45 45	45 h_7	1.969	137	67.5	14	14	M10X20
F3-50 50	50 h_7	2.165	138	75	14	14	M12X24
F3-55 55	55 h_7	1.063	182	82.5	16	16	M12X24

Tolerances are for low impact or uniform loading. For high impact loading or high radial loading, use tighter tolerances.

Designing your Own Shaft

1. The usable key length should be greater than 1.5X the diameter of the driven shaft.
2. The Key should be engaged with at least half of the length L1. See Fig 3.1 for the dimension L.
3. The minimum length of shaft engaged inside the bore is approximately (L - L1) + ((L1-P)/2). See Fig 3.1 for details.

Fig 3.11: How to Remove the Shaft



* The spacer, disk, belt, stopper ring are not supplied by Brother.

Fig 3.12A Securing the Shaft with a Shoulder

Fixing by Spacer and Stopper Ring

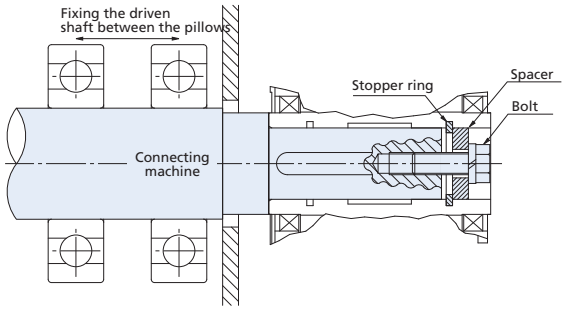


Fig 3.12B Securing the Shaft with a Shoulder

Fixing by End Plate

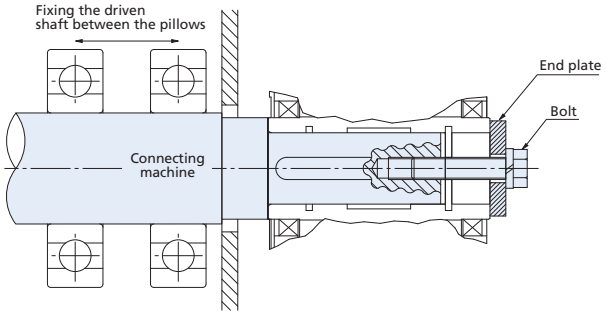


Fig 3.13A Securing the Shaft without a Shoulder

Fixing by Spacer and Stopper Ring

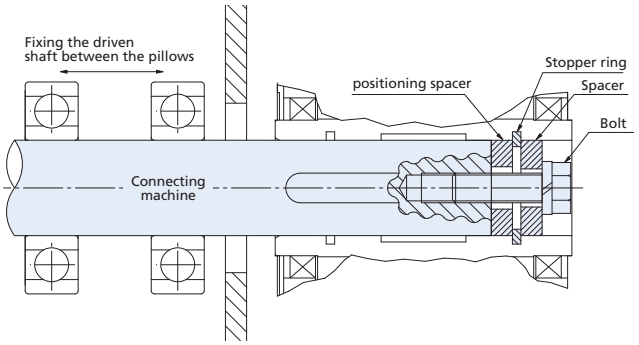


Fig 3.13B Securing the Shaft without a Shoulder

Fixing by End Plate

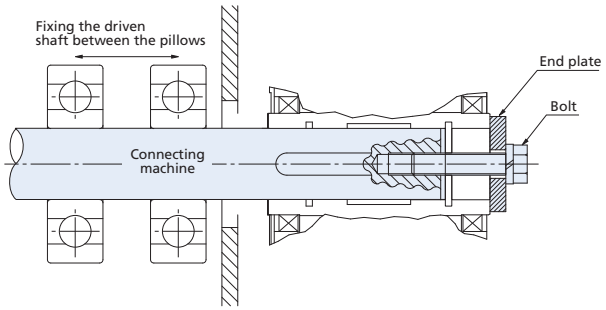


Fig 3.14A: Fixing Element Parts; Inch

Bore (mm)	Bolt		O.D. (in)	I.D. (in)	T (in)
	Internal	External			
0.7500	1/4-20X0.75	1/4-20x1.25	0.73	0.28	0.125
1.0000	1/4-20X0.75	1/4-20x1.25	0.98	0.28	0.125
1.2500	5/16-18X0.75	5/16-18x1.5	1.23	0.35	0.188
1.4375	3/8-16X1.25	3/8-16X1.75	1.42	0.43	0.188
1.6875	3/8-16X1.25	3/8-16X2	1.67	0.43	0.250
1.9375	7/16-14X1.25	7/16-14X2.5	1.92	0.51	0.250
2.0000	7/16-14X1.25	7/16-14X2.5	1.98	0.51	0.250

Fig 3.14B: Fixing Element Parts; Metric

Bore (mm)	Bolt		O.D. (in)	I.D. (in)	T (in)
	Internal	External			
20	M6X16	M6X30	19.5	7	3
25	M6X16	M6X30	24.5	7	4
30	M8X20	M8X40	29.5	9	5
35	M10X25	M10X40	34.5	11	5
45	M10X25	M10X50	44.5	11	5
50	M12X30	M12X60	49.5	13	6
55	M12X30	M12X60	54.5	13	6

Why Use A Hypoid/Helical Hollow Bore

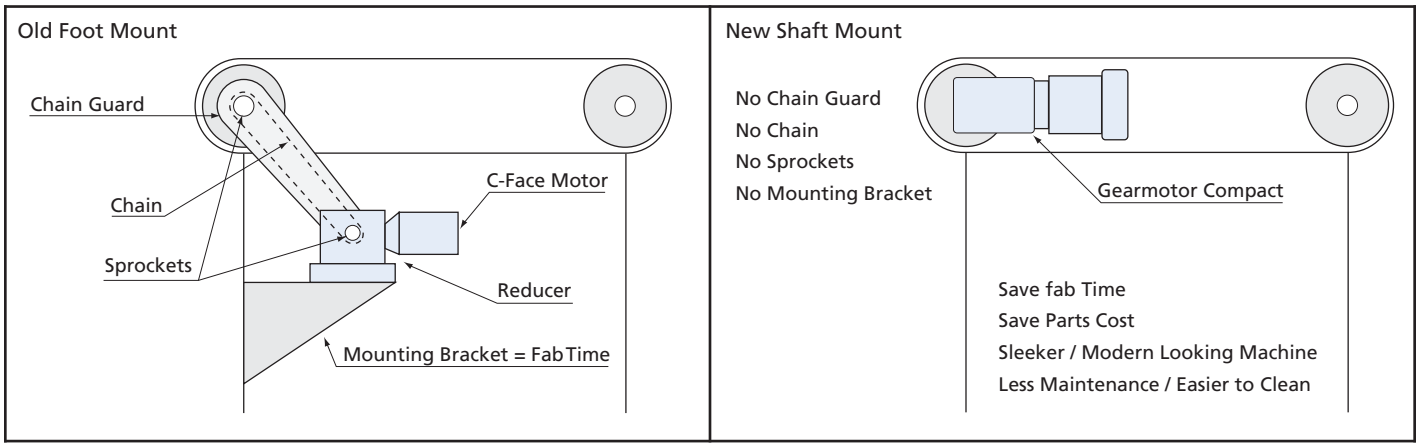
Flange Mounted

Positive Aspects

- Direct attachment to the machine is possible.
- Space is saved.
- Few parts are required.
- Base mounts, chains, sprockets, and chain guarding are not required.
- Easy to sanitize in food service environment (IP-65 Type).

Negative Aspects

- Alignment of the reducer bearings with the machine bearing is required.
- (4) bolts are needed to securing the reducer flange to the mounting surface.
- Changing the reducer may be more difficult.



Torque Arm Mounted

Positive Aspects

- Easy alignment with the connecting machine.
- Only one fixing point is needed to transmit the torque.
- Changing the reducer is simpler.
- Easy to sanitize in food service environment (IP-65 Type).

Negative Aspects

- Torque arm is needed.
- Space for attaching torque arm is needed.

Compared to a Worm

Positive Aspects

- Service Life is greater than 2X longer = superior cost of ownership.
- HRH/H is more energy efficient = lower operating cost.
- HRH/H is lighter and more compact = easier to mount.
- HRH/H is symetric = mounting is simple and flexable.
- HRH/H operating temperature is lower = longer life.
- No breather hole is required = easier to mount, no external ingress point.
- Mounting is 100% flexable, any angle any direction = easier to apply.

Negative Aspects

- HRH/H is not self locking. If backdrive is not acceptable, a brake is required.

Terms and Conditions of Sale

BROTHER INTERNATIONAL CORPORATION
GEARMOTOR/OEM DIVISION

General
These standard Terms and Conditions of Sale shall be incorporated into any contract between Purchaser and Brother International Corporation (hereafter Brother) and shall apply to all purchase orders issued by Purchaser. Unless specifically provided herein or in a separate written agreement duly executed by Brother, the quotation and this form constitute the entire agreement between Brother and Purchaser and no other terms or conditions oral or written shall be of any effect. All orders, whether placed pursuant to a quotation or not, are accepted only upon express condition that purchaser agrees to the Terms and Conditions as specified herein.

Price and Delivery Terms
Price and delivery terms are F.O.B. Brothers nearest U.S. facility and do not include sales, use, excise, or any other taxes. Our responsibility ceases when delivery is made to the transportation company and any claims for loss or damage in transit must be handled by the Purchaser with the carrier.

Packing
No charge is made for standard boxing for domestic shipments. Purchaser will be quoted and charged separately for export or special packing requirements.

Payment Terms
To Purchasers with credit standing satisfactory to Brother, terms of payment are cash in full, net 30 days. If at any time Brother deems that by reason of financial condition of the Purchaser or otherwise, the continuance of production or shipments is not justified, Brother may revoke its extension of credit, enforce any security interest(s) created hereby on all goods furnished by Brother to the Purchaser and otherwise secure itself as to Purchasers performance of its obligation.

Cancellation
Changes, suspension or cancellation of any order by Purchaser may be made only upon written approval of an authorized officer of Brother.

Warranty
All Brother gearmotor product are warranted against defects in materials and workmanship for a period of 2 years from the date of manufacture. This constitutes Brother's only warranty in connection with this sale, and is in lieu of all other warranties expressed or implied, written or oral. There are no implied warranties of merchantability or fitness for a particular purpose that apply to this sale. If performance guarantees are requested, they should be requested in writing. Full consideration will be given to such requests when complete details of the proposed application are included.

Limitation of Remedy
Brother will repair or replace, at brother's option, F.O.B. Brother's factory, freight prepaid, any Brother gearmotor proved defective in materials or workmanship if immediate written notice of claim is made to Brother by Purchaser within 2 years from the date of manufacture. It is agreed that such repair or replacement is the exclusive remedy available from Brother. Under no circumstances shall Brother be liable to anyone for any special, incidental or consequential damages, whether the result of negligence or otherwise.

Warranty Exclusions
The Warranty of Brother gearmotor products does not cover and Brother makes no warranty with respect to:

1. Failures not reported in writing to Brother within the warranty period of 2 years after the date of manufacture.
2. Failures or damages due to miss-application, abuse, improper installation or abnormal conditions of temperature, humidity, dirt or corrosive matter.
3. Failures due to operation, either intentional or otherwise, above rated capacities or in an otherwise improper manner.
4. Product which has in any way been tampered with or altered by anyone other than an authorized representative of Brother.
5. Expenses incurred by the Purchaser in an attempt to repair or rework an allegedly defective product.
6. Product damaged in shipment or otherwise without the fault of Brother.

Returns
No product will be accepted for return unless authorized in writing with a returned merchandise authorization (RMA) number assigned. Any returned goods must be returned with transportation charges prepaid.

Regulatory Laws and/or Standards
It is the Purchaser's obligation to install and operate all Brother gearmotor products in conformance with all applicable national or local laws and safety codes.

Patents
Brother represents that its gearmotors are designed and manufactured such that they do not infringe on any United States Patent(s), and that Brother will, at its expense, defend any claim charging such infringement and will save Purchaser harmless from any adverse judgments resulting there from. Purchaser agrees to give Brother, prompt written notice of any claim of infringement and to turn over to Brother the complete control of any litigation involving such claims including the right to settle such claims. This indemnity does not apply to Products which are incorporated by the Purchaser into Products which are changed to infringe a Patent or to Product which is used by Purchaser in performance of a method or process which is charged to infringe a Patent.

Law
These Standard terms and Conditions of Sale shall be interpreted in accordance with the Laws of the State of New Jersey.

Severability
If any of the terms and Conditions shown here are determined to be invalid, illegal, or unenforceable the remainder of these Terms and Conditions shall remain in full force and effect.

Brother International Corporation
Gearmotor Division

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