

TITAN® 5000 Frame A.C. Motors

ODP and WPI Enclosures



Horsepower: 150 – 1000

Speed Range: 400 – 3600 RPM

Design Voltages: 460, 575, 2300, 2400, 4000, 4160
and 6600 Volts at 60 Hertz
380, 400, 415, 3300, 6000, 6900
Volts at 50 Hertz

Efficiency Levels: Standard, Energy and Premium

Bearings: Anti-friction Ball or Renk®† Sleeve Bearings

Frame Sizes: 5008, 5010 and 5012



Product Overview and Features

U.S. MOTORS® brand Open Dripproof (ODP) and Weather Protected Type I (WPI) TITAN® 5000 Frame motors are designed for use in controlled environments with pumps, compressors, fans and blowers. These motors have been redesigned with robust cast iron construction to minimize internal stresses and vibration. TITAN ODP and WPI motors are suited for use in the petrochemical, pulp and paper, wastewater, electric power, steel, forestry, cement and mining industries. WPI and WPII enclosures are excellent choices for indoor or outdoor use. They typically have lower initial costs, are more efficient, and weigh much less than totally enclosed motors of the same rating.

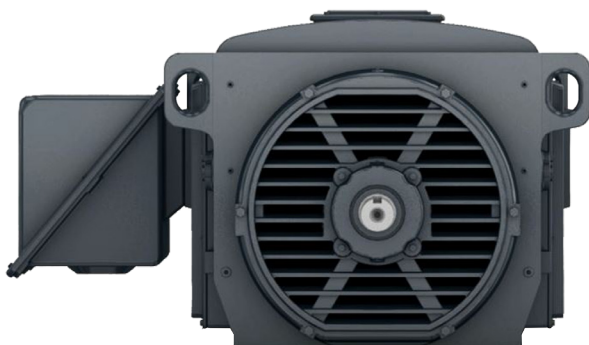
Open drip proof enclosures are standard on all TITAN 5000 Frame motors. Standard screens on Weather Protected Type I protection motors comply with NEMA MG1- 1.25.8.1 and most closely resemble IEC IPW23 requirements.

Electrical and Mechanical Features:

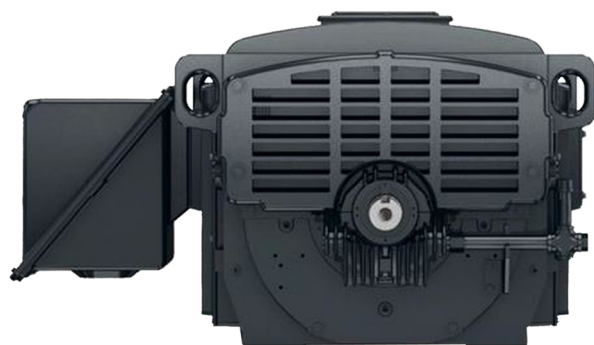
- 1.15 Service Factor
- Class B temperature rise at 1.0 Service Factor by resistance
- Class F insulation system
- Copper windings; aluminum rotors

- Re-greaseable ball bearings or oil lubricated sleeve bearings designs. Sleeve bearing design offers a horizontally split case and is spherically seated for self-alignment. Each bearing includes oil ring lubrication, a transparent oil level gauge, and fill and drain plugs.
- A coating of at least one cycle of VPI using 100 percent solids epoxy resin shields motor windings from environmental contaminants in humid, corrosive or salty atmospheres.
- Cast iron frame, louvers, brackets and main conduit box
- Corrosion resistant paint capable of withstanding a 500-hour salt spray test
- Tri-drilled mounting holes (Rated frame size and two frame sizes below)
- Grounding pads
- Zinc-plated hardware
- Dowel pin holes and vertical jacking provisions

U.S. MOTORS brand ODP and WPI medium motor products have NEMA®† Design B performance; large machines have normal torque designs. All are designed to operate in 40°C ambient temperature and at a maximum altitude of 3,300 feet above sea level.



Ball Bearing



Sleeve Bearing

Product Overview and Features *continued*

TITAN® 5000 Frame motors are designed for field convertibility and flexibility. ODP/WPI motors allow for nine different mounting positions with height adjustments for the conduit box. A top mounted conduit box is also available on all ODP/WPI motors. The top access opening allows for field convertibility from F1 to F2 assembly position without disrupting the motor installation.



F1 3.5" above centerline



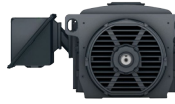
F2 3.5" above centerline



F1 at horizontal centerline



F2 at horizontal centerline



F1 7" above centerline



F2 7" above centerline



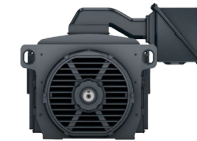
F1 to F2 Top Access Cover



F3 mount



F1 long lead tube



F2 long lead tube

Custom Design Options

- WPI enclosure
- Design for high altitude and high or low ambient temperatures
- Copper bar rotor
- Premium Everseal™ Insulation System
- Winding thermal protection options include 100 ohm, 120 ohm or 10 ohm RTDs, thermostats, thermocouples and thermistors
- Bearing thermal protection options include 100 ohm, 120 ohm or 10 ohm RTDs and thermocouples
- Inverter Duty to meet NEMA®† MG1, Part 31
- Special-balanced and vibration tested
- Stainless steel screens and hardware
- Space heaters
- C face or D flange
- Renk®† sleeve bearings
- Proximity probes for sleeve bearings
- Roller bearings
- Inpro/Seal®† VBXX®† Seal
- Shaft slinger
- Encoders
- Vibration detectors

Conduit Box Options

- F1 (Standard) and optional F2 or F3 mounting positions
- Oversized main conduit box
- Grounding lug in main conduit box
- Lead positioning gasket
- Surge capacitors, lightning arrestors and current transformers

Testing

Nidec Motor Corporation conducts a short commercial test on each TITAN ODP or WPI motor consisting of no load current tests, locked rotor current (performed at reduced voltage), winding resistance, high potential and a vibration check. Other available tests include:

- Complete initial test consisting a of full-load heat run and assessments of percent slip, no-load and full-load current, locked-rotor torque and current, breakdown torque (calculated), winding resistance, high potential, vibration, efficiency and power factor at 100 percent, 75 percent and 50 percent of full load.
- Calibration test, including complete initial test assessments with performance curves based on test data
- Vibration test
- Immersion test
- Polarization index test
- Sound test
- Witnessed testing

Warranty

ODP and WPI TITAN motors carry the following warranties:

- Standard (Energy) efficient – 12 months from date of installation, maximum 18 months from manufacturing date
- Premium efficient – 24 months from date of installation, maximum 30 months from manufacturing date
- Inverter Duty - 24 months from date of installation, maximum 30 months from manufacturing date

U.S. MOTORS brand ODP and WPI TITAN products are manufactured in our ISO 9001 certified Mena, Arkansas facility. For more information, contact your local sales representative or visit www.usmotors.com

Nidec
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