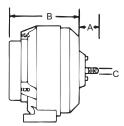
#### **EM&S ESP-L Shaded Pole Motors**

#### 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





#### For Tecumseh - Replaces No. 810M050A62

MARS	EMS NO.	S NO. WATTS VOLT SP OUTPUT VOLT MJR21 50 230	VOLTE	AMDS	DDM	DDM ROT		DIMENSIONS		
NO.	ESP	OUTPUT	VULIS	AIVIFS	KFW	LE	Α	В	С	TYPE
00507	OL50EMJR21	50	230	0.85	1500	CCW	2.00	4.25	5/16	with flat

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

MARS	EMS NO.	WATTS	VOLTS AMPS 1115 0.60 1	DDM	ROT	DIN	IENSIC	ONS	SHAFT	
NO.	ESP	OUTPUT	VULIS	AIVIPS	KPW	LE	Α	В	С	TYPE
00152	OL15EMJR11	15	115	0.60	1500	CCW	7.00	3.50	5/16	with flat

# 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.

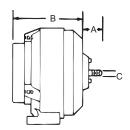
#### Features:

- · 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





#### 1550 RPM - 1/4" Threaded Shaft

MARS	EMS NO.	WATTS	VOLTS	AMPS	ROT	DIMENSIONS			
NO.	ESP	OUTPUT	VOLIS	AWIFS	OSE	Α	В	С	
00251	L25EM1	25	115	1.1	CW	.50	3.50	1/4	
00253	L25EM2	25	230	0.60	CW	.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	

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

MARS	EMS NO.	WATTS	VOLTS	AMPS	ROT	DI	MENSION	IS
NO.	ESP	OUTPUT	VOLIS	AIVIFO	OSE	Α	В	С
00501	OL50EM1	50	115	1.7	CW	1.50	4.50	3/8
00502	OL50EMR1	50	115	1.7	CCW	1.50	4.50	3/8
00505	OL50EM2B	50	230	0.85	CW	1.50	4.50	5/16
00503	OL50EM2	50	230	0.85	CW	1.50	4.50	3/8
00504	OL50EMR2	50	230	0.85	CCW	1.50	4.50	3/8
00508(1)	OL50EM1B1	50	115	1.7	CW	2.89	4.50	5/16
00513	OL60EM2	50	208-230	1.2	CW	2.89	4.50	3/8

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

**American Iron** 

# 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:

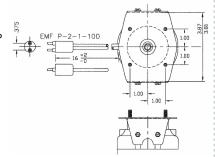
- Universal, fits most 1/15HP and smaller applications, 1550 RPM
- 230 Volt 60/50 Hz; 115 Volt 60 Hz.
- 22.5" Leads with EMF/ Lyall Plug
- 4 10-32 Hex Flange nuts are supplied with each motor
- · UL and cUL recognized

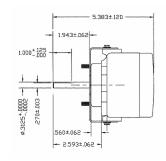


SEE THIS MOTOR IN ACTION! Scan for video

# American Iron







#### 1550 RPM - Single Speed

MARS NO.	APPLICATIONS	HP	VOLTS	AMPS	ROT SE	RPM	MARS PACK
00211*	Evaporator/Condenser	1/15	115	1.25	CW	1550	1
00212*	Evaporator/Condenser	1/15	115	1.25	CCW	1550	1
00221*	Evaporator/Condenser	1/15	230	0.77	CW	1550	1
00222*	Evaporator/Condenser	1/15	230	0.77	CCW	1550	1

<sup>\*</sup> Shaft and leads are on the same end

#### **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

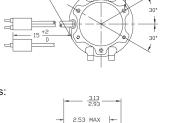
#### **Universal Condenser Mount**

- Double Boss

#### Specifications:

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

• OL lile II	0. ⊑120044						
MARS NO.	APPLICATIONS	OUTPUT WATTS	VOLTS	NOMINAL AMPS	ROT SE	RPM	MARS PACK
00621	Evaporator/ Condenser	6-12	115	0.25	CW	1550	1
00621BULK	Evaporator/ Condenser	6-12	115	0.25	CW	1550	6
00622	Evap/Cond, 90°Lyall Plug	6-12	115	0.25	CW	1550	1
00624	Evaporator/ Condenser	14-16	115	0.50	CW	1550	1
00625	Evap/Cond,	14-16	115	0.50	CW	1550	1



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3.87

- .094+0.012

### **Unit Bearing / Refrigeration Fan Motors**

#### **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 fra

#### Specifications:

- · Totally enclosed air over
- Unit bearing
- 1/4" 20 Threaded shaft
- 60/50 Hertz

## LYALL M-2-43 OR EMF P-2-1-100 - 3.529±.062 - 2.78 MAX -.59 MAX 3.87

Ø3.50 MAX.

#### ECM installation's average annual energy savings versus shaded pole motors

05443	\$ 35
05444	\$ 55

@ 8¢ KWH and 1.75 multiplier on energy saving

MARS NO.	WATTS	RPM	ROT OSE	VOLTS	AMPS	LEAD LENGTH
05443	9	1650	CW	115	0.32	12"
05444	16	1850	CW	115	0.40	12"

#### **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

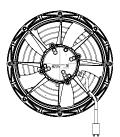
#### Specifications:

- · -40 to 55°C ambient operating temp.
- Single speed
- Maximum watts 36



Front View





Side View Rear View

MARS NO.	GE NO. 5SME58	REPLACES RPM	VOLTS	MAX AMPS	ROT. OSE	AT 0.05" CFM	AT 0.10" CFM	AT 0.15" CFM
05470	AAF1027	1340	115	0.30	CW	330	270	210
05471	AAF1026	1470	115	0.40	CW	370	300	200
05472	AAF1031	1650	115	0.40	CW	400	360	255



morrillmotors\*

#### **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



**American Iron** 

#### **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)

MARS NO.	APPLICATIONS	OUTPUT WATTS	VOLTS	ROT	RPM	MARS PACK
00650	Evaporator/Condenser	4-12	115	CW	1550	1
00651	Evaporator/Condenser	4-12	230	CW	1550	1
00652	Evaporator/Condenser (90° lyall plug)	4-12	115	CW	1550	1
00654	Evaporator/Condenser	13-23	115	CW	1550	1
00655	Evaporator/Condenser	13-23	230	CW	1550	1
00656	Evaporator/Condenser	13-23	115	CCW	1550	1
00657	Evaporator/Condenser	13-23	230	CCW	1550	1

#### **^~KTIC**<sup>™</sup>·59

#### **Ball Bearing**

The Morrill ARKTIC 59 motor is primarily used in the evaporator of commercial refrigeration walkin 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.

# 3.3 inch dia.

#### 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 Iyall plug

#### Specifications:

- · Automatic torque variation, constant speed
- Low temp (-20° 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

MARS	MFG MODEL	NOMINAL	VOLTS	AMPS	OSE	DI	IMENSIONS	
NO.	5SME59	HP	VOLIS	AIVIFS	ROT	Α	В	С
05105	BVA1038	1/15	115	1.1	CCW	2.61	3.36	5/16
05204	BVA2037	1/15	208-230	0.63	CW	2.61	3.36	5/16
05205	BVA2039	1/15	208-230	0.63	CCW	2.61	3.36	5/16

E

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

MARS	MFG MODEL	DEL NOMINAL ,		AMDO	OSE	DIMENSIONS			
NO.	5SME59	HP	VULIS	AIVIPS	ROT	Α	В	С	
05127	BVA1065	1/15	115	1.1	CCW	2.61	3.36	5/16	
05128	BVA1066	1/15	115	1.1	CW	2.61	3.36	5/16	

MARS NO.	DESCRIPTION	MARS PACK
08040	Krack Refrigeration Retrofit Bracket Kit	1





## **Unit Bearing Motors / OEM Direct Replacement Motors**

#### 51 Frame Motors For Domestic Refrigeration

# 四把蜡

#### 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

MARS NO.	GE NO. 5KS	WATTS	ROT OSE	VOLTS	AMPS	SHAFT	REPLACES	MARS PACK
05109	M81FFL0065	2	CW	115	0.25	1/4-20 threaded	most refrigerators and freezers	

# Tyler Refrigeration OEM Direct Replacement Refrigeration Motors



#### Features:

- · Universal 5 hole rear mount
- · Dual mounting pads



	MARS NO.	WATTS	VOLTS	RPM	AMPS	ROTATION	CONSTRUCTION	TYLER NO.
ĺ	00660	5	115	1550	0.34	CW	cast iron	51255320
Ī	00661	9	115	1550	0.53	CW	aluminum	52434980

#### **EM&S PSC Type Replacement For GE**

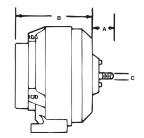
#### Features:



- 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



MARS NO.	WATTS	VOLTS	RPM	AMPS	ROTATION	COPELAND NO.
00511	50	115	1500	1.7	CW	050-0344-01
00512	50	230	1500	1.0	CW	050-0344-00, 050-0344-10

#### 1660 RPM 1/4"- 20 Threaded

MARS	GE NO. 5KS	WATTS	ROT OSE	VOLTS	AMPS	DIMENSIONS	
NO.						Α	В
00114	RS4BEB6E14	4	CW	115	0.20	0.40	2.50
00117*	RS4BEB9E12	9	CW	115	0.26	0.40	2.50

<sup>\* 00117</sup> replaces Hussmann SVC 441-302

