

WHITE HYDRAULICS



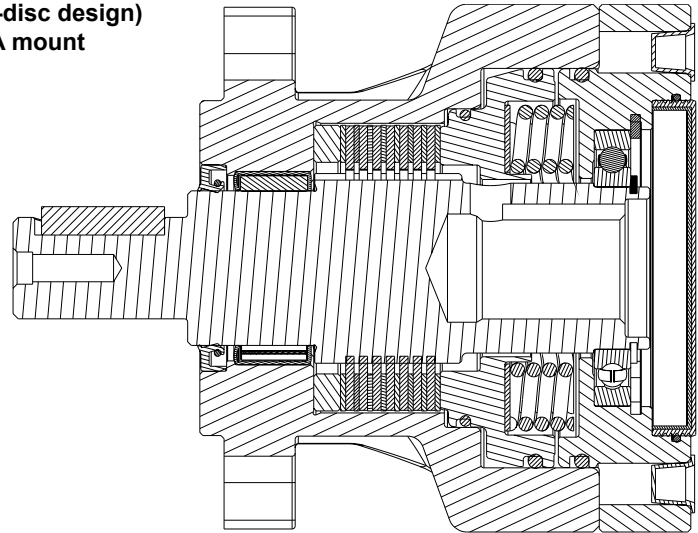
SB Series

FEATURES

- All wear components are fully immersed in fluid (wet multi-disc design)
- Performance-matched to fit small-frame motors with SAE A mount
- Release pressure independent of motor pressure
- Maximum release pressure up to 3,625 PSI (250 bar)
- Brake directly coupled to the output shaft
- Wide-variety of input and output shaft options
- Environmentally sealed / factory prefilled with oil

BENEFITS

- Proven, Quiet, Trouble-Free Operation
- Compact, Cost-Effective Package
- Simplifies System Circuits - Eliminates Need for Pressure-Reducing Valve
- Series Operating Capability
- Reliable Performance - Fewer Critical Components
- Design Flexibility
- Global Interchangeability
- Suited for “Stand Alone” Brake Applications
- Ease of Installation



APPLICATIONS

Truck-Mounted Cranes and Boom Lifts, Recovery Winches, Aerial Boom Lifts, Marine Cranes and Winches, Industrial Conveyors, Recycling Equipment, Fishing Winches, Agricultural Equipment, Drill-Rigs, Specialty Attachments, Grapples, Draglines, Truck Tarps and Truck Side Curtains

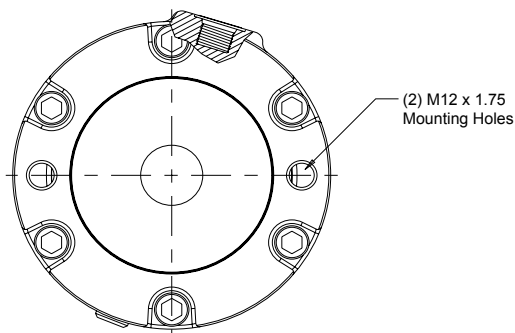
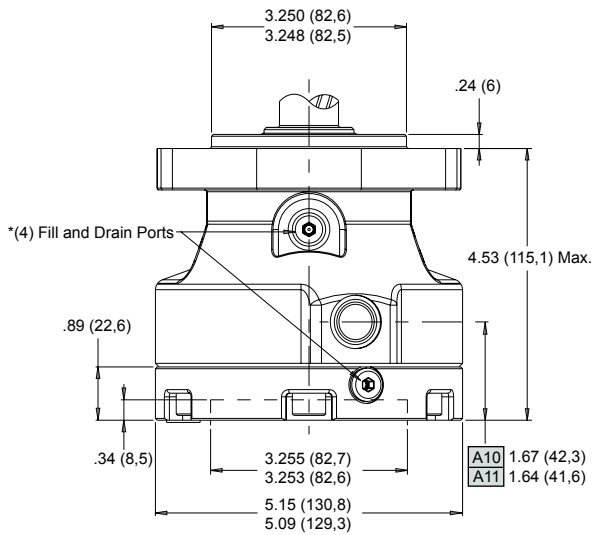
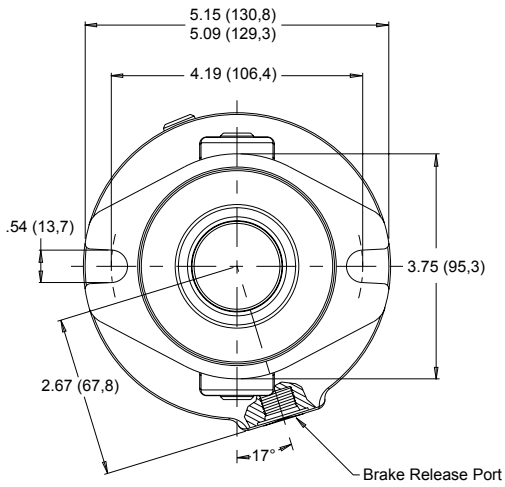
The SB Series brake provides superior performance in an extremely compact package. Unlike conventional brakes offered today, the SB brake is performance-matched to fit the full range small-frame SAE A mount motors available today. With an overall diameter of less than 5.4” (137mm) the SB has a holding capacity in excess of 5,500 lb-in (620 Nm) and is easily mated to a variety of global industry standard motor mounting and shaft options. In addition, the SB Series can be used as a stand-alone brake solution without an input drive motor. This option further opens design flexibility to meet a wider variety of application needs.

The SB series uses the same time-proven brake technology used in other White Hydraulic brakes and incorporates the latest advances in multiple-wet-disc-brake technology. The design is a spring-applied / pressure release type that uses mechanical spring-force to apply the brake in the absence of release pressure. System pressure is applied to the brake release port to overcome the spring force to release the brake. In the absence of pressure, the springs activate the brake for full system load-holding capability. In addition, all internal components including the bearings and brake discs are fully immersed in an oil bath to provide extended life and trouble-free operation. The brake is intended for use as a static load-holding brake with limited short-duration dynamic operation allowed. Actual customer testing and full system testing is required to ensure the product meets performance requirements. All these features combine to make the SB Series the leading small-frame brake in the world today.

SPECIFICATIONS

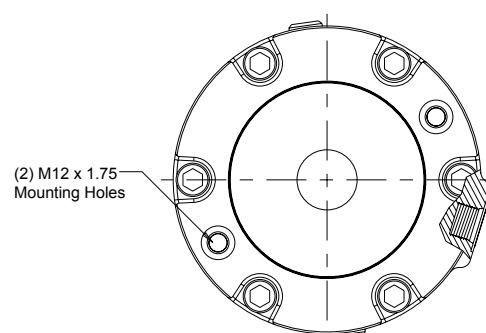
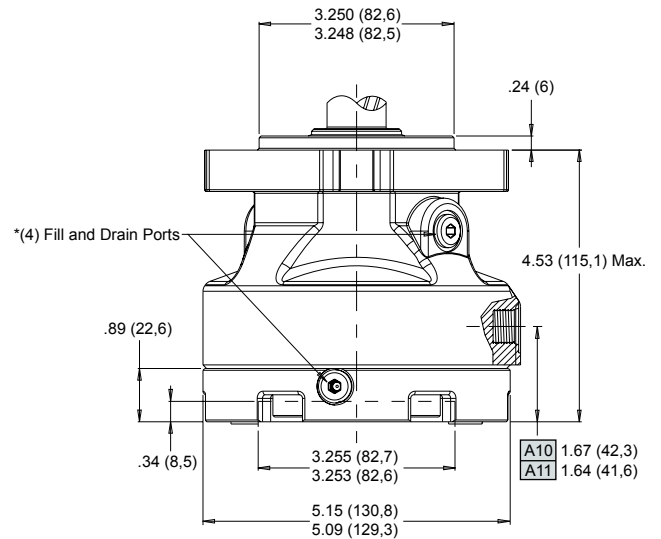
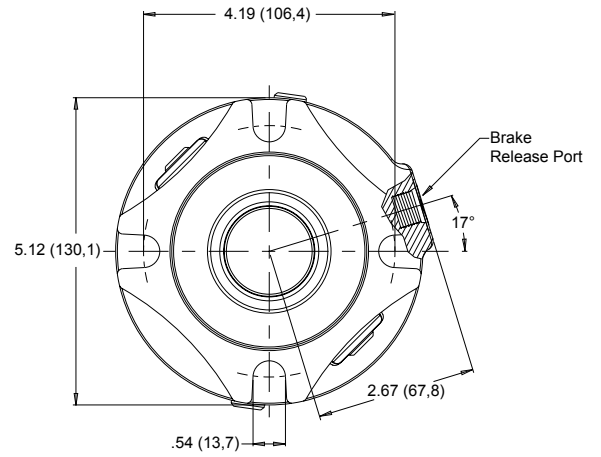
Code	225	315	415	520	620
Holding Torque	2,000 lb-in (225 Nm)	2,800 lb-in (315 Nm)	3,700 lb-in (415 Nm)	4,600 lb-in (520 Nm)	5,500 lb-in (620 Nm)
Max. Release Pressure	3,625 psi (250 bar)				
Full Release Pressure	290 psi (20 bar)	290 psi (20 bar)	290 psi (20 bar)	450 psi (31 bar)	450 psi (31 bar)
Release Volume	.51 cu. in (8.3 cc)				

- A10** 2-Hole 7/16"-20 SAE O-Ring Release Port
- A11** 2-Hole 1/4"-19 BSP.P Release Port



- A30** 4-Hole 7/16"-20 SAE O-Ring Release Port
- A31** 4-Hole 1/4"-19 BSP.P Release Port

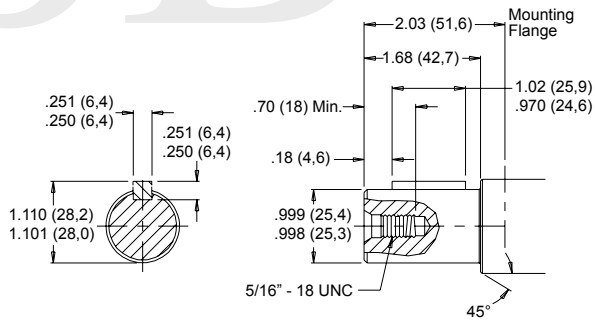
Note: Cast Dimensions are ± .030" (0,76)



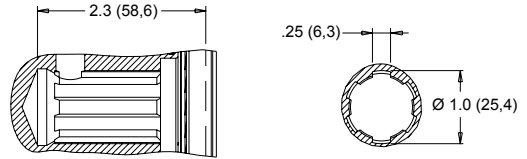
*Fill and drain ports for filling and draining the brake only. No system connections are to be made to the fill and drain ports. These ports are not suitable for use in a cooling loop.

SHAFTS

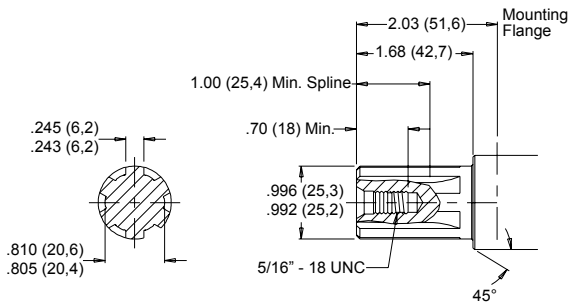
ZW 1" Straight Output w/ 6-B Spline Input



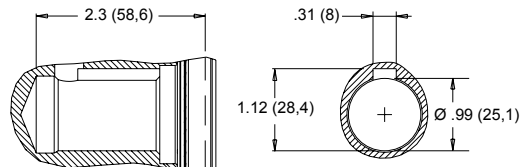
6-B Input Spline Dimensions



ZZ 6-B Spline Output w/ 6-B Spline Input

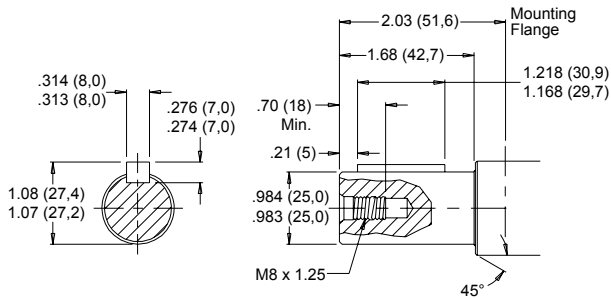


25MM Straight Input Dimensions



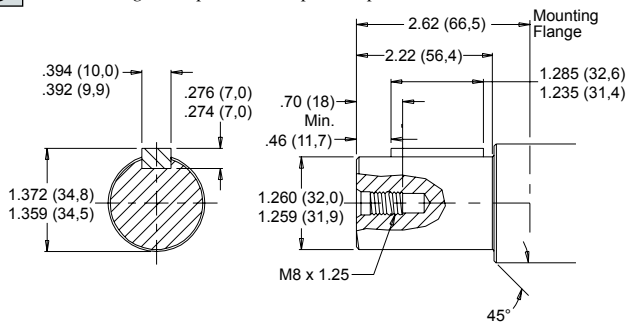
ZY 25mm Straight Output w/ 25mm Straight Input

ZT 25mm Straight Output w/ 6-B Spline Input

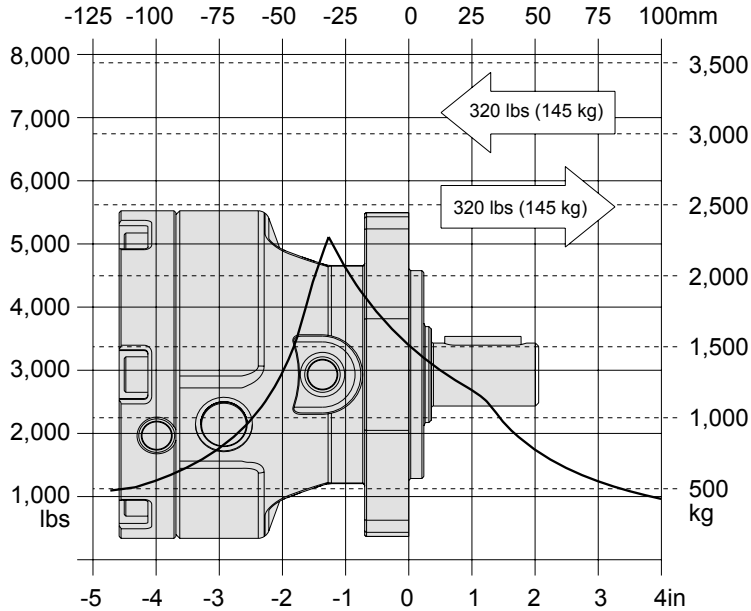


ZX 32mm Straight Output w/ 25mm Straight Input

ZU 32mm Straight Output w/ 6-B Spline Input



Bearing Curve: The bearing curve represents allowable bearing loads based on ISO 281 bearing capacity for an L10 life of 2,000 hours at 100 RPM. Radial loads for speeds other than 100 RPM may be calculated using the multiplication factor table to the right.



Bearing Load Multiplication Factor Table

RPM	Multiplication Factor
50	1.23
100	1.00
200	0.81
300	0.72
400	0.66
500	0.62
600	0.58
700	0.56
800	0.50

ORDERING INFORMATION

SERIES
930

HOLDING TORQUE

Code	Holding Torque
225	2000 lb-in (225 Nm)
315	2800 lb-in (315 Nm)
415	3700 lb-in (415 Nm)
520	4600 lb-in (520 Nm)
620	5500 lb-in (620 Nm)

HOUSINGS

Code	Housings
A10	2-Hole 7/16" O-Ring
A11	2-Hole 1/4" BSP.P
A30	4-Hole 7/16" O-Ring
A31	4-Hole 1/4" BSP.P

SHAFT

Code	Shafts
ZT	25mm Straight w/ 6-B Spline Input
ZU	32mm Straight w/ 6-B Spline Input
ZW	1" Straight w/ 6-B Spline Input
ZX	32mm Straight w/ 25mm Input
ZY	25mm Straight w/ 25mm Input
ZZ	6-B Spline w/ 6-B Spline Input

PAINT

Code	Options
A	Dark Metallic Gray
B	Dark Metallic Gray (Unpainted Flange Face)
C	Black
D	Black (Unpainted Flange Face)
Z	No Paint

OPTIONS

MISCELLANEOUS

Code	Options
*AA	Standard
**JA	Stand-Alone Brake Cover

ADD ONS

Code	Options
A	Standard

CAVITY

Code	Options
A	None

The SB brake can be configured as a “stand-alone” brake for applications without a drive motor.

* The standard paint code for this option is Z.
 ** The standard paint code for this option is A.

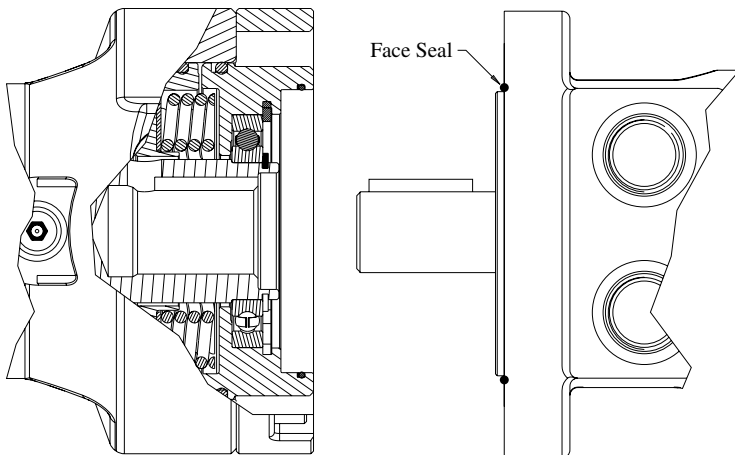
INSTALLATION

The SB Brake is a wet multi-disc type static brake and is shipped factory filled with fluid. The fluid used is a standard SAE 20 hydraulic fluid. A hydraulic motor can be mounted to the SB Brake to provide a complete motor/brake package. A shipping cover protects and seals the input interface until it is ready for installation. The shipping cover is removed by removing the two cap screws and following the motor installation procedure below. Mounting pilot surfaces need to be free of paint or other substances for proper assembly and leak-free performance. Standard SB brakes are sold unpainted with an easy to remove shipping cover. Stand-alone SB brakes come standard painted and factory installed cover.

The input interface must be sealed to keep the brake environmentally protected and bearings fully immersed in fluid for proper lubrication and long life. Standard SAE 20 hydraulic oil is used in the brake cavity as well as typically used in hydraulic systems.

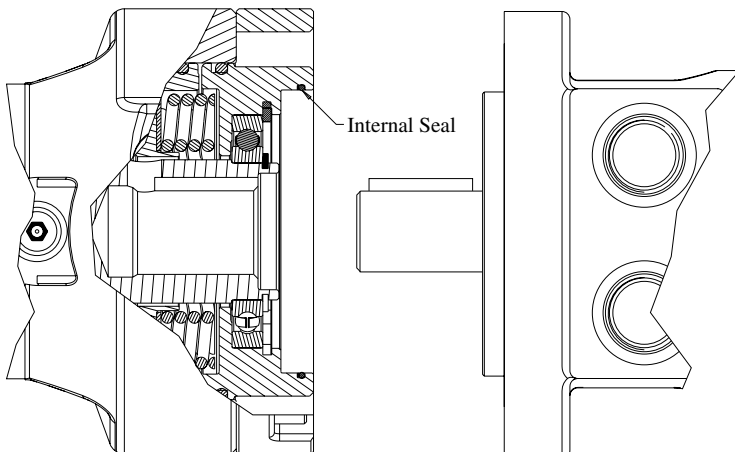
An internal seal is provided to seal long-pilot motors. When a short-pilot motor is used, an o-ring face seal is needed to properly seal the motor/brake interface. Two mounting bolts (M12 x 1.75 thread) and an o-ring seal with mounting instructions are included in the brake installation kit 930999001 and shipped with each SB Brake.

Short Pilot Motor Installation - .11 (2,8 mm) Ø3.25 (82,4)



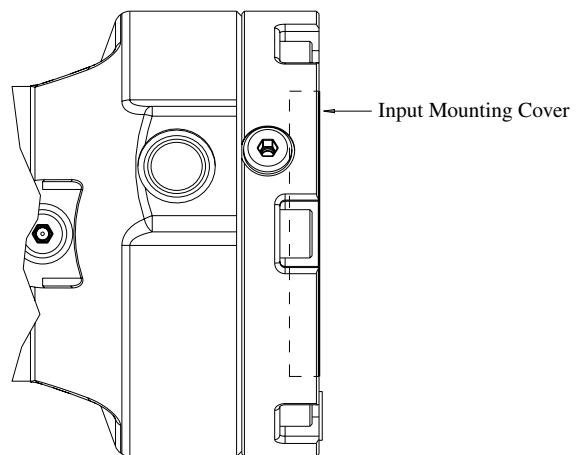
Note, the factory installed pilot seal may be left in place. However, this seal will not provide proper sealing for motors with short pilot mounts, therefore, a face seal must be used.

Long Pilot Motor Installation - .21 (5,3 mm) Ø3.25 (82,4)



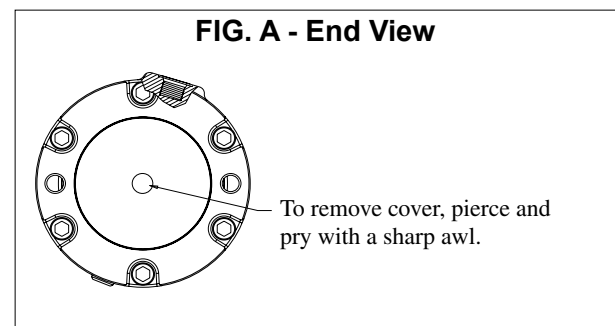
Note, the face seal contained in the mounting kit is not needed and may be discarded when mounting a long pilot motor.

Stand-Alone Installation



The SB can also be used as a stand-alone brake without an input drive motor. In these cases, the mounting cover should remain in place and not be removed. The cover seals the unit and keeps the bearings immersed in oil for lubrication and long life.

FIG. A - End View





White Hydraulics Products

A White Hydraulics product is defined as products manufactured and/or sold by White Hydraulics Inc. Hopkinsville, Kentucky USA and/or White Hydraulics GmbH Ratingen, Germany and/or White Hydraulics, Inc. Shatin, N.T. Hong Kong.

Important Information

Before selecting or using a White Hydraulics product, it is important that all information concerning the product warranty, limitation of liability and responsibility of the customer be reviewed. This information is located below. Please direct any questions regarding this information to your White Hydraulics representative.

Disclaimer

This catalog provides product options for further investigation by customers having technical expertise with respect to the use of such products. It is the responsibility of the customer to thoroughly analyze all aspects of the customer's application and to review the information concerning the product in the current product catalog. Due to the diversity of possible applications, the customer is solely responsible for making the final selection of the product(s) to be used and to assure that all performance, safety and warning requirements of the application are met. The customer is further responsible for all testing to verify acceptable life and performance of White Hydraulics' products under actual operating conditions.

White Hydraulics has made all reasonable efforts to present accurate information in this catalog and shall not be responsible for any incorrect information which may result from unintentional oversight. Due to continuous product improvement, the product specifications as stated in this catalog are subject to change by White Hydraulics at any time without notice. The customer should consult a sales representative of White Hydraulics for detailed information and to determine any changes in the information in this catalog.

Improper selection or improper use of the products described herein can result in death, personal injury and/or property damage. White Hydraulics, Inc.'s sole responsibility with respect to its products is set forth in the warranty/limitation of liability policy state herein.

Warranty

White Hydraulics products are sold subject to a limited warranty and a limitation of remedies policy, both of which constitute part of any and all agreements to purchase White Hydraulics' products. White Hydraulics makes no other warranties or promises other than those specifically noted in its written policies, and no White Hydraulics employee or agent has the power to alter those policies other than in writing.



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Dual release ports allow easier bleeding of brake release cavity.

Oil-filled cavity immerses all components providing quiet operation and reduced wear.



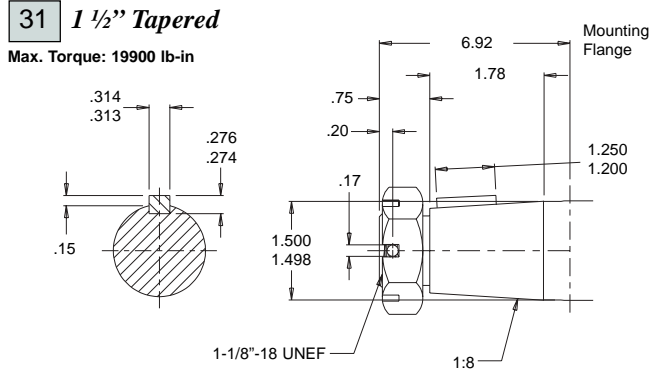
Holding Torque	10,000 lb-in
Release Pressure	400 psi
Maximum release pressure	3,000 psi
Release volume	0.7 cu. in.
Max. Speed	250 rpm
Max. Operating Temperature	180°F
Weight	37 lbs
Fluid Type	Mineral based oil

SUPERIOR DESIGN FOR RELIABLE OPERATION

With safety becoming an increasingly important factor in the design and manufacture of equipment, it has become necessary to add a brake to many critical machine functions. In response to that concern, White Hydraulics offers the BK10 Series brake. Based on technology proven in White Hydraulics integrated motor/brakes, this spring-applied, hydraulically released brake provides 10,000 lb-in of holding torque for static brake applications.

Other features contribute to the superior operation and durability of the brake. All internal components, including roller bearings, brake disks, springs and seals were chosen for maximum durability. To further extend the life of the unit and reduce noise, all internal components run in an oil bath. Two brake release ports are also provided to simplify plumbing and bleeding of the brake release circuit during installation. All of these features combine to make the BK10 Series brake the top choice for any static brake application requiring 10,000 lb-in of holding torque.

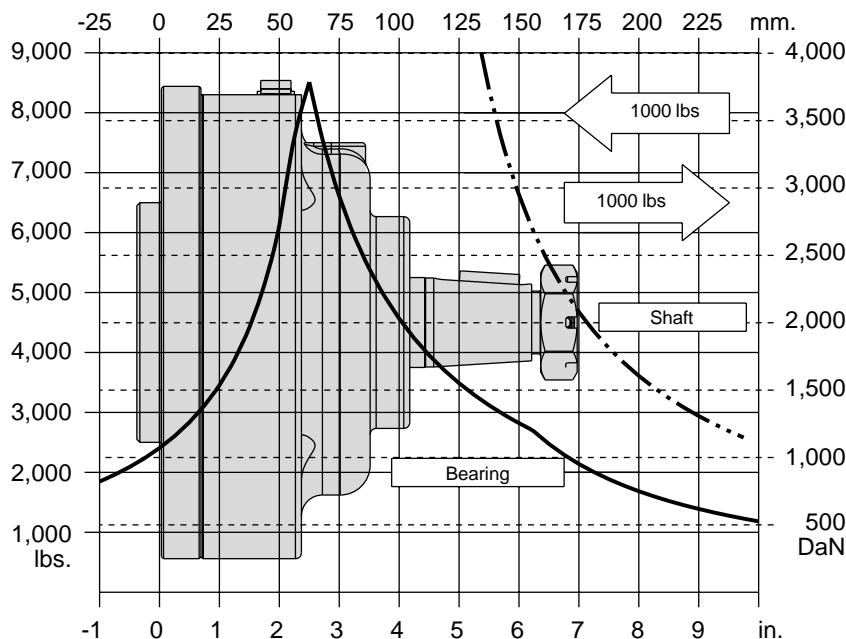
SHAFT



Note: A slotted nut is standard on this shaft.

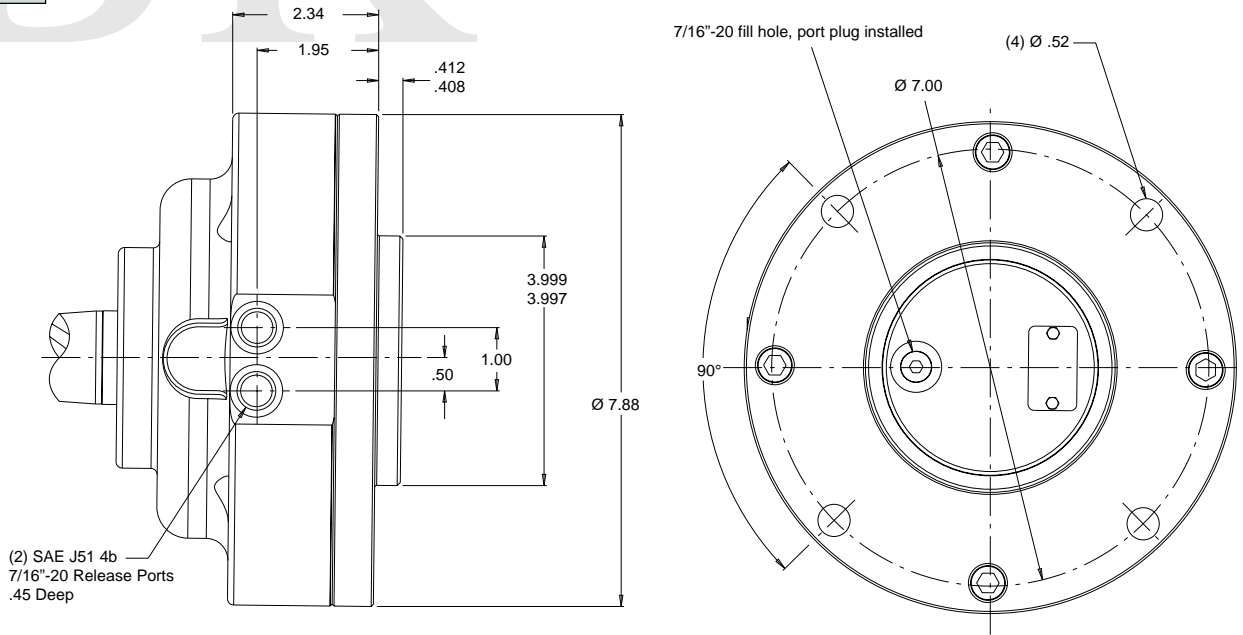
ALLOWABLE BEARING AND SHAFT LOADS

Bearing Curve: The bearing curve represents allowable bearing loads based on ISO 281 bearing capacity for an L_{10} life of 2,000 hours at 100 RPM. Radial loads for speeds other than 100 RPM may be calculated using the multiplication factor table located on page 24.



TECHNICAL

K30 4-Hole 7/16" O-Ring



ORDERING INFORMATION

