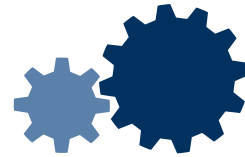


PRODUCT CATALOG



MULTIPRODUCTS
Company, Inc.
Your Partner. In Motion.



Tailor-Engineered Gearmotors For Your Application.

High quality, attention to detail, on-time delivery, and quick lead times have been the pillars of Multi for over 60 years. We are committed to being the partner you can count on.

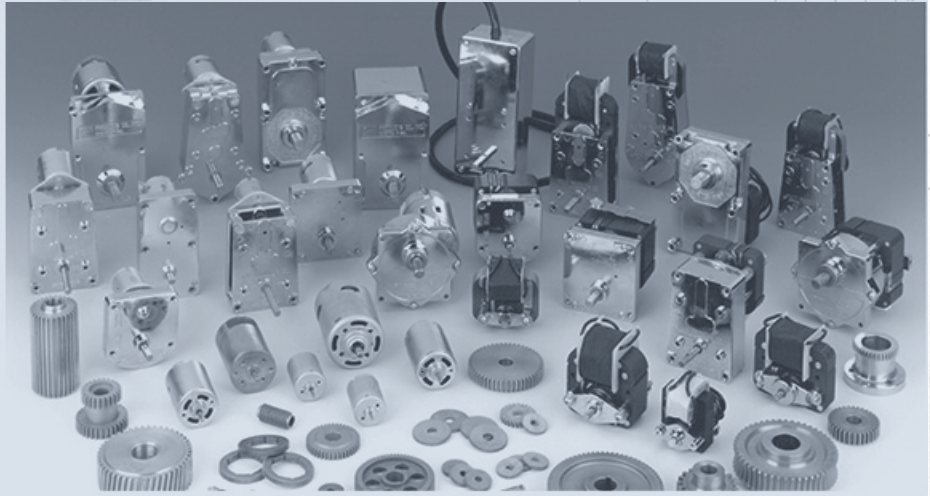


DRAWING NUMBER
1415 12

REVISED
DRAWN BY
160

REVISION	DATE	BY

USA Based and Family Owned Since 1957



DESCRIPTIVE SHEET
STEEL GEAR AND GEAR
CASE SIMILAR TO
P. MIDE GEAR SET FORW
D. TOM CARBON STEEL SHALT
A FOLLOWING SAME FOR EACH UN
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DESCRIPTIVE SHEET
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88-11-1



MULTI PRODUCTS

Company, Inc.

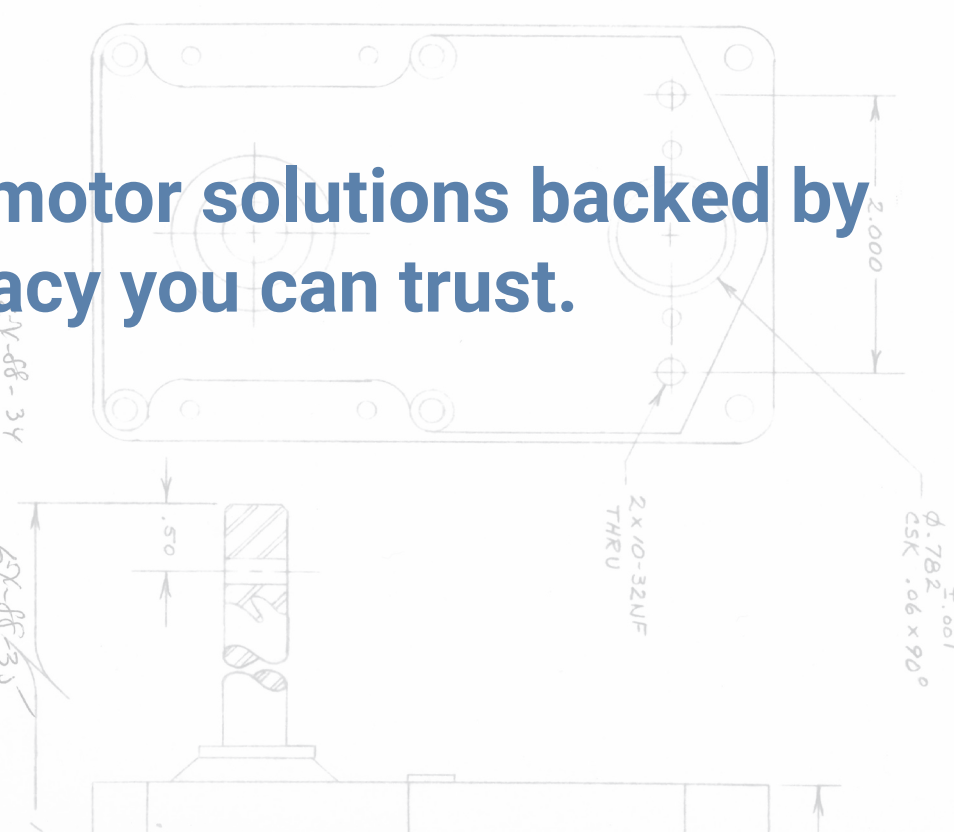
Your Partner. In Motion.

www.multiproducts.com

DATE	DESCRIPTION	BY

Gearmotor solutions backed by a legacy you can trust.

- DESCRIPTION
1. NOMINAL RATIO 60:1
 2. INPUT 3600R
 3. OUTPUT 60R
 4. FOLLOWING SA FOR EACH UNIT:
 - a. LOW CARBON STEEL AS SHOWN.
 - b. WIDE GEAR SET FURNISHED WITH STANDARD PINION.
 - c. GEAR CASE SIMILAR TO MULTI PRODUCTS SAMPLE 86-76.
 - d. STEEL GEARS AND LUBRICATION SUITABLE FOR DESCRIBED OPERATING POINT.



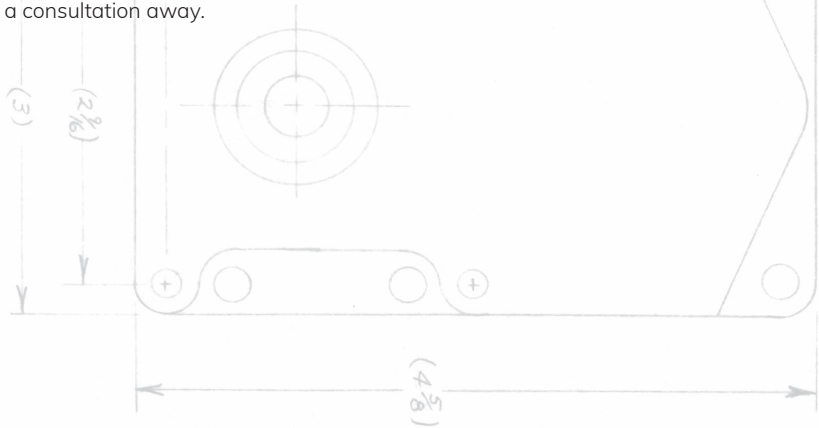
A brief history.

Since 1957, we have been known for our short lead times, quick turnaround, and our willingness to work closely with our customers. We strive to become the premier vendor our customers can rely on. Multi Products was founded in Racine, Wisconsin, the same city where some of the world's most famous motor-driven devices, including the Hamilton Beach Mixer and Dremel Rotary tool, were invented and built. Starting in 1948, Multi began as a specialty machine shop working in the aerospace industry and expanded in 1957 to providing complete electric gearmotors. Our motors are used in diverse industries, ranging from food service equipment and popcorn poppers, to agricultural and crop sprayers, from gaming and pinball machines, to material handling and conveyors. At the heart of trusted equipment and machinery around the world reliably spins a Multi Products gearmotor.



Mark Patzke, President

At Multi Products Company, we understand the value of your project. Still located in the city of our roots, we provide the same high quality, attention to detail, on-time delivery, and quick lead times that have been the pillars of Multi for over 60 years. We are committed to being the partner you can count on. Whether you're seeking an economical or precision solution, we can help. The next step in finding the best fit for your product is just a consultation away.



REV	DESCRIPTION	C.N.#	DATE

SCALE: NTS

DATE: 9 MAR 88

MATERIAL: RE: MULTI PRODUCTS

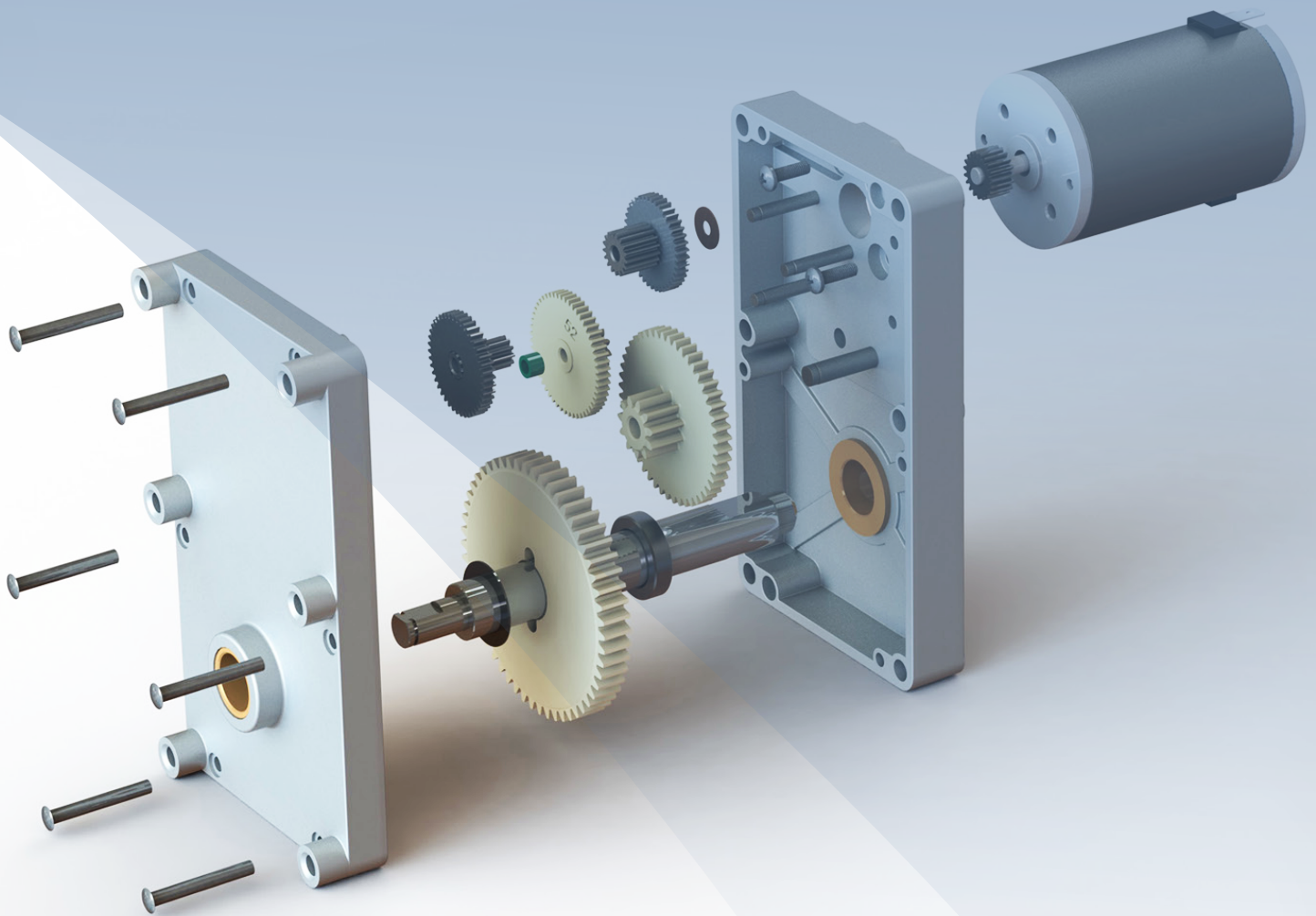
TOLERANCES UNLESS OTHERWISE STATED
 3 PL DEC = .005
 2 PL DEC = .010

JENSEN CO - DIVISION OF
 THE SANDOR CORPORATION
 110 N. MISSOURI AVE
 SEDALIA, MISSOURI 65201

PART NAME: GEAR BOX

DRAWN BY: fec

DRAWING NUMBER: SI 2141



Custom Crafted Gearmotor Solutions The Best Fit For Your Application

Multi Products is committed to crafting the best electrical power motion solutions. Specializing in sub-fractional gearmotors, we are your comprehensive partner in meeting any power transmission requirements for your product or application.

Contents



Value-Advantage Capabilities

06

Services that set Multi Products apart from traditional suppliers. Multi is your partner for power transmission and motion control solutions.



Industries & Applications

12

Multi Products can design, engineer, and supply the gearmotors needed for optimal performance, no matter the application.



DC Gearmotors

18

Abundant options for brushed DC motors, brushless DC motors, and gearboxes / reducers.



Compact DC Gearmotors

30

Small form-factor precision gearmotors. Planetary and in-line shaft gearboxes. High efficiency, low backlash.



AC Gearmotors

34

Uni-directional shaded pole, synchronous, and PSC reversing AC motor options with gearboxes / reducers.



01

**Value-Advantage
Capabilities**



Value-Advantage Capabilities

Services to surpass what is expected.



Rapid Response

Short lead times, JIT, and warehousing options for prompt delivery.



Tailored Engineering

Engineering expertise to meet complex design requirements.



True Customer Hospitality

Dedicated to the success of your company, products, and overall vision.



Personalized Supplier Relationship

Engineering, procuring, manufacturing, and logistics support.



Value-Advantage Capabilities

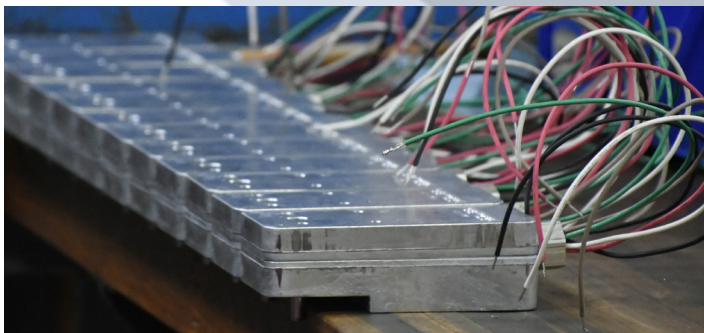
Services go beyond what is expected.

Distinctive Service and Value

Multi Products is your partner for power transmission and motion control. Whether you need a motor, gearbox, electronics, contract manufacturing, sub-assemblies, or engineering consulting, we can assist you.

Rapid Response

Our lead times are 25% shorter than the industry standard, and typically 20% shorter than our competition. Standard lead time is 4-6 weeks, but in urgent situations we act FAST, even within 36-72 hours in special cases.



Expedited Manufacturing

We practice a JIT (just-in-time) inventory system using 5-S, Kanban, Single Minute Exchange of Dies (SMED), and a fully integrated Enterprise Resource Program (ERP) for a lean and flexible manufacturing system.

Stocking & Warehousing Options

Warehousing ensures your motors are ready at a moment's notice. We offer stocking options at your request for replacement parts, maintenance parts, and drop shipping to customers.



Made in the United States

Located in Racine, Wisconsin since 1957, Multi Products values high quality and attention to detail. Being stateside with local sourcing means our lead times and shipping costs stay low compared to Asian sources.

Supporting Local Suppliers

With local suppliers, we're ready to facilitate even faster manufacturing. Around 95% of our suppliers are within a two-hour drive of our facility, allowing us to quickly procure parts, assemble, and ship.



Multi Products Company Offers More Than Motors.

True Customer Hospitality

Our dedicated inside sales representatives and outside technical sales team are always available to assist with quick responses to your immediate needs. The Multi world revolves around our customers. We pride ourselves on providing the highest level of customer service.



How May We Assist You?

We are always available to assist you with sales, engineering, and technical support. Let us prove to you that our customer hospitality and responsiveness stands apart from other gearmotor manufacturers.

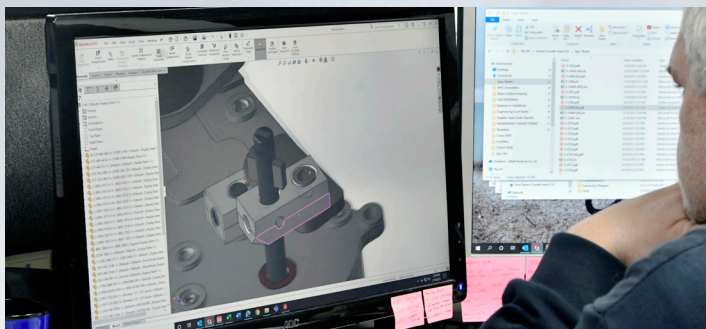
Application Support

Multi Products is here to be your helping hand with every aspect of your project, from initial concept, engineering development, custom manufacturing, and aftermarket support. We are your partner, in motion.



Tailored Engineering

Our engineering department works directly with Original Equipment Manufacturers (OEMs) to facilitate quick responses to customers needing a custom solution for their applications. Multi's expert engineering team can solve complicated problems with tailor-engineered solutions.



Upstream / Downstream Solutions

Where Multi truly excels is creating value for our customers with additions to their gearmotor solutions. Whether you need a power transmission solution, sub-assembly, or a custom wiring harness, we can engineer a solution that fits your needs without sacrificing quality.

Engineering Strengths

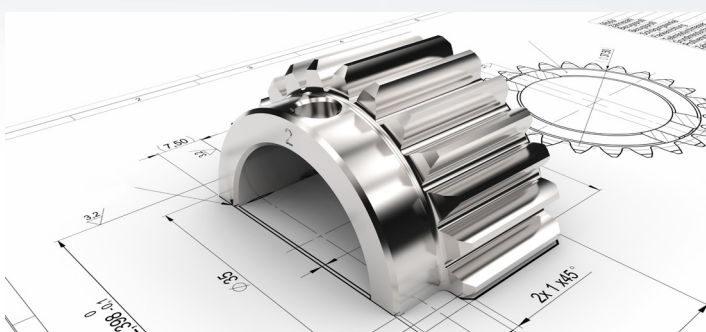
Our engineering competencies range from ground-up, OEM design solutions to technical system performance analysis. Our team of engineers focuses on motor and gearbox power transmission solutions for OEM markets, industries, and applications.

Best Design Practices

With many years of combined manufacturing, industrial, and mechanical engineering experience, our engineering team possesses the critically important expertise to balance process efficiency, testing, manufacturability, cost, and quality in a custom solution.

Adherence to Standards

We adhere to stringent UL, FCC, and CSA standards. CE certifications are available for European markets. We are also able to comply with specific industry standards for applications in food & beverage service, medical & pharmaceutical, and agriculture.





Value-Advantage Capabilities

Services go beyond what is expected.



Customized Supplier

Share Your Vision and Strategy With Multi Products

Multi Products Company is more than just a gearmotor manufacturer. We offer comprehensive service that transforms a traditional supplier-customer transaction into a collaborative relationship aimed towards mutual growth and improvement.

If a source of high quality gearmotors is all you are looking for, we are happy to supply. However, Multi Products offers more than just motors. As with our gearmotors, you can choose to customize the level of supplier relationship you want with Multi Products. We can be involved at multiple levels in your products, projects, and business model.

Some of the services we offer include design and engineering, component sourcing and evaluation, contract manufacturing, and Warehousing/Logistics support. We will share your plan, vision, and strategy for the growth of your organization.

Customize what Multi Products Co. can do for your business.

How could a customized supplier relationship with Multi Products benefit your business?

Building a mutually beneficial relationship with Multi Products can be a big win. In a comprehensive partnership, you and Multi Products share vested interests in your vision, along all points of the supply chain. This means that you will receive optimized service in technology and knowledge, along with a commitment to high-quality products, optimized logistic capabilities, competitive pricing, and supportive expertise.

But maybe you need support in just one or a few areas. Turn to Multi Products for a more 'a la carte' approach, as well. From product systems to fulfillment, we can support your business where it counts most to you.



Featured customers who utilize our extended services:



Industrial LED Lighting



Tactical Training Robotics



Arcade Games



Pinball M

Multi Products Company Offers More Than Motors.

Relationship.

Higher Quality.

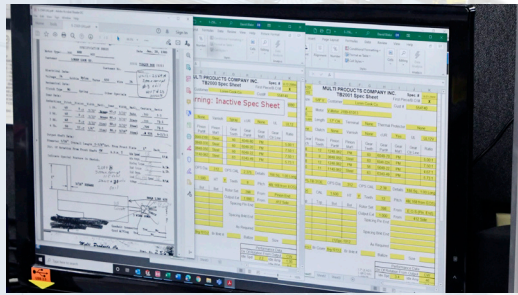
People.

Products.

Performance.

Service.

Engineering, sourcing, manufacturing, and logistics.



Engineering & Design



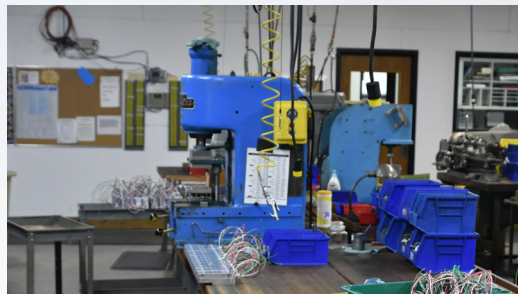
Leverage our engineering team's combined manufacturing, industrial, and mechanical engineering experience for your benefit. From full OEM design solutions to technical system analysis, having an additional team can bring new ideas and solutions to your network. See Tailored Engineering for more information.



Sourcing & Evaluation



After 60 years in business, we have accumulated a vast network of suppliers, manufacturers, and other contacts for your benefit. We can assist you in sourcing, acquiring, and cost-analyzing components for your product assembly. We utilize ISO best practice standards for supplier analysis and total quality management.



Contract Manufacturing



Multi has a proven track record of performing high precision manufacturing services for numerous businesses. Free up capacity within your facility to allow for more growth. Take advantage of sub-assembly solutions to reduce costs. Depending on the product, we can assemble products for you. See Rapid Response for more information.



Warehousing & Logistics



Sometimes you just need some space. We offer long-term storage space to make room in your facility. We also offer pick, pack, and shipping services for drop shipping directly to your customers. Let Multi handle your storage of products and parts, packaging and palletizing, and logistics coordination. Reduce the logistics stress.



The background is a collage of images related to industry and agriculture. It includes a close-up of a machine's control panel with a dial and buttons, a close-up of a metal grate or filter, and a propeller airplane on a runway. A large, dark blue diagonal shape is overlaid on the top left.

02

Industries & Applications

Demanding and diverse industries require reliable gearmotors to keep machines running and customers satisfied.



Industries and Applications



Foodservice Equipment



Agriculture



Medical & Pharmaceutical



Material Handling & Conveyors



Sporting Equipment



Gaming & Amusement



HVAC Equipment



Industrial Equipment



Pumps & Valves



Industries & Applications

Demanding applications require reliable electro-mechanical gearmotors.

Foodservice Equipment

We have a long history with food and beverage service companies. You can find our gearmotors everywhere from grocery stores to movie theaters, and many other businesses. Applications include popcorn poppers, pizza turntables, and deep fryers. But no matter your need, we can create an effective gearmotor solution to help improve product efficiency and satisfy hungry customers.

- Popcorn Poppers
- Conveyor Ovens
- Hot Dog Rollers
- Pizza Turntables
- Confectionery Fryers



Agricultural & Farming

With our roots in midwestern farm country, Multi Products certainly understands the challenges associated with agriculture and farming. Tough equipment needs rugged gearmotors to withstand extreme temperatures, dust, and moisture. For 58 years we have manufactured custom-engineered gearmotor solutions that are robust, reliable, and cost-effective.

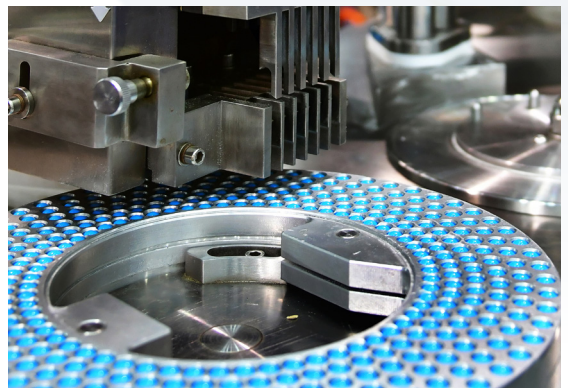
- Crop Sprayers
- Forage Harvesters
- Fan Oscillators
- Irrigation Systems
- Grain Augers



Medical & Pharmaceutical

Multi Products offers clean, quiet, maintenance-free gearmotors and micro motor solutions for the essential needs of medical, healthcare, and pharmaceutical equipment manufacturers. We have produced custom precision gearmotor solutions that serve in equipment at research laboratories, production facilities, and healthcare campuses.

- Laboratory Centrifuges
- Pharmaceutical Production
- Apheresis Machines
- Laboratory Mixers
- Fluid Drain Valves



Keeping Vital Equipment In Motion.

High-performing gearmotors to stand up in tough working conditions.

Material Handling & Conveyors

Multi understands the challenges of increasing product throughput while simultaneously reducing system downtime and operating costs. Material handling and conveyors have an ever-growing impact on how we are receiving many of our goods. Choose DC motors with high starting torque, AC motors for consistent speed, or Brushless DC for automation integration.

- Package Conveyors
- Conveyor Ovens
- Electronics Assembly
- Packaging Equipment
- Sorting Machines



Sporting Goods

Sports equipment that athletes use to build skills, train agility, hone precision, and improve consistency need to work just as hard as they do. The gearmotors that drive the equipment are put under high use-cycle frequencies and stress. In addition to providing durability, gearmotor solutions need to be cost-effective.

- Tennis Ball Machines
- Baseball Pitching Machines
- Clay Target Launchers
- Bowling Alley Oilers
- Volleyball Lofters



Gaming & Amusement

Multi Products has been manufacturing gearmotors for gaming and amusement machines since the 1950's. Each gearmotor we supply is designed, engineered, and built in the United States with superior craftsmanship. With robust materials, competitive pricing, excellent quality, and quick lead times, we ensure your gaming machine is ready to use as soon as you need it.

- Pinball Machines
- Pool Tables
- Air Hockey
- Redemption Games
- Skee-Ball





Industries & Applications

Demanding applications require reliable electro-mechanical gearmotors.

HVAC Equipment

Multi Products has manufactured dedicated gearmotors for HVAC equipment manufacturers for over 60 years. Developed by our experienced engineers with superior quality kept in mind, our gearmotors are distributed throughout the world. Multi will ensure your HVAC equipment damper actuators function with superior performance.

- VAV Systems
- Mixing Boxes
- Central Fan Systems
- Exhaust Dampers
- Fire/Smoke Dampers



Industrial Machinery

Multi's industrial gearmotors are designed and developed with ruggedness in mind. Our durable designs, competitive prices, exceptional quality, and fast lead times ensure your industrial equipment operates at peak performance. Our industrial gearmotors operate in many different industries, including the automotive, manufacturing, and heavy machinery industries.

- CNC Machines
- Automatic Sorting Machines
- Manufacturing Part Dispensers
- Wheel & Tire Balancing Machines
- Automotive Alignment Equipment



Pumps & Valves

Multi Products provides durable and precise gearmotor solutions for food service dispensing, medical & laboratory peristaltic pumps, chemical control, oil & gas valving, and fluid control. Pump and valve equipment manufacturers trust our quality, high-performing electromechanical components to dependably actuate their pumps and valves.

- Peristaltic Pumps
- Lubrication Pumps
- Oil Diverter Valves
- Fluid Drain Valves
- Hydroponics Pumps



Keeping Vital Equipment In Motion.

High-performing gearmotors to stand up in tough working conditions.



Contact Us About Your Application Today.

Collaborate with Multi Products to craft a complete gearmotor solution for your application.

info@multiproducts.com - Toll Free: (877) 444-1011

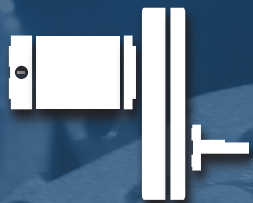




03

DC Gearmotors

An extensive line of permanent magnet brushed DC, brushless DC motors, and gearboxes to provide a unique solution for your application.



DC Gearmotors

Tailor-engineered to fit your needs.



Economical PMDC Motors



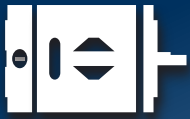
Precision PMDC Motors



Precision Brushless DC Motors



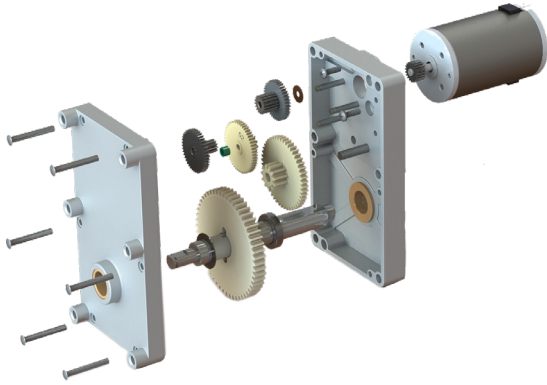
Gearboxes / Reducers



Economical PMDC Motors

Price-conscious permanent magnet brushed DC input motor options that don't compromise power.

Configure Your Gearmotor



Multiple Motor Frame Sizes and Gearboxes

Let Multi Products Company match the correct motor, size, and gearbox to your application. Economical PMDC motors have a high power density and a wide operating temperature range of -20 to 250° Fahrenheit. Mount your economical PMDC gearmotors to one of a variety of parallel shaft gearboxes/reducers.

In addition to speed, torque, and voltage, further customize your DC motor with a variety of value-add upstream motor electrical actuation accessories and downstream sub-assembly solutions. Add EMI filtering, custom wiring harnesses, mounting plates, couplings, gears, pulleys, cam/switch actuators, bushings, needle bearings, tappings, holes, flats, hollow or thru-shaft design, custom sub-assembly, or other components directly to the gearmotor for your tailor-engineered solution.

Economical Motor Line



Dependable with Outstanding Value

Our assortment of economical PMDC gearmotor input motors features performance to rival that of more expensive options. With high starting torque, ideal for intermittent duty applications, these motors have proven durable in demanding applications while remaining cost effective. Available frame sizes from 28mm - 52mm.

Economical DC motors can be mounted to a variety of Multi Products parallel shaft gearbox / reducers.

Applications: Foodservice Equipment, Agriculture, Industrial Machinery, Gaming, HVAC, and Fluid Control.

Features:

- 3 frame sizes available
- Stamped steel and ventilated housing
- Prelubed bronze bushings
- Best for intermittent duty
- High power density
- Permanent ferrite magnets
- Optional EMI filters
- Carbon brushes 1000+ hour lifespan*

DC Model	983	615	315
Voltage	12 / 24V	12 / 24V	12 / 24V
Speed	3100-4800 RPM	1450-5745 RPM	2900-5740 RPM
Torque	20-40 oz-in.	1.4-2.5 oz-in.	0.5-1.1 oz-in.
Frame Size	52mm	36mm	28mm
Reversible	Yes	Yes	Yes
Brush Life*	1000+ Hours	1000+ Hours	1000+ Hours

*Estimated life - Brush life dependent on duty cycle, application, and environment.

Use DCM part numbers for inquiry reference **DCM - 10XX**

Cost-Effective Gearmotor Input Options

High performance with low cost for your application.

315 - Small Frame - 28mm



Information & Specifications

The 315 DC is the smallest frame economical PMDC motor option. Featuring permanent ferrite magnets and carbon brushes that can be fitted to a variety of Multi's gearboxes and reducer options. Speeds from 2900 up to 11600 RPM, Bi-directional. Optional EMI filtering and other accessories. Designed for continuous or intermittent duty.

Compatible Gearboxes / Reducers: 440, 7000, 7000x, 8000 series

Part Number	Voltage	RPM	Torque	Current
DCM-1003	12 / 24V	2900 / 5200 RPM	0.5 / 1.1 oz-in.	1.0 A
DCM-1004	12 / 24V	5740 / 11600 RPM	0.3 / 0.9 oz-in.	0.3 A

Part Numbers: **DCM - 1003, 1004**

615 - Medium Frame - 36mm



Information & Specifications

The 615 DC is a medium frame economical PMDC motor option. Featuring permanent ferrite magnets and carbon brushes that can be fitted to a variety of Multi's gearboxes and reducer options. Optional EMI filtering and other accessories.

Compatible Gearboxes / Reducers: 302, 440, 6000, 7000, 7000x, 8000, 9000 series

Part Number	Voltage	RPM	Torque	Current
DCM-1000, 1016	12 / 24V	4750 / 9000 RPM	2.2 / 4.5 oz-in.	1.3 A
DCM-1001	12 / 24V	1450 / 2700 RPM	1.4 / 3.0 oz-in.	1.2 A
DCM-1007	12 / 24V	3250 / 7130 RPM	1.8 oz-in.	0.6 / 1.2 A
DCM-1009	12V	5745 RPM	2.5 oz-in.	1.3 A

Part Numbers: **DCM - 1000, 1001, 1007, 1009, 1016**

983 - Large Frame - 52mm



Information & Specifications

The 983 DC is the largest frame economical PMDC motor option. Featuring permanent ferrite magnets and carbon brushes that can be fitted to a variety of Multi's gearboxes and reducer options. Speeds from 3100 and 4800 RPM Bi-directional. Optional EMI filtering and other accessories. Best for high starting torque, intermittent duty applications.

Compatible Gearboxes / Reducers: 302, 1600 series

Part Number	Voltage	RPM	Torque	Current
DCM-1002	12 - 24V	3100 - 4800 RPM	20 - 40 oz-in.	2.00 A

Part Number: **DCM - 1002**

Precision PMDC Motors

Instrument-grade permanent magnet brushed DC motor options

Precision Motor Line



Smooth, Accurate Operation

Precision brush-commutated PMDC input motors. Featuring a 2 pole stator and 7 slotted armature for reduced cogging at low speeds, and precision ball bearings for smooth, quiet operation. High density brushes for extended life. Available frame sizes from 32mm - 54mm and power ranging from 1.5-55 Watts. When precision, reliability, and quality matter in your application.

Precision PMDC motors can be mounted to a variety of parallel shaft, compact miniature in-line, and planetary gearboxes / reducers.

Applications: Foodservice Equipment, Medical/Laboratory Equipment, Agriculture, Industrial Machinery, Material Handling, and Gaming.

Features:

- 3 frame sizes available
- Machined steel and cast zinc housing
- 5 or 7 slot armature
- 2 pole stator with permanent neodymium magnets
- Heavy-duty ball bearings
- Copper graphite brushes 3000+ hour lifespan*
- Rated for continuous or intermittent duty
- Optional encoders
- Optional custom wiring harnesses

DC Model	12Y & 18Y	28Y	30Y & 55Y
Voltage	12 / 24V	12 / 24V	12 / 24V
Speed	2685-5570 RPM	2538-5615 RPM	1275-4700 RPM
Torque	1.0 -1.8 oz-in.	2.6-4.0 oz-in.	6.5-18.1 oz-in.
Power	1.5 - 10.1 W	4.8-16.3 W	3.9-55.2 W
Frame Size	32mm	40mm	54mm
Reversible	Yes	Yes	Yes
Brush Life*	3000+ Hours	3000+ Hours	3000+ Hours

*Brush life dependent on duty cycle, application, and environment.

Use DCM part numbers for inquiry reference **DCM - 10XX**

Optional Encoders

Magnetic and Optical Encoders for Precision Control



Encoders convert motion to a digital signal that can provide feedback signals to determine position, count, speed, or direction. High-resolution encoders are usually required for precision control of speed and/or position – especially when control at very low speed is needed.

Multi Products offers magnetic and optical incremental encoders, which are only available on our precision line PMDC and Brushless DC motors. These can be easily integrated into modern control systems for precise control over your gearmotor and application. Optimize your system with accurate positioning and precision movement.

Magnetic Encoder - EM3415-XX-:

- 2 channel
- Speed and position control
- Hall Effect sensor
- Resolutions: 1 - 5, 7, 10, 12, 16 PPR

Optical Encoder - EE3020-XXX-:

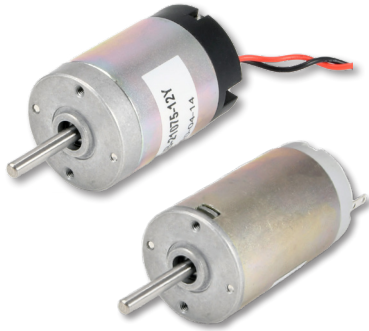
- 2 channel
- Speed and position control
- Resolutions: 24 - 512 PPR

Robust Precision Movement

When precision and quality matter in your application.

12Y & 18Y - Small Frame - 33mm

Information & Specifications



The 12Y & 18Y DCs are the smallest frame precision PMDC motor option. Featuring permanent neodymium magnets and copper or silver graphite brushes. The 18Y can be fitted to a variety of Multi's standard, compact, and planetary gearbox options. Speed is rated from 2685 - 5570 RPM at max efficiency. Bi-directional. Optional encoders and other accessories. Designed for continuous or intermittent duty.

Compatible Gearboxes / Reducers: 302, 440, 6000, 7000, 7000x, 8000, 9000 series
GBS35, GBP30 Series

Part Number	Voltage	Speed	Torque	Current	Power
DCM-1032 - 12Y	12V	4000 RPM	1.0 oz-in.	0.5 A	1.5 W
DCM-1037 - 18Y	12 / 24V	2685 / 5570 RPM	1.2 / 1.8 oz-in.	0.3 / 0.5 A	2.9 / 10.1 W

Part Number: **DCM - 1037**

28Y - Medium Frame - 40mm

Information & Specifications



The 28Y DC is a medium frame, precision PMDC motor with various speed options. Featuring permanent neodymium magnets and copper brushes. The 28Y can be fitted to a variety of Multi's standard, compact, and planetary gearbox options. Speed is rated from 2540 to 5615 RPM at max efficiency. Bi-directional. Optional encoders and other accessories. Designed for continuous or intermittent duty.

Compatible Gearboxes / Reducers: 302, 440, 3000, 6000, 7000, 7000x, 9000 Series
GBN50, GBP30, GBP41 Series

Part Number	Voltage	RPM	Torque	Current	Power
DCM-1006	12V	4748 RPM	4.0 oz-in.	1.5 A	12.7 W
DCM-1014	12 / 24V	2540 / 5350 RPM	2.6/4.0 oz-in.	0.6 / 0.9 A	4.8 / 15.8 W
DCM-1029	12V	5615 RPM	3.9 oz-in.	2.0 A	16.3 W

Part Numbers: **DCM - 1006, 1014, & 1029**

30Y & 55Y - Large Frame - 54mm

Information & Specifications



The 30Y & 55Y DCs are the largest frame precision PMDC motor options. Featuring permanent neodymium magnets and copper brush commutation. They can be fitted to a variety of Multi's standard, compact, and planetary gearbox options. Speed is rated from 1275 to 4700 RPM. Bi-directional. Optional encoders and other accessories available. Designed for continuous or intermittent duty.

Compatible Gearboxes / Reducers: 302, 1600, GBN50, GBP52 Series

Part Number	Voltage	Speed	Torque	Current	Power
DCM-1024 - 30Y	12 / 24V	1275 / 2620 RPM	6.5 / 10 oz-in.	0.7 / 0.9 A	3.9 / 13.3 W
DCM-1028 - 55Y	12 / 24V	2300 / 4700 RPM	12 / 18.1 oz-in.	1.9 / 2.9 A	16.6 / 55.2 W

Part Number: **DCM - 1024, 1028**



Precision Brushless DC Motors

Quiet, precise, and power-dense Brushless DC motor options

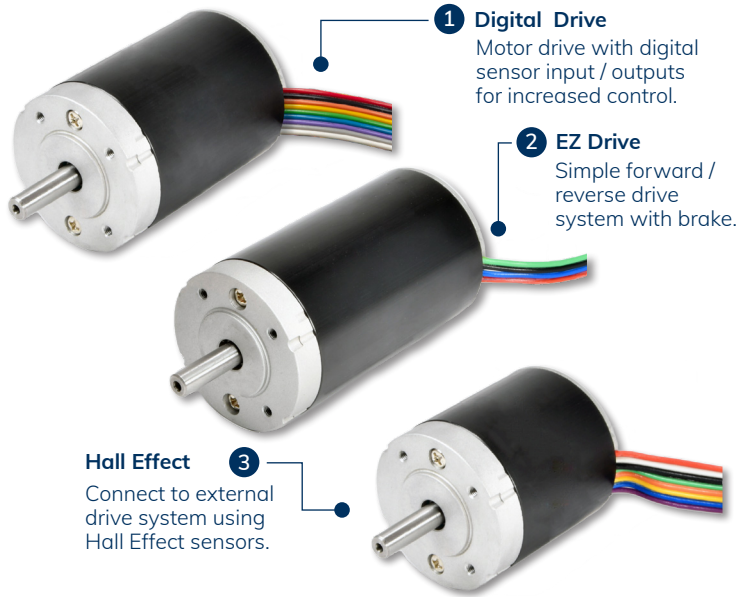
Brushless DC Motor Line

Electronically Commutated, Long Lifespan



Integrated Drivers

Two Integral Drive System Options.



1 Digital Drive
Motor drive with digital sensor input / outputs for increased control.

2 EZ Drive
Simple forward / reverse drive system with brake.

3 Hall Effect
Connect to external drive system using Hall Effect sensors.

Multi Products Company offers precision, electronically commutated BLDC motors. Featuring a single frame size, neodymium magnet technology, 6 pole stator, and a slotless rotor design. Compared to brush DC motors, Multi's Brushless DC motors are quieter, have longer service life, greater power density, and need no maintenance, making them the best option for modernization and new design-in applications.

Compatible with a select range of available parallel shaft, miniature spur, and planetary gearboxes / reducers.

Applications: Medical / Laboratory Equipment, Foodservice Equipment, Sporting Goods, Agriculture, Industrial Machinery, Material Handling, and Robotics.

- Little-to-no-maintenance - 20,000+ hour lifespan*
- Zero electromagnetic interference for external systems
- Precision controllability across speed range
- Extruded and cast aluminum housing
- Heavy-duty ball bearings
- Three (3) Hall Effect sensors for positioning
- Three (3) motor lengths and power outputs
- Frame size: 42mm
- Output power up to 31 W

*Motor life dependent on duty cycle, application, and environment.

HALL EFFECT

Information & Specifications



The Hall Effect Brushless DC from Multi Products is compact, powerful, and precise. Featuring a 6 pole stator and slotless rotor design for high torque density. The Hall Effect BLDC motor is designed to connect to an external drive system utilizing the 3 onboard Hall Effect sensors for control and positioning. Reversible. Optional encoders and other accessories. Designed for continuous or intermittent duty.

Compatible Gearboxes / Reducers: 302, 1600, 3000, 6000, 7000(x), 9000 Series
GBN50, GBP41 Series

Part Number	Voltage	Speed	Torque	Current	Power
DCM-1036 (L)	12-24V	4172 RPM	10.0 oz-in.	1.7 A	30.8 W
DCM-1036 (M)	12-24V	4619 RPM	6.21 oz-in.	1.2 A	21.2 W
DCM-1036 (S)	12-24V	4423 RPM	3.79 oz-in.	0.8 A	12.4 W

Hall Effect Connector Pin Out

Pin No.	Wire Color	Signification
1	Red	U Phase
2	White	V Phase
3	Black	W Phase
4	Green	GND
5	Orange	Vcc
6	Yellow	Hall U
7	Blue	Hall V
8	Purple	Hall W

Hall Effect Firing Sequence

	Hall Effect Sensors			CCW Phases			CW Phases		
	HU	HV	HW	U	V	W	U	V	W
1	1	0	1	+	-	0	-	+	0
2	1	0	0	0	-	+	0	+	-
3	1	1	0	-	0	+	+	0	-
4	0	1	0	-	+	0	+	-	0
5	0	1	1	0	+	-	0	-	+
6	0	0	1	+	0	-	-	0	+

Part Number: **DCM - 1031**

High Controllability and Efficiency

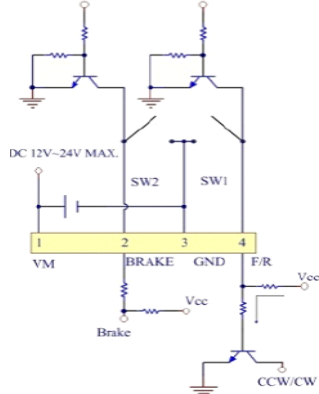
Extreme lifespans for demanding applications.

EZ DRIVE

Information & Specifications



Driver Schematic



The EZ Drive Brushless DC from Multi Products is compact, powerful, and precise. Featuring a 6 pole stator and slotless rotor design for high torque density. The EZ Drive BLDC motor utilizes an integral motor drive system. The simple on-board drive system features easy 4-lead power, brake, and forward / reverse wiring. Optional encoders, dual shafts, and other accessories. Designed for continuous or intermittent duty.

Compatible Gearboxes / Reducers: 302, 1600, 3000, 6000, 7000(x), 9000 Series
GBN50, GBP41 Series

Part Number	Voltage	Speed	Torque	Current	Power
DCM-1035 (L)	12-24V	4172 RPM	10.0 oz-in.	1.7 A	30.8 W
DCM-1035 (M)	12-24V	4619 RPM	6.21 oz-in.	1.2 A	21.2 W
DCM-1035 (S)	12-24V	4423 RPM	3.79 oz-in.	0.8 A	12.4 W

Full Driver Connector Pin Out

Pin No.	Wire Color	Symbol	I/O	Function	Connection
1	Red	VM	Input	Power Supply - POS	DC12V-24V +
2	Blue	Brake	Input	Brake Operates	Open or to Ground
3	Black	Ground		Power Supply - NEG	DC12V-24V -
4	Green	For/Rev	Input	Open: CCW Ground: CW	Open or to Ground

Warning: The positive and ground wire connection is not reversible; damage to motor will result.

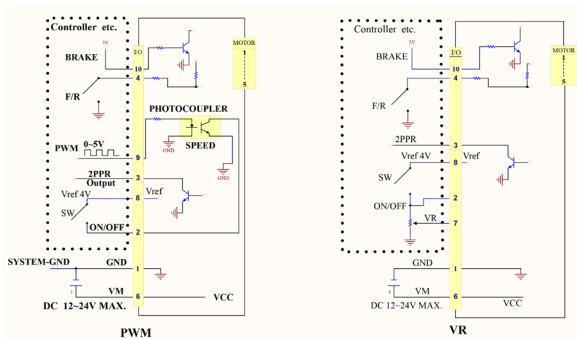
Part Number: **DCM - 1035**

DIGITAL DRIVE

Information & Specifications



Driver Schematic



The Digital Drive Brushless DC from Multi Products is the most controllable motor in our line. Compact, powerful, and precise. Featuring a 6 pole stator and slotless rotor design for high torque density. The motor utilizes an integral motor drive system capable of using digital input / output signals from external sensors to control the speed, torque, and position of the motor. Optional encoders and other accessories. Designed for continuous or intermittent duty.

Compatible Gearboxes / Reducers: 302, 1600, 3000, 6000, 7000(x), 9000 Series
GBN50, GBP41 Series

Part Number	Voltage	Speed	Torque	Current	Power
DCM-1036 (L)	12-24V	4172 RPM	10.0 oz-in.	1.7 A	30.8 W
DCM-1036 (M)	12-24V	4619 RPM	6.21 oz-in.	1.2 A	21.2 W
DCM-1036 (S)	12-24V	4423 RPM	3.79 oz-in.	0.8 A	12.4 W

Digital Drive Connector Pin Out

Pin No.	Wire Color	Symbol	I/O	Function	Standard Condition
10	White	Brake	Input	H: Brake engages L: Brake releases	H: $\geq 2.4V$ L: $\leq 0.4V$
4	Gray	F/R	Input	H: CCW L: CW	H: $\geq 2.4V$ L: $\leq 0.4V$
9	Purple	1.2 - 3.2V PWM	Input	Power supply positive for external speed setter	Pulse-width modulation Freq: $\leq 5K$ Hz
3	Blue	2 PPR	Output	Make a full circle 2 pulse	Open collector
8	Green	VREF 4V	Output	Driver 4V output	Provide for high signal
2	Yellow	On/Off	Input	Motor rotates: 4V-5V Motor stops: $\leq 0.4V$	Semiconductor element or a switch/gear on/off
7	Orange	VR	Input	Power supply positive for external speed setter	Variable resistor 5K-10K
1	Black	GND		Power supply GND	DC12V-24V max
6	Red	VM	Input	Power supply positive for drive	

Note: Select one of the PWM (Pin 9) or the VR (Pin 7) for speed control, connecting both simultaneously is not allowed

Part Number: **DCM - 1036**



DC Gearboxes / Reducers

Crafted gearmotors to drive commercial, industrial, and consumer applications.

DC Motor Performance Matrix & Overview

PERFORMANCE DATA - TORQUE/SPEED

Data is based on in-lb running torque +/- 15%

Reference RPM	315, 12Y & 18Y Small Frame		615 - Economical Medium Frame		28Y - Precision Medium Frame		983 & 55Y Large Frame		Gear Reducer Model RPM Range Reference
	100% Duty Cycle - Motors Are Not Designed for Stall								
	12V	24V	12V	24V	12V	24V	12V	24V	
0.25	N/A	N/A	100	100	N/A	N/A	N/A	N/A	
0.5	80	N/A	100	100	N/A	N/A	N/A	N/A	
1	80	80	100	100	N/A	N/A	N/A	N/A	
2	80	80	100	100	N/A	N/A	N/A	N/A	
4	55	73	80	90	50	N/A	N/A	N/A	
8	24	35	60	80	30	N/A	N/A	N/A	
10	22	29	45	75	26	100	80	N/A	
12	18.5	28	40	55	22	90	70	N/A	
15	15	22	30	50	18	70	55	150	
20	11	17	24	40	13	55	45	150	
25	9	13	19	30	11	45	35	150	
30	7	11	16	25	9	35	30	150	
40	5.5	8	12	19	7	25	21	120	
50	5	7	9.5	15	5	20	17	95	
75	3.5	5	7.5	10	4	14	15	65	
100	2.5	3.8	5.5	8	N/A	12	11	50	
150	1.5	2.5	3.5	5.5	N/A	8	7.5	40	
175	1	N/A	3.2	5	N/A	N/A	6	35	
200	0.5	N/A	3	4	N/A	N/A	5.5	20	
400	N/A	N/A	2	2	N/A	N/A	N/A	10	

Torque values apply to motors operating in room ambient temperature: 25°C

Note: Not all gear reducers are available with each motor type/frame size and speed/torque combination - Please check compatibility.

DC GEARMOTOR LINE

Stock Solutions or Custom Crafted



American-Built Gearmotors to Drive Commercial, Industrial, and Consumer Products

- Standard zinc die-cast gearbox housings.
- Gasketed enclosures for environmental protection.
- Permanently lubricated with synthetic gear grease; NSF rated optional.
- Sealed ball bearings options.
- Hollow, thru-shaft, and dual extension output designs.
- Custom wiring harnesses and EMI filtering.

Maximum application flexibility, designed to precise specifications.

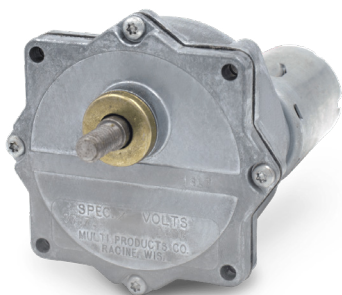
Combine these custom DC motors and gearboxes with our ability to value-add EMI wiring harnesses, mounting plates, couplings, gears, pulleys, cam/switch actuators, or other components directly to the gearmotor. Receive a unique, custom-designed product right "out of the box."

Robust. Precise. Economical.

Demanding applications require precision expertise.

302 SERIES

Heavy Duty - Compact Package



The heavy-duty 302 Series "Star" shaped gearbox offers a compact footprint for when surface area is at a premium. The 302 gearcase can handle a continuous torque rating up to 150 in-lb. Constructed with a zinc die-cast, gasket-sealed housing for dust and moisture resistance. Output shaft diameters range from 1/4" through 3/8" with flats, keyways, threads, or square ends to meet your application needs. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Compatible DC Motors: Economical - 615 & 983
Precision - 28Y, 30Y, 55Y & Brushless

DC Motor	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
Medium - Economical	12 / 24V	2 - 90 in-lbs.	4 - 400 RPM	Reversible	1/4" to 3/8"
Medium - Precision	12 / 24V	4 - 100 in-lbs.	4 - 150 RPM	Reversible	1/4" to 3/8"
Large Frame	12 / 24V	5.5 - 150 in-lbs.	10 - 400 RPM	Reversible	1/4" to 3/8"

440 SERIES

Low Profile - Oscillation Option



The 440 Series "Coffin" shaped gearbox is a low-profile, compact solution for tightly spaced applications. The 440 gearbox can handle a continuous torque rating up to 80 in-lb, with output shaft diameters ranging from 1/4" through 5/16". The 440 has versatile output options with dual shafts, flats, keyways, or threads. Can also be crafted for oscillator, with travel between 30° and 120° of rotation. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Compatible DC Motors: Economical - 315, 615
Precision - 12Y, 18Y & 28Y

DC Motor	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
Small Frame	12 / 24V	0.5 - 80 in-lbs.	0.5 - 200 RPM	Reversible / Oscillator	1/4" or 5/16"
Medium - Economical	12 / 24V	2 - 80 in-lbs.	0.25 - 400 RPM	Reversible / Oscillator	1/4" or 5/16"
Medium - Precision	12 / 24V	4 - 80 in-lbs.	4 - 150 RPM	Reversible / Oscillator	1/4" or 5/16"

1600 SERIES

Heavy Duty - Sealed Housing



The rugged 1600 Series is designed for tough applications. Able to handle a continuous torque rating up to 150 in-lb. Constructed with a zinc die-cast, gasket-sealed housing for dust and moisture resistance. Output shaft diameters range from 1/4" through 3/8" with flats, keyways, threads, or square ends to meet your application needs. An optional dust cover over the motor is available.

Compatible DC Motors: Economical - 615, 983
Precision - 28Y, 30Y, 55Y & Brushless

DC Motor	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
Medium Frame	12 / 24V	4 - 100 in-lbs.	4 - 150 RPM	Reversible	1/4" to 1/2"
Large Frame	12 / 24V	5.5 - 150 in-lbs.	4 - 200 RPM	Reversible	1/4" to 1/2"

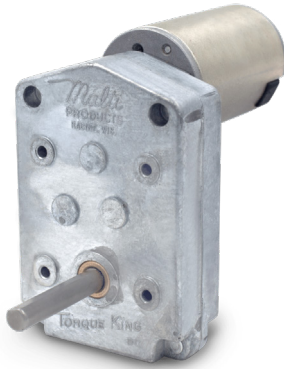


DC Gearboxes / Reducers

Maximum application flexibility, designed to precise specifications.

3000 SERIES

Medium Duty - Dual Mounting



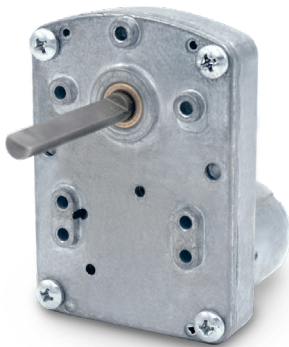
The 3000 Series is our newest gearcase design, offering industry standard mountings on both sides of the housing. Able to handle a continuous torque rating up to 75 in-lb. Output shaft diameters range from 1/4" through 3/8" with dual outputs, flats, keyways, threads, or square ends to meet your application needs. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Compatible DC Motors: Economical - 615
Precision - 12Y, 18Y, 28Y & Brushless

DC Motor	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
Small Frame	12 / 24V	5 - 73 in-lbs.	4 - 50 RPM	Reversible	1/4" to 3/8"
Medium - Economical	12 / 24V	19 - 75 in-lbs.	4 - 50 RPM	Reversible	1/4" to 3/8"
Medium - Precision	12 / 24V	5 - 75 in-lbs.	4 - 50 RPM	Reversible	1/4" to 3/8"

6000 SERIES

Medium Duty - Retrofit Option



The 6000 Series offers industry standard mountings on both sides of the housing. Able to handle a continuous torque rating up to 75 in-lb. Low speed output of 8- 25 RPM. Output shaft diameters range from 1/4" through 3/8" with dual outputs, flats, keyways, threads, or square ends to meet your application needs. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Compatible DC Motors: Economical - 615
Precision - 12Y, 18Y, 28Y & Brushless

DC Motor	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
Small Frame	12 / 24V	9 - 35 in-lbs.	8 - 25 RPM	Reversible	5/16" to 3/8"
Medium - Economical	12 / 24V	9.5 - 75 in-lbs.	8 - 25 RPM	Reversible	5/16" to 3/8"
Medium - Precision	12 / 24V	11 - 75 in-lbs.	8 - 25 RPM	Reversible	5/16" to 3/8"

7000 SERIES

Medium Duty - Most Versatile



The 7000 Series "Square" features several available casting covers with a variety of industry standard mounting options to fit any application. Able to handle a continuous torque rating up to 75 in-lb. Output shaft diameters range from 1/4" through 3/8" with dual outputs, flats, keyways, threads, or square ends. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Compatible DC Motors: Economical - 315 & 615
Precision - 12Y, 18Y, 28Y & Brushless

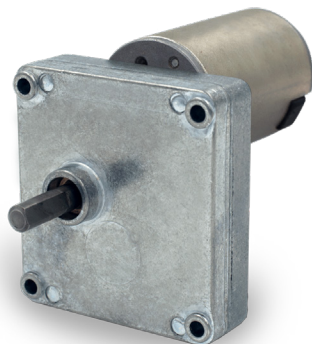
DC Motor	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
Small Frame	12 / 24V	0.5 - 73 in-lbs.	4 - 200 RPM	Reversible	1/4" to 3/8"
Medium - Economical	12 / 24V	3 - 75 in-lbs.	4 - 200 RPM	Reversible	1/4" to 3/8"
Medium - Precision	12 / 24V	4 - 75 in-lbs.	4 - 150 RPM	Reversible	1/4" to 3/8"

Tailor-Engineering Out of the Box

Versatile options to fit any application.

7000X SERIES

Medium Duty - Offset Shaft



The 7000x Series "Square" features the same variety of industry standard mounting options as the 7000 series but with an offset output shaft. Able to handle a continuous torque rating up to 75 in-lb. Output shaft diameters range from 1/4" through 3/8" with dual outputs, flats, keyways, threads, or square ends. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Compatible DC Motors: Economical - 315 & 615
Precision - 12Y, 18Y, 28Y & Brushless

DC Motor	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
Small Frame	12 / 24V	0.5 - 73 in-lbs.	4 - 200 RPM	Reversible	1/4" to 3/8"
Medium - Economical	12 / 24V	3 - 75 in-lbs.	4 - 200 RPM	Reversible	1/4" to 3/8"
Medium - Precision	12 / 24V	4 - 75 in-lbs.	4 - 150 RPM	Reversible	1/4" to 3/8"

8000 SERIES

Light Duty - Most Compact



The 8000 Series "D" is the smallest gearbox we offer. Designed to easily retrofit into existing light-duty food service, gaming, and vending applications with industry standard mounting points. Able to handle a continuous torque rating up to 50 in-lb. Output shaft diameters range from 1/4" through 3/8" with flats, keyways, threads, or square ends. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Compatible DC Motors: Economical - 315 & 615
Precision - 12Y & 18Y

DC Motor	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
Small Frame	12 / 24V	0.5 - 35 in-lbs.	8 - 200 RPM	Reversible	1/4" to 3/8"
Medium - Economical	12 / 24V	3 - 50 in-lbs.	8 - 200 RPM	Reversible	1/4" to 3/8"

9000 SERIES

Heavy Duty - The Strongest



The 9000 Series is the largest and most robust gearbox we offer. Capable of handling torque ratings up to 200 in-lb continuously or up to 300 in-lb intermittently. Constructed with a zinc die-cast housing. Output shaft diameters range from 1/4" through 3/8" with flats, keyways, threads, square ends, or hollow-thru shafts. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Compatible DC Motors: Economical - 615
Precision - 28Y & Brushless

DC Motor	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
Medium - Economical	12 / 24V	12 - 100 in-lbs.	2 - 40 RPM	Reversible	3/8" to 1/2"
Medium - Precise	12 / 24V	7 - 100 in-lbs.	4 - 40 RPM	Reversible	3/8" to 1/2"



04

Compact DC Gearmotors

Small footprint gearmotors for applications where space is at a premium. Best for precise and light-duty applications.



Compact DC Gearmotors

Small form-factor gearmotors for light-duty applications.



In-Line Shaft Gearbox



Planetary Gearbox



Compact DC Gearmotors

Cost-effective gearboxes to complement Precision DC and BLDC motors for high performance.

Compact DC Gearmotors

Precision Movement - Compact Power



1 Planetary
Robust Construction. High Torque. High Performance.

2 In-Line
Low Noise. High Precision. Low Torque.

In-Line Shaft: Compact, quiet, and versatile. This cost-effective series of compact in-line gearboxes offers engineers greater flexibility for low duty applications. Best used for when space is at a premium. Low backlash gearing. Low life cycle costs. Stocked solutions are available immediately.

Planetary: Especially efficient, they are suitable for continuous and intermittent operation. The right gearbox allows for a smaller motor, footprint, and increases the economic efficiency of the entire system. Zero gearing backlash, suitable for servo and positioning applications

Compact gearboxes are configured to be integrated directly with our Precision DC and Brushless DC motor line. They are not designed to be sold separately.

Applications: Medical / Laboratory Equipment, Foodservice Equipment, Agriculture, Office Equipment, Material Handling, and Robotics.

- Bronze sleeve bushings: In-Line
- Heavy-duty ball bearings: Planetary
- Optional magnetic and optical incremental encoders
- High-precision performance at a competitive price
- Compact footprint
- All steel gearing
- Little-to-no gearing backlash
- Machined aluminum gear housing

Use DCM part numbers for stock inquiry **DCM - 10XX**

GBS35/GBM35 - 35mm - In-line

Information & Specifications



The GBS35 / GBM35 is an economical 35 mm offset in-line shaft gearbox suitable for lower torque applications. Compact, quiet and versatile with a continuous torque rating up to 10 in.-lbs. Great for low-torque intermittent duty applications such as gaming and office equipment. Different mounting patterns and output shaft diameters distinguish the GBS and GBM from each other. GBS35 features cut steel gearing, whereas the GBM35 features sintered steel gearing.

Compatible DC Motors: **12Y & 18Y**

Cont. Torque	Peak Torque	Rated Speed	Ratio : 1	Rotation	Shaft Size
0.44 - 5.21 in.-lbs.	1.3 - 15.6 in.-lbs.	10 - 400 RPM	6.36 - 1822	Reversible	4.76mm (S) 6.35mm (M)

GBS35 Stock Motor Part Number: **DCM - 1018 & 1030**

GBM35 Stock Motor Part Number: **DCM - 1019, 1020, 1021, 1023, 1026 & 1027**

Small Footprint. Big Power Density.

High-torque planetary. Quiet, compact in-line.

GBN50 - 50mm - In-line



Information & Specifications

The GBN50 is an economical 50 mm offset in-line shaft gearbox suitable for lower torque applications. Compact, quiet and versatile with a continuous torque rating up to 30 in-lb. It is a great complement to select Precision PMDC and Brushless DC motors.

Compatible DC Motors: 28Y, 30Y, 55Y, & Brushless

Cont. Torque	Peak Torque	Rated Speed	Ratio : 1	Rotation	Shaft Size
4.4 - 26.1 in-lbs.	13 - 52.1 in-lbs.	1 - 400 RPM	3 - 936	Reversible	12 mm

Stock Motor Part Number: **DCM - 1015 & 1034**

GBP30 - 30mm - Planetary



Information & Specifications

The GBP30 is a 30mm frame size planetary gearbox with maximum efficiency, minimum backlash, and a small mechanical footprint. Ideal for precision servo applications, with Precision PMDC and Brushless DC motor options.

Compatible DC Motors: 12Y, 18Y, & 28Y

Cont. Torque	Peak Torque	Rated Speed	Ratio : 1	Rotation	Shaft Size
6.94 - 17.4 in-lbs.	20.8 - 52.1 in-lbs.	1 - 500 RPM	3.3 - 731.1	Reversible	6 or 8mm

Stock Motor Part Number: **DCM - 1022**

GBP41 - 41mm - Planetary



Information & Specifications

The GBP41 is a 41mm frame size planetary gearbox with excellent efficiency and power density. Features a compact and industry-compatible design. Dual ball bearings on output to withstand high loads. Suitable for servo applications with Precision PMDC and Brushless DC motor options. Optional encoders available.

Compatible DC Motors: 28Y & Brushless

Cont. Torque	Peak Torque	Rated Speed	Ratio : 1	Rotation	Shaft Size
8.7 - 52.1 in-lbs.	26.1 - 156.2 in-lbs.	3.3 - 400 RPM	4 - 1296	Reversible	8mm

GBP52 - 52mm - Planetary



Information & Specifications

The GBP52 is a 52mm frame size planetary gearbox suitable for servo applications where high torque capacity is required. The GBP52 provides excellent efficiency in a compact and industry standard configuration. Dual ball bearings on output to withstand high loads. Designed for robustness to sustain intermittent or sudden load changes.

Compatible DC Motors: 30Y, 55Y & Brushless

Cont. Torque	Peak Torque	Rated Speed	Ratio : 1	Rotation	Shaft Size
8.7 - 86.8 in-lbs.	26.1 - 260.4 in-lbs.	1 - 400 RPM	3 - 936	Reversible	12mm

A close-up photograph of an AC gearmotor, showing its metal housing, cooling fins, and internal components. The image is overlaid with a dark blue diagonal shape that points towards the top right corner. The text '05' is prominently displayed in white, and 'AC Gearmotors' is in blue with a white outline.

05

AC Gearmotors

An extensive line of shaded pole, permanent split capacitor, and synchronous gearmotors. Winding, stack size, gear ratio, and output shaft tailored to your specs.



AC Gearmotors

Economical, hardworking solutions that are best for continuous duty.



Shaded Pole



Permanent Split Capacitor



Other AC Options



Gearboxes / Reducers

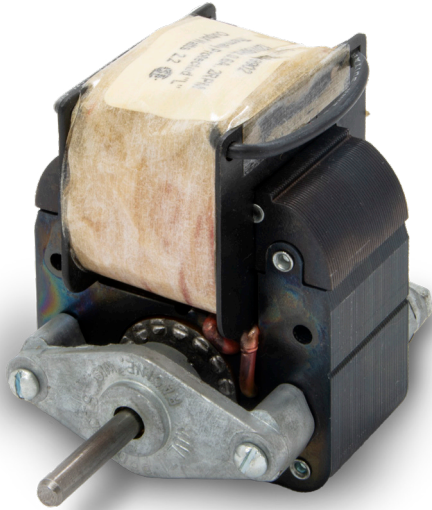


AC Motor Options

Long-lasting, economical, hardworking solutions that are best for continuous duty.

Single Phase AC Induction Motors

SHADED POLE MOTOR



Standard Shaded Pole AC

One of the most common single phase AC induction motors is the shaded pole AC motor. Economical, very reliable, and simple in construction. An excellent solution for applications where current draw and motor life are a concern, such as packaging or food industries. Shaded pole AC motors offer long motor life with little-to-no maintenance required due to the lack of common wear parts.

Shaded pole AC motor is the standard AC motor option for all Multi Products standard parallel shaft gearboxes.

Voltage range options include 24, 120, 240, and 480 VAC, with dual voltage options available. We will match the winding, stack size, gear ratio, and output shaft to your specs.

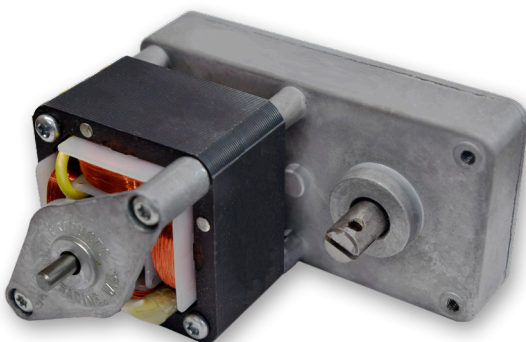
Features:

- Low starting torque
- Long life; little maintenance
- Stack sizes: .625", .75", 1.06"
1.125", 1.25", 2.00"
- Pawl or cone friction brake
- Continuous duty
- High temperature bearings

Specifications

Voltage	24 - 480 V
Frequency	50 / 60 Hz
Rated Speed	3000 RPM
Rated Torque	Up to 11 in-oz
Rotation	Uni-directional
Shaft Size	1/4"

PSC MOTOR - 5000 SERIES GEARBOX



Reversible AC - Available Q4 2021

The permanent split capacitor motor (PSC) is compact, easy to maintain, produces very little EMI, and is quite efficient. Similar in construction to a shaded pole, and driven by induction. Used when high starting torque requirements and moderate electrical efficiency are needed. The motor produces uniform torque and has low noise. Best for intermittent duty. 3000 RPM rated input speed.

PSC reversing AC motor only available with 5000 Series gearbox

The 5000 Series gearbox can handle a continuous torque rating up to 50 in-lb. Constructed with a zinc die-cast housing and permanently lubricated with synthetic gear grease. Output shaft diameters range from 1/4" through 3/8" with flats, keyways, threads, or square ends to meet your application needs. Other options: multiple gearing materials, ball bearings, and custom wiring harnesses.

Features:

- High starting torque
- Low stall torque
- Reversible AC motor
- Run capacitor required
- Stack sizes: 1.0", 1.25", 1.5", 2.0"
- Cone friction brake
- Continuous or intermittent duty

Specifications

Voltage	120 or 240 V
Frequency	50 / 60 Hz
Rated Speed	10 - 200 RPM
Rated Torque	Up to 50 in-lb.
Amps	0.3 A
Rotation	Reversible
Shaft Size	1/4", 5/16, or 3/8"

Economical. Hardworking. Long-life.

Lower cost. More reliability. Simple construction.

Other AC Motor Options - AC Actuator Options

SYNCHRONOUS TIMING MOTOR

Consistent Speed - Reversible AC



Synchronous timing motors are reversible permanent-split capacitor motors identical in construction to stepping motors. The 60 Hz can-stack motor operates at an exact speed of 300 RPM. The permanent magnet construction provides dynamic braking and low rotor speed for quiet operation and rapid acceleration. Synchronous motors are best used in applications where exact timing is required. Best for continuous or intermittent duty.

Synchronous timing motors are used in applications in which a constant and precise speed is required regardless of torque. Typical applications include positioning machines, robot actuators, record players, and turntables.

Compatible Gearboxes: 6000, 7000, 7000x, 9000

Features:

- High starting torque
- 55mm frame size
- Reversible AC motor
- Run capacitor required
- Dual coil can-stack design
- Bronze sleeve bearings
- Continuous or intermittent duty

Specifications

Specifications	
Voltage	120/230/240 V
Frequency	50 / 60 Hz
Power	7 W
Rated Speed	250 / 300 RPM
Rated Torque	8.5 oz-in.
Capacitor MFD	0.22 / 0.18
Rotation	Reversible

TB 2001 - HVAC ACTUATOR

HVAC Actuator - Cornerstone of our History



Our TB 2001 line of custom AC gearmotors is composed of a shaded pole motor and geartrain enclosed in a rugged, dust-proof, zinc die-cast case. Standard output speeds of 2 and 3 RPM are available in single piece order quantities. Multiple output speeds are available with maximum loading of 70 in-lb. Options for the TB 2001 include internal mechanical slip clutch gears, UL approved cord sets, conduit boxes, and our UL Class F insulation system.

The TB 2001 actuator can also be used in applications other than HVAC. Lends itself well to industrial machinery and food & beverage equipment, due to environmental resistance and insulation.

Multi Products has manufactured our line of TB 2001 actuator motors for the HVAC industry for over 60 years.

Features:

- Easy backdrive though geartrain
- Enclosed zinc die-cast housing
- Custom output shafts
- Available with mechanical clutch
- High temperature bronze bushings
- Optional low-noise gearing

Specifications

Specifications	
Voltage	24 - 480 V
Frequency	50 / 60 Hz
Rated Speed	2 - 10 RPM
Rated Torque	20 in-lb
Stall Torque	70 in-lb
AC Stack Size	0.425"
Rotation	Uni-directional
Shaft Size	1/4" to 5/16"

Gearboxes / Reducers

Built to drive commercial, industrial, and consumer applications.

Shaded Pole AC Motor Performance Matrix

PERFORMANCE DATA - TORQUE/SPEED

Data is based on in-lb running torque +/- 15%

Reference RPM	0.625" Core Stack			0.75" Core Stack			1.063" Core Stack			1.125" Core Stack			2.0" Core Stack			Gear Reducer Model RPM Range Reference
	Duty Cycle			Duty Cycle			Duty Cycle			Duty Cycle			Duty Cycle			
	100%	50%	25%	100%	50%	25%	100%	50%	25%	100%	50%	25%	100%	50%	25%	
1	135	175	190	195	195	200	200	200	200	200	200	200	200	200	200	400/406 - Open Frame - 5/8" Core Stack Max - 50 in-lb. Max 440 - Low Profile - 80 in-lb. Max 302 - Star - 150 in-lb. Max 1600 150 in-lb. Max 6000 - 75 in-lb. Max 7000 - 75 in-lb. Max 7000x - 75 in-lb. Max 8000 - 50 in-lb. Max 9000 - 200 in-lb. Max
2	65	90	95	98	136	162	140	200	200	163	200	200	200	200	200	
4	35	44	48	49	68	81	70	113	160	82	120	165	105	200	200	
8	17	22	24	25	34	41	35	56	82	47	70	94	53	115	165	
10	14	18	19	19	27	33	28	45	65	38	56	75	42	94	134	
12	12	15	16	16	23	27	23	37	55	31	46	63	35	78	110	
15	9	12	12.5	13	18	22	19	30	11	25	3	50	28	63	90	
20	7	9	9.5	10	14	16	14	22.5	33	18	28	37	21	47	67	
25	5.5	7	7.5	8	11	13	11	18	26	15	22	30	17	37	53	
30	5	6	6.3	6.5	9	11	9.4	15	22	14	21	29	14	31	44	
40	3.5	4.5	4.7	5	6.8	8	7	11	16.4	11	16	21	11	23	34	
50	3	3.5	3.7	4	5.4	6.5	5.6	9	13	8.6	13	17	8.5	19	27	
75	1.5	2	2.2	2.4	3.4	4	3.5	5.6	8.2	5.8	8.5	11.5	5.2	12	17	
100	1.4	1.8	1.9	2	2.7	3.2	2.8	4.5	6.5	4.3	6.4	8.6	4.2	9.4	13	
150	0.9	1.2	1.3	1.3	1.8	2.1	2.2	3.6	5.3	2.9	4.3	5.8	2.8	6.2	8.9	
175	0.8	1	1.1	1.1	1.5	1.8	1.6	2.6	3.8	2.4	3.7	4.9	2.4	5.4	7.6	
200	0.7	0.9	0.9	1	1.3	1.6	1.4	2.2	3.2	2.1	3.2	4	2.1	4.7	6.7	
400	0.5	0.6	0.6	0.7	0.9	1.1	1	1.6	2	1.1	1.6	2	1.5	3	4.8	

Based on in-lb running torque at 60 Hz. For 50 Hz applications, multiply speed by 0.83. Torque values apply to motors operating in normal room ambient temperature (25°C). Mechanical brakes reduce above rated torques by 20%.

$$\text{DUTY CYCLE} = \frac{\text{Maximum "On Time"}}{\text{Max "On Time" + Max "Off Time"}}$$

Duty Cycle	Maximum Allowable Uninterrupted "On Time"
25%	1 Minute
50%	3 Minutes
100%	Over 10 Minutes

AC GEARMOTORS

Stock Solutions or Custom Crafted



American-Built Gearmotors to Drive Commercial, Industrial and Consumer Products

- Standard zinc die-cast gearbox housings.
- Gasketed enclosures for environmental protection.
- Permanently lubricated with synthetic gear grease; NSF Rated optional
- Sealed ball bearings options.
- Hollow, thru-shaft, and dual extension output designs.
- Custom wiring harnesses and EMI filtering

Maximum application flexibility, designed to precise specifications.

Combine these custom DC motors and gearcases with our ability to value-add EMI wiring harnesses, mounting plates, couplings, gears, pulleys, cam/switch actuators, or other components directly to the gearmotor. Receive a unique, custom-designed product right "out of the box".

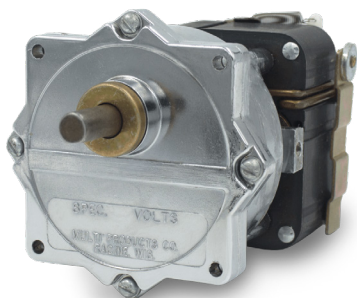
Economical. Hardworking. Long life.

Lower cost. More reliability. Simple construction.

AC Motor Gearbox Models

302 SERIES

Heavy Duty - Compact Package



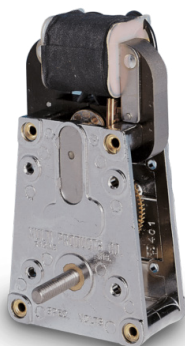
The heavy-duty 302 Series “Star” shaped gearbox offers a compact footprint for when surface area is at a premium. Able to handle a continuous torque rating up to 150 in-lb. Constructed with a zinc die-cast, gasket-sealed housing for dust and moisture resistance. Output shaft diameters range from 1/4” through 3/8” with flats, keyways, threads, or square ends to meet your application needs. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Available AC Motor Core Stack Sizes: 0.625”, 1.00”, 1.25”, 2.00”

Core Stack Size	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
0.625”	120 - 240 VAC	0.5 - 48 in-lbs.	4 - 400 RPM	Uni-directional	1/4”, 5/16, or 3/8”
1.00”	120 - 240 VAC	0.7 - 81 in-lbs.	4 - 400 RPM	Uni-directional	1/4”, 5/16, or 3/8”
1.25”	120 - 240 VAC	1.1 - 150 in-lbs.	4 - 400 RPM	Uni-directional	1/4”, 5/16, or 3/8”
2.00”	120 - 240 VAC	1.5 - 150 in-lbs.	4 - 400 RPM	Uni-directional	1/4”, 5/16, or 3/8”

400 SERIES

Light Duty - Open Frame



The 400 Series “Open Frame” shaped gearbox is a low-profile gearbox for tightly spaced applications. Able to handle a continuous torque rating up to 50 in-lb with output shaft diameters ranging from 1/4” through 5/16”. Best for light duty applications such as hot dog rollers and food stirrers. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Available AC Motor Core Stack Sizes: 0.425 and 0.685”

Core Stack Size	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
0.425”	24 - 240 VAC	0.5 - 45 in-lbs.	2 - 400 RPM	Uni-directional	1/4”, 5/16, or 3/8”
0.685”	24 - 240 VAC	0.7 - 50 in-lbs.	2 - 400 RPM	Uni-directional	1/4”, 5/16, or 3/8”

440 SERIES

Low Profile - Oscillation Option



The 440 Series “Coffin” shaped gearbox is a low-profile gearbox for tightly spaced applications. Able to handle a continuous torque rating up to 80 in-lb, with output shaft diameters ranging from 1/4” through 5/16”. The 440 has versatile output options with dual shafts, flats, keyways, or threads. Can also be crafted for oscillator, with travel between 30° and 120° of rotation. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Available AC Motor Core Stack Sizes: 0.425”

Core Stack Size	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
0.425”	24 - 240 VAC	0.5 - 80 in-lbs.	0.25 - 400 RPM	Uni-Directional / Oscillator	1/4”, 5/16, or 3/8”

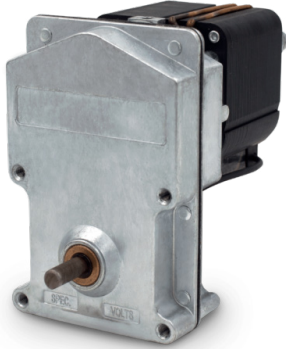


AC Gearboxes / Reducers

Built to drive commercial, industrial, and consumer applications.

1600 SERIES

Heavy Duty - Sealed Housing



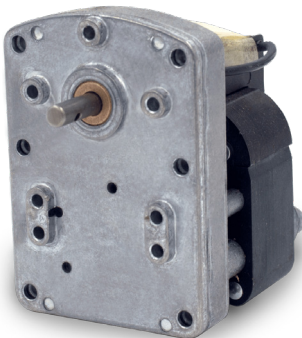
The rugged 1600 Series is designed for tough applications. Able to handle a continuous torque rating up to 150 in-lb. Constructed with a zinc die-cast, gasket-sealed housing for dust and moisture resistance. Output shaft diameters range from 3/8" through 1/2" with dual outputs, flats, keyways, threads, or square ends to meet your application needs. An optional dust cover over the motor.

Available AC Motor Core Stack Sizes: 0.625", 0.75", 1.063", 2.00"

Core Stack Size	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
0.625"	120 - 240 VAC	0.7 - 48 in-lbs.	4 - 200 RPM	Uni-directional	3/8" to 1/2"
0.75"	120 - 240 VAC	1.0 - 81 in-lbs.	4 - 200 RPM	Uni-directional	3/8" to 1/2"
1.0625"	120 - 240 VAC	1.4 - 150 in-lbs.	4 - 200 RPM	Uni-directional	3/8" to 1/2"
2.00"	120 - 240 VAC	2.1 - 150 in-lbs	4 - 200 RPM	Uni-directional	3/8" to 1/2"

6000 SERIES

Medium Duty - Retrofit Option



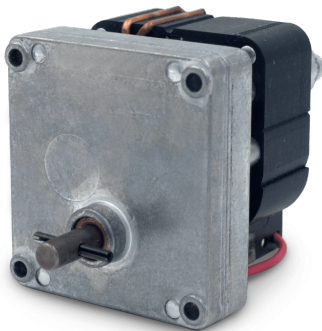
The 6000 Series offers industry standard mountings on both sides of the housing. Able to handle a continuous torque rating up to 75 in-lb. Low speed output of 8- 25 RPM. Output shaft diameters range from 1/4" through 3/8" with flats, keyways, threads, or square ends to meet your application needs. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Available AC Motor Core Stack Sizes: 0.625", 0.75", 1.063", 2.00"

Core Stack Size	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
0.625"	120 - 240 VAC	5.5 - 24 in-lbs.	8 - 25 RPM	Uni-directional	1/4" to 3/8"
0.75"	120 - 240 VAC	8 - 41 in-lbs.	8 - 25 RPM	Uni-directional	1/4" to 3/8"
1.0625"	120 - 240 VAC	11 - 75 in-lbs.	8 - 25 RPM	Uni-directional	1/4" to 3/8"
2.00"	120 - 240 VAC	17 - 75 in-lbs	8 - 25 RPM	Uni-directional	1/4" to 3/8"

7000 SERIES

Medium Duty - Most Versatile



The 7000 Series "Square" features several available casting covers with a variety of industry standard mounting options to fit any application. Able to handle a continuous torque rating up to 75 in-lb. Output shaft diameters range from 1/4" through 3/8" with flats, keyways, threads, or square ends. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Available AC Motor Core Stack Sizes: 0.625", 0.75", 1.063", 2.00"

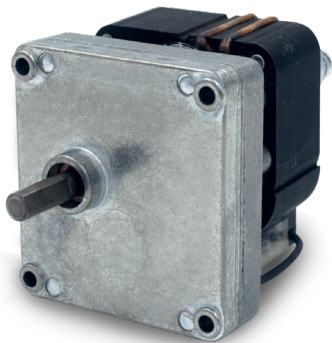
Core Stack Size	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
0.625"	120 - 240 VAC	0.7 - 48 in-lbs.	4 - 200 RPM	Uni-directional	1/4" to 3/8"
0.75"	120 - 240 VAC	1.0 - 75 in-lbs.	4 - 200 RPM	Uni-directional	1/4" to 3/8"
1.0625"	120 - 240 VAC	1.4 - 75 in-lbs.	4 - 200 RPM	Uni-directional	1/4" to 3/8"
2.00"	120 - 240 VAC	2.1 - 75 in-lbs	4 - 200 RPM	Uni-directional	1/4" to 3/8"

Tailor-Engineering Out of the Box

Versatile options to fit any application.

7000X SERIES

Medium Duty - Offset Shaft



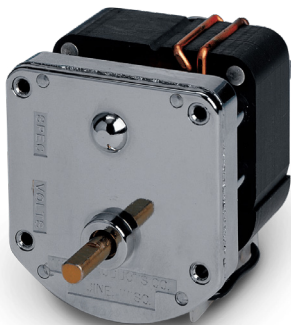
The 7000x Series "Square" features the same variety of industry standard mounting options as the 7000 series but with an offset output shaft, allowing for greater gearing reduction and lower output speeds. Able to handle a continuous torque rating up to 75 in-lb. Output shaft diameters range from 1/4" through 3/8" with flats, keyways, threads, or square ends. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Available AC Motor Core Stack Sizes: 0.625", 0.75", 1.063", 2.00"

Core Stack Size	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
0.625"	120 - 240 VAC	0.7 - 75 in-lbs.	1 - 200 RPM	Uni-directional	1/4" to 3/8"
0.75"	120 - 240 VAC	1.0 - 75 in-lbs.	1 - 200 RPM	Uni-directional	1/4" to 3/8"
1.0625"	120 - 240 VAC	1.4 - 75 in-lbs.	1 - 200 RPM	Uni-directional	1/4" to 3/8"
2.00"	120 - 240 VAC	2.1 - 75 in-lbs.	1 - 200 RPM	Uni-directional	1/4" to 3/8"

8000 SERIES

Light Duty - Most Compact



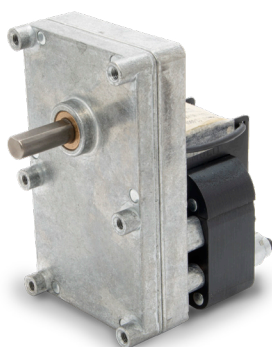
The 8000 Series "D" is the smallest gearbox we offer, with an industry standard mounting option for the ability to easily retrofit into existing light-duty food service, gaming, and vending applications. Able to handle a continuous torque rating up to 50 in-lb. Output shaft diameters range from 1/4" through 3/8" with flats, keyways, threads, or square ends. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Available AC Motor Core Stack Sizes: 0.625", 0.75", 1.063", 2.00"

Core Stack Size	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
0.625"	120 - 240 VAC	0.7 - 48 in-lbs.	8 - 200 RPM	Uni-directional	1/4" to 3/8"
0.75"	120 - 240 VAC	1.0 - 50 in-lbs.	8 - 200 RPM	Uni-directional	1/4" to 3/8"
1.0625"	120 - 240 VAC	1.4 - 50 in-lbs.	8 - 200 RPM	Uni-directional	1/4" to 3/8"
2.00"	120 - 240 VAC	2.1 - 50 in-lbs.	8 - 200 RPM	Uni-directional	1/4" to 3/8"

9000 SERIES

Heavy Duty - The Strongest



The 9000 Series is the largest and most robust gearbox we offer. Capable of handling torque ratings up to 200 in-lb continuously or up to 300 in-lb intermittently. Constructed with a zinc die-cast housing. Output shaft diameters range from 1/4" through 3/8" with flats, keyways, threads, square ends, or hollow-thru shafts. Other options: multiple gearing materials, needle or ball bearings, and custom wiring harnesses.

Available AC Motor Core Stack Sizes: 0.625", 0.75", 1.063", 2.00"

Core Stack Size	Voltage	Rated Torque	Rated Speed	Rotation	Shaft Size
0.625"	120 - 240 VAC	3.5 - 190 in-lbs.	1 - 40 RPM	Uni-directional	3/8" to 1/2"
0.75"	120 - 240 VAC	5.0 - 200 in-lbs.	1 - 40 RPM	Uni-directional	3/8" to 1/2"
1.0625"	120 - 240 VAC	7.0 - 200 in-lbs.	1 - 40 RPM	Uni-directional	3/8" to 1/2"
2.00"	120 - 240 VAC	11 - 200 in-lbs.	1 - 40 RPM	Uni-directional	3/8" to 1/2"



Reference - Contact Us

Reach out to our team for a consultation on your project.

DC Motor & Gearbox Compatibility Matrix

DC Motor Frame Size	Multi Products Standard Gearboxes					
	302	440	1600	3000	6000	7000(x)
Economical						
315 - Small Frame		●				●
615 - Medium Frame	●	●	●	●	●	●
983 - Large Frame	●		●			
Precision						
12 & 18Y - Small Frame	●		●	●	●	●
28Y - Medium Frame	●	●	●	●	●	●
30Y & 55Y - Frame Size	●		●			
42mm Brushless	●		●	●	●	●

Contact Us for a Consultation

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