Emoteq

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Emoteq

Storage, Handling & Installation Guide
MegaFlux FRAMELESS MOTOR

THIS GUIDE COVERS MODEL NUMBERS:

- MF0150XXX
- MF0210XXX
- MF0255XXX
- MF0310XXX
- MF0410XXX
- MF0510XXX
- MF0610XXX
- MF0760XXX

-NOTE-

All Emoteq frameless electric motors are thoroughly tested before being carefully packaged for shipping. The results of this test can be read on the Final Test Report that has been enclosed with your new motor. When calling for Emoteq Sales for technical support, please have your Company name, Motor part number, serial number and this Final Test Report ready for reference.
If your Final Test Report gets misplaced, please contact Emoteq, Inc., and every effort will be made to secure a copy and e-mail, fax, or U.S.Postal Service a copy to you.

PLEASE, READ THIS GUIDE BEFORE ATTEMPTING MOTOR INSTALLATION

-CAUTION-

VERY STRONG MAGNETIC FIELDS ARE PRESENT IN ALL FRAMELESS MOTORS. STRONG MAGNETIC FIELDS MAY HAVE A DANGEROUS EFFECT ON ELECTRICAL DEVICES. DO NOT STORE MAGNETIC SENSITIVE DEVICES NEAR FRAMELESS MOTORS

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1.0 STORAGE - During motor unpacking **ESD** "Electric Static Discharge" could damage sensitive components used in the manufacture of your motor. Follow **ESD** precaution steps when handling motor components. Contact your company's Quality Manager for proper handling of **ESD** sensitive devises.

1.1 Frameless electric motors are shipped as two separate components in the same container. Content of shipping container should be:

- (1) Rotor Assembly
- (1) Stator Assembly
- (1) Encoder Readhead and Ring (If ordered with motor)
- (1) Shipping, Handling, and Installation Guide
- (1) Copy of Final Test Report
- (1) Outline drawing (other product support documentation, as needed)

Both rotor and stator have been carefully packed and secured to prevent damage during shipping and storage. Do not remove the motor component protective wrapping and mounting hardware until time of motor installation.

-CAUTION-

BECAUSE OF THE WEIGHT OF SOME OF THE LARGER MOTORS, EMOTEQ SUGGESTS CAREFULLY MOVING MOTOR SHIPPING CONTAINERS WITH A FORKLIFT OR OTHER SUITABLE LIFT

1.2 After motor installation retain shipping container and all protective wrapping, covering and mounting hardware. **See, 3.0 RETURN MOTOR FOR SERVICE OR REPAIR,** at the end of this guide. Empty shipping container should be stored in a dry, cool location (protected from weather and other damaging environmental conditions).

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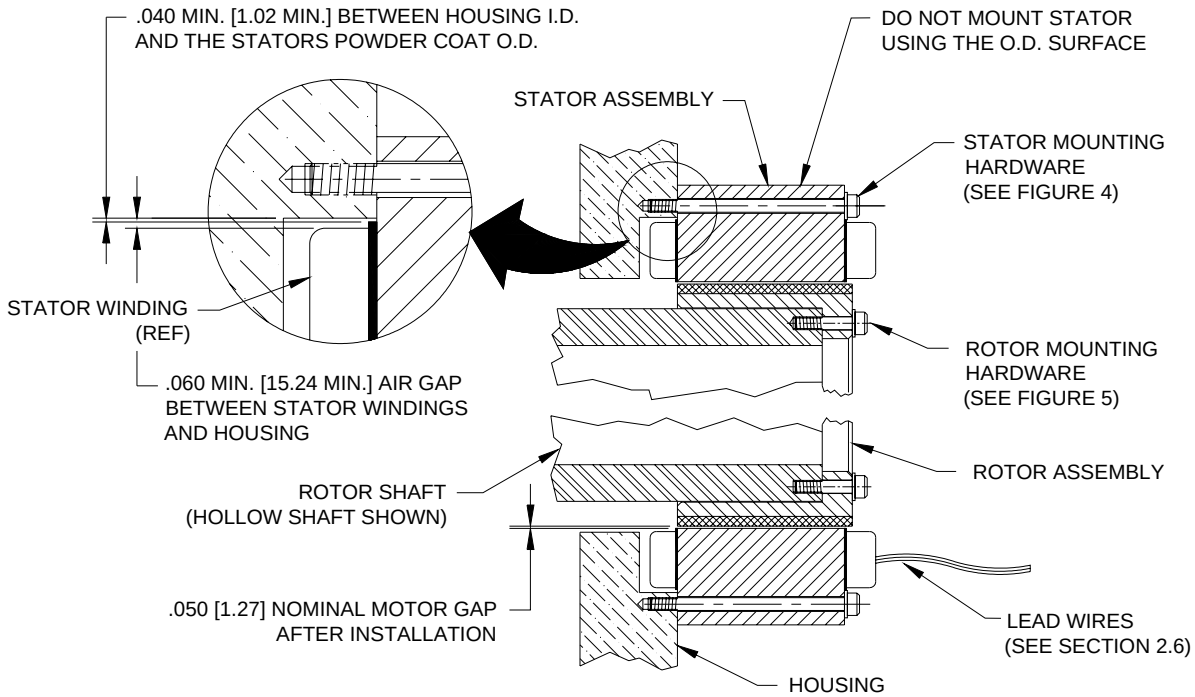
2.0 INSTALLATION – Follow **ESD** prevention steps when handling motor components during installation.

-NOTE-

CARE SHOULD BE TAKEN IN PREPARATION OF MOUNTING AND INSTALLATION OF FRAMELESS ELECTRIC MOTORS. ONLY QUALIFIED TECHNICIANS SHOULD PERFORM THE INSTALLATION AND TESTING.

2.1 All motor mounting bolt circle patterns should be concentric to within 0.005" [0.01] and should be checked prior to motor installation and rechecked prior to initial testing and operation. **See Figure 1** for example of general mounting configuration and clearances.



Note : Your motor may look different.
This illustration is for example only.

Figure 1, General Mounting Configuration and Clearances

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-NOTE-
STATORS O.D. IS NOT A PRECISION SURFACE AND SHOULD NOT BE USED TO MOUNT STATOR

2.2 If you ordered your new motor with an encoder readhead and ring, special steps are needed to install the stator and rotor.

2.2.1 The encoder readhead and ring will not be installed at Emoteq and must be installed at time of motor installation.

2.2.2 Install readhead onto bracket (bracket not supplied by Emoteq) using 2 - M3 x 0.5 screws with a liquid thread locking agent. Screws are installed through backside of bracket, be sure that screw heads do not touch stator windings. An air gap of .060 (1.52) minimum should be maintained between bracket/screw heads and stator windings. The counter sinking of readhead mounting screw heads is recommend to reach this minimum width.

2.2.3 Bracket maybe installed on any two-stator mounting holes that work with your motor installation. Encoder bracket should not be installed until after stator installation and rotor has been mounted on shaft and correctly aligned with stator.

-NOTE-
REMOVE PROTECTIVE SLEEVE FROM ROTOR O.D. AND PLACE IT BACK IN SHIPPING CRATE

2.2.4 Carefully install encoder bracket, with readhead, using screws and flat washers. Encoder readhead bracket position must be adjusted to achieve the proper gap, see **Figure 2**, **Mounting Configuration with Encoder Readhead and Ring** and **Figure 3, Readhead Installation.** If a detail drawing is required to

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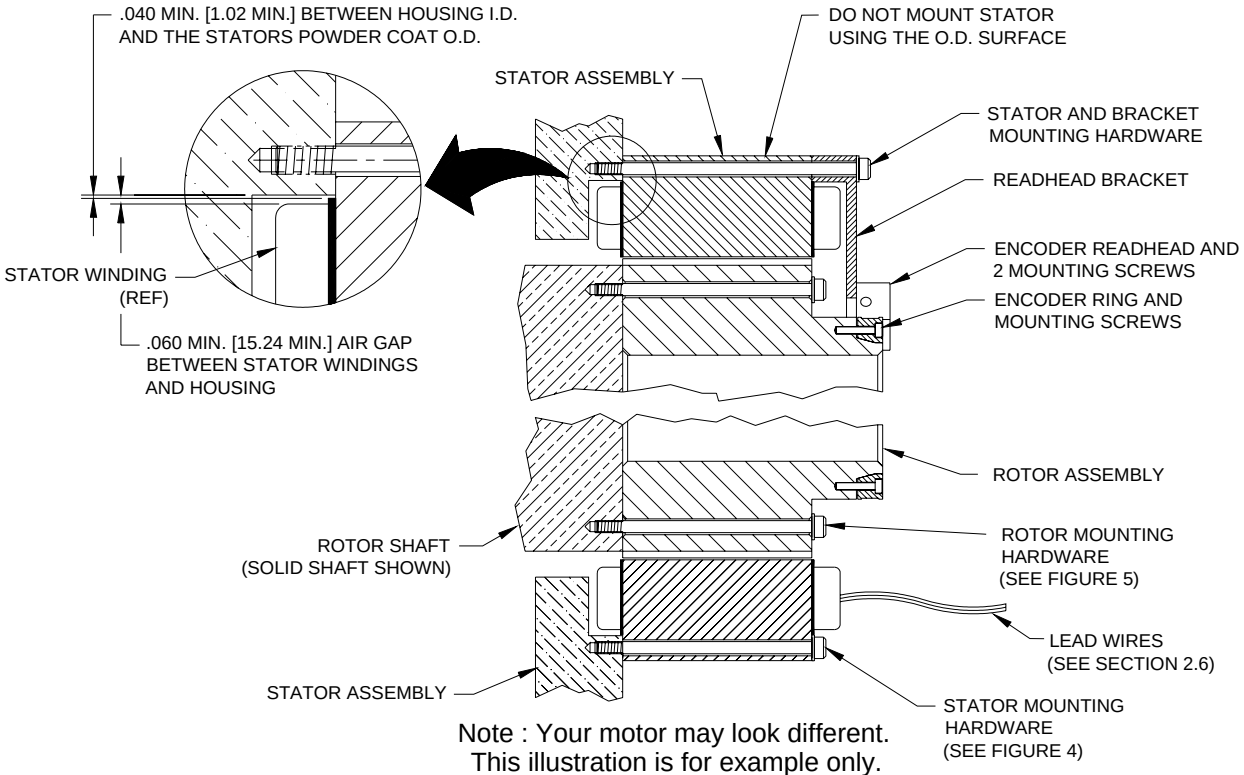
manufacture a readhead bracket for your new motor, contact Emoteq Sales.



Note : Your motor may look different.
This illustration is for example only.

Figure 2, Mounting Configuration with Encoder Readhead and Ring

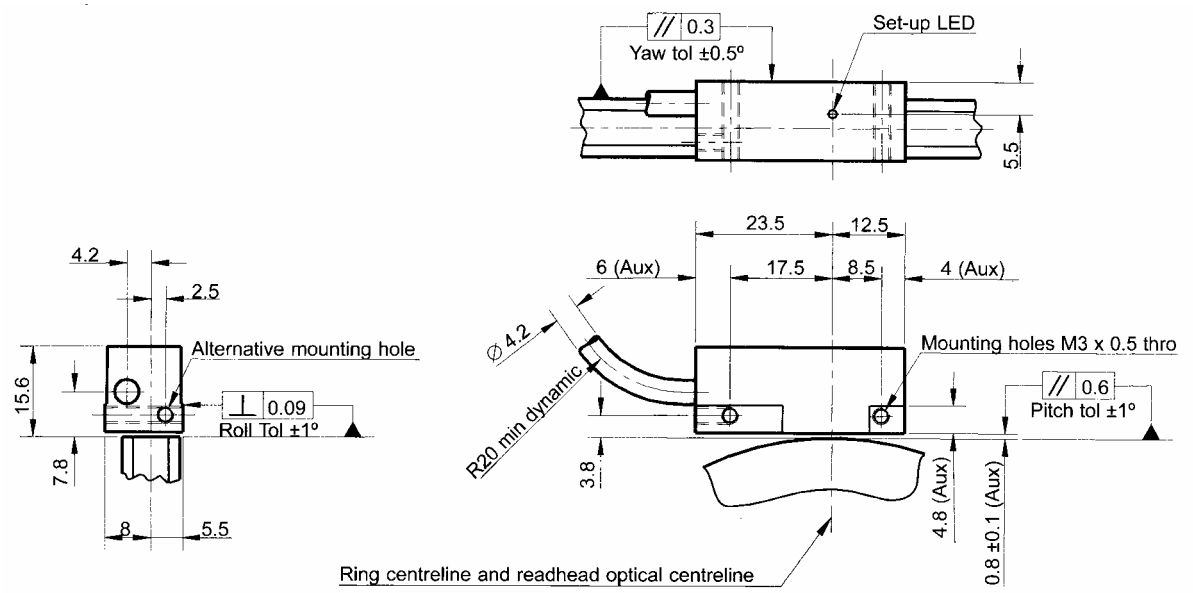


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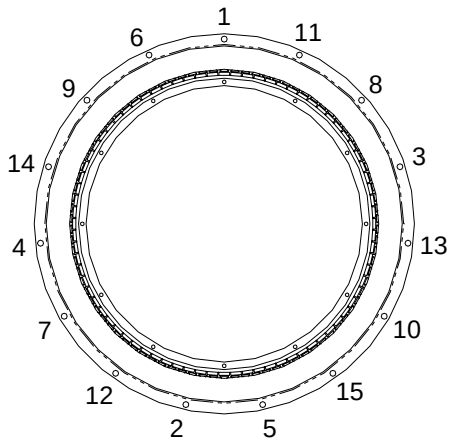
Figure 3, Readhead Installation

2.3 Emoteq recommends using the very best mounting hardware available to insure proper holding strength on both stator and rotor mounting applications.

2.3.1 The use of a high quality liquid thread-locking agent is recommended (follow the manufacturer application instructions).

2.4 Mounting bolt torque value should be to Industry Standard Specifications and follow a star type tightening sequence pattern. **See Figure 4. General Torque Sequence Pattern.**



Note : Your motor may look different. This illustration is for example only. The number of mounting holes in your motor may be different.

Figure 4. General Torque Sequence Pattern

2.4.1 Apply torque of 1/3 of finished value to each mounting bolt. Repeat torque to all bolts at 2/3 of the finished value. Repeat torque to all bolts until finish torque value is reached.

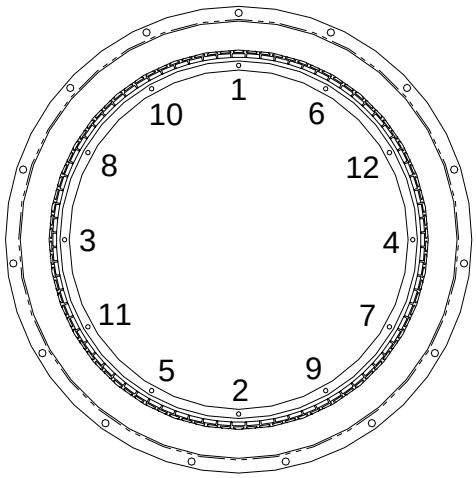
-CAUTION-

DAMAGE MAY HAPPEN TO ROTOR MAGNETS IF PROTECTIVE MAGNET SLEEVE IS REMOVED FROM ROTOR O.D. REMOVE SLEEVE ONLY AFTER ROTOR IS PROPORLY SECURED ONTO ROTOR SHAFT AND ALIGNED TO STATOR

2.4.2 Install rotor onto shaft using the very best mounting hardware available to insure the proper strength for rotor mounting application.

The use of a quality liquid thread locking agent is recommended (follow manufactures application instructions).

2.5 Mounting bolt torque value should be to Industry Standard Specifications and follow a star type tightening sequence pattern. **See Figure 5. General Rotor Torque Sequence Pattern.**



Note : Your motor may look different. This illustration is for example only. The number of mounting holes in your motor may be different.

Figure 5. General Rotor Torque Sequence Pattern

2.6 Different controller types and motor voltage requirements make lead wiring connections unique to one customer. Please refer to the Emoteq Outline Drawing that came with your new motor and the Emoteq Data Sheet for detailed information on motor voltage and signal lead wire connection information.

-CAUTION-

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DO NOT ATTEMPT VOLTAGE OR SIGNAL LEAD WIRE CONNECTION WITHOUT PROPER CONTROLLER INSTALLATION DOCUMENTATION AS A GUIDE

2.6.1 The manufacturer/suppler of your motor controller should have furnished a data sheet with detailed information on lead wire connection. If the data sheet was not supplied with your controller or has become misplaced, contact the controller manufacturer/suppler to secure the lead wire installation information.

2.6.2 Contact Emoteq Sales for technical support with any unique installation questions you might have or technical information you may need.

3.0 RETURN MOTOR FOR SERVICE OR REPAIR –

When returning a motor for service, repair, or modification, call your Emoteq Sales representative for warranty information and a RMA (Return Merchandise Authorization) number before shipping.

-NOTE-

WARRANTY INFORMATION AND RMA NUMBER MUST BE ACQUIRED FROM EMOTEQ SALES BEFORE SHIPPING