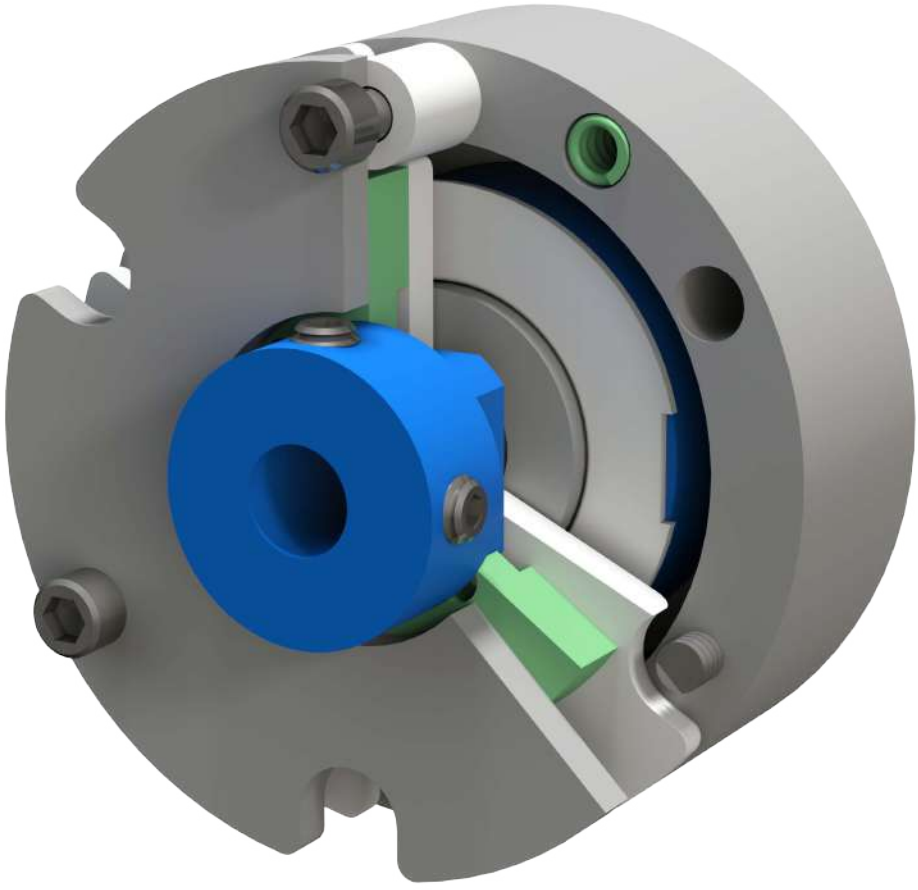
# SEB/TSEB INSTALLATION GUIDE

## SPRING ENGAGED FRICTION BRAKE



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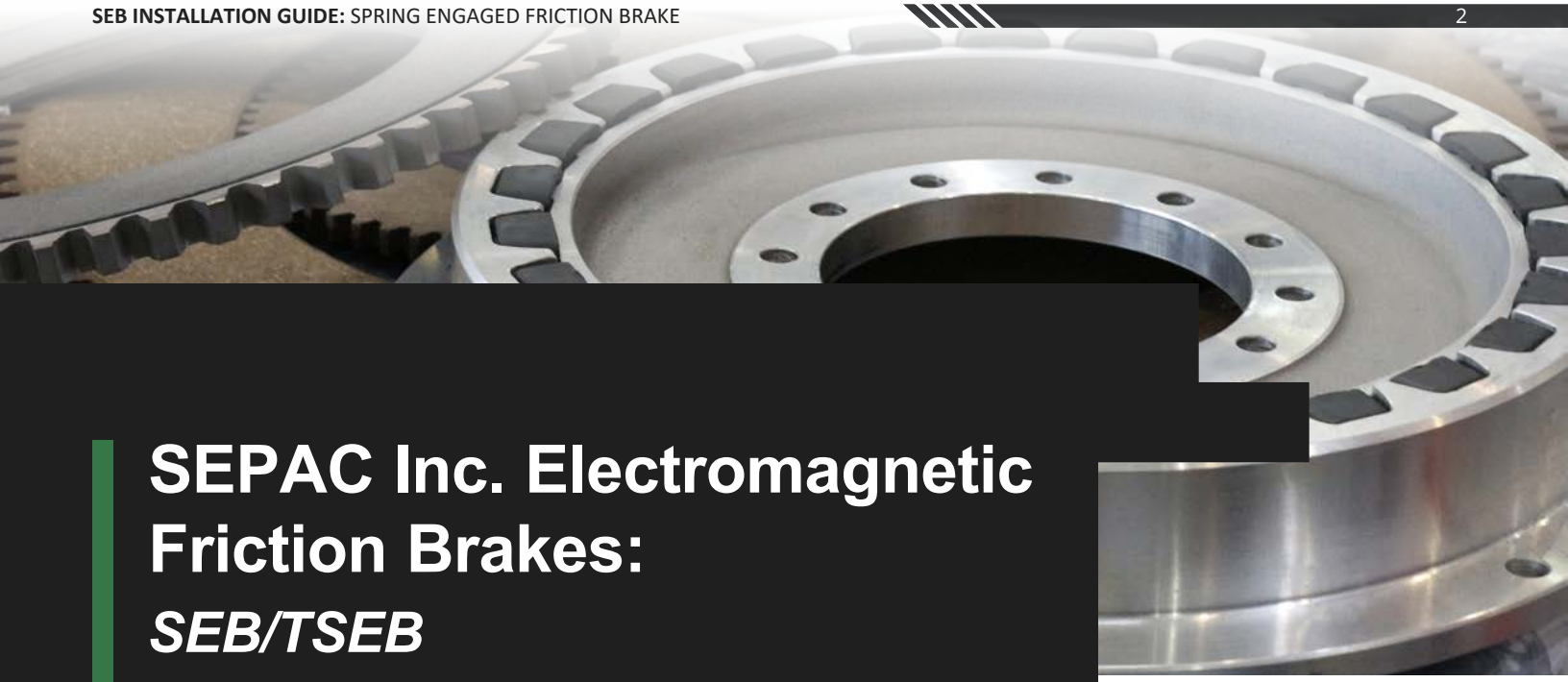


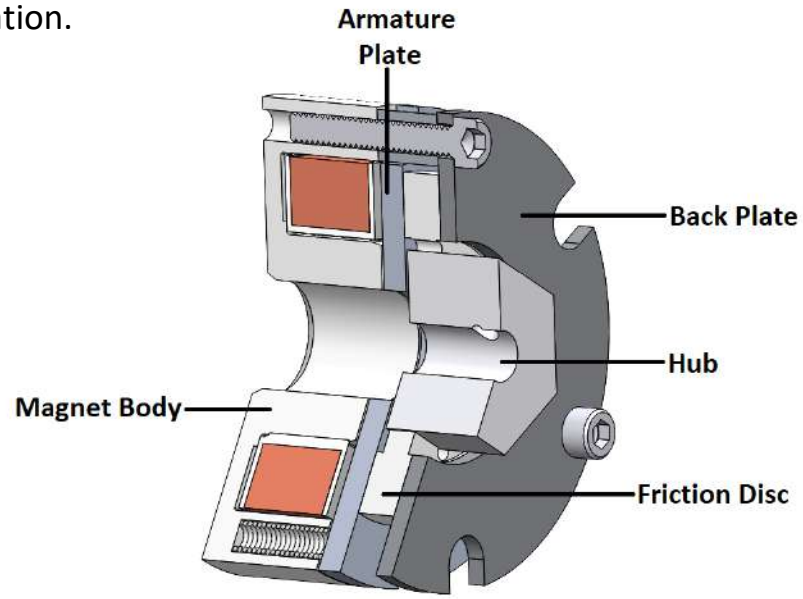
# SEPAC Inc. Electromagnetic Friction Brakes:

## *SEB/TSEB*

## *Spring Engaged Brake*

## Uses.

The SEPAC spring engaged brake is electromagnetically released and provides torque in the absence of power. Although designed to operate dry, it can customized to be used in most oil, however, the torque rating will be reduced by up to 60% on average. The friction material used also needs to be carefully selected in order to be compatible with the oil used in the application.



## Operation.

When electrical current is supplied to the coil in the magnet body, a magnetic field is created which attracts the armature towards the magnet body, disengaging the friction disc. When the current is turned off springs push the armature to clamp the friction disc developing the rated torque.

## General.

SEPAC brakes must be mounted so that they will be kept dry and protected from water, grease, oil and other contaminants. It can be piloted either on the outside of the magnet body or magnet body I.D.

## Mounting Interface.

- Shaft should be perpendicular to mounting surface within 0.005" TIR.
- Mounting surfaces should be flat and perpendicular to the shaft within 0.002".
- Shaft needs to be bearing supported.
- Mounting surface Bolt Circle should be in true position within 0.005" TIR.

## Mounting.

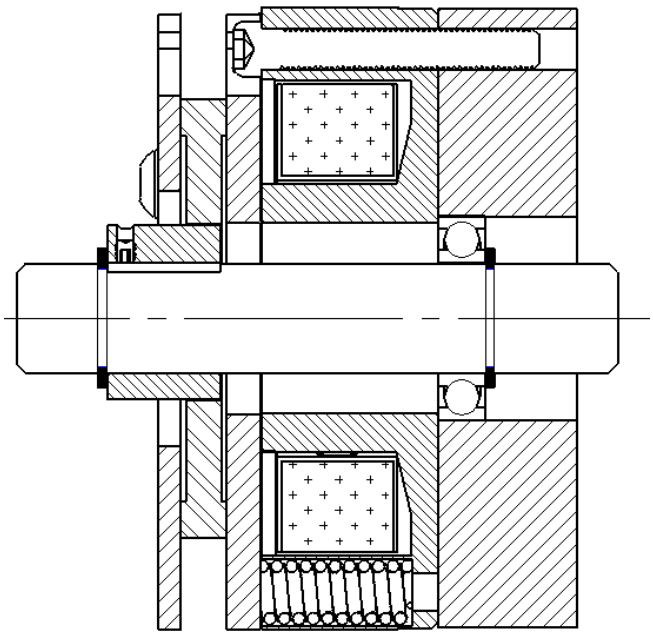
- Remove the hub from the brake assembly before mounting the brake assembly. Install the brake assembly onto the motor or mounting plate aligning the mounting holes. **Note:** Position lead wires from the magnet body as required for convenient wiring. Fasten the brake assembly to the motor using socket head cap screws with lockwashers (or equivalent) then tighten each screw. **Alignment Note:** The magnet body should be concentric with the motor shaft and square with the motor face.

## Mounting Cont.

- Connect the two lead wires to the power source.
- Energize the brake with the correct voltage to release the brake. There will be an audible "click" when the brake releases the friction disc located between the back plate and armature plate. Now the disc will be able to move freely for installation of the hub onto the motor shaft.
- Insert the hub onto the shaft and into the friction disc. **Note:** The hub should insert freely into the friction disc.
- When the hub is in position tighten the set screws. If no set screws are provided, lock the hub in place using a shaft shoulder and washer or a retaining ring.

## Air Gap.

- The air gap between the armature plate and magnet body assembly is factory set prior to shipment as shown on the assembly drawing.



Shown here is a model SEB mounted to a front shaft hub and rear mounting plate. The rear mounting surface is to be flat and perpendicular to rotating shaft within 0.003" total.

## Electrical Connections.

- Connect the magnetic coil lead wires to the proper DC power supply voltage.
- **NOTE:** Control switching should be in the DC circuit. Switch-ing in the AC circuit will cause slow disengagement. Arc suppressors should be used in all circuits.

## Check-out.

- Connect the magnetic coil lead wires to the proper DC power supply voltage.

## Other Considerations.

- When two or more units are located on the same shaft, the coils should be wired so that the polarity is changed when switching from one to the other. This will reduce the residual magnetism in the idling unit.
- Units on a common shaft should be kept apart with a non-magnetic spacer 1/8" thick minimum.

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## ABOUT US

SEPAC Inc., in Elmira, NY, is a custom engineering company and manufacturer of motion control products including electromagnetic clutches and brakes. We provide innovative solutions of the highest quality and reliability to OEMs, distributors and end users around the world. Our brake and clutch applications range from aerospace and defense to outer space, robotics, energy, healthcare, and a wide variety of industrial markets.

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