Permanent-Magnet DC Motors (SCR Rated) Model Overview



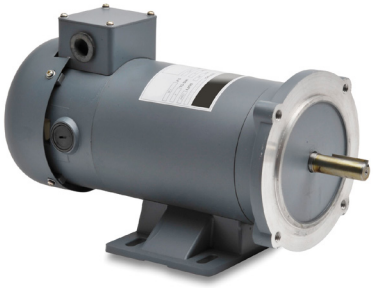
MTPM-P10-1JK43



MTPM-P25-1JK44



MTPM-P33-1L18



MTPM-P75-1L18



MTPM-1P5-1M18

IronHorse motors are manufactured by leading motor suppliers with decades of experience delivering high-quality motors to the demanding U.S. market. Our suppliers test the motors during production and after final assembly. This is how we can stand behind our IronHorse motors with a two-year warranty (motors 1/3hp and above only; motors 1/4hp and less have a one-year warranty).

IronHorse DC motors are designed for use on unfiltered SCR (Thyristor) type and PWM (pulse width modulated) type DC adjustable speed drives, and on across-the-line DC controls.

The IronHorse line of DC motors features:

- Replacement brush sets
- Simple two-lead connection
- Class F insulation

Features for Small-Frame Motors 1/4hp and Under

- Available models accommodate 12 VDC, 24 VDC, 90 VDC (110 VAC DC drive), and 180 VDC (230 VAC DC drive)
- Rated for SCR drives
- TENV enclosure
- IP40 environmental rating
- Class F insulation
- High energy ceramic magnets
- Double shielded ball bearings
- Dynamically-balanced armature
- Electrically-reversible
- 18in leads, or junction boxes with 8-inch leads
- Externally replaceable brushes
- Can be mounted in any orientation
- Not intended for DC power generation
- UL recognized (E365956), CSA certified (259724), RoHS

Features for Motors 1/3hp and Above

- Input power of 115 or 230 volts rectified AC can be used with an appropriate SCR drive
- Linear speed/torque characteristics over entire speed range
- High starting torque for heavy load applications
- Capable of dynamic braking for faster stops
- Available in TENV or TEFC housings, depending on model
- NEMA 56C flange mount
- Rolled steel shell frame / cast aluminum end bell
- Removable base (0.33–2hp)
- STABLE motor slide bases for adjustable mounting of NEMA motors from 56–449T
- Space-saving design
- Large, replaceable brushes for longer brush life
- Easy access to DC motor brushes (DC motors ship with one set of brushes installed and one set of spare brushes in the box)
- Large easy-to-wire junction box with rubber gasket and six-inch leads
- Heavy duty oversized ball bearings
- High tensile strength steel shaft
- Large, easy to read nameplate
- Electrically reversible
- Not intended for DC power generation
- Service Factor: 1.0
- Two year warranty
- $_{C}CSA_{US}$ certified (247070), CE, RoHS

Applications

- Conveyors
- Turntables
- Where adjustable speed and constant torque are required
- When dynamic braking and reversing capabilities are needed

MTPM Small-Frame Permanent Magnet DC Motors – 1/31 to 1/4hp



MTPM-P10-1JK43
with flying leads



MTPM-P25-1JK44
with junction box

Motor Specifications – MTPM Series Small-Frame Permanent Magnet DC Motors														
Part Number	*Price*	*Voltage (VDC)*	*hp*	*Speed (rpm)*	*F/L Torque (oz-in)*	*F/L Current (A)*	*Shaft Dia (in)*	*Pilot Shaft (in)*	*Overhung Load (lb)*	*Axial/ Thrust Load (lb)*	*Wiring Type*	*Replacement Brush*	*Weight (lb)*	*Drawing Links*
MTPM-P10-1JK43	$155.00	12/24	1/20 1/10	1746 4252	28	4.8	5/16	1.00	85	70	Flying Leads	*MTPM-BRUSH-5*	2.8	PDF
MTPM-P13-1JK42	$168.00		1/17 1/8	1825 4224	32	5.4							3.3	PDF
MTPM-P17-1JK43	$223.00		1/13 1/6	1841 4290	42	7.5	1/2	2.02	130	150	Junction Box	*MTPM-BRUSH-4*	5.3	PDF
MTPM-P25-1JK40	$233.00		1/6 1/4	1732 3996	96 80	14.3 12.2							7.8	PDF
MTPM-P25-1JK44	$233.00		1/5 1/4	1854 4375	113 70	18.1 11.9							9	PDF
MTPM-P03-1L18	$162.00	90	1/31	1797	18	0.4	5/16	1.00	85	70	Flying Leads	*MTPM-BRUSH-7*	2.8	PDF
MTPM-P04-1L17	$171.00		1/26	1749	22	0.5							3.3	PDF
MTPM-P05-1L19	$223.00		1/19	1917	28	0.7	1/2	2.02	130	150	Junction Box	*MTPM-BRUSH-6*	5.3	PDF
MTPM-P13-1L19	$221.00		1/8	1917	73	1.4							7.8	PDF
MTPM-P14-1L19	$240.00		1/7	1740	86	1.6							9	PDF
MTPM-P07-1M24	$200.00	180	1/15	2440	28	0.4							5.3	PDF
MTPM-P13-1M19	$240.00		1/8	1865	73	0.7							7.8	PDF
MTPM-P14-1M18	$240.00		1/7	1828	84	0.8							9	PDF

VP1 DC Gearmotors

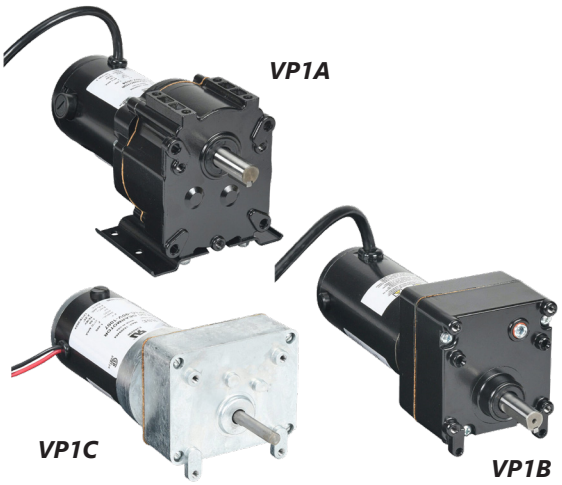
Series VP1 Parallel Shaft Gearmotors – 90 VDC

Torque range to 280 lb·in and Speed range to 165rpm

Model Overview

IronHorse DC gearmotors are manufactured in the U.S.A. by a leading motor supplier with over 75 years experience delivering high-quality motors and gearmotors to the demanding U.S. market. VP1 series gearmotors provide 90 VDC motor voltage with new industry standard torque and speed ranges. Our supplier does 100% dynamic testing of the gearmotors before shipment.

IronHorse DC gearmotors are designed for use with adjustable SCR controls and drives or with PWM (pulse width modulated) adjustable speed drives. The motors can also be started "across-the-line" with a DC power source, but the system may see a sudden high current surge.



Gearmotor Features

- Available in 90 VDC
- Torque ranges from 13 – 280 lb·in
- Speed ranges from 7 – 165rpm
- TENV enclosure
- Metal gears for long service life
- Reduced noise design
- IP40 environmental rating
- Class F insulation
- SCR rated
- Rugged diecast aluminum design
- VP1A, VP1VB - 36" Jacketed power cord; VP1C - 18in flying leads
- Externally replaceable DC brushes; available for purchase
- Double-shielded bearings
- Dynamically balanced armature
- Electrically reversible
- Orientation restrictions vary depending on model
- Not intended for DC power generation
- UL recognized (E365956), CSA certified (259724), RoHS

Applications

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

IRONHORSE GEAR MOTORS

VP1 DC Gearmotors

VP1A Parallel Shaft Gearmotors – 90 VDC, 1/20 to 1/4hp

MADE IN USA

VP1A Features:

- Torque range: 28 - 280 lb·in
- Speed range: 18 - 165rpm
- Permanent lubrication (oil)
- 36" jacketed power cord
- Foot or Face mount



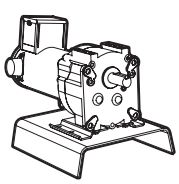
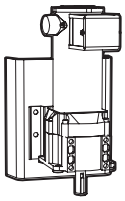
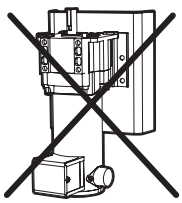
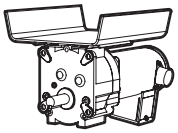
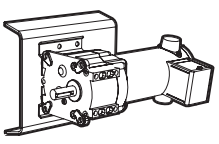
VP1A-90V-2034

Gearmotor Specifications – VP1A Series Parallel Shaft

Part Number	Price	Voltage (VDC)	Motor hp	Speed (rpm)	Gear Ratio	F/L Torque (lb·in)	F/L Current (A) *	Shaft Dia (in)	Overhung Load (lb)	Axial/ Thrust Load (lb)	Replacement Brush	Weight (lb)	Drawing Link
VP1A-90V-2034	$407.00	90	1/20	34	57.7:1	82	0.94	5/8	150	75	MTPM-BRUSH-6	9	PDF
VP1A-90V-2051	$407.00			51	34:1	55							PDF
VP1A-90V-2111	$407.00			111	17.5:1	28	0.97						PDF
VP1A-90V-7018	$407.00		1/8	18	103:1	150	0.82						PDF
VP1A-90V-7021	$411.00			21	88:1	280	1.30					12	PDF
VP1A-90V-7026	$411.00			26	69:1		1.58						PDF
VP1A-90V-7032	$411.00			32	58:1	220	1.50						PDF
VP1A-90V-7054	$411.00			54	34:1	138	1.51						PDF
VP1A-90V-7061	$411.00			61	30:1	113	1.42						PDF
VP1A-90V-7091	$411.00			91	20:1	86	1.58						PDF
VP1A-90V-7165	$411.00			165	11:1	47	1.57						PDF
VP1A-90V-8042	$456.00		1/4	42	57.7:1	280	2.45					13	PDF
VP1A-90V-8083	$456.00			83	30:1	160	2.53						PDF

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

Mounting Orientation Guidelines

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

VP1 DC Gearmotors

VP1B and VP1C Parallel Shaft Gearmotors – 90 VDC, 1/50 to 1/11hp

VP1B Features:

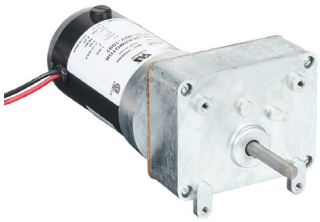
- Torque range: 20 - 100 lb·in
- Speed range: 20 - 139rpm
- Permanent lubrication (oil)
- 36" jacketed power cord
- Face mount only

VP1C Features:

- Torque range: 13 - 50 lb·in
- Speed range: 7 - 94rpm
- Permanent lubrication (grease)
- 18" flying leads
- Face mount only



VP1B-90V-2037



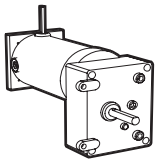
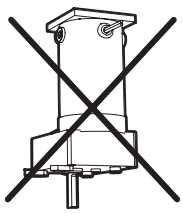
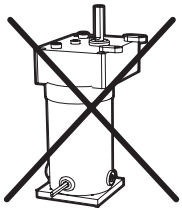
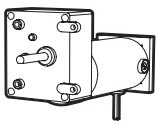
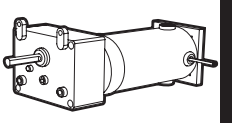
VP1C-90V-1007

Gearmotor Specifications – VP1B and VP1C Series Parallel Shaft

Part Number	Price	Voltage (VDC)	Motor hp	Speed (rpm)	Gear Ratio	F/L Torque (lb·in)	F/L Current (A) *	Shaft Dia (in)	Overhung Load (lb)	Axial/ Thrust Load (lb)	Replacement Brush	Weight (lb)	Drawing Link
VP1B-90V-2037	$377.00	90	1/25	37	79:1	74	0.67	1/2	150	75	MTPM-BRUSH-5	6	PDF
VP1B-90V-2139	$377.00			139	16:1	20	0.63						PDF
VP1B-90V-4020	$377.00		1/17	20	102:1	100	0.50						PDF
VP1B-90V-4071	$377.00			71	31:1	40	0.64						PDF
VP1B-90V-5071	$377.00		1/11		52:1	83	1.29						PDF
VP1B-90V-5139	$377.00			139	24:1	42	1.19						PDF
VP1C-90V-1007	$261.00	90	1/50	7	386:1	50	0.15	5/16	150	75	MTPM-BRUSH-7	6	PDF
VP1C-90V-1011	$261.00			11	269:1		0.19						PDF
VP1C-90V-1021	$261.00		1/32	21	120:1		0.28						PDF
VP1C-90V-2029	$261.00		1/25	29	83.5:1	40	0.31						PDF
VP1C-90V-2047	$261.00			47	55:1	26	0.33						PDF
VP1C-90V-2094	$261.00			94	26:1	13	0.31						PDF

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

Mounting Orientation Guidelines

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

MTG DC Gearmotors

Series MTG Gearmotors – 1/19 to 1/5hp

Model Overview

IronHorse DC gearmotors are manufactured in the U.S.A. by a leading motor supplier with over 75 years experience delivering high-quality motors and gearmotors to the demanding U.S. market. MTG series provides a variety of parallel shaft and right angle shaft gearmotors in voltage ranges from 12 - 180 VDC. 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 1/5hp
- 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
- Electrically-reversible
- 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

IRONHORSE GEAR MOTORS

MTG DC Gearmotors

MTGP Parallel Shaft Gearmotors – 1/17 to 1/15hp



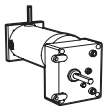
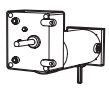
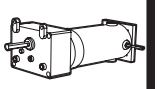
MTGP-P06-1J008

Gearmotor Specifications – MTGP Series Parallel Shaft Gearmotors

Part Number	Price	Voltage (VDC)	Motor hp	Speed (rpm)	Gear Ratio	F/L Torque (lb·in)	F/L Current (A) *	Shaft Dia (in)	Overhung Load (lb)	Axial/ Thrust Load (lb)	Replacement Brushes	Weight (lb)	Gearbox Features	Drawing Link
MTGP-P06-1L008	$287.00	90	1/17	8.4	386:1	50	0.19	5/16	50	None (not suitable for applications with axial/ thrust loading)	MTPM-BRUSH-7	4	• Grease lubrication ** • Sleeve bearings • 18-inch wiring leads • Face mounted	PDF
MTGP-P06-1L012	$288.00			12	269:1	50	0.23							PDF
MTGP-P06-1L037	$288.00			37	83:1	45	0.40							PDF
MTGP-P06-1L055	$268.00			55	55:1	45	0.54							PDF
MTGP-P06-1L114	$282.00			114	26:1	26	0.61							PDF
MTGP-P06-1J008	$268.00	12	1/16	7.9	386:1	50	1.39				MTPM-BRUSH-5			PDF
MTGP-P06-1J024	$288.00			24	120:1	50	2.41							PDF
MTGP-P06-1J034	$293.00			34	83:1	45	2.86							PDF
MTGP-P06-1J050	$268.00			50	55:1	45	3.88							PDF
MTGP-P06-1J097	$269.00			97	26:1	36	5.68							PDF

*** 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.

Mounting Orientation Guidelines

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

IRONHORSE GEAR MOTORS

MTG DC Gearmotors

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



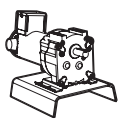
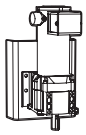
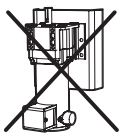
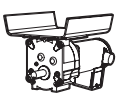
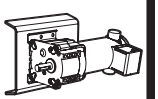
MTGP-P20-1J026

Gearmotor Specifications – MTGP Series Parallel Shaft Gearmotors

Part Number	Price	Voltage (VDC)	Motor hp	Speed (rpm)	Gear Ratio	F/L Torque (lb·in)	F/L Current (A) *	Shaft Dia (in)	Overhung Load (lb)	Axial/ Thrust Load (lb)	Replacement Brushes	Weight (lb)	Gearbox Features	Drawing Link
MTGP-P14-1L026	$471.00	90	1/7	26	69:1	280	1.58	5/8	150	200	MTPM-BRUSH-6	11.4	• Oil lubrication ** • Needle bearings • Junction box with 8-inch wiring leads • Face mounted or foot mounted • Designed to AGMA standards	PDF
MTGP-P14-1L039	$471.00			39	46:1	189	1.59							PDF
MTGP-P14-1L061	$457.00			61	30:1	130	1.59							PDF
MTGP-P14-1L091	$457.00			91	20:1	86	1.58							PDF
MTGP-P14-1L165	$457.00			165	11:1	47	1.57							PDF
MTGP-P20-1J026	$483.00	12	1/5	26	69:1	280	12.60				MTPM-BRUSH-4			PDF
MTGP-P20-1J037	$483.00			37	46:1	245	15.80							PDF
MTGP-P20-1J056	$473.00			56	30:1	168	15.70							PDF
MTGP-P20-1J084	$473.00			84	20:1	112	15.70							PDF
MTGP-P20-1J154	$443.00			154	11:1	61	15.60				MTPM-BRUSH-6			PDF
MTGP-P20-1K018	$473.00	24	1/5	18	110:1	280	4.41				MTPM-BRUSH-4			PDF
MTGP-P20-1K036	$473.00			36	46:1	245	7.89							PDF
MTGP-P20-1K084	$467.00			84	20:1	112	7.87							PDF
MTGP-P20-1K153	$467.00			153	11:1	61	7.81							PDF

*** 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.

Mounting Orientation Guidelines

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

MTG DC Gearmotors

MTGR Right Angle Gearmotors – 1/19 to 1/15hp

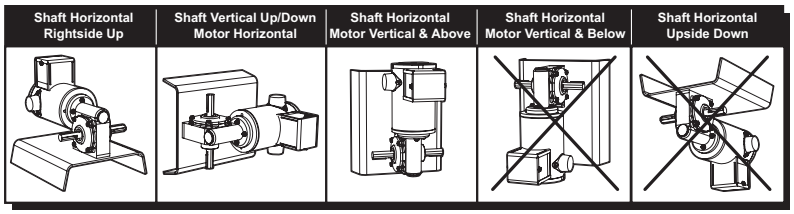


MTGR-P07-1J036

Gearmotor Specifications – MTGR Series Right-Angle Shaft Gearmotors														
Part Number	*Price*	*Voltage (VDC)*	*Motor hp*	*Speed (rpm)*	*Gear Ratio*	*F/L Torque (lb·in)*	*F/L Current (A) **	*Shaft*	*Overhung Load (lb)*	*Axial/ Thrust Load (lb)*	*Replacement Brush*	*Weight (lb)*	*Gearbox Features*	*Drawing Link*
MTGR-P05-1L038	$467.00	90	1/19	38	50:1	42	0.68	dual shaft 0.5in diameter	200	150	*MTPM-BRUSH-6*	8.3	• Grease lubrication ** • Ball bearings • Junction box with 8-inch wiring leads • Face or Foot mounted • Single worm	PDF
MTGR-P05-1L053	$467.00			53	36:1	33	0.68							PDF
MTGR-P05-1L093	$467.00			93	20.5:1	23	0.68							PDF
MTGR-P05-1L132	$467.00			132	14.5:1	17	0.67							PDF
MTGR-P05-1L197	$467.00			197	9.75:1	12	0.68							PDF
MTGR-P07-1J036	$437.00	12	1/15	36	50:1	50	5.69				*MTPM-BRUSH-4*			PDF
MTGR-P07-1J084	$437.00			84	20.5:1	34	6.78							PDF
MTGR-P07-1J177	$438.00			177	9.75:1	18	6.78							PDF

*** Current must be limited so that it does not exceed 125% of the gearmotor rated current.**
**** Permanently lubricated.**
***** Not intended for DC power generation.**
Replacement parts are available, as shown in "Replacement Parts for MTGP and MTGR DC Gearmotors" subsection.

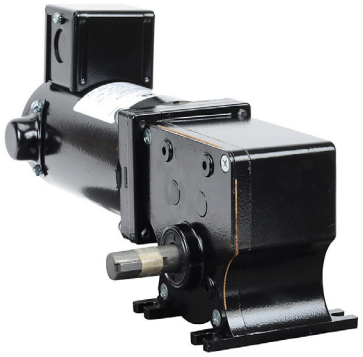
Mounting Orientation Guidelines



IRONHORSE GEAR MOTORS

MTG DC Gearmotors

MTGR Right Angle Gearmotors – 1/7 to 1/5hp



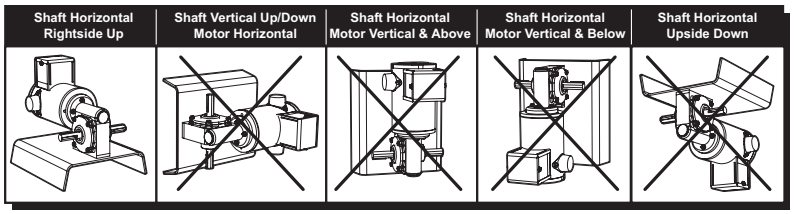
MTGR-P20-1K023

Gearmotor Specifications – MTGR Series Right-Angle Shaft Gearmotors

Part Number	Price	Voltage (VDC)	Motor hp	Speed (rpm)	Gear Ratio	F/L Torque (lb·in)	F/L Current (A) *	Shaft	Overhung Load (lb)	Axial/ Thrust Load (lb)	Replacement Brush	Weight (lb)	Gearbox Features	Drawing Link
MTGR-P14-1L022	$500.00	90	1/7	22	82:1	280	1.41	single shaft 0.625 in diameter	150	200	MTPM-BRUSH-6	14.4	• Double shielded ball bearings • Junction box with 8-inch wiring leads • Foot mounted • Bevel gears • 80 – 90% efficient • Can be backdriven ***	PDF
MTGR-P14-1L040	$502.00			40	44:1	185	1.64							PDF
MTGR-P14-1L064	$538.00			64	28:1	116	1.65							PDF
MTGR-P14-1L077	$524.00			77	23:1	97	1.65							PDF
MTGR-P14-1L178	$500.00			178	10:1	44	1.64							PDF
MTGR-P20-1K023	$512.00	24	1/5	23	82:1	280	5.64				MTPM-BRUSH-4			PDF
MTGR-P20-1K039	$506.00			39	44:1	263	8.74							PDF
MTGR-P20-1K075	$512.00			75	23:1	137	8.72							PDF
MTGR-P20-1K174	$512.00			174	10:1	63	8.75							PDF

*** Current must be limited so that it does not exceed 125% of the gearmotor rated current.**
**** Permanently lubricated.**
***** Not intended for DC power generation.**
Replacement parts are available, as shown in "Replacement Parts for MTGP and MTGR DC Gearmotors" subsection.

Mounting Orientation Guidelines



DC Gearmotor Replacement Parts

Replacement Parts for Small Frame DC Motors and DC Gearmotors

Brush replacement kits are for use in any Ironhorse DC gearmotors and small frame DC motors. Reference motor technical pages for brush cross reference. The appropriate brushes are also listed as recommended items on the webstore item page for each motor.

Replacement Parts for Small Frame DC Motors and DC Gearmotors *		
Part Number	***Price***	***Description***
MTPM-BRUSH-4	$44.00	IronHorse DC motor brushes, replacement. Package of 2. For use with IronHorse 1/4 hp and 1/5 hp 12 VDC or 24 VDC MTPM, MTGR, MTGP and VP1 series permanent magnet DC motors and gearmotors. (2) brush caps included.
MTPM-BRUSH-5	$34.00	IronHorse DC motor brushes, replacement. Package of 2. For use with IronHorse 1/6 hp or smaller 12 VDC or 24 VDC MTPM, MTGR, MTGP and VP1 series permanent magnet DC motors and gearmotors. (2) brush caps included.
MTPM-BRUSH-6	$38.00	IronHorse DC motor brushes, replacement. Package of 2. For use with IronHorse 1/7 hp and 1/8 hp 90 VDC or 180 VDC MTPM, MTGR, MTGP and VP1 series permanent magnet DC motors and gearmotors. (2) brush caps included.
MTPM-BRUSH-7	$31.00	IronHorse DC motor brushes, replacement. Package of 2. For use with IronHorse 1/10 hp or smaller 90 VDC or 180 VDC MTPM, MTGR, MTGP and VP1 series permanent magnet DC motors and gearmotors. (2) brush caps included.
MTGA-KIT-1	$58.00	IronHorse DC motor spare parts kit, for use with IronHorse 1/4 hp and smaller MTPM, MTGR and MTGP series DC motors and gearmotors, includes (2) metal brush cap covers, (1) terminal box, (1) 1/8in shaft key and (1) 3/16in shaft key.



MTPM-BRUSH-4



MTGA-KIT-1