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 ESP-L Shaded Pole Motors

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

1500 RPM – 1/4" Threaded Shaft

MARS NO. | EMS NO. | WATTS | OUTPUT | VOLTS | AMPS | RPM | ROT LE | DIMENSIONS | SHAFT
---------|--------|-------|--------|-------|------|-----|--------|------------|-------
00201 | L16EM1 | 16 | 115 | 0.80 | CW | .50 | 3.50 | 1/4
00251 | L25EM1 | 25 | 115 | 1.1 | CW | .50 | 3.50 | 1/4
00252 | L25EMR1 | 25 | 115 | 1.1 | CCW | .50 | 3.50 | 1/4
00253 | L25EM2 | 25 | 230 | 0.60 | CW | .50 | 3.50 | 1/4
00254 | L25EMR2 | 25 | 230 | 0.60 | CCW | .50 | 3.50 | 1/4
00351 | L35EM1 | 35 | 115 | 1.4 | CW | .50 | 3.50 | 1/4
00352 | L35EMR1 | 35 | 115 | 1.4 | CCW | .50 | 3.50 | 1/4
00353 | L35EM2 | 35 | 230 | 0.70 | CW | .50 | 3.50 | 1/4
00354 | L35EMR2 | 35 | 230 | 0.70 | CCW | .50 | 3.50 | 1/4

EM&S ESP-L Shaded Pole Motors

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

1500 RPM – 3/8" & 5/16" Smooth Flattened Shaft

MARS NO. | EMS NO. | WATTS | OUTPUT | VOLTS | AMPS | RPM | ROT LE | DIMENSIONS | SHAFT
---------|--------|-------|--------|-------|------|-----|--------|------------|-------
00501 | OLS0EM1 | 50 | 115 | 1.7 | CW | 1.50 | 4.50 | 3/8
00502 | OLS0EMR1 | 50 | 115 | 1.7 | CCW | 1.50 | 4.50 | 3/8
00505 | OLS0EM2B | 50 | 230 | 0.85 | CW | 1.50 | 4.50 | 5/16
00503 | OLS0EM2 | 50 | 230 | 0.85 | CW | 1.50 | 4.50 | 3/8
00504 | OLS0EMR2 | 50 | 230 | 0.85 | CCW | 1.50 | 4.50 | 3/8
00508(1) | OLS0EMB1 | 50 | 115 | 1.7 | CW | 2.89 | 4.50 | 5/16
00513 | OLS0EM2 | 50 | 208-230 | 1.2 | CW | 2.89 | 4.50 | 3/8

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

For Tecumseh – Replaces No. 810M050A62

MARS NO. | EMS NO. | WATTS | OUTPUT | VOLTS | AMPS | RPM | ROT LE | DIMENSIONS | SHAFT
---------|--------|-------|--------|-------|------|-----|--------|------------|-------
00507 | OL50EMJR21 | 50 | 230 | 0.85 | 1500 | CCW | 1.50 | 4.50 | 3/8

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

MARS NO. | EMS NO. | WATTS | OUTPUT | VOLTS | AMPS | RPM | ROT LE | DIMENSIONS | SHAFT
---------|--------|-------|--------|-------|------|-----|--------|------------|-------
00152 | OL15EMJR11 | 15 | 115 | 0.60 | 1500 | CCW | 7.00 | 3.50 | 5/16

For Ideal Bottle Dispenser

MARS NO. | EMS NO. | WATTS | OUTPUT | VOLTS | AMPS | RPM | ROT LE | DIMENSIONS | SHAFT
---------|--------|-------|--------|-------|------|-----|--------|------------|-------
00256 | L25ERD1 | 25 | 115 | 1.1 | 1500 | CCW | .50 | 3.50 | smooth

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
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

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>
</tr>
</thead>
<tbody>
<tr>
<td>00211*</td>
<td>Evaporator/Condenser</td>
<td>1/15</td>
<td>115</td>
<td>1.25</td>
<td>CW</td>
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<td>1</td>
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<tr>
<td>00212*</td>
<td>Evaporator/Condenser</td>
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<td>115</td>
<td>1.25</td>
<td>CCW</td>
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<td>1</td>
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<td>1/15</td>
<td>230</td>
<td>0.77</td>
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<td>1</td>
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<tr>
<td>00222*</td>
<td>Evaporator/Condenser</td>
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<td>230</td>
<td>0.77</td>
<td>CCW</td>
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</table>

1550/1000 RPM – Two Speed

<table>
<thead>
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<th>MARS NO.</th>
<th>APPLICATIONS</th>
<th>HP</th>
<th>VOLTS</th>
<th>AMPS</th>
<th>ROT SE</th>
<th>RPM</th>
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<td>1</td>
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<tr>
<td>00226*</td>
<td>Evaporator/Condenser</td>
<td>1/15</td>
<td>230</td>
<td>0.77</td>
<td>CW</td>
<td>1550/1000</td>
<td>1</td>
</tr>
</tbody>
</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

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
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

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, ¼” 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)

---

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.
**ECplus™ Wide Range Universal Refrigeration Motor**

The ECplus™ electronically commutated ball bearing motor is used in commercial refrigeration applications and can replace standard shaded pole or other EC type motors ranging in size from 1 W to 22 W. The ECplus™ is approximately 3 times more efficient than standard shaded pole motors making it an excellent choice for upgrade retrofit projects. The robust IP55 rating ensures protection against water spray from maintenance wash downs.

**Applications:**
- Light commercial ventilation units
- Bottle coolers
- Vending machines
- Small walk in coolers
- Display/refrigeration display units
- Freezer cabinets
- Ice machines

**Features:**
- Double side mounting pads
- 5-hole universal rear mount
- Peak efficiency greater than 65%
- Incorporating ‘soft start’ feature ensures quiet ramp up to desired speed which assists in eliminating vibration noise & increasing life expectancy of integrated electronics
- One model covers 1 Watt to 22 Watt shaft power
- Support 6”, 7”, 8” & 10” (maximum 10” 28 degree pitch) fan blades

**Specifications:**
- Thermally protected with electronic overload protection
- IP55 Rating
- 1550 RPM
- Approvals UL & CUL

**1550 RPM – 1/4 – 20 Threaded Shaft - Dual Pad Mounting**

<table>
<thead>
<tr>
<th>MARS NO.</th>
<th>WATTS</th>
<th>VOLTS</th>
<th>MAX AMPS</th>
<th>ROT OSE</th>
<th>DIMENSIONS</th>
</tr>
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<tbody>
<tr>
<td>05620</td>
<td>1 - 22 Watts</td>
<td>120</td>
<td>0.42</td>
<td>CW</td>
<td>1.14, 2.48, .125</td>
</tr>
</tbody>
</table>

**PTAC-ECM Motor Replacement**

The MARS double shaft PTAC-ECM motors are high efficiency motors for direct replacement for shaded pole and PSC motors used in a wide range of fan coil assemblies and PTAC applications as an energy saving retrofit.

**Applications:**
- Fan Coils, Air Conditioners, Blowers, Shaded Pole, PTAC Units

**Features:**
- Single phase
- Energy efficient
- Includes resilient mounting base
- 54 Inch leads

**Specifications:**
- 42 Frame
- 60 Hertz
- Class “B” insulation
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 up to 50 watts. The ARKTIC 59 significantly outperforms both shaded pole and PSC technology with efficiencies three times higher than shaded pole motors and 40% higher than PSC. In addition to the reliable design, the ARKTIC 59 provides users the ease of drop-in replacement and extraordinary 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 (-20º F) 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 SSME59</th>
<th>NOMINAL HP</th>
<th>VOLTS</th>
<th>AMPS</th>
<th>OSE ROT</th>
<th>DIMENSIONS A</th>
<th>B</th>
<th>C</th>
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<tr>
<td>05104</td>
<td>BVA1036</td>
<td>1/15</td>
<td>115</td>
<td>1.1</td>
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<td>2.61</td>
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<tr>
<td>05105</td>
<td>BVA1038</td>
<td>1/15</td>
<td>115</td>
<td>1.1</td>
<td>CCW</td>
<td>2.61</td>
<td>3.36</td>
<td>5/16</td>
</tr>
<tr>
<td>05204</td>
<td>BVA2037</td>
<td>1/15</td>
<td>208-230</td>
<td>0.63</td>
<td>CW</td>
<td>2.61</td>
<td>3.36</td>
<td>5/16</td>
</tr>
<tr>
<td>05205</td>
<td>BVA2039</td>
<td>1/15</td>
<td>208-230</td>
<td>0.63</td>
<td>CCW</td>
<td>2.61</td>
<td>3.36</td>
<td>5/16</td>
</tr>
</tbody>
</table>

1550/800 RPM - Two Speed - Front or Rear Thru Bolt Mount

<table>
<thead>
<tr>
<th>MARS NO.</th>
<th>MFG MODEL SSME59</th>
<th>NOMINAL HP</th>
<th>VOLTS</th>
<th>AMPS</th>
<th>OSE ROT</th>
<th>DIMENSIONS A</th>
<th>B</th>
<th>C</th>
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<td>05127</td>
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<td>115</td>
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<td>CCW</td>
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<td>3.36</td>
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<td>05128</td>
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<td>1/15</td>
<td>115</td>
<td>1.1</td>
<td>CW</td>
<td>2.61</td>
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<td>5/16</td>
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<td>05227</td>
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<td>208-230</td>
<td>0.63</td>
<td>CCW</td>
<td>2.61</td>
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<td>05228</td>
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<td>0.63</td>
<td>CW</td>
<td>2.61</td>
<td>3.36</td>
<td>5/16</td>
</tr>
</tbody>
</table>

MARS NO. DESCRIPTION MARS PACK
08040 Krack Refrigeration Retrofit Bracket Kit 1
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-50 – M-54

Tyler Refrigeration OEM Direct Replacement Refrigeration Motors

Features:
- Universal 5 hole rear mount
- Dual mounting pads

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

Hussmann OEM Direct Replacement Refrigeration Motors

Features:
- Cast iron construction
- Universal 5 hole rear mount
- Dual mounting pads

Copeland OEM Direct Replacement Refrigeration Motors

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

1550

<table>
<thead>
<tr>
<th>MARS NO.</th>
<th>GE NO.</th>
<th>WATTS</th>
<th>VOLTS</th>
<th>AMPS</th>
<th>SHAFT</th>
<th>REPLACES</th>
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<tbody>
<tr>
<td>05109</td>
<td>M81FL0065</td>
<td>2</td>
<td>115</td>
<td>0.25</td>
<td>1/4-20 threaded</td>
<td>12</td>
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<tr>
<td>05110/1*</td>
<td>M51AG3144</td>
<td>2</td>
<td>115</td>
<td>0.25</td>
<td>1/4-20 threaded</td>
<td>1</td>
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</tbody>
</table>

(1) Push-on terminals, no leads  * Limited quantities available, while supplies last

EM&S PSC Type Replacement For GE

<table>
<thead>
<tr>
<th>MARS NO.</th>
<th>WATTS</th>
<th>VOLTS</th>
<th>RPM</th>
<th>AMPS</th>
<th>ROTATION</th>
<th>CONSTRUCTION</th>
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<tbody>
<tr>
<td>00660</td>
<td>5</td>
<td>115</td>
<td>1550</td>
<td>0.34</td>
<td>CW</td>
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<tr>
<td>00661</td>
<td>9</td>
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<td>1550</td>
<td>0.53</td>
<td>CW</td>
<td>aluminum</td>
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Hussmann OEM Direct Replacement Refrigeration Motors

<table>
<thead>
<tr>
<th>MARS NO.</th>
<th>WATTS</th>
<th>VOLTS</th>
<th>RPM</th>
<th>AMPS</th>
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Copeland OEM Direct Replacement Refrigeration Motors

<table>
<thead>
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<th>MARS NO.</th>
<th>WATTS</th>
<th>VOLTS</th>
<th>RPM</th>
<th>AMPS</th>
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<td>50</td>
<td>115</td>
<td>1500</td>
<td>1.7</td>
<td>CW</td>
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<td>00512</td>
<td>50</td>
<td>230</td>
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<td>1.0</td>
<td>CW</td>
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</table>

1660 RPM 1/4” – 20 Threaded

<table>
<thead>
<tr>
<th>MARS NO.</th>
<th>GE NO.</th>
<th>WATTS</th>
<th>VOLTS</th>
<th>AMPS</th>
<th>DIMENSIONS</th>
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<td>0.20</td>
<td>0.40</td>
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<td>115</td>
<td>0.26</td>
<td>0.40</td>
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</tbody>
</table>

* 00511 replaces Hussmann SVC 441-302

3½ inch dia.