

The logo for WOLONG, featuring the word "WOLONG" in a bold, black, sans-serif font. A small red triangle is positioned above the letter "O".

WOLONG

Power your future



YOUR VELOCITY

Fast Custom Low Voltage Motor Guide

Experience and quality matters.

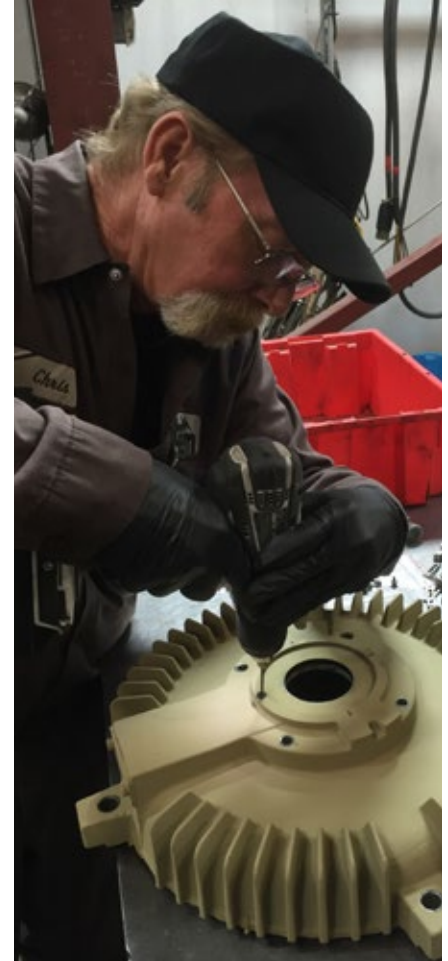
GE motor modifications to meet your application needs.

Standards and Certifications

Wolong has the capability to design electrical rotating machines that comply with global standards and certifications, including but not limited to NEMA, IEC, API 541 and 547, CSA, ABS, ATEX, or IEC Exn Zone 2, Division 1, Division 2, and PTB Imperial (English) or metric systems compliant components are available per customer specification. Our manufacturing facilities are ISO 9001 certified.

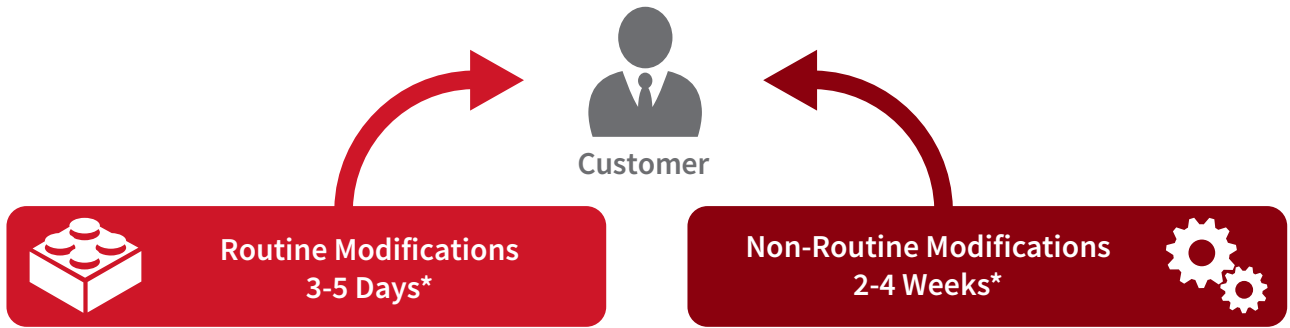
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Smart Models

Pre-Engineered Modifications



Product Scope

140-500 Frame LV/MV Motors



XSD Ultra, XSD Ultra 841,
XSD Ultra 661, ASD Ultra



Quantum LMV

(Not all mods apply. Consult your ISR for details.)



Ultra Vertical
Pump Motors

C-Face Installation



Thermostat Installation

Thermistor Installation

Oversized Conduit Box

Shaft Seals (limited #)

Insulated Bearings (320-500 Frame)

Internal Aegis™ Ring

D-Flange Installation

Drip Cover Installation

Bearing Conversion (ball to roller)

Re-rates

Routine Mods
also possible for
Energy Saver

F2 Mounting

P-Base Swap

Space Heater

Winding RTD's

External Aegis™ Ring

F3 Mounting



Vertical Jack Screws

Stainless Steel Fasteners

Special Grease Fittings

Special Paint

Talk to us about
modifications not
listed here!

Accessory leads can be installed
to exit through a separate conduit
or through the conduit box.

Price & Availability
Contact your Internal
Sales Representative



* Lead time subject to change depending on current load, volume or motor frame size.

Modification Definitions

Bearings/Bushings

Ball to Roller Bearing

This modification will change the motor's application from a direct coupled motor to a belted load by replacing the standard drive end bearing with a roller bearing and clamping the opposite bearing axially. Roller bearings have a higher radial load capability than ball bearings. However since stock motors do not have high-stress steel material, maximum belted loads for this modification are shown below and will be stamped onto the motor nameplate. *Available for all XSD Ultra motors.*

Frame Maximum Belted (lbs)

140	188
180	308
210	479
250	640
280	875
320	1061
360	1300
400	2115
440	3076
449	2883

Insulated Bearings

This modification will reduce the transmission of VFD shaft currents by swapping standard bearings to insulated ones. Without the protection of the insulation, bearings may be damaged by shaft currents as it will discharge through the bearings (fluting). Also see "Shaft Grounding" for additional protection of shaft currents. *Available for 180-500 frame [and IEC equivalent] XSD Ultra motors.*

Oil Mist Lubrication

This modification will change from grease lubrication to oil mist. Oil mist systems present an attractive alternative to lubrication both at low to moderate speeds and at circulating oil systems with high speed and temperature. This lubrication is ideal for applications where motors are located in isolated areas where re-lubrication maintenance would be difficult. *Available for horizontal and vertical motors.*

Conduit Box/Condulet Condulet Elbow on Conduit box

This modification adds a condulet on the conduit box for accessory leads. This condulet allows the accessory leads to exit from a different side of the conduit box.

Oversized Conduit Box

GE motors have a standard conduit box size per frame; this modification swaps the conduit box to the next larger size.

Division 2 Nameplate

Class 1 Division 2 certification is available, certified by the following organizations. (where applicable)

- CSA Certified
- (GE) Self-Declare Division 2
- UL Certified

End Shield Kits

C-Face Mounting

The installation of a C-face end shield allows a stock motor to be mounted with wall, floor or roof mounting. 143-256 frames will not meet NEMA "BA" dimensions. *Not available for explosion proof motors.*

D-Flange Mounting

Add a D-Flange to a stock motor for wall, floor or roof mounting. *Available for 320T-TS & 400T-TS to 449T-TS standard frames.*

P-Base Change

Available for all vertical P-base motors.

Frame

Convert to Round Frame

On horizontal motors mounted vertically this is a common modification which allows a footed frame to be modified to a round frame. Note: if motor doesn't have a mounting end shield see End Shield Kits. *Available for all XSD Ultra motors.*

Drip Cover

A metal piece shaped like a hat installed on the opposite drive end of a horizontal motor. It will be mounted vertically shaft down to protect liquid from entering into the motor. *Available for 140-320 frame XSD Ultra motors.*

Can't find what you need?
Questions?

contact your Internal
Sales Representative



Grounding

Aegis™ has provided a new way of protecting bearings from high shaft currents generated from VFD driven motors. We offer the installation of the SGR Externally with a universal kit (U Kit) and internally with a shaft grounding ring kit (SGR Kit).

SGR Kit - Internal Mount (Shaft Grounding)

This kit is available for XSD Ultra, 841 manufactured at the factory. Note: 841 motors with an SGR will have their Div 2 nameplate removed.

Ground – End shield Ground Bolt

Drill in a grounding stud on the drive end shield. *Available for 324-449 TEFC XSD Ultra motors.*

Ground - Frame Servit Post

With this modification we ground the frame by adding a Servit Post on the frame base. *Available for 324-449 frame TEFC XSD Ultra motors.*

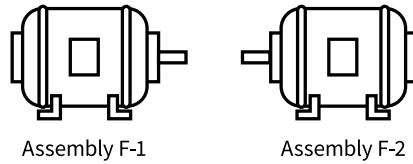
Ground - Grounding Pad

Same as above but uses a pad instead of a servit post. *Available for 324-449 frame TEFC XSD Ultra motors.*

Mounting

F2 Mounting

Change the conduit box side from an F1 mounting to an F2. *Available for all motors.*



Nameplates

Auxiliary

Nameplates with additional data such as a customer part #, special tags, reference #'s, etc. can be added to the motor on an auxiliary nameplate. *Available for all motors.*

Re-Rates

Standard motors can have alternate ratings of operation. Contact your local ISR to see motor re-rated capabilities. *Available for all motors.*

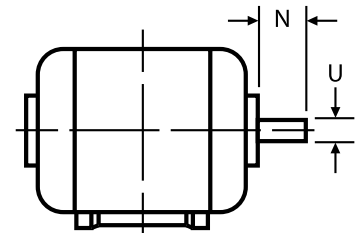


Shaft

T to TS Shaft Conversion

Converting from a standard NEMA T length to a NEMA TS. See below for dimensions that apply for each frame size. *Available for all XSD Ultra motors.*

Frame	Length (N)	Dia. (U)
140T	2.25	0.875
180T	2.75	1.125
210T	3.38	1.375
250T	4.00	1.625
280T	4.62	1.875
280TS	3.25	1.625
324T	5.25	2.125
324TS	3.75	1.875
360T	5.88	2.375
360TS	3.75	1.875
400T	7.25	2.875
400TS	4.25	1.125
444/445T	8.25	3.375
444/445TS	4.75	2.375
447/449T	8.50	3.375
447/449TS	4.75	2.375



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Modification Definitions

Shaft Seals

Labyrinth seals protect the bearing from the inside and outside. It prevents lubricant from leaking by capturing and returning it to the bearing housing. Outside contamination is captured by the outer part of the labyrinth and expelled through a port in the rotor. Available for 140-280 frame standard end shield on DE and ODE; 320-449 frame standard and C-face end shield on DE and ODE.

Space Heaters

Space heaters are used to avoid the build-up of condensation on the winding while the motor is not running. Space heaters are available from 115V-575V. Available for all motors.

- Standard
- **Thermostatically controlled (mandatory for IEEE's 841)**

Special Grease Fittings

We offers different fittings for grease insertion. Available for all XSD Ultra motors.

- Standard + Auto Relief
- Pin Type + Auto Relief
- Button Head + Auto Relief
- Pin Type + Standard Outlet
- Button Head + Standard Outlet

Special Paint

Standard paint is RAL1001 Epoxy Ester. An additional coat can be added for more protection in harsh environments as required. Available for all motors.

- **3 Part Carboline**
- **Sherwin Williams Polane Polyurethane (Crane duty)**

Stainless Steel Hardware

As required, GE offers the option to add stainless steel hardware. Available for all XSD Ultra motors.

Test

GE offers a variety of different tests that can be run on standard motors.

- **Connections**
- **Resistance Check**
- **Hi-pot Test**
- **Impedance Test**
- **Open Bar Test**
- **Speed and Rotation**
- **Excitation Test**
- **Vibration Measurement and Limits**
- **Noise**
- **Accessory Device Testing**

Thermal Protection

Bearing/Winding Resistance Temperature Detectors (RTD's)

RTD's are resistors with a temperature resistance characteristic wired to specific areas of the motor that need to be monitored. RTD's operate under a given maximum temperature and can be connected to an alarm or even shut down the motor. Available RTD types are shown below. Available for 400-449 frame standard XSD Ultra and 500 frame Quantum [Non-API] motors.

- 10 ohm (Copper)
- 100 ohm (Platinum) *most popular
- 120 ohm (Nickel)

A set of 4 winding RTD's are provided on motors < 400 frame.

A set if 6 winding RTD's are provided on motors < 440 frame and routed to an auxiliary conduit box.

Can't find what you need?
Questions?

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Sales Representative



Thermistors

A thermistor is a non-linear resistance temperature detector, made from semi-conductor material. Each specific thermistor has its own unique resistance vs temperature characteristic. Standard 3-phase motors require a set of 3 thermistors (1 per phase). Available thermistor types are shown below. *Available for all non-division 1 180-449 frames [and IEC equivalent] XSD Ultra motors.*

Temp. response range 120-170°C.

- Class B
- Class H
- Class F

Thermostats

Thermostats are used as a precaution to keep the motor windings under controlled temperatures. They are normally connected on the winding end turns and their main purpose is to alert or shut down the unit when high winding temperatures are present. Available thermostat types are shown below. *Available for all non-division 1 180-449 frames [and IEC equivalent] XSD Ultra motors.*

- Class B Normally Closed Trip
- Class F Normally Closed Trip
- Class B Normally Closed Alarm
- Class F Normally Closed Alarm
- Class H Normally Closed Alarm
- Class B Normally Open Alarm
- Class F Normally Open Alarm
- Class H Normally Open Alarm

Vertical Jack Screws (set of 4)

Vertical Jack screws are used to level the motor by using leveling screws on the motor's feet. *Available for all motors.*

Vertical Motor Accessories

Vertical motor coupling kits and bushings are sold separately as a standard feature for standard motors. We offer the opportunity of installing the coupling. The BX dimension has to be specified before order.

Non-Reverse Ratchet

We install non-reverse ratchets on vertical motors where water lubricated pump bearings are installed. This coupling will stop the shaft while the pump water is receding, preventing backflow that could damage the motor. *Available for all vertical hollow shaft motors.*

Self-Release Coupling

This coupling will prevent the rotor from turning on reverse by uncoupling before the shaft completely unscrews. This prevents any potential damage to the pump and line shafting. *Available for all vertical hollow shaft motors.*

Stabilizer Bushing

This bushing supports the shaft at the lower end of the motor to prevent it from tilting while in operation. *Available for all vertical hollow shaft motors.*



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Smart Made to Order (MTO)

Engineered Configurations



Engineered Configurations
4 Pole - 2 Weeks Ship; 2, 6, 8 Poles - 3 Weeks Ship



Product Scope

320 and 360 frames
40, 50, 60 and 75 HP
60 Hz; 460 and 230/460 V
1800 RPM (1 speed, 1 winding)
Horizontal configuration
TEFC up to IP56, IC411
Standard E/S
C-Face, D-Flange and F1, F2 Mounting
Direct shaft coupling
T, TCY, TDY, TS, TSC, TSD shaft extensions



XSD Ultra
XSD Ultra 841

Electrical Design Structuring



1. Stock catalog models up to 40°C at 3300 ft at 1.15 SF (Can also be verified for alternate thermal ratings.)

2. High thermal margin models with alternate thermal rating below.

Ambient 40°C > <= 50°C at 3300 ft at 1.15SF (Bearing Temp < 120°C)...

OR **Altitude** Up to 5000 ft at 40°C at 1.15 SF (Bearing Temp < 120°C)...

OR **Service Factor** Up to 1.25 at 40°C at 3300 ft...

OR **Hazard. Area** Division 2 or Zone 2, T3 (2000C AIT) at 1.0 SF for 50°C Ambient at 3300 ft...

OR **Class B Temp Limit** @ 40°C Ambient...

OR 90°C Rise at 1.15 SF for 40°C Ambient at 3300 ft

Accessories



Space heater:
Thermostat Controlled/
Standard Space Heater

Winding Thermostats:
Trip Type, Normally Closed;
Insulation Class- F

Winding Thermistors: EPCOS

Bronze Inpro™ Seal on ODE and DE

Hydraulic & Auto-Relief
Grease Fittings

Frame Grounding

Over Size Conduit Box

Conduit

Terminal Board for Accessory Box

Export Packing

Price & Availability
Contact your Internal
Sales Representative



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