INSTALLATION AND MAINTENANCE

Installation of PET Clutches/Brakes

Description

PET permanent-magnet eddy-current clutch/brake transfers consistent torque via hysteresis field. Torque is proportional to the change in rpm. It does not require power. Since torque is transferred magnetically, torque is stable and accurate throughout its life. It can be used as a clutch or a brake. It can be mounted vertically or horizontally and can run either clockwise or counter-clockwise.

Installation Procedure

1. Since units contain permanent magnets, heavy shock load should be avoided to prevent breakage to the internal permanent magnets. Units are adjustable within their given torque range.

2. When used as a brake, the mounting surface against the back of the unit should be perpendicular to the shaft within 0.002". The pilot or bolt circle should be concentric to the shaft within 0.008" TIR.

a. PET as a brake: The unit is slid onto the customer supplied shaft and then attached to the frame via the 3 tapped holes (see PDF for additional dimensional detail). Once in place, the set screw is tightened down to lock the key from the shaft.

b. PET as a clutch: Prior to installing on the shaft, the customer's pulley, gear or flexible coupling is attached to the 3 mounting holes on the face of the unit. (see PDF for additional dimensional detail). Once assembled, the unit is slid onto the customer supplied shaft and the set screw is tightened down locking the unit and the key in place.

3. Each unit has an adjustable torque range. To adjust the starting torque of the unit, loosen the single screw on the slot on the body and move the housing to the desired position. The numbers on the unit's body give a reference to each unit's torque range (see PDF for actual torque ranges). Once the desired torque range is set, tighten the screw. Once set the unit will deliver its minimum torque per RPM. The faster the RPM the greater the torque (refer to the specific gain per RPM on the PDF)

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Maintenance

1. Since there is no internal contact, there are no wearing internal components. Hence, no maintenance is required; the units can not be serviced.

2. Although the unit is sealed and does not emit any wear particles, it is still susceptible to contamination from moisture and/or fine particles. Care should be taken to eliminate both moisture and particle contamination as it could migrate into the bearings and cause damage.

3. Permanent hysteresis clutch/brake generates heat in proportion to the product of torque and difference of rotational speed between input and output. The power consumption of the unit (calculated by the formula below) must to be less than the energy rating. Also, the unit should be kept away from high heat sources as higher temperatures can reduce magnetic efficiency and bearing life.

$$P=0.0118 \times n \times Tc$$

P: Energy Consumption [W]
n: Speed differential (rpm)
Tc: Slip Torque [lbs･ft]

Model	1.2	2.5	5	10
Slip Energy Rating [W]	9	9	10	14

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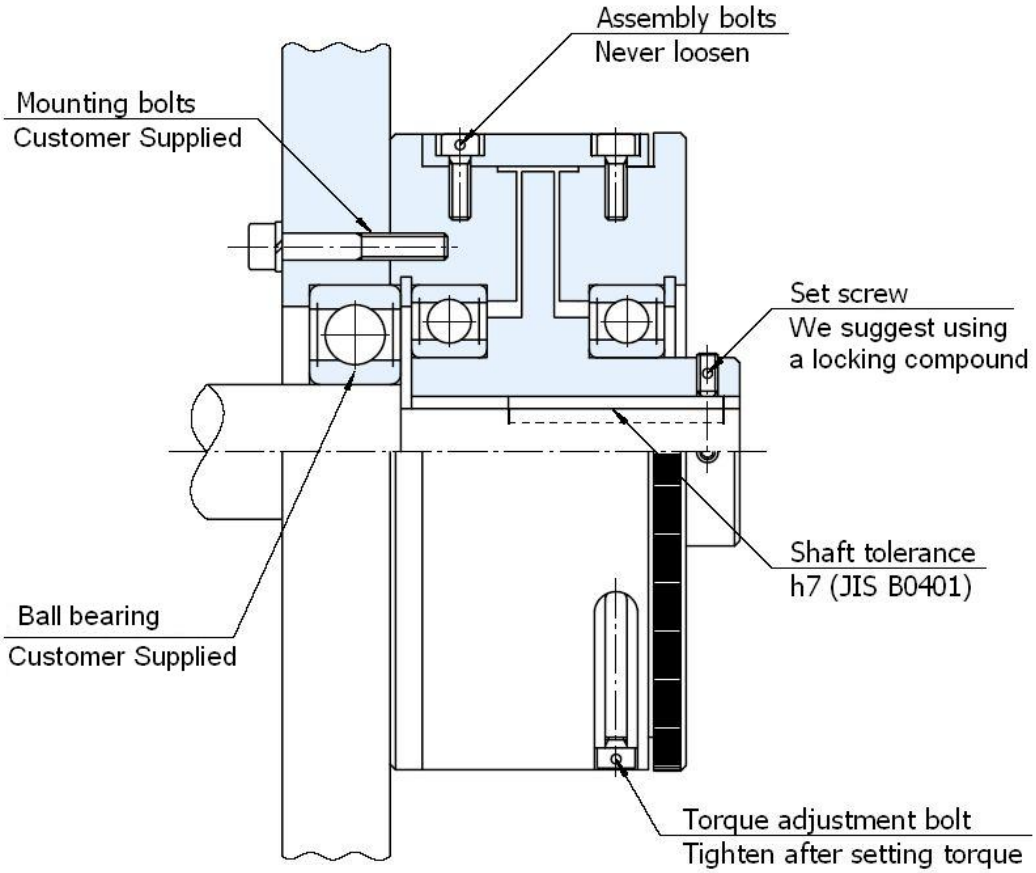

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