

IronHorse® DC Gearmotors

Series MTG Gearmotors – 1/19 hp – 1/5 hp

Model Overview

IronHorse DC gearmotors are manufactured in the U.S.A. by a leading motor supplier with over 65 years experience delivering high-quality motors and gearmotors to the demanding U.S. market. Our supplier does 100% dynamic testing of the gearmotors before shipment.

IronHorse DC gearmotors are designed for use on unfiltered SCR (Thyristor) type rectified AC input. They may also be used with PWM (pulse width modulated) type DC adjustable speed drives, and in across-the-line applications.



Applications

- Conveyors
- Turntables
- Pick and place
- Indexers
- Small machinery
- Where reduced speed and/or increased torque are required

General Features

- Available in 12, 24, and 90 VDC
- Available from 1/19 to 1/5 hp
- Available with parallel or right-angle gear shafts

Gearmotor Features

- TENV enclosure
- IP40 environmental rating
- Class F insulation
- SCR rated
- Externally replaceable brushes
- Double-shielded bearings
- Dynamically balanced armature
- Reversible design
- 18-inch leads, or junction box with 8-inch Leads
- Replacement components are available
- Orientation restrictions vary depending on model. See illustrations for details
- Not intended for DC power generation
- UL recognized (E365956), CSA certified (259724), RoHS

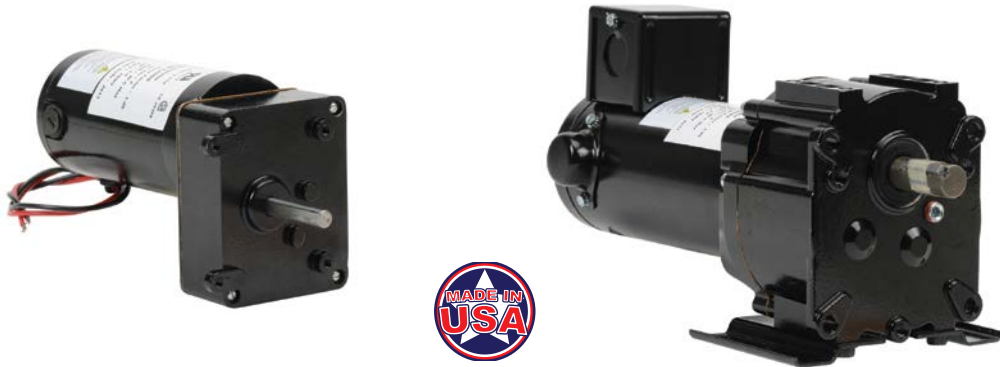
Replacement Parts for MTGP and MTGR DC Gearmotors

| Replacement Parts for MTGP and MTGR Series DC Gearmotors * | | | |
|--|-------|--|--|
| Part Number | Price | Description | For Gearmotors |
| <u>MTPM-BRUSH-4</u> | | DC motor brushes, replacement, for 1/5 hp 12VDC or 24VDC MTGR and MTGP series DC gearmotors. Package includes one set of 2 brushes and 2 brush caps. | MTGx-P20-1Jxxx, MTGx-P20-1Kxxx |
| <u>MTPM-BRUSH-5</u> | | DC motor brushes, replacement, for 12VDC or 24VDC MTGR and MTGP series DC gearmotors 1/7 hp and smaller. Package includes one set of 2 brushes and 2 brush caps. | MTGx-P06-1Jxxx, MTGx-P07-1Jxxx |
| <u>MTPM-BRUSH-6</u> | | DC motor brushes, replacement, for 1/7 hp 90VDC or 180VDC MTGR and MTGP series DC gearmotors. Package includes one set of 2 brushes and 2 brush caps. | MTGx-P14-1Lxxx |
| <u>MTPM-BRUSH-7</u> | | DC motor brushes, replacement, for 90VDC or 180VDC MTGR and MTGP series DC gearmotors 1/15 hp and smaller. Package includes one set of 2 brushes and 2 brush caps. | MTGx-P06-1Lxxx, MTGx-P05-1Lxxx |
| <u>MTGA-KIT-1</u> | | DC motor spare parts kit, for certain MTGP and all MTGR series DC gearmotors as shown in dimension drawings P-B, R-A, & R-B. Includes: two metal brush cap covers, one terminal box, one 1/8 (0.125) inch shaft key and one 3/16 (0.187) inch shaft key. | MTGP-P14-1xxxx, MTGP-P20-1xxxx, MTGR-Pxx-1xxxx |

* These replacement parts also fit many AutomationDirect small-frame DC motors. Refer to the DC Motors section for small-frame motor application information.

IronHorse® DC Gearmotors

MTGP Parallel Shaft Gearmotors – 1/17 hp – 1/5 hp



Selection and Specifications

| Gearmotor Specifications – MTGP Series Parallel Shaft Gearmotors | | | | | | | | | | | | | |
|--|-------|---------------|----------|-------------|------------|--------------------|-------------------|----------------|--------------------|--|-------------|--|---------------------|
| Part Number | Price | Voltage (VDC) | Motor HP | Speed (rpm) | Gear Ratio | F/L Torque (in-lb) | F/L Current (A) * | Shaft Dia (in) | Overhung Load (lb) | Axial/Thrust Load (lb) | Weight (lb) | Gearbox Features | Dimension Drawing # |
| MTGP-P06-1J008 | | 12 | 1/16 | 7.9 | 386:1 | 50 | 1.39 | 0.3125 | 50 | None (not suitable for applications with axial/thrust loading) | 4.0 | Grease lubrication ** Sleeve bearings 18-inch wiring leads Face mounted | P-A |
| MTGP-P06-1J024 | | | | 24 | 120:1 | 50 | 2.41 | | | | | | |
| MTGP-P06-1J034 | | | | 34 | 83:1 | 45 | 2.86 | | | | | | |
| MTGP-P06-1J050 | | | | 50 | 55:1 | 45 | 3.88 | | | | | | |
| MTGP-P06-1J097 | | | | 97 | 26:1 | 36 | 5.68 | | | | | | |
| MTGP-P06-1L008 | | 90 | 1/17 | 8.4 | 386:1 | 50 | 0.19 | | | | | | |
| MTGP-P06-1L012 | | | | 12 | 269:1 | 50 | 0.23 | | | | | | |
| MTGP-P06-1L037 | | | | 37 | 83:1 | 45 | 0.40 | | | | | | |
| MTGP-P06-1L055 | | | | 55 | 55:1 | 45 | 0.54 | | | | | | |
| MTGP-P06-1L114 | | | | 114 | 26:1 | 26 | 0.61 | | | | | | |
| MTGP-P14-1L026 | | 90 | 1/7 | 26 | 69:1 | 280 | 1.58 | 0.625 | 150 | 200 | 11.4 | Oil lubrication ** Needle bearings Junction box with 8-inch wiring leads Face mounted or foot mounted Designed to AGMA standards | P-B |
| MTGP-P14-1L039 | | | | 39 | 46:1 | 189 | 1.59 | | | | | | |
| MTGP-P14-1L061 | | | | 61 | 30:1 | 130 | 1.59 | | | | | | |
| MTGP-P14-1L091 | | | | 91 | 20:1 | 86 | 1.58 | | | | | | |
| MTGP-P14-1L165 | | | | 165 | 11:1 | 47 | 1.57 | | | | | | |
| MTGP-P20-1J026 | | 12 | 1/5 | 26 | 69:1 | 280 | 12.60 | | | | | | |
| MTGP-P20-1J037 | | | | 37 | 46:1 | 245 | 15.80 | | | | | | |
| MTGP-P20-1J056 | | | | 56 | 30:1 | 168 | 15.70 | | | | | | |
| MTGP-P20-1J084 | | | | 84 | 20:1 | 112 | 15.70 | | | | | | |
| MTGP-P20-1J154 | | | | 154 | 11:1 | 61 | 15.60 | | | | | | |
| MTGP-P20-1K018 | | 24 | 1/5 | 18 | 110:1 | 280 | 4.41 | | | | | | |
| MTGP-P20-1K036 | | | | 36 | 46:1 | 245 | 7.89 | | | | | | |
| MTGP-P20-1K084 | | | | 84 | 20:1 | 112 | 7.87 | | | | | | |
| MTGP-P20-1K153 | | | | 153 | 11:1 | 61 | 7.81 | | | | | | |

* Current must be limited so that it does not exceed 125% of the gearmotor rated current.
 ** Permanently lubricated.

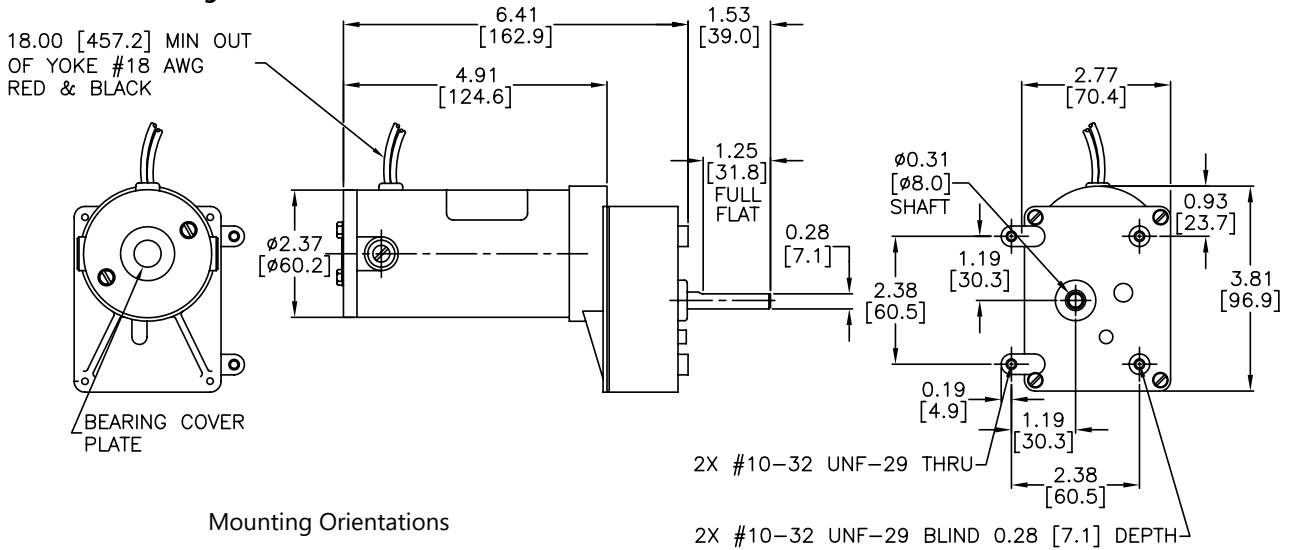
Replacement parts are available, as shown in "Replacement Parts for MTGP and MTGR DC Gearmotors" subsection.

IronHorse® DC Gearmotors

MTGP Parallel Shaft Gearmotors – 1/17 hp – 1/5 hp

Dimensions (in [mm])

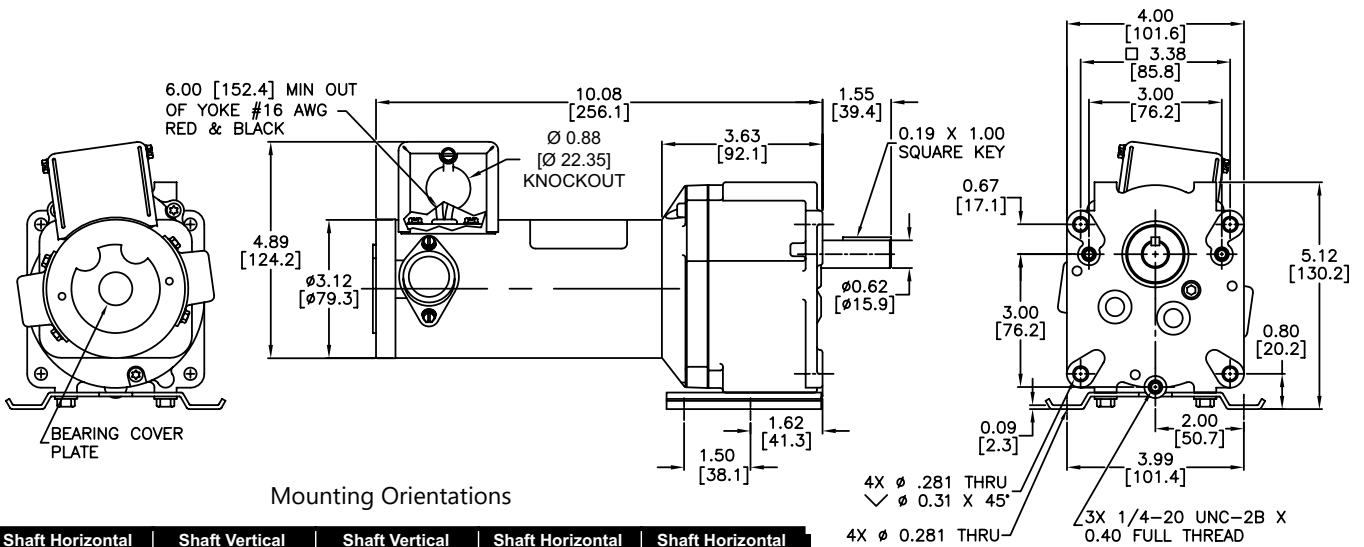
Dimension Drawing # P-A



Mounting Orientations

| Shaft Horizontal Rightside Up | Shaft Vertical Down | Shaft Vertical Up | Shaft Horizontal Upside Down | Shaft Horizontal Base Rolled 90° |
|----------------------------------|------------------------|----------------------|---------------------------------|-------------------------------------|
| | | | | |

Dimension Drawing # P-B



Mounting Orientations

| Shaft Horizontal Rightside Up | Shaft Vertical Down | Shaft Vertical Up | Shaft Horizontal Upside Down | Shaft Horizontal Base Rolled 90° |
|----------------------------------|------------------------|----------------------|---------------------------------|-------------------------------------|
| | | | | |

IronHorse® DC Gearmotors

MTGR Right Angle Gearmotors – 1/19 hp – 1/5 hp



Selection and Specifications

| Gearmotor Specifications – MTGR Series Right-Angle Shaft Gearmotors | | | | | | | | | | | | | |
|---|-------|---------------|----------|-------------|------------|--------------------|-------------------|-----------------------------------|--------------------|------------------------|-------------|--|---------------------|
| Part Number | Price | Voltage (VDC) | Motor HP | Speed (rpm) | Gear Ratio | F/L Torque (in-lb) | F/L Current (A) * | Shaft | Overhung Load (lb) | Axial/Thrust Load (lb) | Weight (lb) | Gearbox Features | Dimension Drawing # |
| MTGR-P05-1L038 | | 90 | 1/19 | 38 | 50:1 | 42 | 0.68 | dual shaft 0.5 in diameter | 200 | 150 | 8.3 | Grease lubrication ** Ball bearings Junction box with 8-inch wiring leads Face or Foot mounted Single worm | R-A |
| MTGR-P05-1L053 | | | | 53 | 36:1 | 33 | 0.68 | | | | | | |
| MTGR-P05-1L093 | | | | 93 | 20.5:1 | 23 | 0.68 | | | | | | |
| MTGR-P05-1L132 | | | | 132 | 14.5:1 | 17 | 0.67 | | | | | | |
| MTGR-P05-1L197 | | | | 197 | 9.75:1 | 12 | 0.68 | | | | | | |
| MTGR-P07-1J036 | | 12 | 1/15 | 36 | 50:1 | 50 | 5.69 | dual shaft 0.5 in diameter | 200 | 150 | 8.3 | Grease lubrication ** Ball bearings Junction box with 8-inch wiring leads Face or Foot mounted Single worm | R-A |
| MTGR-P07-1J084 | | | | 84 | 20.5:1 | 34 | 6.78 | | | | | | |
| MTGR-P07-1J177 | | | | 177 | 9.75:1 | 18 | 6.78 | | | | | | |
| MTGR-P14-1L022 | | 90 | 1/7 | 22 | 82:1 | 280 | 1.41 | single shaft 0.625 in diameter | 150 | 200 | 14.4 | Double shielded ball bearings Junction box with 8-inch wiring leads Foot mounted Bevel gears 80 – 90% efficient Can be backdriven *** | R-B |
| MTGR-P14-1L040 | | | | 40 | 44:1 | 185 | 1.64 | | | | | | |
| MTGR-P14-1L064 | | | | 64 | 28:1 | 116 | 1.65 | | | | | | |
| MTGR-P14-1L077 | | | | 77 | 23:1 | 97 | 1.65 | | | | | | |
| MTGR-P14-1L178 | | | | 178 | 10:1 | 44 | 1.64 | | | | | | |
| MTGR-P20-1K023 | | 24 | 1/5 | 23 | 82:1 | 280 | 5.64 | single shaft 0.625 in diameter | 150 | 200 | 14.4 | Double shielded ball bearings Junction box with 8-inch wiring leads Foot mounted Bevel gears 80 – 90% efficient Can be backdriven *** | R-B |
| MTGR-P20-1K039 | | | | 39 | 44:1 | 263 | 8.74 | | | | | | |
| MTGR-P20-1K075 | | | | 75 | 23:1 | 137 | 8.72 | | | | | | |
| MTGR-P20-1K174 | | | | 174 | 10:1 | 63 | 8.75 | | | | | | |

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 ** Permanently lubricated.
 *** Not intended for DC power generation.

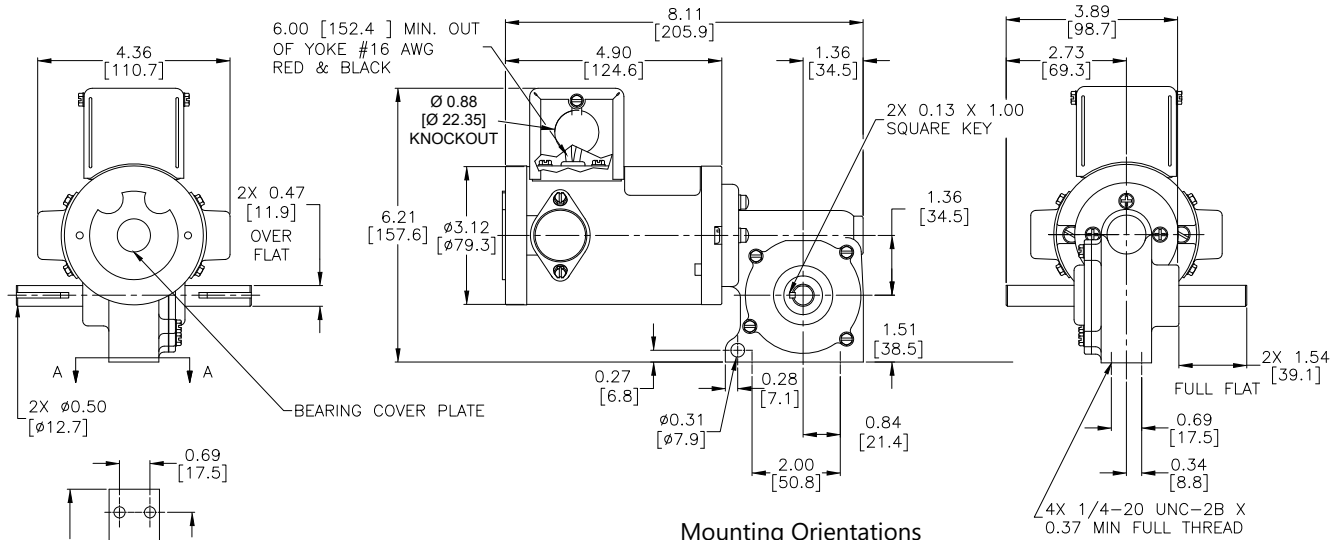
Replacement parts are available, as shown in "Replacement Parts for MTGP and MTGR DC Gearmotors" subsection.

IronHorse® DC Gearmotors

MTGR Right Angle Gearmotors – 1/19 hp – 1/5 hp

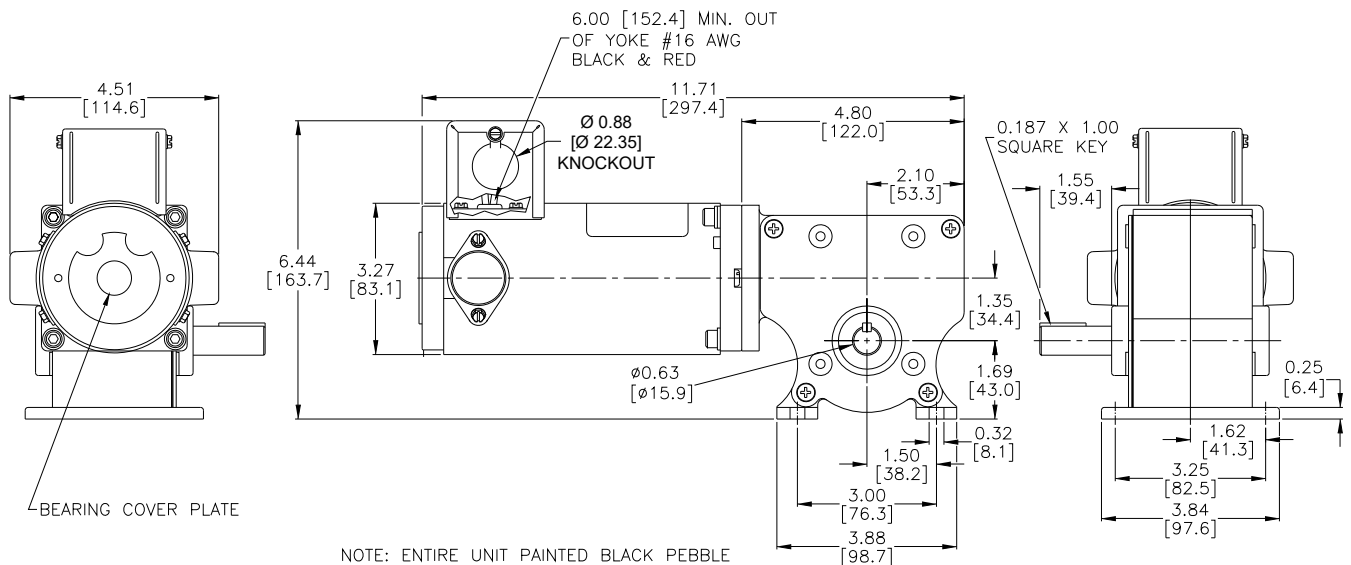
Dimensions (in [mm])

Dimension Drawing # R-A



| Shaft Horizontal Rightside Up | Shaft Vertical Up/Down Motor Horizontal | Shaft Horizontal Motor Vertical & Above | Shaft Horizontal Motor Vertical & Below |
|----------------------------------|--|--|--|
| | | | |

Dimension Drawing # R-B



The Only Acceptable Orientation is Shown in the Above Illustration