

High Speeds and Torques for Precision Driving



RAE DC PRODUCTS GROUP

A BLUFFTON MOTOR WORKS COMPANY



RAE™ DC Motors, Gearmotors and Controls

What to drive for your demanding applications

- Fractional horsepower permanent magnet brush-type or wound field DC motors
- Right angle and parallel shaft gearmotors
- Electronic speed controls
- Flexible to meet your needs

■ TOP QUALITY, RELIABLE PRODUCTS ■ ON TIME, EVERY TIME ■ RETURN-ON-INVESTMENT

RAE™ High Performance DC Driving Machines

High Quality Motors, Gearmotors and Controls Designed to Drive Your Application Needs

For 60 years, RAE has been committed to providing high quality fractional horsepower PMDC brush-type motors, gearmotors, wound field motors and controls to meet your driving conditions.



Permanent Magnet Brush-Type DC Motors

Depend on RAE DC motors for the performance characteristics and service life you need in the most demanding applications.

- Horsepower Ratings from 1/60 to 1/3
- Output Speeds from 3500 to 5000 RPM
- Dynamically Balanced Armatures Increase Bearing Life
- NEMA Class F Insulation Withstands High Temperatures



Right Angle DC Gearmotors

These performance-matched DC motors and gearboxes offer versatility for a wide variety of applications.

- Output Torque Ratings to 250 IN-LBS
- Wide Selection of Gear Ratios to 93:1
- Rugged Gearcase Housings Resists Overhung Loads
- Rated for Continuous Duty



Parallel Shaft DC Gearmotors

For higher operating efficiencies, there is no better choice than RAE parallel shaft units with helical gearing.

- Output Torque Ratings to 300 IN-LBS
- Wide Selection of Gear Ratios to 2474:1
- Helical Gearing Minimizes Noise
- Maximizes Motor Power to Reduce Energy Consumption



DC Motor Controllers

Specially engineered for use with RAE DC motors, these controllers offer flexibility for a wide range of applications.

- Single-Phase Input with Full Wave Rectified Output
- Transient and Surge Voltage Protection
- Smooth Linear Acceleration
- Adjustable Maximum Speed

Application Matched Permanent Magnet DC Motors

RAE DC motors are available with various options and value-added features to meet your application needs. These include special output shaft modifications, specialty brackets, end bell modifications, gear drives, electronic controls, brakes, encoders, junction boxes, special lead or harness assemblies and special terminals or plugs. We can also provide private label or special label products, custom colors and specialty packaging.



NEMA Class F Insulation
Resists Heat Buildup

Reversible Design

Round or Square
Flange Mounting

Drop-in Replacement for
Popular Units

High Energy Ceramic Magnets

8' Lead Length

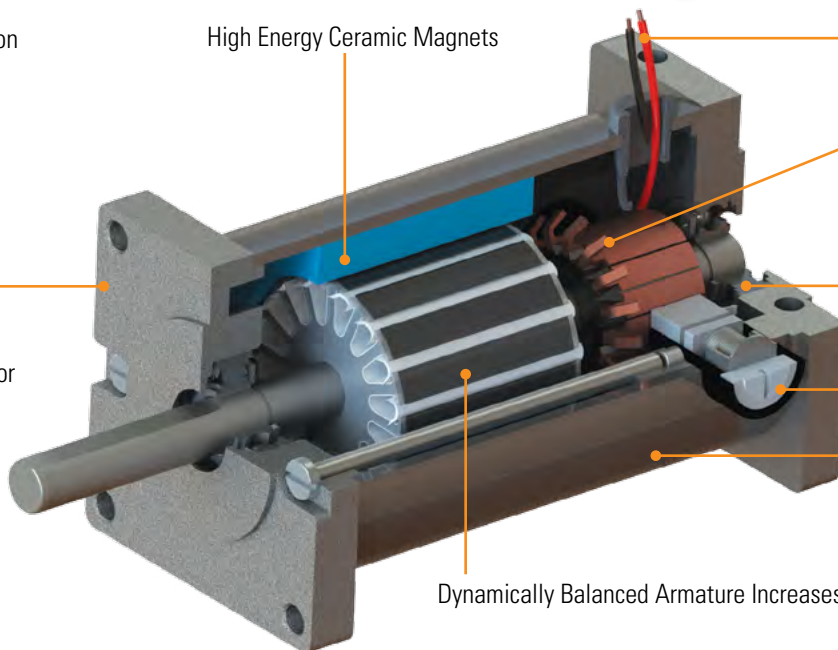
Auto-Hook Tang Type
Commutator

Double Shielded Ball
Bearings for Long
Service Life

Externally Replaceable
Brushes

TENV Enclosure

Dynamically Balanced Armature Increases Bearing Life



Quality Assurance

A Strong Quality Assurance
Commitment – 100% Testing

At RAE, quality consciousness is inherent in the production process from start to finish. Our stringent testing process includes:

- AQL sampling of incoming components
- In-process quality checks
- Meeting UL and CSA certification standards
- 100% dynamically balanced and electrically tested armature assemblies
- Hi-pot testing as well as speed and current testing at no load
- Minimum 30-minute product run-in testing

Series	HP Range	Speed Range	Continuous Torque Range	Voltages	Motor Frame OD
M1500	1/60 to 1/12	Up to 5000 rpm	Up to 14.5 oz-ins	12 - 115V	2.25"
M1600	1/30 to 1/8	Up to 5000 rpm	Up to 36.5 oz-ins	12 - 115V	2.37"
M4000	1/30 to 1/4	Up to 3500 rpm	Up to 110 oz-ins	12 - 180V	3.13"
M6000	1/20 to 1/3	Up to 3500 rpm	Up to 155 oz-ins	12 - 180V	3.27"
OPTI 4000	1/17 to 1/3	Up to 3500 rpm	Up to 165 oz-ins	12 - 130V	3.45"

**For additional information please request our
Technical Catalog or contact us:
Phone: 815-385-3500
Online: www.raemotors.com**

Right Angle DC Gearmotors. High Torques, Rugged and Compact

RAE right angle gearmotors give you more torque for the buck with increased capacities in a compact design. With a continuous duty torque of up to 250 inch pounds, this worm driven gear train can sustain torques higher than most other gear trains of the same size. If your design requires higher capacity in a reduced space, or if your present gearmotor is failing prematurely, try a RAE gearmotor. It just may be the answer you have been looking for.



Features

- Grease or Oil Lubrication
- Ball Bearings for Long Service Life
- Foot or Footless Mounting
- Low Noise Gearing Design
- Drop-in Replacement for Popular Units
- Value Added Options and Modifications Available

Series	Input HP	Speed Range	Ratios	Continuous Torque Range	Voltages	Max. Output Shaft OD	Motor Series
G4	1/16 to 1/12	Up to 400 rpm	12:1 to 47:1	Up to 7 in-lbs	12 - 115V	.250"	M1500
G6	1/30 to 1/8	Up to 1000 rpm	3:1 to 30:1	Up to 7 in-lbs	12 - 115V	.312"	M1600
G211	1/30 to 1/8	Up to 500 rpm	8:1 to 60:1	Up to 15 in-lbs	12 - 115V	.375"	M1600
G14	1/30 to 1/4	Up to 350 rpm	10:1 to 50:1	Up to 60 in-lbs	12 - 180V	.500"	M4000
G33	1/20 to 1/3	Up to 500 rpm	5:1 to 60:1	Up to 175 in-lbs	12 - 180V	.625"	M4000 or M6000
G250	1/17 to 1/3	Up to 180 rpm	10:1 to 93:1	Up to 250 in-lbs	12 - 180V	.625"	M4000 or M6000

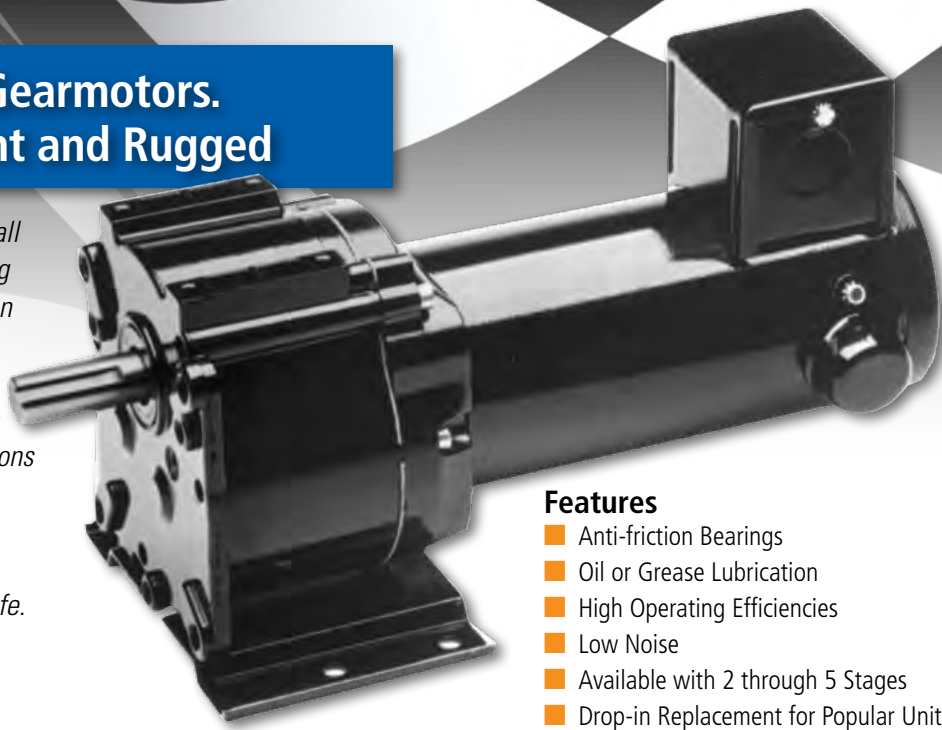
Notes:

1. Ratings for speed range and ratios are for typical units. A custom ratio maybe possible.
2. G250 gearbox back driveable at all ratios.
3. G250 gearbox uses high efficiency gearsets.

***For additional information please request our
Technical Catalog or contact us:
Phone: 815-385-3500
Online: www.raemotors.com***

Parallel Shaft DC Gearmotors. Low Noise, Efficient and Rugged

RAE parallel shaft gearmotors are all about efficiency, versatility and long service life. Available with precision helical or spiral-bevel gears, these units provide optimal power to load efficiencies. They offer a wide selection of ratings and configurations to meet your exact needs. Robust gearcase construction, precision gearing and anti-friction bearings provide long, trouble-free service life.



Features

- Anti-friction Bearings
- Oil or Grease Lubrication
- High Operating Efficiencies
- Low Noise
- Available with 2 through 5 Stages
- Drop-in Replacement for Popular Units
- Value Added Options and Modifications Available

Series	Input HP	Speed Range	Ratios	Continuous Torque Range	Voltages	Max. Output Shaft OD	Motor Series
G209	1/30 to 1/8	Up to 350 rpm	10:1 to 2328:1	Up to 50 in-lbs	12 - 115V	.312 "	M1500 or M1600
GIL100	1/30 to 1/8	Up to 250 rpm	16:1 to 2474:1	Up to 100 in-lbs	12-115V	.500 "	M1500 or M1600
GIL200	1/20 to 1/3	Up to 350 rpm	11:1 to 232:1	Up to 300 in-lbs	12-180V	.625 "	M4000 or M6000

Notes:

1. Ratings for speed range and ratios are for typical units. A custom ratio maybe possible.

***For additional information please request our
Technical Catalog or contact us:
Phone: 815-385-3500
Online: www.raemotors.com***

DC Motor Controllers

There is no better choice than a RAE DC controller for application matched motor performance. Each one provides the features to meet your specific driving needs.



■ SCR SERIES

This controller has been specifically designed to power various RAE permanent magnet DC motors. Industrial grade components are used throughout to provide reliable service even in heavy-duty applications.

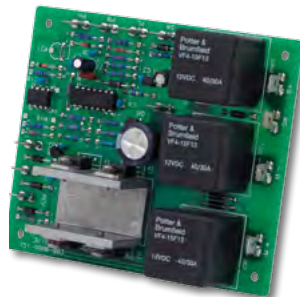
- 115 VAC Input/0-80 VDC Output
- 10% \pm AC Line Voltage Variation
- 60 HZ \pm 2 HZ AC Line Frequency
- Maximum Current Rating to 5 Amps
- Maximum Load to 150% for 1 Minute



■ RHV SERIES

The RHV controller is a high voltage FET PWM variable speed DC motor drive. It provides smooth single direction acceleration and includes an adjustable maximum speed.

- 115 VAC Input/0-130 VDC Output
- Maximum Current Rating to 3 Amps
- 5K OHM Input Reference Pot



■ RLVS SERIES

These controllers are specifically designed to control battery-powered permanent magnet DC motors and gearmotors. They can be used to operate motors in a single or reversing direction.

- 12 VDC or 24 VDC Input
- Maximum Current Rating to 15 Amps
- Factory Set Current Limit of 5 to 30 Amps [20 Amps Standard]
- 18K HZ Chopper Frequency
- 5K OHM Input Reference Pot
- 2 Second Accel/Decel Ramp

***For additional information please request our
Technical Catalog or contact us:***

Phone: 815-385-3500

Online: www.raemotors.com



BLUFFTON MOTOR WORKS

Bluffton® Motors

56, 48 and 36 frame motors
Washdown motors
Custom-designed motors
Explosion-proof motors

Toledo™ Gearmotor

Right angle and parallel shaft speed reducers and gearmotors

RAE™ DC Products

Brushed DC motors and gearmotors
Brushed and brushless DC controls
Mechanical phase shifters

Component Products

Steel lamination stampings
Shaft manufacturing
Custom gearing

Services

Application & design assistance
Performance testing
Engineered samples
Assistance in agency certification process
Inventory management/plant audits
Repair services

Typical Applications

Agriculture
Air handling fans & blowers
Cooking & baking
Commercial ovens & dishwashers
Compressors
Conveyors
Cranes & lifts
Dental & medical devices
Elevators
Food processing
Gate & door operators
Grain handling & drying
Grinding
Healthcare
HVAC
Laundry
Medical
Office equipment
Packaging & material handling
Paint shakers & mixers
Pumps
Recreational
Refrigeration
Woodworking equipment

- Top quality, reliable products
- On time, every time
- Return-on-investment

Bluffton Motor Works

410 East Spring Street
Bluffton, IN 46714
(800) 579-8527
www.blmworks.com

Toledo Gearmotor

5439 Roan Road
Sylvania, OH 43560
800-488-7072
(Local: 419-885-3769)
www.toledogear.com

RAE DC Products Group

4615 W. Prime Parkway
McHenry, IL 60050-7037
815-385-3500
www.raemotors.com



*Made in
the U.S.A.*

© 2014, Bluffton Motor Works.
All Rights Reserved. RCORP-081414