

Nidec HD10P1E

Nidec HD10P1E Electric Motor Instruction Manual

Model: HD10P1E

1. PRODUCT OVERVIEW

The Nidec HD10P1E is a 10 horsepower, 3600 RPM electric motor designed for hostile duty applications. It features a premium efficient, world motor design with a robust cast iron frame. Key characteristics include corrosion-resistant mill and chemical duty paint, a stainless steel nameplate with CE mark, and zinc-plated hardware for enhanced durability. The motor is equipped with a steel fan cover and conduit box, along with condensation drains featuring plastic plugs. It is suitable for 20:1 variable torque and 5:1 constant torque operation when powered by an inverter. This motor has a rigid base mount, a keyed shaft, and is designed for continuous duty at a 40°C ambient temperature. Wiring diagrams are located on the motor nameplate. TEFC stands for Totally Enclosed Fan Cooled.



Figure 1: Nidec HD10P1E 10 hp 3600 RPM Electric Motor. This image displays the Nidec HD10P1E electric motor, a 10 horsepower, 3600 RPM unit. It features a gray cast iron frame, a steel fan cover, and a conduit box. The motor has a rigid base mount and a keyed shaft visible on the right side. A warning label and the Nidec logo are visible on the motor casing.

2. SETUP AND INSTALLATION

2.1 Mounting

The Nidec HD10P1E motor features a rigid base mount. Ensure the mounting surface is flat, stable, and capable of supporting the motor's weight (approximately 140 pounds) and operational forces. Secure the motor firmly using appropriate fasteners through the base mounting holes.

2.2 Electrical Connection

This is a three-phase motor operating at 208-230/460 Volts. Refer to the wiring diagram located on the motor nameplate for correct electrical connections. All wiring must be performed by a qualified electrician in accordance with local and national electrical codes. Ensure proper grounding and overcurrent protection are in place. The motor does not include internal overload protection.

2.3 Shaft Connection

The motor is equipped with a keyed shaft measuring 1-3/8 inches in diameter and 3-3/8 inches in length. Ensure the driven equipment's coupling or pulley is correctly sized and aligned with the motor shaft to prevent premature wear and vibration. The motor is reversible; consult the wiring diagram for instructions on changing rotation direction.

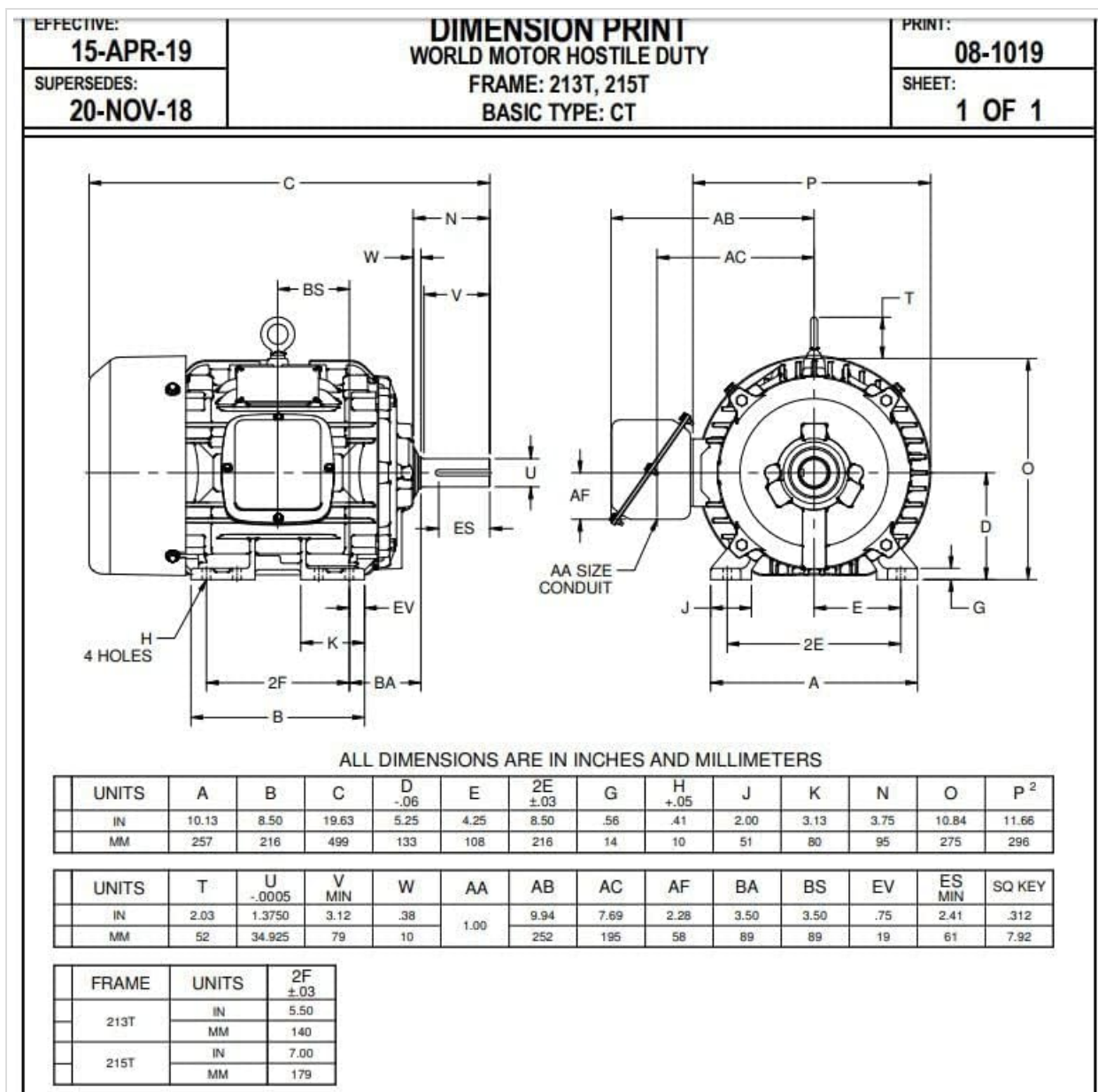


Figure 2: Nidec HD10P1E Electric Motor Dimension Print. This technical drawing provides detailed dimensions for the Nidec HD10P1E electric motor, specifically for the 213T and 215T frames. It includes front, top, and side views with various measurements labeled with letters. A table below the drawing lists the corresponding values in both inches and millimeters for each dimension, crucial for installation and mounting.

3. OPERATING INSTRUCTIONS

The Nidec HD10P1E motor is designed for continuous duty operation. Ensure the ambient temperature does not exceed 40°C during operation to maintain optimal performance and motor longevity. When used with an inverter, the motor is suitable for 20:1 variable torque and 5:1 constant torque applications. Always monitor motor temperature and listen for unusual noises or vibrations during initial startup and regular operation.

4. MAINTENANCE

4.1 Regular Inspection

Periodically inspect the motor for any signs of wear, damage, or loose connections. Check the mounting bolts for tightness. Ensure the fan cover is clear of obstructions to allow for proper cooling.

4.2 Condensation Drains

The motor is equipped with condensation drains with plastic plugs. Regularly check these drains and remove the plugs if

necessary to allow any accumulated moisture to escape, especially in humid environments or after periods of inactivity. Ensure the plugs are reinserted securely after draining.

4.3 Cleaning

Keep the motor's exterior clean and free of dust, dirt, and debris. A buildup of foreign material can impede cooling and lead to overheating. Use a soft brush or compressed air for cleaning. Do not use excessive water or solvents that could damage the motor's components or paint finish.

4.4 Lubrication

This motor is equipped with ball bearings. Refer to the motor's nameplate or Nidec's official documentation for specific lubrication requirements and schedules. Over-lubrication can be as detrimental as under-lubrication.

5. TROUBLESHOOTING

If the motor fails to operate correctly, consider the following general checks:

- **No Power:** Verify that the power supply is connected and active, and that circuit breakers or fuses are not tripped.
- **Overheating:** Check for proper ventilation, clear fan cover obstructions, and ensure the motor is not overloaded.
- **Unusual Noise/Vibration:** Inspect for loose mounting, misalignment with driven equipment, or internal motor issues.
- **Failure to Start:** Confirm correct wiring according to the nameplate diagram and proper voltage supply.

For complex issues or persistent problems, it is recommended to consult a qualified technician or contact Nidec customer support.

6. SPECIFICATIONS

Specification	Detail
Brand	Nidec
Model Number	HD10P1E
Horsepower (HP)	10 hp
Speed	3600 RPM
Voltage	208-230/460 Volts, Three Phase
Amperage	23.5/11.8 amps
Frame	NEMA 215T
Shaft Dimensions	Keyed Shaft 1-3/8" x 3-3/8"
Enclosure Type	TEFC (Totally Enclosed Fan Cooled)
Service Factor	1.15
Overload Protection	None
Insulation Class	Class F
Bearings	Ball Bearings
Mounting	Rigid Base Mount
Reversible	Yes

Specification	Detail
"C" Dimension	19.6 inches
Item Weight	140 Pounds
Material	Cast Iron Frame, Stainless Steel Nameplate, Zinc Plated Hardware, Steel Fan Cover & Conduit Box
UPC	786382122935




7. WARRANTY INFORMATION


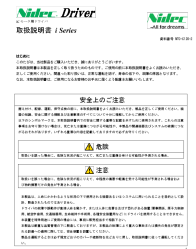


This Nidec electric motor comes with a one-year manufacturer warranty. For specific terms, conditions, and claim procedures, please refer to the warranty documentation provided with your purchase or contact Nidec customer support directly.

8. SUPPORT

For technical assistance, spare parts, or any inquiries regarding your Nidec HD10P1E electric motor, please contact Nidec customer support. You can find contact information on the official Nidec website or through your product supplier.

Related Documents - HD10P1E

  Commissioning guide Dyned+ with Powerdrive F300 / Pump drive F600 Motors 11 to 200 kW Interchangeable version 1500 and 3000 series with drive Reference 6088 en - 2022.01.10 LEPOY SOMER	Nidec Dyneo+ with Powerdrive F300/F600 Commissioning Guide A commissioning guide for Nidec Dyneo+ motors with Powerdrive F300 and Pump drive F600, covering motors from 11 to 200 kW.
 PG-35H SMALL SIZE PRESSURE GAUGE INSTRUCTION MANUAL Important Information and Warnings Nidec Copal Electronics Corporation	Nidec Copal PG-35H Small Size Pressure Gauge Instruction Manual Instruction manual for the Nidec Copal PG-35H Small Size Pressure Gauge, detailing its specifications, operation, settings, troubleshooting, and dimensions.

	<p>Nidec PT-130 Non-Contact Laser Tachometer Operation Manual ABQ Industrial</p> <p>Official operation manual for the Nidec PT-130 Non-Contact Laser Tachometer. Features include RPM, Hz, and Total count measurements, memory functions, and a bright LED display. Distributed by ABQ Industrial.</p>
	<p>Nidec Driver i Series Instruction Manual</p> <p>Comprehensive instruction manual for the Nidec Driver i Series AC motor driver, covering safety precautions, installation, operation, and troubleshooting.</p>
	<p>Nidec NE200/NE300 Variable Speed AC Drive Quick Start Guide</p> <p>This guide provides essential information for the quick start and installation of Nidec NE200 and NE300 series Variable Speed AC drives. It covers safety precautions, product overview, model descriptions, and installation dimensions.</p>
	<p>Guide d'installation Powerdrive MD Smart MS</p> <p>Installation guide for Nidec Leroy-Somer Powerdrive MD Smart MS variable speed drives (60TN to 270TN). Covers general information, installation, connections, parameters, options, safety, and maintenance.</p>