TITAN® 5000 FRAME A.C. MOTORS

WPII Enclosure

Product Specifications

Horsepower: 150 - 1000 HP

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

U.S. MOTORS® brand TITAN motors with Weather Protected Type II (WPII) enclosures are ideal for wet, corrosive and contaminated environments. These tough, yet quiet, motors are best suited for use with pumps, compressors, fans and blowers commonly used in such heavy industries as petroleum, chemicals, pulp and paper, wastewater, electric power and mining. These TITAN motors with WPII enclosures are excellent choices for indoor or outdoor use; typically have lower initial costs, and are more efficient than totally enclosed motors of the same rating.

Product Overview

Nidec's team of engineers has applied more than 100 years of motor expertise and its Motor Technology Center's cutting-edge laboratories to design and test each U.S. MOTORS brand TITAN motor with a Weather Protected Type II enclosure.

Electrical and Mechanical Features

To ensure motor reliability, long life and superior performance, TITAN motors with WPII enclosures come standard with solid features that make these motors able to withstand the rigors of outdoor industrial use. For added durability, each TITAN WPII motor is coated with corrosion-resistant paint capable of withstanding a 500-hour salt spray test. Motor windings are shielded from humid, corrosive or salty atmospheres through at least one coating cycles of VPI using 100 percent solid epoxy resin.

Many more features make U.S. MOTORS brand TITAN motors with WPII enclosures the dependable choice.

- 1.15 Service Factor
- Class B temperature rise at 1.0 Service Factor by resistance
- Class F insulation system
- Re-greasable ball bearings
- Cast iron frame and brackets
- Air intake top hat and side exhaust boxes constructed from heavy fabricated steel
- Zinc-plated hardware
- Tri-drilled mounting holes (Rated frame size and two frame sizes below)
- Dowel pin holes and vertical jacking provisions
- Grounding pads

Product Features

With advanced ventilation systems, Enclosures for TITAN WPII motors are designed and manufactured to thrive in atmospheres with moderate amounts of airborne contaminants. Frames, standard conduit box, bearing caps, and end shields are made from robust cast iron. WPII enclosures are tuned to minimize internal stress, lessen vibration and maximize ventilation.

Protection From Contaminants

In compliance with NEMA®† MG 1-1.25.8, each motor's ventilation circuit is arranged with a minimum of three abrupt changes in airflow direction of at least 90 degrees each. Additionally, an area of reduced velocity in the air intake minimizes the possibility of moisture and other contaminants getting carried into the motor windings.

- WPII motors have the protection that makes them great substitutes for totally enclosed motors.
- With their efficient cooling method, heavy-duty TITAN WPII enclosure motors provide the most in economical power.

Highly Efficient Cooling

Ventilating openings in WPII enclosures permit the passage of external cooling air over and around the windings, allowing these motors to exhaust internal heat developed under load into the air.

Custom Design Options

- 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
- Air pressure differential switch
- Easy-to-clean, non-clogging, zinc or stainless steel mesh air filters
- Space heaters
- Renk®† sleeve bearings
- Proximity probes for sleeve bearings
- Roller bearings
- Inpro/Seal®† VBXX®† Seal
- Shaft slinger
- Encoders
- Vibration detectors
- API®† 547

Conduit Box Options

- F1 (Standard) and optional F2 mounting position
- 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 WPII 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

TITAN motors with WPII enclosure, Nidec offers 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 TEFC 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 MOTOR CORPORATION

www.nidec-motor.com/
Titan 5000 WPII PDS Rev 10/23

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