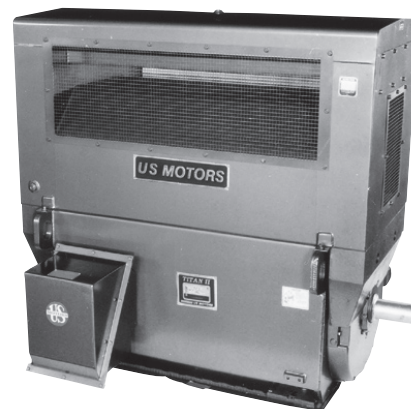


Horizontal Titan[®] A.C. Motors

Weather Protected Type II Enclosures

Emerson's 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 and typically have lower initial costs, are more efficient and weigh much less than totally enclosed motors of the same rating.

- **150 - 4000 Horsepower**
- **5000 - 9600 Frames**
- **460, 575, 2300, 2400, 4000, 4160 and 6600 Volts at 60 Hertz**
- **380, 400, 415, 3300, 6000 and 6900 Volts at 50 Hertz**
- **Standard High Efficient and Premium Efficient Models**
- **Anti-friction or Sleeve Bearings**



Product Overview

Emerson'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 & 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 250-hour salt spray test. Motor windings are shielded from humid, corrosive or salty atmospheres through at least two coating cycles 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.

- 1.0 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 5000 and 5800 frame sizes
- 115 volt space heaters

All U.S. Motors® brand motors with Weather Protected Type II enclosures are designed to operate at 40 degrees C ambient temperatures and at maximum altitudes of 3300 feet above sea level. These motors are suited for many Division 2 environments.

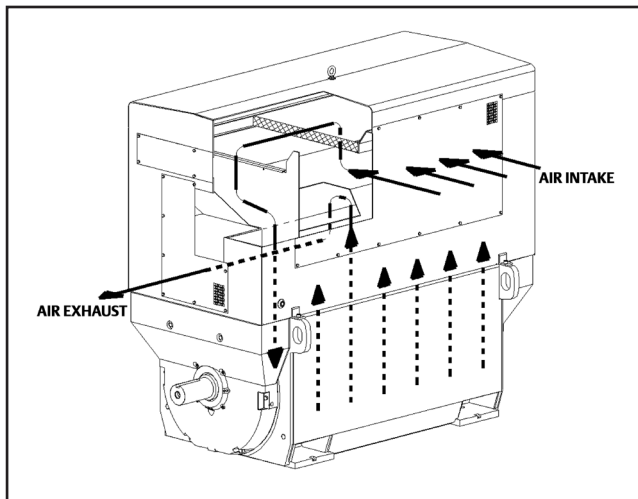


Product Features

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



- **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.**

Highly Efficient Cooling

Ventilating openings in WP II 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 WP II enclosures, Emerson 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
- *Titan® II* – 24 months from date of installation, up to a maximum of 30 months from the manufacturing date
- *Inverter Duty* – 36 months from date of installation, up to a maximum of 42 months from manufacturing date

Options and Accessories

With many options available, Emerson can deliver U.S. Motors® brand Titan® motors with Weather Protected Type II (WP II) enclosures that match your needs.

Many Custom-Designed Choices Available

- F1 or F2 mounting positions
- 1.15 Service Factor
- 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

- Emerson's own sleeve-bearing design, spherically seated for self-alignment with a horizontally split case
- Proximity probes for sleeve bearings
- Roller bearings
- Inpro/Seal™ and VBXX® ball bearings
- 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 buss bar lead connectors

Testing

Emerson 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 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
- Spray test
- Polarization index test
- Sound Test

Emerson, a global leader in the design and manufacture of electrical motors, provides a complete line of general and special purpose electric motors from 1/200 through 5,000 horsepower. Brands such as Emerson®, U.S. Motors®, Hurst® and Doerr® allow Emerson to support a wide variety of applications including commercial and industrial, appliance, hermetic, automotive, and HVAC. Emerson (NYSE: EMR), based in St. Louis, is a global leader in bringing technology and engineering together to provide innovative solutions to customers through its network power, process management, industrial automation, climate technologies, and appliance and tools businesses.

NEMA® is a registered trademark of the National Electrical Manufacturers Association. INPRO/SEAL® and VBXX® are registered trademarks of Inpro/Seal Company.



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