

# Vertical Fire Pump Motors WPI and TEFC

HOLLO-SHAFT® or Solid Shaft



On January 1, 1998, all fire pump manufacturers were required to have motors UL®† Listed specifically for Fire Pump applications. At that time, we released the UL Listed Fire Pump Motor line. Fire Pump Motors were designed per UL-1004A (currently UL-1004-5) and met the NFPA 20 “Standard for the Installation of Stationary Pumps for Fire Protection.”

U.S. MOTORS® brand fire pump products are fully compliant with federal motor efficiency requirements as described in the Energy Independence and Security Act of 2007 (EISA) and IHP Motor Final Rule 2016. All fire pump motors provide necessary identifying nameplate data.

On May 14, 2013, Nidec Motor Corporation expanded its UL Listed Fire Pump Motor file (EX5189) to include inverter duty (10:1 variable torque), 500HP or less, and frame sizes 143-5012

## Product Specifications

**Horsepower:** 3 - 500 HP

**Poles:** 2 (3600 RPM) and 4 (1800 RPM)

**Rated Voltage:** 200 through 575V at 60Hz and 190 through 415V at 50Hz

**Enclosure:** Weather Protected I (WPI) or Totally Enclosed Fan Cooled (TEFC)

**Frame Size:** 254-5012 (WPI) or 143-449 (TEFC)

**Efficiency Level:** NEMA Premium®†

Efficient, Inverter Duty, Energy Efficient and Standard Efficient

## Enclosures

**Weather Protected Type I (WPI)** – enclosures are constructed to minimize the entrance of rain, snow and airborne contaminants found in outdoor applications while providing cooling to the thrust bearing and electrical components.

**Totally Enclosed Fan Cooled (TEFC)** – enclosures prevent the free exchange of air between the outside and inside of the motor, but are not airtight. Each TEFC motor is cooled by a fan that is integral with the motor, but external to the enclosing parts.

## Product Overview and Options

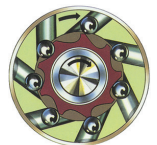
U.S. MOTORS' team of engineers utilize over 100 years of vertical motor design experience and resources from our advanced Motor Technology Laboratories and our adept manufacturing facilities to ensure vertical high and normal thrust fire pump motors have the features that customers require.

### Product Features

- Class F Insulation
- Class B Rise at Full Load (Sine Wave Power)
- 1.15 Service Factor on WPI
- 1.00 Service Factor on TEFC
- 40°C Ambient at 3,300 Feet Altitude
- NEMA®† Design B

### Options

- Non-Reverse Ratchet (high thrust only)
- Wye Start Delta Run
- 1.15 Service Factor on TEFC
- Inverter Duty
  - Shaft Ground Ring
  - Normally Closed Thermostats (1/Phase)
  - Insulated Bearing on 400 Frame and Larger
- 115 Volt Space Heater
- IE1, IE2 and IE3 Efficiency Levels on WPI
- Special Ambient or Altitude
- Special Paint



BALLOMATIC®  
Ratchet

## Vertical Fire Pump Motors - “P” Base, Three Phase Weather Protected I and Totally Enclosed Fan Cooled

### Nidec Motor Corporation's UL Listed Fire Pump Label Requirements:

- Designed to meet NEMA Design "B" parameters per NEMA MG-1 Standard
- 500 Horsepower and lower
- 5012 Frame and smaller
- Motors designated for Canada must meet CSA-390 Table 2 efficiency values
- Calculated Safe Stall Time must exceed 12 seconds (cold) / 8 seconds (hot)
- 600 Volts or less
- 1.15 service factor (max)



### NFPA®†: National Fire Protection Association

A worldwide leader in providing fire, electrical, and life safety to the public since 1896, the mission of the international nonprofit NFPA®† is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating scientifically-based consensus codes and standards, research, training and education. NFPA®† membership totals more than 75,000 individuals from around the world and more than 80 national trade and professional organizations.

For more information, go to [www.nfpa.org](http://www.nfpa.org)

## Warranty Information

Refer to the U.S. MOTORS® website ([usmotors.com](http://usmotors.com)) for the most up-to-date warranty information.

All Nidec Motor Corporation products shall carry the limited warranty of 12 months from the date of installation, not to exceed 18 months from date of manufacture as specified in Section 5 of Nidec Motor Corporation's Terms and Conditions of Sale except those specifically listed below, or noted within individual product family pages within this catalog.

	Installed / Manufactured	Installed / Manufactured
140 - 447 NEMA Frames	Sine Wave Power	VFD Power
Standard / Epact	18 / 24 months	Not Covered
Premium Efficient & NEMA Premium®†	36 / 42 months	12 / 18 months**
Inverter Duty	36 / 42 months	36 / 42 months
TITAN® Motors - 449 Frame and Larger	Sine Wave Power	VFD Power
Standard Efficient & Energy Efficient	12 / 18 months	Not Covered
Premium Efficient	24 / 30 months	18 / 24 months**
Inverter Duty	24 / 30 months	24 / 30 months

\*\* Must have Shaft Grounding Ring for bearings to be covered. See Warranty Guidelines for IHP Motors on VFDs for bearing exclusion on vertical motors.

For additional information, please refer to our Modified Vertical Motors Catalog (PB500), Full Line Catalog (FL600 or SP501) or contact your Nidec Motor Corporation representative.

† All marks shown within this document are properties of their respective owners.

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**Nidec**

[www.usmotors.com](http://www.usmotors.com)

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