



MENA, ARKANSAS

NIDEC / U.S. MOTORS MANUFACTURING FACILITY

U.S. MOTORS® BRAND
STOCK AND CUSTOM ELECTRIC MOTORS

www.usmotors.com

Nidec



Inside Mena

State-of-the-Art Manufacturing Facility



Since 1966, quality U.S. MOTORS® brand stock and custom electric motors have been manufactured by skilled, dedicated employees in the 347,000 square-foot Mena, Arkansas facility. Leading-edge processes, testing methods, and a culture of continuous improvement are at the heart of our mission to provide customers with exceptional, application-specific product and dedicated service before and after the sale.

Raising the Bar on Quality

The Mena facility is ISO9001-2016 certified which means that our manufacturing and quality processes have been optimized to meet international quality standards.

The Mena facility continues to invest extensively in state-of-the-art manufacturing processes which improve quality, speed-to-market and cost effectiveness. Recent upgrades include a 500-ton aluminum rotor die cast system, a large vertical turret lathe (VTL) for machining large components, CNC processes for producing form wound coils, an induction brazing system for copper bar rotors, robotic frame drilling systems and a precision grinding system for large shafts and rotor assemblies.



3Q6S links improvements in employees productivity and quality to create high quality products and services, supporting our company vision. **Kaizen** is a disciplined approach in using 3Q6S tools to drive continuous improvement through cross functional teams, and a vehicle to transform business objectives into results. This system incorporates 6S+Safety, Lean Enterprise methods, Knowledge Management, Business Process structure, comprehensive Quality Management, and participative Employment Involvement practices.

Employees at this facility undergo customized training classes for core manufacturing skill sets, use of new technology and leadership development through a partnership with the University of Arkansas Rich Mountain.



FLEXIBLE PRODUCTION FACILITY

The Mena facility specializes in large vertical and horizontal motor manufacturing. Most of the motors manufactured are customized to specific application requirements.

To facilitate quick turn around time and to accommodate unique motor construction features often required by engineered-to-order product, the facility employs high-speed steel fabrication systems and a wide array of Computer Numerical Control (CNC) machining centers to process tight tolerance cast iron, steel and aluminum components.

Other manufacturing capabilities at the plant ensure the customer receives a quality product manufactured to exacting specifications.

- Optimized die casting methods
- Precision grinding units for premium motor shaft finish
- Precision balancing
- Vacuum Pressure Impregnation (VPI) System
- Clean Room operations
- Sound and vibration labs
- Dynamometer testing
- Witness testing observation booth



PERFORMANCE TESTING

Electric motor testing at this facility adheres to stringent industry standards. Motor performance is tested in accordance with NEMA MG1 and IEEE standards (Test per IEEE 112 method B through 4000 HP)

Dynamometer

- 75–4000 HP motors
- Verifies efficiency, power factor, heat rise, starting current and torque.
- 50 Hz & 60 Hz capabilities
- Plant voltage limits: 4000 volt @ 50 Hz and 7000 volt @ 60 Hz

Reed Critical Frequency

- Conducted on isolated large-mass bases for accuracy
- Test to determine the first bending mode lateral frequency of a vertical structure

Water Immersion

- Stator insulation system integrity tested in accordance with API[®] 547 specifications
- Mimics harsh environmental conditions

Vibration

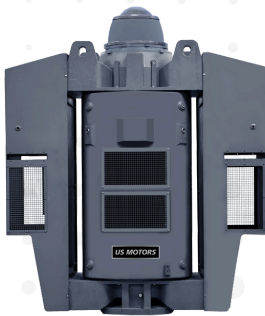
- Electrical imbalance
- Mechanical unbalance – motor, coupling, or driven equipment
- Mechanical effects – looseness, rubbing, bearings, etc.
- External effects – base, driven equipment, misalignment, etc.
- Resonance, critical speeds
- Conducted in conformance to API[®] 547 specifications

Other Tests

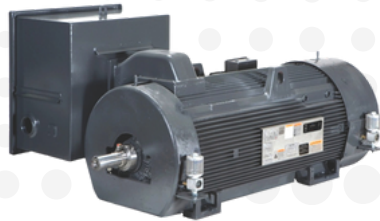
- Polarization
- Warranty analysis
- Pilot/prototype
- Witness testing
- Sound testing

PRODUCTS

- 400–9600 frame integral horsepower vertical and horizontal motors
- 75–5000 HP
- 220–6900V
- Engineered-to-order
- Rotors and Stators for Cryogenic Motor Applications
- Induction generators
- Copper, copper alloy and aluminum bar rotors
- Rolling element and hydrodynamic bearings
- Enclosures: ODP, WPI, WP2, TENV, TEFC, TEAAC, TEWAC
- 2–24 poles



**TITAN® Vertical
WP2 Motor**



**TITAN® Horizontal
TEFC Motor**



**TITAN® Horizontal
WP2 Motor**



**TITAN® Vertical
TEFC Motor**

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