



90B Series Multiple Disc Brake

Data Sheet 9001

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Features:

- For use with System Pressure Up to 3,000 psi or 5,000 PSI with 'E' extra pressure option
- Compact SAE "B" Package
- Hardened & Ground Steel Shafts
- Wet Operation

Holding Torque

The required holding torque for any of the Eskridge Multiple Disc Brakes should be based on the application, the hydraulic circuitry involved and whether or not the brake is mounted to a speed reducer (geardrive). The brake should have sufficient holding torque to prevent the motor from driving through and/or with sufficient torque for grade holding requirements.

When the brake is used in conjunction with a speed reducer (geardrive) such as a swing drive on cranes, etc. where the backdriving loads will intentionally cause the brakes to slip, extreme care must be taken in the design of the hydraulic circuitry to prevent overloading the gearbox from an accumulation of torque from the brake and associated hydraulics.

Release Pressure

Release pressure is the hydraulic oil pressure that is applied to the brake piston port to release the spring applied brake. The brake release pressure is stated as two related pressures. The first is "Initial Pressure." It is the pressure required to remove all piston force from the friction pack with no running clearance between the friction plates and the separator plates. The second is the "Full Release Pressure" which allows running clearance between the friction plates and separator plates for prolonged operation. It is **imperative** that the brakes be fully released when operated.

Always use a release pressure at least 20-30 PSI higher than the stated release pressure. Always bleed the piston cavity of all air prior to placing the unit into operation. Eskridge Brakes are designed as "Full System Pressure" Brakes. The piston is evenly loaded, with no bending under high pressure operation and when applied, directly contacts the friction pack. See the Model Specification sheets for release pressures and maximum pressures.



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Back Pressure

$$\text{Actual Torque} = \text{Torque Rating} \times \left(1 - \frac{\text{Back Pressure}}{\text{Release Pressure}}\right)$$

- Example:
- Brake Rated Torque = 2400 in-lbs
 - Release Pressure = 140 PSI
 - Back Pressure = 30 PSI

$$\text{Actual Torque} = 2400 \times \left(1 - \frac{30}{140}\right) = 1886 \text{ in-lbs}$$

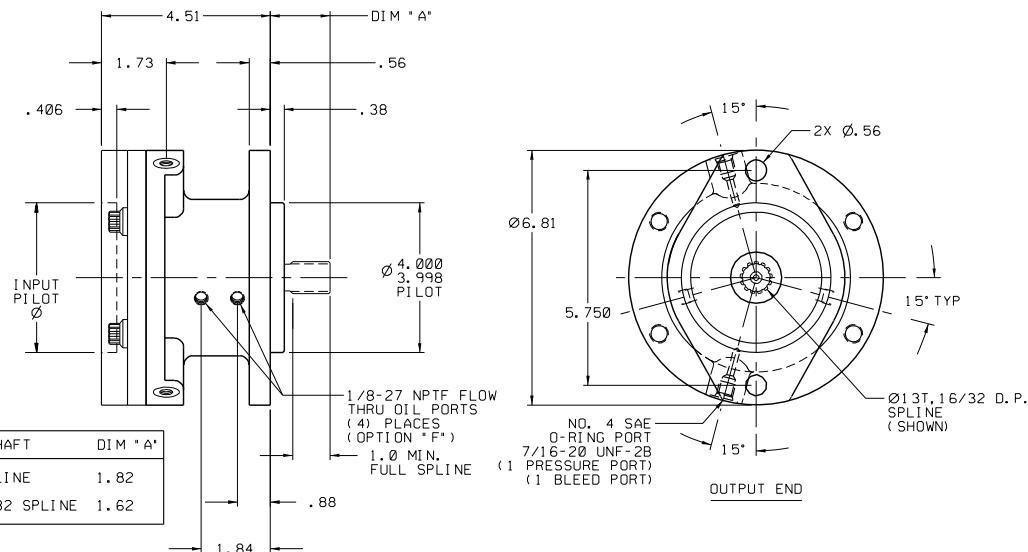
Back Pressure refers to pressure existing in the discharge side of a load and is a result of fluid flow restrictions.

Back pressure in the brake release port will reduce the effective holding torque by an amount directly proportional to the release pressure. The actual holding torque can be calculated by using the formula to the left.

It is important to know your system back pressure so allowances can be made in determining the correct holding torque requirement.

- Eskridge brakes comply with SAE Mounting Standards for interchangeability with other spring apply, hydraulic release brakes.
- All Eskridge Brakes are function tested at the factory before shipment. Testing of each brake consists of pressure cycle, holding torque and high pressure leak testing to ensure that all brakes meet model specifications.

90B



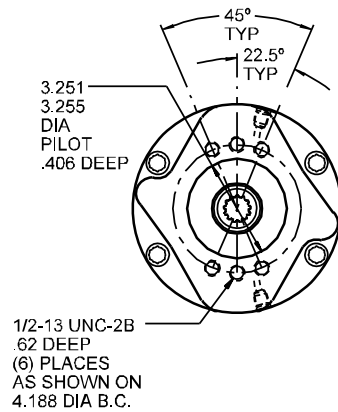
Maximum release pressure	3000 PSI*
Maximum continuous pressure	3000 PSI*
Maximum speed at full release pressure	3900 RPM
Shaft splines	30° involute, flat root side fit per ANSI B92.1a-1976 internal - class 7, external - class 5

Maximum operating temperature	170°F
Volume of oil to release brake	.3 cu. in.
Approximate weight	25 lb

*5,000 psi available

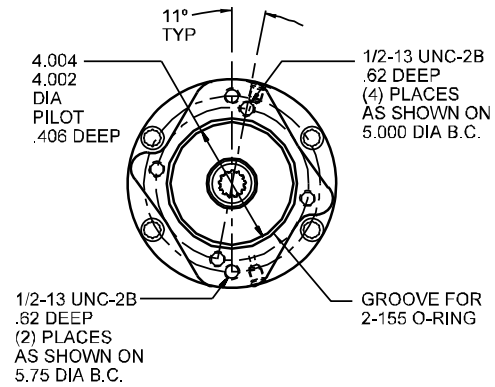


Input Mounting Options



"A" OPTION

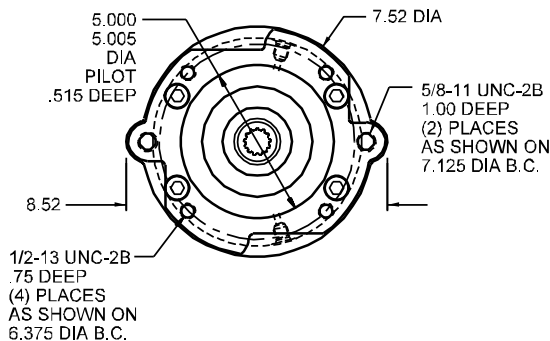
SAE 'A' 2 & MOD. 4-BOLT



"B" OPTION

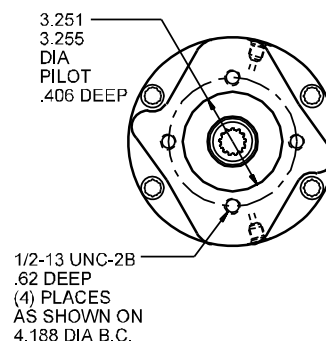
SAE 'B' 2 & 4-BOLT

Part Number Information



"C" OPTION

SAE 'C' 2 & 4-BOLT



"F" OPTION

SAE 'A' DANFOSS 4-BOLT

