

# Product Data Sheet

**Horizontal A.C. Motors**  
*Open Dripproof*  
*Energy & Premium Efficient*



- **Open Dripproof**
- **Energy and Premium Efficient**
- **Steel frame types FD & DE**  
**Cast iron frame types FR & RE**
- **1.15 Service Factor**
- **1/4 through 400 horsepower**  
**3600, 1800, 1200 rpm**  
**200, 208-230/460 & 575 volt**
- **Allguard Motor Quality System**



## Product Overview

U.S. Motors' Open Dripproof motor offering consists of two types of products: the steel frame, types FD and DE, which are available from 1/3 through 60 horsepower, and the cast iron frame types FR and RE, available from 60 through 400 horsepower. The FD and FR products meet the federally mandated energy efficiency levels of EPACKT '92, and the DE and RE products are premium efficient products.

Open motors are designed in accordance with NEMA to have a free exchange of air with the ambient. Drops of liquid or solid particles do not interfere with the operating at any angle from 0 to 15 degrees downward from the vertical. The open dripproof motor can be used indoors in a relatively clean environment and is commonly used on normal duty industrial equipment such as pumps, fans, blowers, compressors and conveyors.

The steel frame types FD and DE are available with die cast aluminum brackets with steel bearing inserts for improved reliability in severe load applications. The base is steel welded and the 180 frame and larger has a diagonally split conduit box for ease in wiring. Double-shield bearings with regreasing provisions are standard on the 250 frame and larger, and lifting lugs are available on the 210 frame and larger. A newly designed steel frame was introduced in 1996 that extended

the frame of the motor, utilizing a more pancake style end shield, resulting in a motor that is more efficient with greater cooling capacity. This motor also has dual voltage (230/460) with 12 leads out and are suitable for wye delta start on either voltage. The stock has also been extended to include the F-2 assembly position on motors for 1 through 25 horsepower 1800rpm.

The cast iron types FR and RE are available from 60 through 400 horsepower, in speeds of 3600, 1800, 1200, 900 and 720 RPM. The motor has both cast iron frame brackets and a diagonally split conduit box. All bearings are double shielded (open on the 440 frame) with regreasing provisions.

In addition to the stock product offerings, a custom motor is able to extend the product range to additional ratings and requirements. For a more comprehensive description of our open dripproof motor offering, please consult the U.S. Motors' Horizontal Motor Catalog. The catalog also includes a complete listing and description of possible modifications and accessories to the open dripproof line, such as space heaters, thermostats, screens and ambients above 40°C.



## **ALLGUARD<sup>0</sup>** *Motor Quality System*



- **Polyrex EM™ Grease (Exxon)**
- **New pulse resistant and abrasion resistant wire**
- **100% solids polyester varnish on all frames**

U.S. Electrical Motors now offers our new ALLGUARD Motor Quality System on all low voltage NEMA frame motors. This system combines the industry's best motor winding protection with the latest advancements in motor bearing lubrication.

The winding on each low voltage U.S. Motor includes the next generation in pulse endurance wire for improved life. Plus, the wire now features a "Tough Coat" exterior that resists abrasions which can occur during normal winding processes and degrade the insulation properties.

Each winding is also treated with a 100% solids insulation material - on all frame sizes - for greater bond strength and moisture resistance.

In addition, U.S. Motors has now standardized on Exxon Mobil Polyrex EM grease for all grease lubricated bearings. This new and improved lubricant is specifically designed for the conditions associated with electric motor bearings. It provides longer life at higher loads and temperatures, has low noise properties and has good low temperature starting capabilities.

### **ALLGUARD Wire Developments in all U.S. Electrical Motors**

- Added to all products in June 2000
- Process and product improvement to standard pulse resistant wire
- Higher Temperature Pulse Endurance Performance
- Incorporation of "Tough Wire" Concepts

**ALLGUARD Polyrex EM Grease** offers the following features and benefits...

- Outstanding long-life, high-temperature lubrication of ball and roller bearings
- Specially formulated for electric motor bearing lubrication
- Excellent mechanical shear stability
- Excellent corrosion resistance, even in the presence of salt water.

**100% Solids Polyester Varnish on all frames** with features including...

- 700 times NEMA required humidity resistance
- Approximately 5000 volt dielectric strength at 25°C
- 2 times film build of water borne varnishes
- 2 times the hot bond strength of epoxy varnish

## Stock Product Offering

### General Purpose

1-400 HP  
56 to 449 Frame  
3600-900rpm  
200, 208 & 230/460,  
190/380,575 Volt  
F2 to 20HP, 4 pole  
Energy Efficient  
50/60hz

### Fire Pump Motors

5-250 HP  
180-445 Frame  
3600 & 1800 rpm  
230/460, 575 & 200/400 Volt  
50 & 60 hz ratings  
UL & CSA approved  
Energy Efficient

### Inverter Duty

1-250 HP  
140-445 Frame  
3600,1800 & 1200 rpm  
230/460 Volt  
Exceeds Nema MG-1 Part 31

### Close Coupled Pump

1-60 HP  
140-326 Frame  
JM, JP & Westcoast Shaft  
3600 & 1800 rpm  
Standard & Energy Efficient  
50/60 hz available

### Premium Efficiency

1-250 HP  
140-445 Frame  
3600,1800 &1200 rpm  
230/460, 575 volt

### C-Face (Aug '01)

1-60 HP  
140-326 Frame  
3600 & 1800 rpm  
208-230/460, Volt  
Energy Efficient  
50/60 hz



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