

Horizontal TITAN® 5800-9600 Frame A.C. Motors Weather Protected Type II Enclosure



Horsepower: 150–4000

Speed Range: 400 - 3600 RPM

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

Frame Size: 5800 - 9600

Efficiency Levels: Standard, Energy and Premium

Bearing: Anti-friction Ball or Sleeve Bearings



U.S. MOTORS® brand TITAN® motors with Weather Protected Type II (WP II) 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 WP II enclosures are excellent choices for indoor or outdoor use and typically have lower initial costs are more efficient and weigh much less 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 WP II enclosures come standard with solid features that make these motors able to withstand the rigors of outdoor industrial use. For added durability, each TITAN WP II 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 cycle of VPI using 100 percent solid epoxy resin.

Many more features make U.S. MOTORS brand TITAN motors with WP II 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
- Top hat ventilation system constructed from heavy fabricated steel
- Zinc-plated hardware
- Dowel pin holes standard on 5800 frame sizes
- 115 volt space heaters

Product Features

With advanced ventilation systems, U.S. MOTORS brand TITAN motors with Weather Protected Type II (WP II) enclosures are designed and manufactured by Nidec to thrive in atmospheres with moderate amounts of airborne contaminants. Made of heavy fabricated steel with cast-iron end brackets, WP II enclosure 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.

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

Product Features *continued*

Highly Efficient Cooling

Ventilating openings in WP11 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.

Warranty Information

For TITAN motors with WP11 enclosures, Nidec offers the following warranties.

- **Standard Efficient** – 12 months from date of installation, up to a maximum 18 months from manufacturing date
- **Premium Efficient** – 24 months from date of installation, up to maximum 30 months from manufacturing date

- **Inverter Duty** – 24 months from date of installation, up to a maximum of 30 months from the manufacturing date

Options and Accessories

With many options available, Nidec can deliver U.S. MOTORS® brand TITAN® motors with Weather Protected Type II (WP11) enclosures that match your needs.

Custom Features

- F1 or F2 mounting positions
- Designs for high altitudes and high or low ambient temperatures
- Premium EVERSEAL™ that meets NEMA®† definition of sealed windings (available on form wound motors only)
- Inverter Duty to meet NEMA MG 1, Part 31
- Special balance to reduce system vibration and increase motor lifespan
- Copper bar rotor
- Winding thermal protection options, including RTDs, thermostats, thermocouples and thermistors
- Easy-to-clean, non-clogging, zinc or stainless-steel mesh air filters
- Stainless-steel hardware
- Vertical jack screws
- Provisions for dowelling of feet (6800 to 9600 frames)
- Air pressure differential switch

Bearing Options

- Nidec Motor Corporation's own sleeve-bearing design, spherically seated for self-alignment with a horizontally split case
- Proximity probes for sleeve bearings
- Roller bearings
- INPRO/SEAL®† VBXX®† Seal
- Shaft slinger
- RTDs and thermocouples

Conduit Box Options

- Oversized main conduit box
- Grounding lug in main conduit box
- Lead positioning gasket
- Surge capacitors, lightning arrestors and current transformers
- NEMA Type II conduit box with standoff insulators with copper bus bar lead connectors

Testing

Nidec conducts a short commercial test on each motor. This checks no load current and power, locked rotor current (performed at reduced voltage), winding resistance, high potential and vibration. Other available tests include:

- Complete initial test consisting of 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

For additional information, please refer to our Modified TITAN Horizontal Motors Catalog (PB210) or contact your Nidec Motor Corporation representative.

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