Unit Bearing Motors

EM&S ESP-L Shaded Pole Motors

Features:
- Cast iron unit bearing
- Single speed
- End or side pad mounting
- Horizontal operation
- With flatted smooth shaft

Specifications:
- Single phase, 60 Hertz
- Overload protection
- Continuous, air over

EM&S High Efficiency ESP-L Shaded Pole and PSC Motors

The ESP line of motors is a unique and patented design that makes possible a higher output in a smaller frame.

Features:
- Cast iron unit bearing
- Single speed
- End or side pad mounting
- Horizontal operation
- Threaded or smooth shaft
- Heat isolated oil pump and reservoir

Specifications:
- Single phase, 60 Hertz
- 22" leads
- Overload protection
- Continuous, air over

For Tecumseh – Replaces No. 810M050A62

For Kelvinator – Replaces Nos. 24-0366, ESP-L15EMJR11

1550 RPM – 1/4" Threaded Shaft

1550 RPM – 3/8" & 5/16" Smooth Flatted Shaft

(1) 2 female spade terminals at end of each wire
Evaporator/Condenser

The Unitronix Double Duty is an electronically commutated motor that brings outstanding energy savings to the refrigeration market in the form of a direct drop-in replacement for practically all unit bearing motors. No additional labor or sheet metal work is required to replace an existing shaded pole unit bearing motor with a Unitronix Double Duty.

Heat in a refrigerated space has always been a necessary evil in the food marketing industry. Lights, motors and defrost heating elements are the culprits. But, heat shortens food storage life and adds to the load placed on the refrigeration system. The new Unitronix Double Duty dramatically reduces (by as much as 75%) the waste heat generated by refrigerated case evaporator motors.

Features:
- Special wide temperature range lubrication system
- High capacity oil reservoir spiral grooved shaft for efficient distribution of oil to the bearing surface
- Mounting hardware included
- Water shield included
- Tapped & Drilled Mounting Holes:
  - Universal Evaporator Mount
    - Standard 3-Hole
    - Custom 4-Hole Hussmann Style
  - Universal Condenser Mount
    - Double Boss

Specifications:
- 1550 RPM standard
- Cast iron
- Unit bearing
- EMF P-2-1A lyall power plug
- 15" Leads
- UL file no. E128044

<table>
<thead>
<tr>
<th>MARS NO.</th>
<th>APPLICATIONS</th>
<th>HP</th>
<th>VOLTS</th>
<th>AMPS</th>
<th>ROT SE</th>
<th>RPM</th>
<th>MARS PACK</th>
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<td>CW</td>
<td>1550</td>
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</table>

Walk-In Cooler Evaporator

EC Fan Motors

MARS American Iron Motors are high efficiency designs that are made in America incorporating EM&S patented, permanent magnet ECM technology that brings outstanding energy savings.

Features:
- 3.3 Interchangeability
- Shaft down and horizontal mounting
- Cast iron unit bearing construction
- Front mount studs
- Rotation: shaft end

Specifications:
- Universal, fits most 1/15HP and smaller applications, 1550 RPM
- 230 Volt 60/50 Hz; 115 Volt 60 Hz.
- 22.5" Leads with EMF/Lyall Plug
- 4 10-32 Hex Flange nuts are supplied with each motor
- UL and cUL recognized

Made In America

SEE MOTOR IN ACTION! Scan for video

1550 RPM – Single Speed

<table>
<thead>
<tr>
<th>MARS NO.</th>
<th>APPLICATIONS</th>
<th>HP</th>
<th>VOLTS</th>
<th>AMPS</th>
<th>ROT SE</th>
<th>RPM</th>
<th>MARS PACK</th>
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</table>

* Shaft and leads are on the same end
ECM 51 Frame Commercial Refrigeration Motors

EM&S manufactures an ECM unit bearing construction motor that can serve as a drop-in replacement for the obsolete GE 55/44 frame ECM 1650 or 1850 rpm motor. This motor is available in a 9 watt and a 16 watt version. This promises substantial energy savings and potentially fast payback on the cost of conversion.

Features:
- Ultra high efficiency
- Improved reliability
- Enhanced airflow performance
- Energy savings of 66 percent over a wide speed range
- Low operating temperature
- Lyall plug or EMF plug
- Accessories included with each motor; (1) speed nut, (1) resilient fan silencer, (3) 8-36 mounting screws, (1) rainshield
- Replaces GE ECM 55/44 frame motors

Specifications:
- Totally enclosed air over
- Unit bearing
- 1/4” - 20 Threaded shaft
- 60/50 Hertz

Unit Bearing’s average annual energy savings versus shaded pole motors

<table>
<thead>
<tr>
<th>MARS NO.</th>
<th>WATTS</th>
<th>RPM</th>
<th>ROT OSE</th>
<th>VOLTS</th>
<th>AMPS</th>
<th>LEAD LENGTH</th>
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<td>9</td>
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</table>

@ 8¢ KWH and 1.75 multiplier on energy saving

58 MM Series Replacement ECM Fan/Motor System

The 58MM Series replacement ECM Fan/Motor systems are primarily used in commercial refrigeration air moving applications demanding high efficiency and dependability. These motors are moisture resistant, reliable, quiet unit bearing design with efficiencies three times higher than shaded pole motors and 45% higher than PSC. These replacement ECM Fan/Motor systems are all metal in design and have 1 discrete speed, variable torque, low temperature lubrication system which makes them extremely quiet with low vibration.

Features:
- Lyall plug
- Class B insulation
- 60 Hertz
- Thermal protection
- Single phase

Specifications:
- -40 to 55°C ambient operating temp.
- Single speed
- Maximum watts 36
**Ball Bearing**

The Morrill ARKTIC 59 motor is primarily used in the evaporator of commercial refrigeration walk-in coolers and freezers, but can be used in any application demanding high efficiency and dependability with output ratings between 4 – 12 watts and 13 – 23 watts. These motors significantly outperform both shaded pole and PSC technology. With efficiencies three times higher than shaded pole motors and 45% higher than PSC, in addition to the reliable and quiet unit bearing design, they provide users great reliability and excellent energy savings for their applications.

**Features:**
- Universal “Drop-In” replacement for walk-in evaporator applications
- Totally enclosed, non-vented
- Shaft water slinger
- Standard thru-bolt configuration
- All angle mount
- Power cord with lyall plug

**Specifications:**
- Automatic torque variation, constant speed
- Low temp (-20°C) lubrication system
- 50/60 Hz
- 1 Discrete speed
- CUL (CE & VDE pending) UL file # E306123
- Thermally protected

### 1550 RPM - Front Or Rear Thru-Bolt Mount

<table>
<thead>
<tr>
<th>MARS NO.</th>
<th>MFG MODEL</th>
<th>NOMINAL HP</th>
<th>VOLTS</th>
<th>AMPS</th>
<th>OSE ROT</th>
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<td>05205</td>
<td>BVA2039</td>
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<td>0.63</td>
<td>CCW</td>
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### 1550/800 RPM - Two Speed - Front or Rear Thru Bolt Mount

<table>
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<tr>
<th>MARS NO.</th>
<th>MFG MODEL</th>
<th>NOMINAL HP</th>
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<td>CW</td>
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</table>

### Applications:
- Bottle coolers
- Display cases
- Reach-In coolers
- Vending machines

**Features:**
- Output 4 – 12W and 13 – 23W
- ~66% peak efficiency
- Speed regulated within +/-6%
- Regulated speed; +/-6% Full Scale
- 1 Discrete speed
- 51fr Unit bearing motor; cast aluminum frame
- Side pedestal mounting feet (2 sets standard)

---

**ECM Technology**

These 51 frame unit bearing motors are primarily used in commercial refrigeration applications, both evaporator and condenser, but can be used in any application demanding high efficiency and dependability with output ratings between 4 – 12 watts and 13 – 23 watts. These motors significantly outperform both shaded pole and PSC technology. With efficiencies three times higher than shaded pole motors and 45% higher than PSC, in addition to the reliable and quiet unit bearing design, they provide users great reliability and excellent energy savings for their applications.

**Environmental Summary:**
- Storage Temps: -40 to 80° C ambient
- Operating Temps: -40 to 55° C ambient
- Design Life: 10 years, 83,720 hours on time

**Mechanical Summary:**
- 3.3" Electronically commutated aluminum or cast iron unit bearing
- 1/4" x 20 threaded shaft
- Aluminum enclosure (totally enclosed)
- Five .150" diameter cored mounting holes on rear
- Horizontal shaft (+/- 15°) or vertical shaft up operating position
- Standard 18 gauge, 2 conductor leads
- Lead cord may be terminated with 1/2" stripped wire, in-house molded plugs, eyelets, 1/4" quick connects, or special terminals
- RoHS compliant

**Applications:**
- Bottle coolers
- Display cases
- Reach-In coolers
- Vending machines

**Features:**
- Output 4 – 12W and 13 – 23W
- ~66% peak efficiency
- Speed regulated within +/-6%
- Regulated speed; +/-6% Full Scale
- 1 Discrete speed
- 51fr Unit bearing motor; cast aluminum frame
- Side pedestal mounting feet (2 sets standard)
Unit Bearing Motors / OEM Direct Replacement Motors

51 Frame Motors For Domestic Refrigeration

Features:
- Single phase, shaded pole
- Fan duty, continuous, air over
- Class A insulation
- 60/50 Hertz
- Impedance protected
- For accessories see pages M-44 – M-46

1550

<table>
<thead>
<tr>
<th>MARS NO.</th>
<th>GE NO.</th>
<th>WATTS</th>
<th>VOLTS</th>
<th>AMPS</th>
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EM&S PSC Type Replacement For GE

Features:
- Drop-in replacement
- Single phase PSC
- Fan duty, continuous, air over
- Low temp oil
- Reliable unit bearing
- Internal capacitor

Copeland OEM Direct Replacement Refrigeration Motors

Features:
- Single speed
- Cast iron
- Single foot pad, horizontal only
- Automatic thermal protection

1660 RPM 1/4” – 20 Threaded

<table>
<thead>
<tr>
<th>MARS NO.</th>
<th>GE NO.</th>
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<td>* 00117 replaces Hussmann SVC 441-302</td>
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WARNING:
Cancer and Reproductive Harm
www.P65Warnings.ca.gov