

# CORRO-DUTY® Motors

## Horizontal A.C. Motors, Totally Enclosed Fan Cooled



**Horsepower:** 1 – 1000 HP

**Speeds:** 3600, 1800, 1200 and 900 RPM

**Design Voltages:** 230/460, 460, 575, 2300/4000 Volts

**Insulation:** Class F insulation with Class B temperature rise at full load

**Enclosure:** Totally Enclosed Fan Cooled (TEFC)

**Efficiency Level:** Premium Efficient and NEMA Premium<sup>®†</sup> Efficient



### Product Overview and Options

U.S. MOTORS® brand CORRO-DUTY® motors are considered one of the toughest built to withstand a variety of severe duty applications. These motors are rated Class B rise at 1.0 service factor and Class F rise at 1.15 service factor with full Class F or better insulating materials. All stock ratings up to 40 HP and 1800 and 1200 RPM ratings up to 100 HP have an actual operating temperature rise at below Class A full load.

The CORRO-DUTY motor has an all cast iron frame, conduit box, fan cover, bearing caps, and end shields. These features, along with paint and oxide primer, help protect the motor from external damage in corrosive and harsh environments. Internal protection helps extend the thermal and mechanical life of the motor and includes:

- Oxide primer coating on bracket and frame surfaces
- Non-hygroscopic epoxy varnish on the rotor core
- Additional coating of varnish on the stator with Class F insulation materials
- Non-braided, no wicking leads with a compression type ground lug in the conduit box
- Re-greasable bearings with a standard of L-10 bearing life of 30,000 hours or more based on NEMA belting loads

### Product Features:

- Designed for severe environments
- Corrosion resistant mill and chemical duty paint
- Cast iron inner bearing caps on 182T frames and above
- 100% solid polyester varnish on wound stator and rotor core
- 0.08IPS peak vibration maximum
- ALLGUARD® motor quality system

### Additional Features Allow for Flexibility and Longer Life:

- Conduit boxes are larger than NEMA standard, diagonally split and rotatable in 90 degree increments with gaskets between the frame, base and top cover
- Field convertible to F1 or F2 assembly position
- An external shaft slinger on the drive end which meets IEC IP54 standards and helps minimize the entrance of moisture and dust
- Stainless steel nameplate and hardware to allow for use in hostile and severe environments
- Motor can be modified to accommodate oil mist lubrication



CORRO-DUTY®



## Product Overview and Options *continued*

### Typical CORRO-DUTY® Motor Construction:

1. Stainless steel nameplate with agency approvals
2. Shaft slinger on the drive end meets IP54
3. Zinc-plated hardware
4. All cast iron frame, conduit box, fan cover, bearing caps and end shield
5. Corrosion resistant paint withstands 500-hour salt spray test



## Options and Accessories

Custom design options are available for U.S. MOTORS brand CORRO-DUTY motors:

- Roller bearings
- Horizontal or vertical mounting
- Brakes
- C-Flange and D-Flange
- Special voltages
- 50 Hz
- High altitude or ambient
- Special shafts
- Shaft grounding

### Stock Motors

- 1–200 HP
- 2, 4, 6 pole designs
- 230/460, 460 and 575 Volts
- 140 to 447 frames
- 150–500 HP
- 2, 4, 6 pole designs
- 2300/4000 Volts
- 449–5811 frames

### Custom Motors

- 1–1000 HP
- 2, 4, 6, 8 pole designs
- 200, 230/460, 460 and 575 Volts
- 150–1000 HP — 2300/4000 Volts
- NEMA and TITAN® Frame Motors

## Testing and Inspections

Nidec Motor Corporation conducts extensive testing and inspections on each of its CORRO-DUTY products.

- No load current, power and speed
- High-potential test on stator windings
- Insulation resistance test by megohmmeter and polarization index
- Vibration levels 0.08 inches per second for 2, 4 and 6 pole motors and 0.06 inches per second for 8 pole motors
- Optional complete test, including full load test

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