

# TITAN<sup>®</sup>

## 6800/7000/450 Frame

TEFC Horizontal A.C. Motors



### Product Specifications

**Horsepower:** 450-2000 HP

**Speed Range:** 400 – 1800 RPM

**Design Voltages:** 460 through 6900  
Voltage 50 or 60Hz

**Frame Sizes:** 6811, 6809, 6808, 7010,  
7008, 7007, 450BCD, 450BAL and  
450ALM

**Efficiency Levels:** Standard and  
Premium

**Bearings:** Standard anti-friction  
bearings; optional Renk<sup>®†</sup> sleeve  
bearings

### Product Overview

U.S. MOTORS<sup>®</sup> brand TEFC TITAN<sup>®</sup> motors are custom-built, based on customer specifications and requirements for applications, such as pumps, compressors, fans, blowers, and conveyors.

TITAN TEFC motors are suited for use in petrochemical, pulp and paper, wastewater, electric power, steel, forestry, cement, and mining industries.

TEFC TITAN enclosures have cast iron frame, bearing caps and end shields. All are designed to operate in 40°C ambient temperature and at a maximum altitude of 3,300 feet above sea level.

### Product Features

- 1.0 service factor
- Class F insulation
- Class B rise at full load (sine wave power up to 1750HP)
- Re-greaseable ball bearings
- Two cycles of VPI using 100 percent solids epoxy resin shields motor windings from environmental contaminants in humid, corrosive or salty atmospheres.
- Corrosion-resistant paint capable of withstanding a 500-hour salt spray test
- Copper windings; aluminum rotors
- Cast iron frame construction and cast iron end brackets
- Zinc plated hardware



TITAN TEFC 6800/7000/450 Frame availability at 60Hz:

HP	Poles	Volts	Frame		
1250 – 2000	4	2300/4000	6811	7010	450BCD
900 - 1250	6	2300/4000	6809 - 6811	7008 - 7010	450BAL - 450BCD
700 - 900	8	2300/4000	6809 - 6811	7008 - 7010	450BAL - 450BCD
450 - 800	10	2300/4000	6808 - 6811	7007 - 7010	450ALM - 450BCD
400 - 600	12	2300/4000	6809 - 6811	7008 - 7010	450BAL - 450BCD

## Custom Design Options

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- F1 (Standard) and F2 (optional) mounting positions
- Design for high altitude and high or low ambient temperatures
- 1.15 Service Factor
- Copper bar rotor
- EVERSEAL<sup>®†</sup> insulation system
- Renk<sup>®†</sup> sleeve bearings
- Corro-Duty<sup>®</sup>
- Winding thermal protection options include 100 ohm, 120 ohm or 10 ohm RTDs, thermostats, thermocouples and thermistors
- Inverter Duty to meet NEMA<sup>®†</sup> MG1, Part 31
- Shaft ground ring or brush
- Encoders
- Special-balanced and vibration tested
- Stainless steel hardware
- Provision for dowelling of feet
- Vertical jack screws
- Space heaters
- TEBC (Totally Enclosed Blower Cooled)

## Conduit Box Options

- Oversized main conduit box
- Grounding lug in main conduit box
- Lead positioning gasket
- Surge capacitors, lightning arrestors, and current transformers
- NEMA<sup>®†</sup> Type II conduit box with standoff insulators and copper buss bar lead connectors
- NEMA<sup>®†</sup> 4X conduit box

## Testing

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Nidec Motor Corporation conducts a short commercial test on each TITAN<sup>®†</sup> TEFC motor consisting of no load current tests, locked rotor current (performed at reduced voltage), winding resistance, high potential and a vibration check.

### Optional Tests

- Witnessed short commercial test
- Witnessed or un-witnessed versions of the following tests are available:
  - Polarization index
  - Sound test - Sealed winding conformance test
  - Complete initial test consisting of a full load heat run and test of percent clip, calibration test, full load current, locked rotor torque, breakdown torque (calculated), efficiency, power factor at 100%, 75% and 50% of full load, short circuit, and megger.
  - Special test to customer requirements

## Warranty

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TEFC TITAN<sup>®†</sup> 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<sup>®†</sup> brand TEFC TITAN<sup>®†</sup> products are manufactured in our ISO 9001 certified Mena, Arkansas facility.

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

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