



GEARMOTOR DIVISION

brother

BROTHER INTERNATIONAL CORPORATION

A division of Brother International Corporation, Brother Gearmotors offers a full line of gearmotors and accessories to meet virtually any manufacturing power generation needs.

The company's portfolio includes AC Induction, Interior Permanent Magnet (IPM), low-voltage Brushless DC Gearmotors, and high quality reducers, for industries such as food & beverage, packaging and material handling.

All standard gearmotors are backed by an industry-best five year limited warranty.

As one of the world's largest fine-pitch gear manufacturers, Brother Gearmotors leads the industry's push for smaller, lighter, more reliable and energy-efficient power transmission and motion control components. In the U.S., customers are serviced from a state-of-the-art, manufacturing and distribution facility in Bartlett, TN.



Brother Gearmotors' facility in Bartlett, Tennessee

HALF A CENTURY OF **EXPERTISE** GLOBAL **RESOURCES** IN 44 COUNTRIES DEDICATED **U.S. MANUFACTURING** FACILITY LEADERSHIP IN **DESIGN & INNOVATION** PREMIER CUSTOMER **SUPPORT**



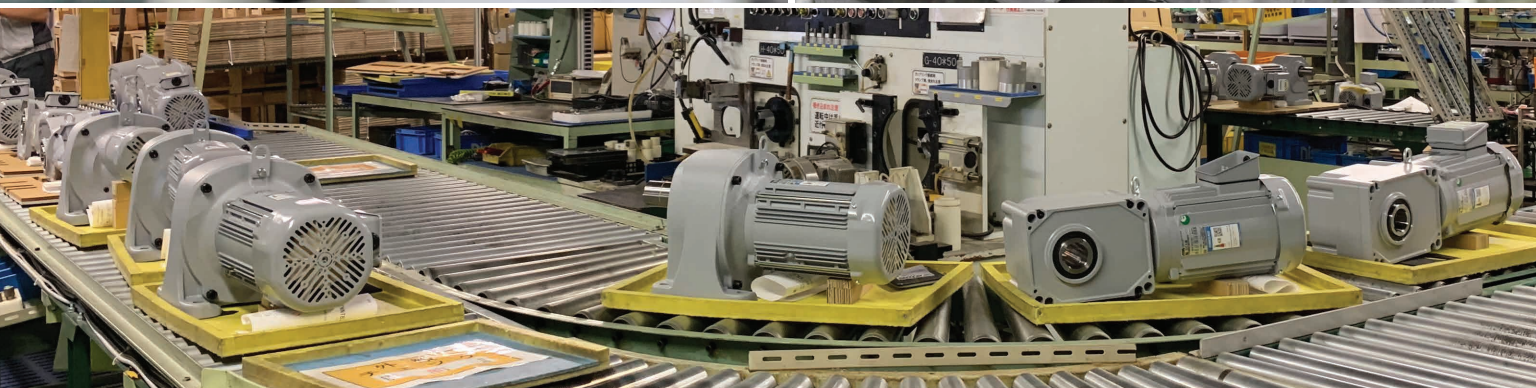
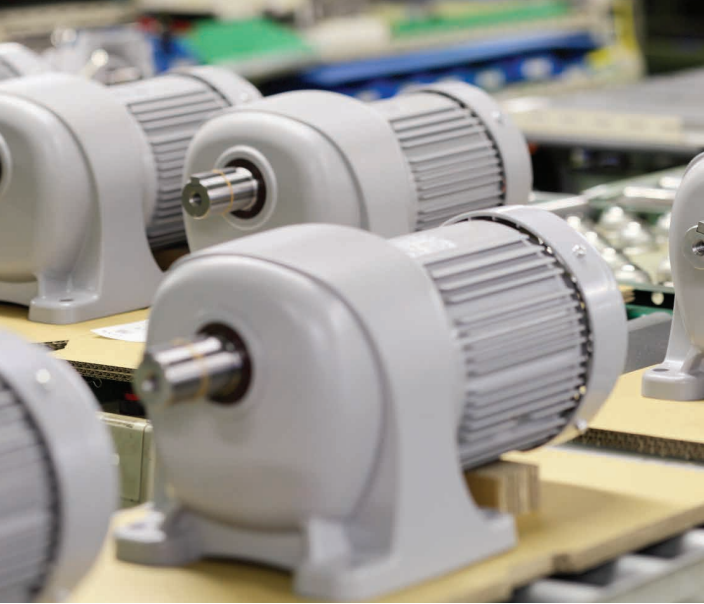
We stand behind our warranty with 70 years of experience, 17 productions sites (including local manufacturing and assembly in Tennessee), and 52 sales sites globally. We provide excellence in service to customers in 44 countries and regions around the world.

Certifications Include: ISO 9001:2008 and ISO 14001: 2004
UL and TUV certified site

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Designed for reliability. Built for endurance.



NISSEI INTERNATIONAL FACILITY

INTERNATIONAL MANUFACTURING FACILITY LOCATED IN ANJO, JAPAN.

Nissei is a subsidiary that was acquired by Brother in 2013.

- Gearmotors manufactured in-house to meet quality production standards
- Automated machines provide consistency and reliability throughout the manufacturing process from winding the motors to stamping laminations
- One of the world's largest gear cutting sites with over 120 Gleason Gear Cutting Machines
- High quality electrodeposition paint process assures consistently tough, water tight, chemically resistant gearmotor units
- ISO 14001 certified to ensure responsible environmental management practices
- Custom die design, die making, die casting and custom motor designs with a foundry onsite



BROTHER MEANS PROTECTION

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QUALITY FIVE YEAR LIMITED WARRANTY

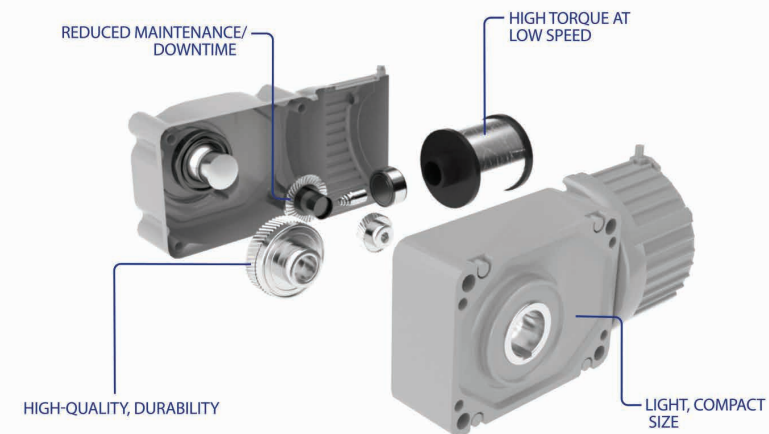
BROTHER OFFERS A TOTAL SOLUTION COVERED BY A 5 YEAR LIMITED WARRANTY.

Quality is one of the best indicators of value. At Brother, we place quality at the same importance as our customers; top of the list.

We back that quality with performance on our full line of gearmotors and accessories to meet virtually any manufacturing power generation need.

Now, Brother Gearmotors also delivers the ultimate peace of mind by introducing the industry best 5-year limited warranty on our full line of standard products.

With a premium design and rugged build, Brother Gearmotors are built to go further than the competition...so you can do the same.



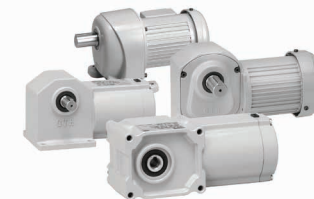
BROTHER MEANS COMPLETE

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THE PERFECT GEARMOTOR FOR A VARIETY OF APPLICATIONS

Brother stands ready to meet your most demanding needs with one of the industry's finest line-up of products, including: AC Induction, Interior Permanent Magnet (IPM), and low-voltage Brushless DC gearmotors.

Brother's expertise in the gearmotor industry – paired with a commitment to innovative design, outstanding service, and superior performance – has never been stronger. Brother proudly offers the power of hypoid gearing to the sub-fractional and integral HP market from 1/50 HP to 3 HP.



AC INDUCTION MOTORS

- **Motor Types:** Hollow Bore, Right Angle, Inline
- **Motor Power:** 1/50 HP - 3 HP
- **Gear Ratio:** 5:1 - 1800:1
- **Type:** IP-65 and brake options available
- **Phase:** 1 and 3 phase



IPM GEARMOTORS

- **Motor Types:** Right Angle Hollow Bore, Right Angle Foot Mount, Parallel Foot Mount
- **Motor Power:** 1/8 HP - 3 HP
- **Gear Ratio:** 5:1 - 1500:1
- **Type:** IP-65 and brake options available



BRUSHLESS DC MOTORS

- **Motor Types:** Right Angle Hollow Bore, Right Angle Foot Mount, Parallel Foot Mount, Parallel Flange Mount
- **Motor Power:** 50W - 400W
- **Gear Ratio:** 5:1 - 240:1
- **Voltage:** DC 12V, 24V, 48V
- **Type:** Includes motor and brake motor





BROTHER MEANS ROBUST

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AC INDUCTION MOTORS



BROTHER GEARMOTORS ARE SPECIALLY DESIGNED FOR OPTIMIZED PERFORMANCE.

- Easy to operate and maintain due to lightweight and compact size
- High torque at low speeds
- Sealed for life design delivers maximum efficiency and helps reduce labor costs
- Reduces maintenance and downtime using a high grade grease, standard, for maximum lubrication
- Hardened steel gearing
- Ability to mount in different directions with several configurations
- Robust and sturdy with the ability to operate in various applications
- Virtually maintenance free
- Simple design and construction provides easy use

Product Specifications:

- 1/50 HP to 3 HP - hardened steel gearing
- Gear reduction: 5:1 to 1800:1
- Speed range: 1 to 360 RPM
- Three Phase available for 1/50th HP to 3 HP
- Single Phase available for 1/50th HP to 1 HP
- Parallel Shaft models with helical gearing
- Right Angle models with high efficiency hypoid/helical gearing
- IP-65 Washdown Models available

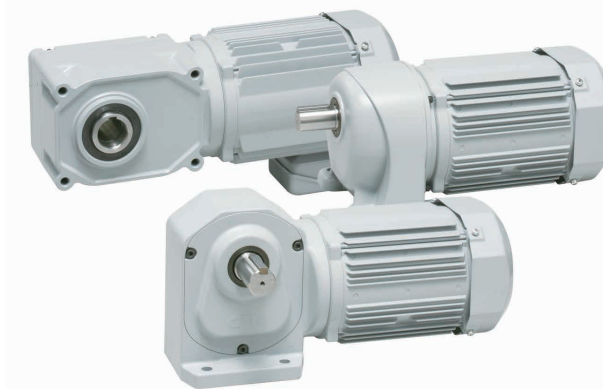


BROTHER MEANS EFFICIENT

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IPMAX MOTORS

Interior Permanent Magnet Motors



Brother's IPMax Gearmotors deliver superior efficiency to ensure that productivity and motor capacity are optimized.

CONSTANT TORQUE

IPM motors output high starting torque and high continuous torque over the entire speed range.

WIDE SYNCHRONOUS SPEED RANGE

With magnets embedded in its rotor, an IPM motor rotates in synchronization with the revolving magnetic field.

COOLER AND QUIETER OPERATION

Efficient IPM gearmotors and motors can run up to 30% cooler than comparable induction motors. This lets the motors run as a cooling fan for a shorter overall length.

Motor Power

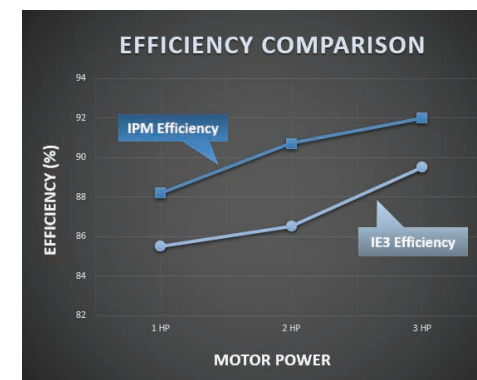
1/8 - 3HP (0.1kW - 2.2kW)

Motor Types

- Motor (IP44, IP65)
- Brake motor (IP44, IP65 up to 1HP)
- Manual release brake motor (IP44)

Gear Ratio

5:1 to 1500:1



IPMax
IPM MAXIMUM PERFORMANCE



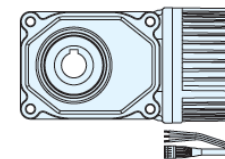
BROTHER MEANS CONTROL

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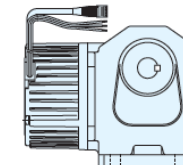
BRUSHLESS DC MOTORS



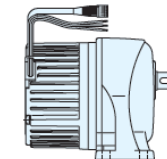
- Highly efficient, compact, and lightweight
- Virtually maintenance free; lubricated and sealed for life
- Extremely configurable; several shaft configurations and custom options available
- Very safe 12-48 V DC motors with a wide speed control range
- Substantially reduces electromagnetic interference over Brush DC, which can be a concern in automated warehouses where most of the communication is done wirelessly
- Runs quiet with a wide synchronous speed range
- Excellent for environments where brush dust contamination needs to be avoided, and where brush contact arcing could affect electronically sensitive equipment



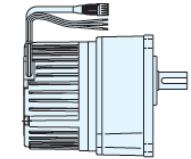
Right Angle Hollow Bore



Right Angle (Foot Mount)



Parallel (Foot Mount)



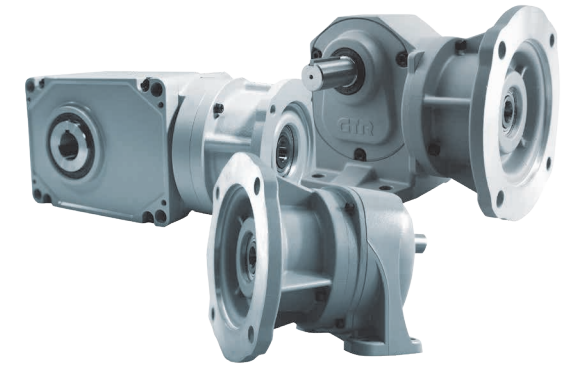
Parallel (Flange Mount)



BROTHER MEANS FLEXIBILITY

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NEMA REDUCERS



THE FLEXIBILITY OF SELECTING YOUR MOTOR OF CHOICE.

- 550+ standard configurations available
- Virtually maintenance free - prefilled with grease and lubricated for the life of the product
- Universal and flexible mounting in any direction without fear of grease leakage
- Lightweight aluminum castings for lower HP models, heavy-duty cast-iron gear cases for higher HP models
- 100% hardened steel helical gearing runs quieter than spur/helical combination gearing
- Custom options available including stainless steel shafts and bores for washdown applications
- Proprietary grinding process for hypoid gearing which provides maximum performance for right-angle H2 and F3 reducers
- NEMA C-Face input flanges (56C, 140TC, 180TC) are available for 1/4 - 3 HP reducers

F3 1/4-3 HP



Product Style: Right Angle Hollow Bore
Reduction Ratio: 5:1 to 240:1
Rated Input Speed: up to 1750 RPM
Torque: 41 – 11186 in-lb

G3 1/4-3 HP



Product Style: Inline Flange Mount
Reduction Ratio: 5:1 to 200:1
Rated Input Speed: up to 1750 RPM
Torque: 44 – 10886 in-lb

H2 1/4-3 HP



Product Style: Right Angle Shaft Foot Mount
Reduction Ratio: 5:1 to 240:1
Rated Input Speed: up to 1750 RPM
Torque: 42 – 10886 in-lb

NEMA C-FACE REDUCERS

C-Face options are
available for the following:

Reducer Input Flange	Input Horsepower				
	1/4 HP	1/2 HP	1 HP	2 HP	3 HP
56C					
140TC					
180TC					



BROTHER MEANS OPTIONS

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VALUE ADD / ACCESSORIES

ACCESSORIES AND CUSTOMIZATION

Accessorizing available at our local manufacturing facility in TN. Add on any of the following:



Sprocket



Pulley



Extension Cable



Connector



Custom Label

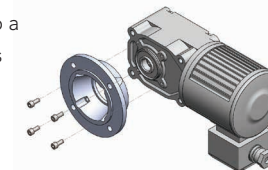
PERFORMANCE MATCHED DRIVES

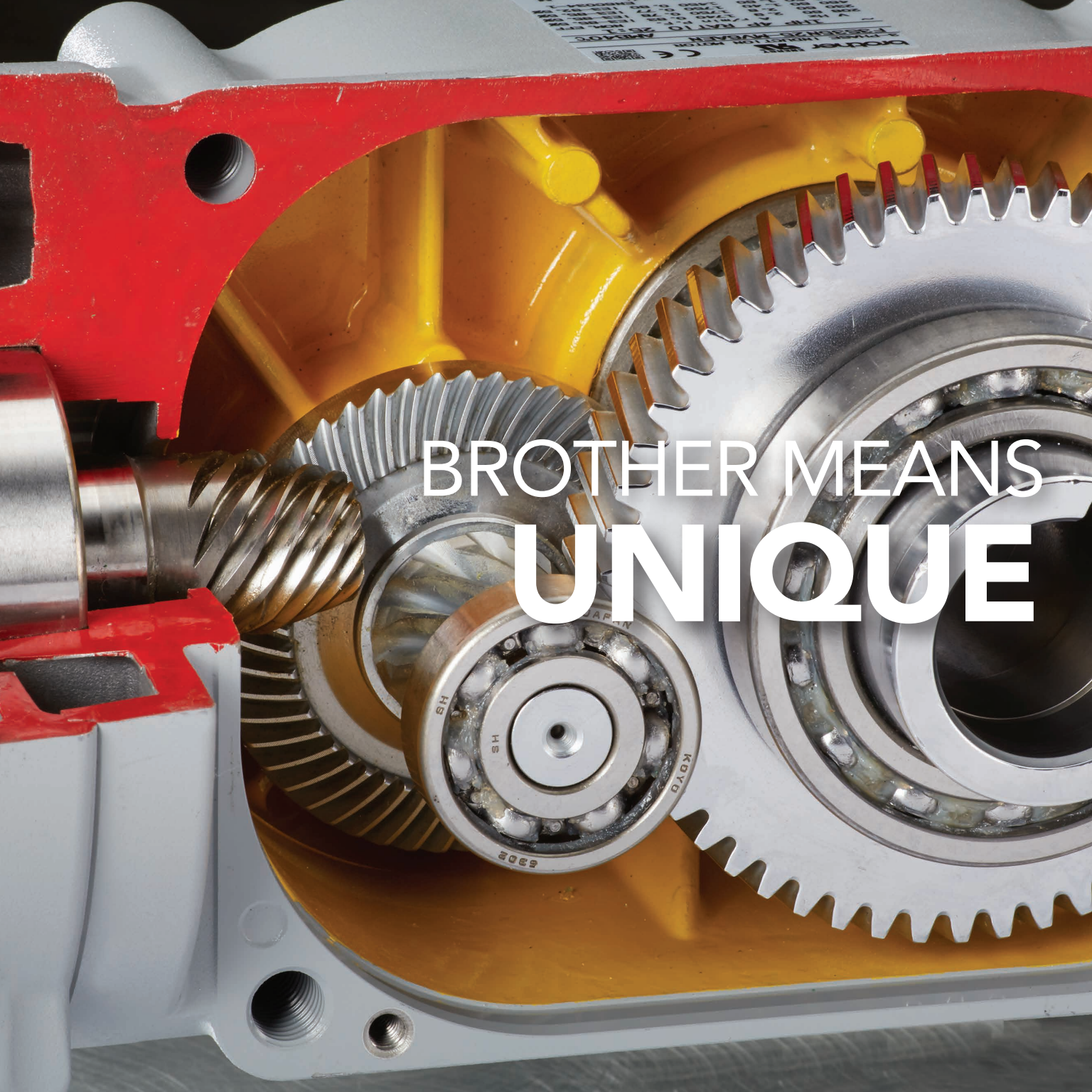
- Ability to fine tune run speeds for applications that require precision and control
- Potential to extend motor life by reducing wear and tear on motor
- Drives available for:
 - AC Induction Motors - 1/50 - 1/6 HP
 - Brushless DC Motors - entire product line
 - Interior Permanent Magnet Motors - entire product line



B5/B14 MOUNTING STYLES

- **B14** (Standard) - easily attach to a torque arm or other accessories including encoders
- **B5** (Option) - Easy drop in that follows standard IEC design
- **1/8-2 HP Models:** Up to a 60:1 Ratio
- **3 HP Models:** Up to a 30:1 Ratio





BROTHER MEANS
UNIQUE

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HIGHLY EFFICIENT MOTORS WITH HYPOID GEARING

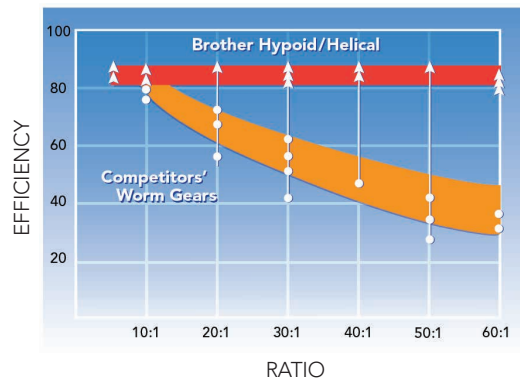
BROTHER'S GEARMOTORS ARE HIGHLY EFFICIENT AND DELIVER LONG-TERM SAVINGS AND MORE RELIABLE OPERATION.

Hypoid gearing is compact, with higher reduction rates and a superior wear life when compared to worm gearing. Virtually maintenance free with the ability to be mounted in several directions and available in 1/50 HP - 3 HP (IP-44 and IP-65).

Brother high efficiency gearmotors feature hypoid gearing technology that can maintain efficiency above 85% throughout the motor's varying range of speeds. Compared to commonly used worm gears' lower efficiency, this can result in massive energy savings. Lower cost to operate, and applications running for long periods will demonstrate clear benefits.

MORE EFFICIENT DESIGN

Big Energy Savings due to Superior Efficiency



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

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

25:1 Reduction Ratio	1HP, NEMA Premium (IE3) F Class, VFD Motor	
	brother	Competitor
Length	17.10"	18.83"
Motor Diameter	6.14"	7.19"
Total Weight	47 LB	66 LB
Gearing	Hypoid	Worm
Gearbox Efficiency	85%	68%
*ENERGY COST SAVINGS (Gearbox)		
1 Unit	\$46/Year	
25 Units	\$1,150/Year	
100 Units	\$4,600/Year	

60:1 Reduction Ratio	1HP, NEMA Premium (IE3) F Class, VFD Motor	
	brother	Competitor
Length	17.10"	19.83"
Motor Diameter	6.14"	7.19"
Total Weight	47 LB	86 LB
Gearing	Hypoid	Worm
Gearbox Efficiency	85%	50%
*ENERGY COST SAVINGS (Gearbox)		
1 Unit	\$128/Year	
25 Units	\$3,250/Year	
100 Units	\$12,800/Year	

*Energy Cost Savings – [Gearbox efficiency difference x 0.75kW x 8 Hours x 260 days x Number of Units x Power Cost (50.1kWh)]

*This is a general approximation based on standard worm gear efficiency.





BROTHER MEANS DURABLE

E-COAT PAINT DURABILITY

HANDLING SOME OF THE TOUGHEST APPLICATIONS OUT THERE.

E-Coat paint is easy to scale, and provides a hardened, electrically insulated paint coating to protect gearmotors for their usage life. Additionally, it ensures uniform paint coverage which allows it to potentially prevent many problems that may arise with inconsistent coating thicknesses.

Test Item	Performance	
	Competitor's Powdercoat	Brother Electrodeposition
Adhesion	✗	✓
Grease/Oil Resistance	✗	✓
Humidity Resistance	✗	✓
Water Resistance	✗	✓
Salt Spray Resistance	✓	✓
Hardness Resistance	✗	✓
Acid Resistance	✓	✓
Alkali Resistance	✗	✓
Overall Rating	✗	✓

✓ - Pass

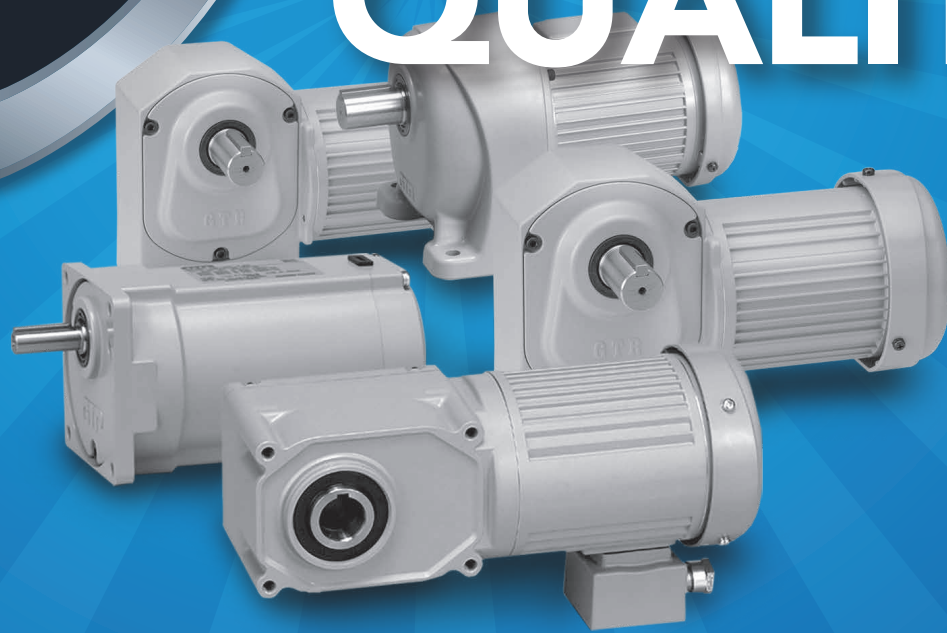
✗ - Fail





**BROTHER
GEARMOTOR
QUALITY
FIVE
YEAR**
★ ★ ★ ★ ★
**LIMITED
WARRANTY**

**BROTHER MEANS
QUALITY**



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ONE OF THE FINEST GEARMOTORS IN THE INDUSTRY

WHAT SETS BROTHER APART.

All motors carry a high-grade synthetic grease standard which means the motors are lubricated for the life of the product, helping eliminate costly downtime for lubrication changes.

Brother Gearmotors are compact in size with superior sealing capabilities, offering numerous standard options and configurations.

They are high-quality with a durable paint coating. The electrodeposition application assures a consistently tough and chemically resistant coating, withstanding the toughest environments.

GREASE – A thicker lubricant means that there is less chance of it leaking from the gearbox. O-rings offer better protection than gaskets for oil leakage and pressure maintenance.

OIL SEAL – Brother's reducers utilize a triple lip oil seal to prevent output shaft grease leakage. The oil seal has a spring and metal case to provide seal longevity.

IP-65 – Superior resistance to water ingress and harsh chemicals used in food processing plants. Designed to keep water out, IP-65 is protected against dust and water pressure jets. Terminal boxes are specifically designed, sealed and gasketed.

BEARINGS – Premium ball bearings provide quiet and efficient torque transfer and high overhung load capacity.

100% HARDENED STEEL HELICAL GEARING – Helical gearing runs quieter and provides greater torque and shock capacity than competitive spur/helical hardened combinations.

NO BREATHER HOLES – Provides flexibility for universal mounting. Instead of designing a machine around a gearmotor, you can focus on the design of the machine first and have its components fit to specifications.

MOUNTING – Universal and flexible mounting in any direction without fear of oil leakage, dangerous factory conditions or poor gearbox lubrication.

HOUSING – Die cast aluminum which is lightweight, corrosion resistant and provides good heat dissipation, strength and durability.





BROTHER MEANS SUPPORT

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CUSTOMER SUPPORT

GOT QUESTIONS? WE HAVE THE ANSWERS.

Our dedication to innovation and customer service ensures long-term partnerships with our customers around the world. We provide the industry's premier customer service teams with a dedicated US hub for enhanced support. We also offer integrated fields of global support, from engineering and manufacturing to sales and customer service.

- Global company with over 100 years of experience
- B2B portal for customers
- 2D/3D CAD drawings available
- Products directly interface with our SAP system for seamless order placement
- Engineering support
- Post sales support
- Dedicated customer service team
- Automated product release programs
- Planning and inventory strategy



DEDICATED SERVICE. EXPEDITED SERVICE.

Brother offers a dedicated US maintenance and repair hub for enhanced customer service. We utilize the latest in on-site manufacturing technologies and best-in-class equipment to make sure Brother Gearmotors remain virtually issue-free and deliver optimal performance. With Brother's exclusive expedited shipping programs, we can offer next-day priority delivery to make sure your lines continue to run efficiently.



XSHIP PROGRAM

- Hundreds of SKUs available
- Easy to do business
- Local manufacturing facility
- Standard catalog items eligible for program



EXPEDITED 48-HOUR SHIPPING PROGRAM

- Guaranteed or we pay for shipping
- Ships in 48 hours or better
- Hundreds of SKUs available



EXPEDITED 24-HOUR SHIPPING PROGRAM

- Guaranteed or we pay for shipping
- Ships in 24 hours or better
- Hundreds of SKUs available





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CUSTOMER TESTIMONIALS

SEE WHAT OUR CUSTOMERS ARE SAYING ABOUT US.

Some thoughts from Original Equipment Manufacturers (OEM)s in food processing, packaging machinery and material handling.

"Brother has a quality product and good lead times."
– Purchasing Manager, OEM for Food Processing

"I like their customer service and the quality of their products."
– President, Food Processing Manufacturer

"They are thorough with their follow-up. Their gear motors are well-crafted and durable."
– Purchasing Manager, OEM for Food Processing

"They do a great job. The products are good, the representatives are great. I wish everyone I dealt with was as good as Brother."
– Owner, OEM

"Their gear motors are excellent, and they stand behind the product."
– Engineering Manager, OEM for Material Handling

"They are my best supplier when it comes to the ease of doing business. Everything goes so smoothly that I never have to worry about the order being right."
– Purchasing Manager, OEM for Packaging Machinery

"You guys have a great product this is why I keep coming back."
– CEO, OEM for Packaging Machinery

"They are quick to resolve any issues and they are very prompt."
– Materials Assistant, OEM for Refrigeration Products

"We only use one product and we have never had any problems dealing with Brother or their products. Very dependable product."
– Manager, OEM for Refrigeration Products

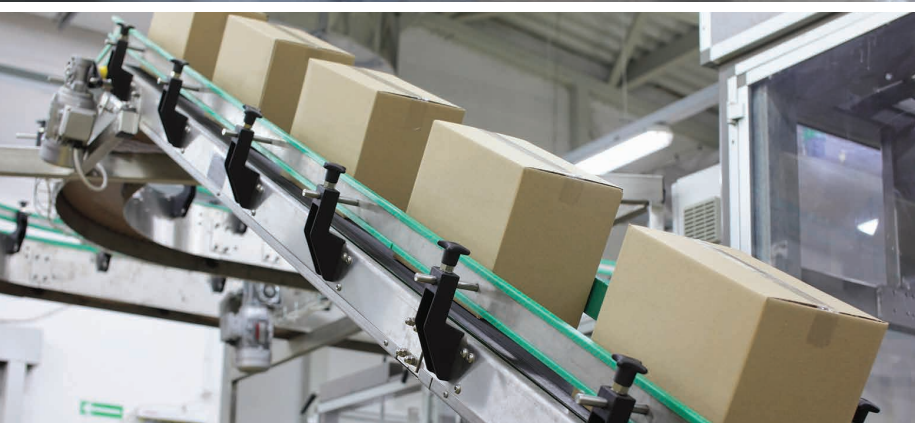
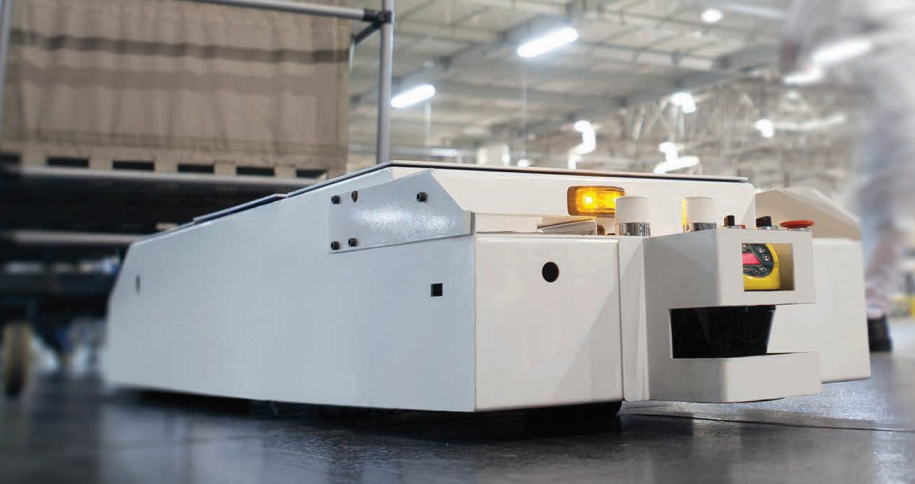
"They were extremely helpful, friendly, responsive and very knowledgeable about everything."
– Purchasing Manager, OEM for Industrial Equipment

"They have great quality products and great service."
– Engineer, OEM for Industrial Equipment

"They are consistent and honest. The sales representative does a good job."
– Senior Buyer, Original Equipment Manager for Packaging Machinery

"They are quick to respond to orders and the deliveries are on time."
– Purchasing Manager, OEM for Material Handling





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MARKETS WE SERVE

WORLD CLASS GEARMOTOR SOLUTIONS FOR YOUR INDUSTRY.

Our gearmotors power equipment in multiple industries and for many applications including:

Applications:

- AGVs (Automated Guided Vehicles)
- AMRs (Autonomous Guided Robots)
- Automated Doors
- Lock Docks
- Conveyors
- Industrial Dishwashers
- Industrial Pumps
- Mixing Equipment
- Car Wash Equipment
- Cranes

Industries:

- Packaging Machinery
- Food Processing Equipment
- Bottling and Filling Machinery
- Material Handling
- Printing Machinery
- Bakery Equipment
- Agriculture
- Medical Equipment
- HVAC
- Refrigeration

