

# Refrigeration Fan Motors

## ECM High Efficiency Motors

MARS Hi Efficiency ECM motors are drop in replacements of the traditional front mount shaded pole motors. They use all the same accessories with no extra work for an easy and hassle-free installation. These are built with ECM technology to run more efficiently, reduced CO2 emissions, longer life expectancy and quieter than the normal PSC shaded pole motors. They offer better airflow control than a PSC, up to 70%, 4 to 5 times more efficient than a regular shaded pole motor. Higher efficiency means cooler motor operation and reduced heat delivered to the refrigeration cycle, for a combined energy saving advantage and improved refrigeration quality. The ECM Series offers IP65 moisture protection grade, one of the highest in the industry. These motors are designed to satisfy the growing demands of energy savings.



### Features:

- Life expectancy of 60,000+ hrs.
- Protection rating - IP65 moisture protection grade
- Totally enclosed
- All angle
- Continuous air over
- Long life sealed ball bearings

### Specifications:

- Working temp: -40°C +55°C
- 50/60 Hz
- M4 Studs on 3.72" B.C. for shroud/guard
- UL recognized & CE Certified

### Cross Reference:

EDA15253UC0176, EDA10153UC0182	Hill Phoenix	P078449H, P079441C, P066237A
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MARS NO.	WATTS	VOLTS	RPM	ROT. S.E	AMPS	TERM.PLUG
00892	1-30	120/240	1600	CCW	0.7/0.4	2 pin Lyall



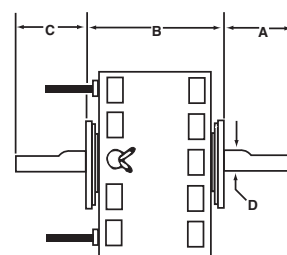
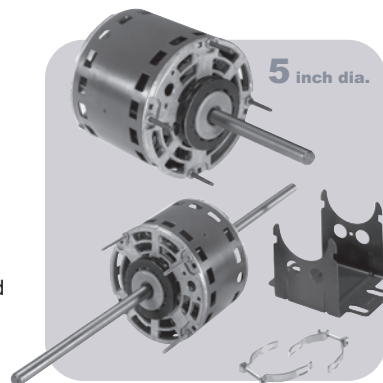
## 5KCP29 — Form G PSC Motors



Designed for virtually every fan and blower application.

### Features:

- All angle sleeve bearings
- Open construction
- Aluminum end shields
- 26 inch color-coded leads
- 2-1/2 inch resilient ring mounting
- Double shaft models shipped with base mounted (3.5 inch shaft height)
- Extended thru bolts on shaft end—extended 3/4 inch on single shaft and 1-1/2 inch on double shaft motors (on 4.6 inch bolt circle)
- Energy Saver® design
- Motor reversing leads have terminals for quick change to opposite rotation
- For accessories see pages M-44 – M-46



### Specifications:

- Single phase, 60 Hertz
- Automatic reset overload protection
- Fan duty, continuous, air over
- Advanced Class B insulation
- 5 Mfd @ 370V capacitor required (MARS No. 12005)

MARS NO.	GE NO. 5KCP29	HP	VOLTS	AMPS	ROT LE	RPM	DIMENSIONS			
							A	B	C	D
<b>1075 RPM - Single Shaft - Three Speed - 6 Pole</b>										
02840(1)	BG5866S	1/30	115	.61	REV	1075	8.00	6.00/4.50	—	1/2
02824	EG5854S	1/8	115	2.45	REV	1075	4.00	5.06	—	1/2
02825	KG5855S	1/5	115	3.51	REV	1075	4.00	5.56	—	1/2
<b>1075 RPM - Double Shaft - Four Speed - 6 Pole</b>										
02830	BG5860S	1/15	115	1.4	CCW	1075	8.00	4.67	8.00	1/2
<b>1625 RPM - Double Shaft - Four Speed - 4 Pole</b>										
02837	FG5869S	1/6	115	2.1	CCW	1625	8.00	5.42	8.00	1/2

(1) Model has resilient ring length adapter kit included in carton

## “Cap-Can” Construction Vertical Shaft Down Condenser Fan And Heat Pump Motors

### Ball Bearing

These new permanent split capacitor motors from GE are designed for use in residential outdoor condenser fan and heat pump units (primarily up to 3.5 tons), requiring vertical shaft down with stud or flange mounting.

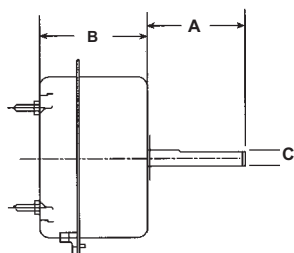
#### Features:

- “Cap-Can” construction
- Automatic thermal overload protection
- #8-32 extended stud or flange mount
- Water slinger on shaft
- Vertical shaft down mounting orientation
- CW or CCW rotation in several ratings
- Designed for 370 volt capacitor (not furnished)
- Class B insulation
- For accessories see pages M-44 – M-46

#### Specifications:

- All models are single-speed
- 60 Hz
- 208-230 Volts
- 1/2" Shaft diameter
- 26" Leads
- Continuous duty, air-over

MARS NO.	GE NO.	HP	RPM	AMPS	ROT OSE	370V CAP REQUIRED	DIMENSIONS		
							A	B	C
02248	5KCP29ECA328S	1/8	1075	0.86	CW	5 MFD	2.75	3.85	1/2"



## SOS™ Multi-Horsepower Direct Drive Blower Motors



MARS SOS™ multi-horsepower direct drive blower motors are ideal for truck stock. Four models cover both 115 volt and 208-230 volt applications from 1/6 through 3/4 HP.

All SOS™ motors feature easy mounting in Rheem applications.

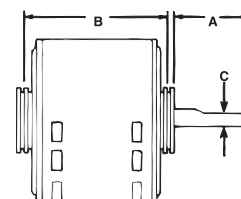
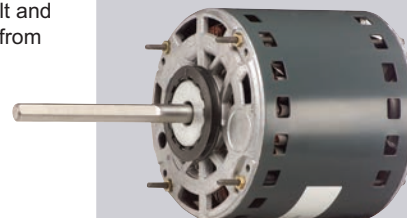
#### Features:

- Multi-HP
- Open end shields
- Extended mounting studs
- 2-1/2 inch resilient rings
- Reversible rotation
- All angle sleeve or ball bearings
- Capacitor requirement noted on motor label
- For accessories see pages M-44 – M-46

#### Specifications:

- Single phase, 60 Hz
- Overload protection
- Fan duty, continuous air over
- Open construction

5 1/2 inch dia.



#### Cross Reference:

MARS No.	A.O. SMITH	EMERSON
03463	FDL6001	5460
03464	FD6000	5461
03466	FDL6002	5470

## 1075 RPM Multi-Horsepower Reversible Rotation – 6 Pole

MARS NO.	GE NO. 5KCP39	HP	VOLTS	AMPS	DIMENSIONS		
					A	B	C
03463	KGV804AS	1/2, 1/3, 1/4, 1/5, 1/6	115	6.2	5.00	4.73	1/2
03464	KGV805AS	1/2, 1/3, 1/4, 1/5, 1/6	208-230	2.7	5.00	4.73	1/2
03466*	SGU363AS	3/4, 1/2, 1/3, 1/4, 1/5	115	8.4	5.00	5.98	1/2

\* Ball Bearing

## SOS™ Multi-Horsepower Outdoor Condenser Fan Motors

### Ball Bearing

MARS SOS™ multi-horsepower condenser fan motors are ideal for truck stock. Three 1075 RPM models cover 208-230 volt applications from 1/6 to 1/2 HP.

New Slim Stack™#03458, **WIZARD**, and the new **WIZARD 825** fit in many 1/3 HP installations that will not accept other manufacturer's motors.

The 03458 is a single speed "wide-range" motor that will run at any fan load from 1/6 to 1/3 HP at a nominal 1075 RPM. MARS #03459, the new WIZARD 825, will run at any fan load from 1/8 to 1/3 HP at a nominal 825 RPM.

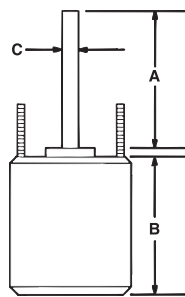
All SOS™ motors feature easy mounting in Rheem applications.

#### Features:

- Multi-HP
- Thru bolt or band mounting
- Rheem mounting capability
- Water slinger on shaft
- Air conditioning or heat pump duty
- Capacitor requirement noted on motor label
- End Shield drain holes w/plugs

#### Specifications:

- Single phase, 60 Hz
- Overload protection
- Fan duty, continuous air over
- Totally enclosed, Non-ventilated
- Class B insulation



\* Heat Shield

#### Cross Reference:

MARS No.	A.O. SMITH	EMERSON
03458	ORM5458	5458
03459	ORM5488B	5464
03468	FE6002	5465
03469	FE6001	5464

### Multi-Horsepower, Reversible Rotation

MARS NO.	GE NO. 5KCP39	HP	VOLTS	AMPS	DIMENSIONS			
					A	B	C	
<b>1075 RPM - 6 Pole</b>								
03458	Wizard	JGU530S	1/3, 1/4, 1/5, 1/6	208-230	2.8	6.75	4.48	1/2
03458HS*	Wizard	LGU7215	1/3, 1/4, 1/5, 1/6	208-230	2.6	6.50	5.23	1/2
<b>825 RPM - 8 Pole</b>								
03459*	Wizard 825	NFBA87S	1/3, 1/4, 1/5, 1/6, 1/8	208-230	1.8	6.50	5.48	1/2

\* Heat Shield

## Vertical Outdoor Condenser Fan Motors Shaft-Up/Down

### Ball Bearing

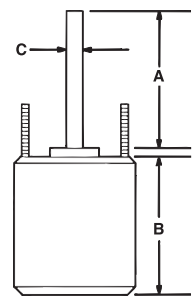
GE up/down outdoor condenser fan motors are designed for either vertical shaft-up or shaft-down applications. Shell and end shields are enclosed for weather protection. A weep hole is provided in each end shield to allow condensate to drain. A plastic plug is provided to seal the weep hole in the end shield exposed to the weather. All of these motors are suitable for air conditioning or heat pump applications. All feature reversible rotation, 208-230 volts, six inch shaft length and extended thru bolts extending from both ends.

#### Features:

- Thru bolt or band mounting
- All angle mounting
- Water slinger on shaft
- Serrated end cap on shaft end only
- For air conditioning or heat pumps
- Full six inch shaft length with two full flats at 90°
- Reversible rotation
- For accessories see pages M-44 – M-46
- Rheem mtg. holes (mtg. hardware included)

#### Specifications:

- 60 Hertz
- Single phase
- Overload protected
- Fan duty, continuous, air over
- 48 inch leads
- Totally enclosed, non-ventilated
- Class B insulation



\* Heat Shield

### Reversible Rotation

MARS NO.	GE NO. 5KCP39	HP	VOLTS	AMPS	RPM (1)	CAP REQ.	DIMENSIONS		
							A	B	C
<b>825 RPM - Single Speed - Standard Efficiency - 8 Pole</b>									
03203*	HFBA79S	1/6	208-230	0.90	825	5/370	6.0	4.30	1/2
03204*	JFBA83	1/4	208-230	1.3	825	7.5/370	6.0	5.03	1/2
03205*	NFBA82S	1/3	208-230	1.8	825	10/370	6.0	5.80	1/2
<b>1075 RPM - Single Speed - Standard Efficiency - 6 Pole</b>									
03733(2)*	LGU715S	1/3	208-230	2.6	1075	7.5/370	6.0	4.48	1/2
03734(2)*	RGU718S	1/2	208-230	3.0	1075	10/370	6.0	5.23	1/2
03735(2)*	SGU717S	3/4	208-230	4.1	1075	10/370	6.0	5.98	1/2

(1) Low speed approximately 300 RPM less than high speed depending on fan load

\* Heat Shield

## Vertical Outdoor Condenser Fan Motors Shaft-Up/Down

GE up/down outdoor condenser fan motors are designed for either vertical shaft-up or shaft-down applications. Shell and end shields are enclosed for weather protection. A weep hole is provided in each end shield to allow condensate to drain. A plastic plug is provided to seal the weep hole in the end shield exposed to the weather. All of these motors are suitable for air conditioning or heat pump applications. All feature reversible rotation, 208-230 volts, six inch shaft length and extended thru bolts extending from both ends.

### Specifications:

- 60 Hertz
- Single phase
- Overload protected
- Fan duty, continuous, air over
- 26 inch leads
- Totally enclosed, non-ventilated
- Class B insulation

### Features:

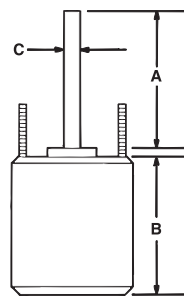
- Up/down design
- Thru bolt or band mounting
- All angle sleeve bearings
- Water slinger on shaft
- Serrated end cap on shaft end only
- For air conditioning or heat pumps
- Full six inch shaft length with two full flats at 90°
- Reversible rotation
- 48 inch leads
- For accessories see pages M-44 – M-46

### Reversible Rotation

MARS NO.	GE NO. 5KCP39	HP	VOLTS	AMPS	RPM	CAP REQ.	DIMENSIONS		
							A	B	C

### 1075 RPM - Single Speed - Standard Efficiency - 6 Pole

03727	DGS375S	1/6	208-230	1.0	1075	5/370	6.0	4.71	1/2
03730	PGS618S	1/2	208-230	3.5	1075	10/370	6.0	6.50	1/2



## Shaft-Up Outdoor Condenser Fan Motors



GE outdoor condenser fan motors for vertical shaft-up applications are also suitable for horizontal mounting. GE vertical shaft-up outdoor condenser fan motors are designed for 60°C ambient temperature. Add MARS No. 08105 resilient rings to base mount.

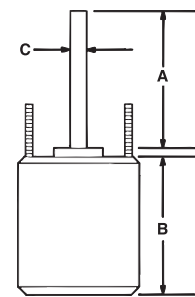
GE commercial 460 volt outdoor condenser fan motors are designed for 70°C ambient so lower operating temperatures = improved life and reliability.

### Features:

- Reversible rotation
- Thru bolt or band mounting
- Water slinger on shaft
- Serrated end caps on vertical shaft-up models
- Full six inch shaft length
- For accessories see pages M-44 – M-46

### Specifications:

- Class B insulation
- Single phase, 60/50 Hertz
- Automatic thermal overload protected
- Fan duty, continuous, air over
- 26 inch leads shaft-up, 46 inch leads all angle
- Lead end endshield open construction



\* Heat Shield

### Reversible Rotation

MARS NO.	GE NO. 5KCP39	HP	VOLTS	AMPS	RPM	CAP REQ.	DIMENSIONS		
							A	B	C

### 1075 RPM - Shaft-Up - Single Speed - Sleeve Bearings - Standard Efficiency - 6 Pole

03329 <sup>(1)(2)</sup>	HGP698S	1/3	208-230	2.4	1075	7.5/370	6.0	5.31	1/2
03330 <sup>(1)(2)</sup>	MGK209S	1/2	208-230	3.6	1075	10/370	6.0	6.60	1/2
03331 <sup>(1)(2)</sup>	PFM210S	3/4	208-230	5.1	1075	10/370	6.0	6.06	1/2

### 1075 RPM - 460V - Single Speed - All Angle Ball Bearing - 6 Pole

03737 <sup>(1)(3)*</sup>	NGU724S	1/3	460	1.2	1075	7.5/370	6.0	5.30	1/2
03738 <sup>(1)(3)*</sup>	RGU723S	1/2	460	1.7	1075	10/370	6.0	5.80	1/2
03739 <sup>(1)(3)*</sup>	SGU725S	3/4	460	2.0	1075	15/370	6.0	6.50	1/2

(1) 60 Hertz only

(2) Class A Insulation

(3) Rheem shell mtg. holes

\* Heat Shield

## 5KCP39 PSC 460 Volt Motors

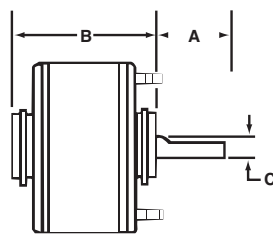
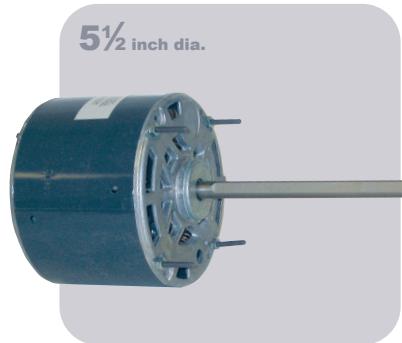
### Ball Bearing

#### Features:

- Energy Saver®
- For use in air moving applications
- 460 volt, 2-speed
- All angle
- Extended thru bolts
- Capacitor included
- 08105 for cradle mount, serrated end caps
- For accessories see pages M-44 – M-46

#### Specifications:

- Single phase, 60/50 Hz
- Overload protection
- Fan duty, continuous, air over
- Enclosed shell, open end shields
- 26 inch leads
- Class A insulation



### 1075 RPM – Reversible Rotation - 6 Pole

MARS NO.	GE NO. 5KCP39	HP	VOLTS	AMPS	CAP. (FURNISHED)	DIMENSIONS			BASE NO.
						A	B	C	
03290	PGC520ET	3/4	460	2.1	15/370	6.0	6.31	1/2	08060



## PSC Direct Drive Blower Motors



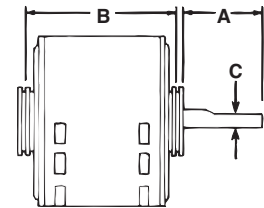
These GE 5KCP39 PSC motors are designed for use as direct drive furnace blower motors. All are three speed, high efficiency, Energy Saver® models and are electrically reversible. Motors have 2-1/4 inch resilient rings for base mounting. Four (4) split rings included if 2-1/2 inch diameter is required. Bases are sold separately.

#### Features:

- All angle sleeve bearings
- 3 speeds
- 1/2 inch extended thru bolts
- Ring kit allows 2-1/4 inch & 2-1/2 inch resilient ring mounting
- Reversible rotation
- 4 inch long, 1/2 inch diameter shaft
- For accessories see pages M-44 – M-46

#### Specifications:

- Single phase, 60/50 Hertz
- Overload protection
- Fan duty, continuous, air over
- Open construction
- 26 inch leads
- Class B insulation



### Reversible Rotation — Energy Saver®

MARS NO.	GE NO. 5KCP39	HP	VOLTS	AMPS	CAP. REQ.	DIMENSIONS			BASE NO.
						A	B	C	
03999	PGE416T	3/4	208-230	4.0	7.5/370	4.0	6.14	1/2	08060

### 1625 RPM<sup>(1)</sup> — Three Speed - 4 Pole

### 1075 RPM — Reversible Rotation - Standard Efficiency - 6

MARS NO.	GE NO. 5KCP39	HP	VOLTS	AMPS	CAP. REQ.	DIMENSIONS			BASE NO.
						A	B	C	
<b>Three Speed<sup>(1)</sup></b>									
03583 <sup>(2)</sup>	FGN651T	1/4	115	4.2	5/370	4.0	4.89	1/2	08055
03586 <sup>(2)</sup>	JGN654T	1/3	208-230	2.9	5/370	4.0	5.14	1/2	08056
03587 <sup>(2)</sup>	PGN655T	1/2	115	9.0	5/370	4.0	6.14	1/2	08060
03588 <sup>(2)</sup>	NGN656T	1/2	208-230	4.3	5/370	4.0	5.89	1/2	NA
03595 <sup>(2)</sup>	SGL854S	1	115	11.8	20/370	4.0	6.90	1/2	08060
03596 <sup>(2)</sup>	SGL853S	1	208-230	5.59	15/370	4.0	6.90	1/2	08060
<b>Two Speed<sup>(3)</sup></b>									
03383 <sup>(2)</sup>	FGM421S	1/4	115	4.2	5/370	4.0	4.89	1/2	08055
03387	PGM438S	1/2	115	9.0	5/370	4.0	6.14	1/2	08060
03389	PGN091T	3/4	115	10.3	15/370	4.0	6.14	1/2	08060

(1) Approximately 150RPM differential between speeds depending on fan load

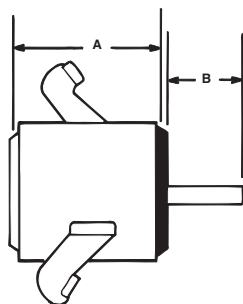
(2) 60 Hz only

(3) Approximately 300RPM differential between speeds depending on fan load

## 5KCP39 PSC Torsion Flex Mount Motors



GE torsion-flex mount motors are designed for direct drive furnace blower applications. The unique torsion-flex mounting speeds installation while the special steel of the torsion-flex bracket absorbs vibration for quieter operation. All models are electrically reversible, 3-speed motors of high efficiency Energy Saver® design.



### Features:

- Energy Saver®
- All angle sleeve bearings
- 3-Speed 1075/925/775 RPM<sup>(1)</sup>
- Torsion-flex mounting, grommets and sleeves included
- 5.0 inch long, 1/2 inch diameter shaft
- Reversible rotation

### Specifications:

- Class A insulation
- Single phase, 60/50 Hertz
- Overload protection
- Fan duty, continuous, air over
- Open construction
- 26 inch leads

### 1075 RPM<sup>(1)</sup> — Three Speed – Reversible Rotation - 6 Pole

MARS NO.	GE NO. 5KCP39	HP	VOLTS	AMPS	CAP. REQ.	DIMENSIONS		BLOWER SIZE
						A	B	
03785 <sup>(2)</sup>	LGP732S	1/3	115	4.9	7.5/370	5.0	4.98	9 in.
03786	JGP733S	1/3	208-230	2.5	5/370	5.0	4.73	9 in.
03787	PGP734S	1/2	115	7.3	10/370	5.0	5.48	10 in.

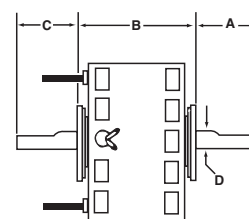
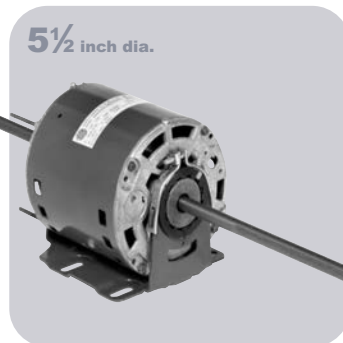
(1) Approximately 150RPM differential between speeds depending on fan load  
 (2) 60 Hz only

## PSC Motors Replace 5KCP32 & 5KCP38



### Features:

- Energy Saver®
- Replace GE 5KCP32-38
- All angle sleeve bearings
- Two-speed, 1075/775 RPM(2) double shaft
- Extended thru bolts, base included, plus 4 split rings
- 14 inch leads
- For accessories see pages M-44 – M-46



### Specifications:

- Single phase, 60/50 Hertz
- Open construction
- Overload protected
- Fan duty, continuous, air over
- 3 inch shaft height when base mounted

### 1075/775 RPM<sup>(1)</sup>

MARS NO.	GE NO. 5KCP	HP	VOLTS	AMPS	ROT LE	CAP. REQ.	DIMENSIONS			
							A	B	C	D
03092 <sup>(2)</sup>	39NGD369T	1/2	208-230	3.8	CCW	5/370	8.00	6.46	8.50	1/2

(1) Approximately 300 RPM differential between speeds depending on fan load  
 (2) 60 Hertz only

## 5KCP39 PSC Double Shaft Motors

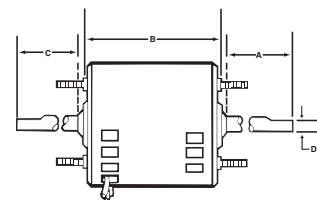
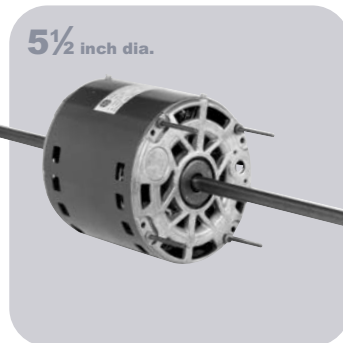


GE Commercial Motors

By Regal-Beloit

### Features:

- All angle sleeve bearings
- 3 speed, 1075/925/775 RPM
- Extended thru bolts
- Base mount using mounting kit 08095 and appropriate base
- Double 1/2 inch diameter shafts
- For accessories see pages M-44 – M-46



### Specifications:

- Single phase, 60/50 Hertz
- Overload protected
- Fan duty, continuous, air over
- Open construction
- Requires 5 mfd, 370 volt capacitor (MARS No. 12005)
- 14 inch numbered leads

### 1075/925/775 RPM<sup>(1)</sup>

MARS NO.	GE NO. 5KCP39	HP	VOLTS	AMPS	RPM <sup>(1)</sup>	ROT LE	DIMENSIONS				BASE NO.
							A	B	C	D	
03696	NGA407T	1/2	208-230	3.5	1075/975/775	CCW	7.50	5.25	7.25	1/2	08060

(1) Approximately 150 RPM differential between speeds depending on fan load

## GE TecMate Pro™ Service Tool



The Tecmate Pro™ Service Tool, MARS stock #08500 is the latest advance in ECM technology developed by and for Genteq Motors. The Tecmate allows the service technician to analyze a Genteq ECM motor independently of the HVAC system in which it is installed. The Tecmate can test all the basic settings of a Genteq ECM motor, and can detect and isolate motor failures from HVAC system failures.

**Compact**

**Easy To Use**



MARS NO.	DESCRIPTION
08500	TECMate Pro ECM Motor Tester

## Broad Ocean ECM Motor Tester (Digimotor Test Tool)

Save time and money with the Broad Ocean ECM Motor Tester

- Isolates any issues to either the motor or the control board and the control wiring

**NOTE:** This tool is for Broad Ocean OEM Digi-Motors only.

This tool is not compatible with Azure®.

### Kit Contents:

- Broad Ocean ECM Tool
- Type A test Connector (Furnaces, AH & Packaged)
- Type B Test Connector (Packaged Units)
- Type C Test Connector (Air Handlers)
- Type D Test Connector (Outdoor Condenser Fan Motors)



MARS NO.	DESCRIPTION	MARS PACK
08503	Broad Ocean ECM Motor Tester	1

## ECM Protectors

### Saves Equipment

ECM protectors plug into existing motor connectors or plugs. They help to protect these valuable motors from voltage spikes, surges, and transients that often damage them.

### Fast Installation

These protectors simply plug in between the motor connector and the existing wiring harness. A ground strap with a ring terminal is provided for additional protection.

### Protect Your Investment

The most common cause of ECM motor failure is damage to the electronics module as a result of poorly conditioned incoming power.

MARS NO.	USED ON	MARS PACK
08552	GE X-13 ECM	1
08553	OEM ECM Applications	1



## ECM Repair Kit

Repairs many ECM motor modules that have been damaged by voltage problems and power surges

- Full instructions included in kit
- Kit includes **OCPD** device and helpful circuit board releaser tool
- Using the kit requires a soldering gun or iron and rosin core solder

ECM's have **\*Over Current Protection Devices** that are designed to keep excessive power from damaging other system components. Frequently, only this part needs replacement to restore an expensive ECM to an operation condition.

Not every ECM module can be repaired. Because of this, the repair kit is not guaranteed to fix every motor-but because of the motor's high cost vs. the repair kit's low cost- it's often worth the effort.

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