



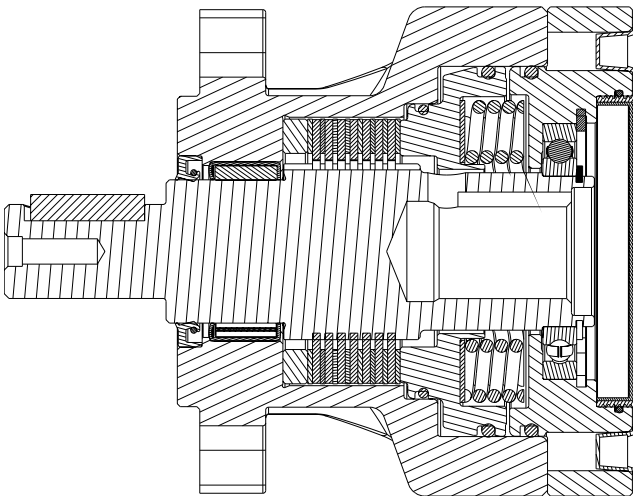
**SB**

SERIES HYDRAULIC BRAKES

# SB

## OVERVIEW

The SB Series is a multiple-wet-disc-brake that provides superior performance in an extremely compact package. Unlike conventional brakes offered today, the SB brake is performance-matched to fit the full range of small-frame SAE A mount motors available today. With an overall diameter of less than 137mm [5.4 in.] the SB has a holding capacity in excess of 620 Nm [5,500 lb-in] 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.



## 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
- 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

## SPECIFICATIONS

Code	225	315	415	520	620
Holding Torque	225 Nm [2,000 lb-in]	315 Nm [2,800 lb-in]	415 Nm [3,700 lb-in]	520 Nm [4,600 lb-in]	620 Nm [5,500 lb-in]
Max. Release Pressure	250 bar [3,625 psi]				
Full Release Pressure	20 bar [290 psi]	20 bar [290 psi]	20 bar [290 psi]	31 bar [450 psi]	31 bar [450 psi]
Release Volume	8.3 cc [.51 cu. in]				
Unit Weight	8 kg [17.6 lb]				

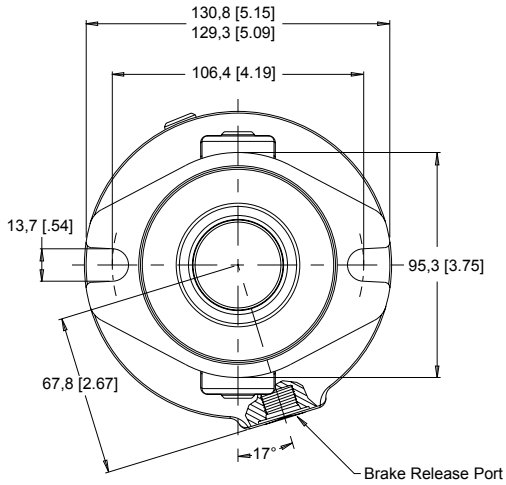


NOTE: Dimensions shown are without paint. Paint thickness can be up to 0,13 [.005]

930 SERIES HOUSINGS

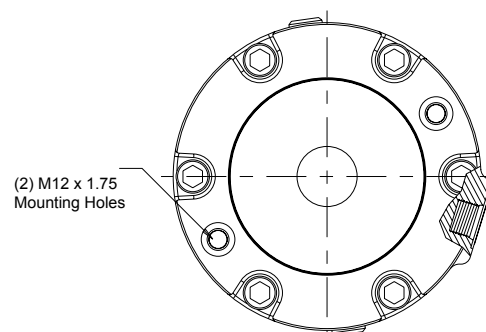
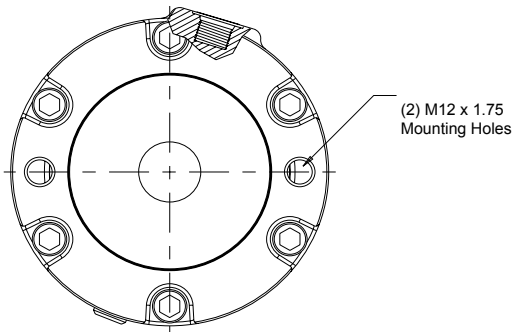
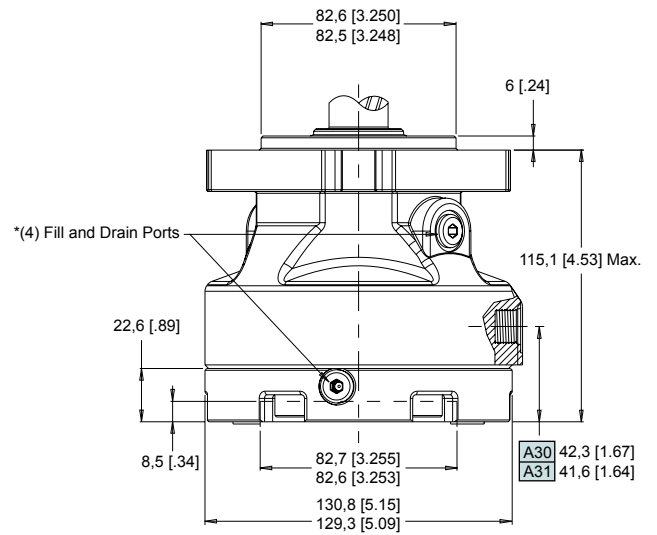
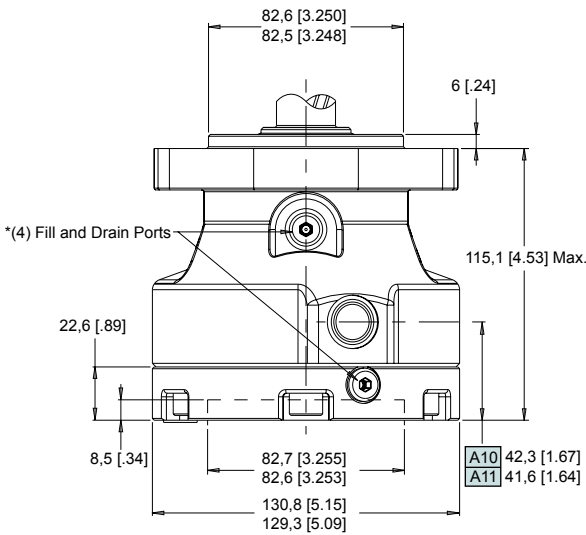
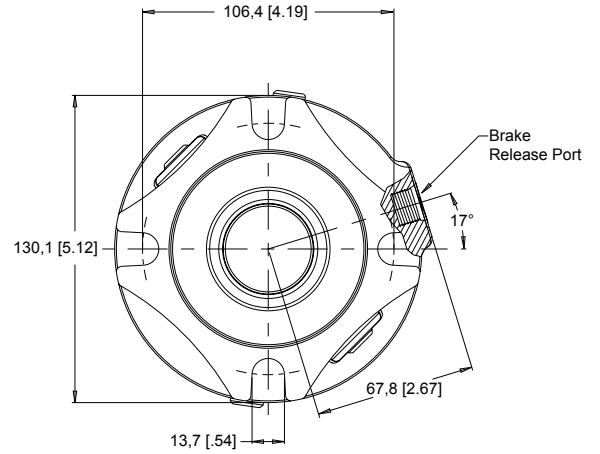
**A10** 2-Hole 7/16" O-Ring Release Ports

**A11** 2-Hole 1/4" BSP.P Release Ports



**A30** 4-Hole 7/16" O-Ring Release Ports

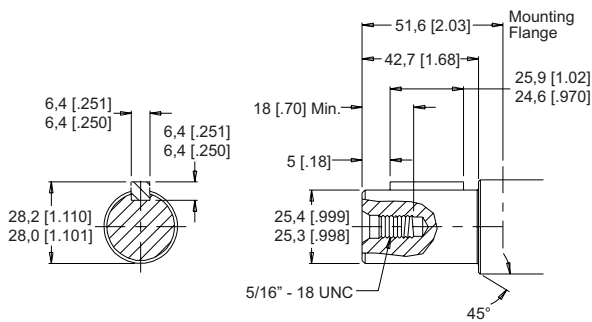
**A31** 4-Hole 1/4" BSP.P Release Ports



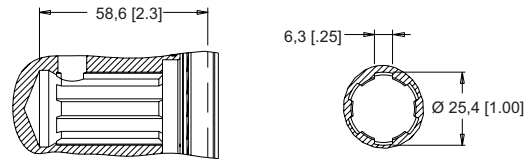
NOTE: Cast Dimensions are ± 0,8 mm [.030 in.]. \*Fill and drain ports for filling and draining the brake only. No system connections are to be made to the fill and drain ports. These ports are not suitable for use in a cooling loop.



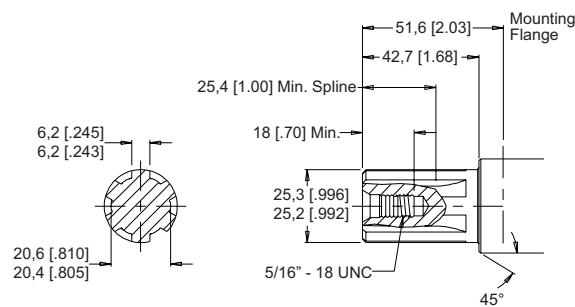
**ZW** 1" Straight Output With 6B Spline Input



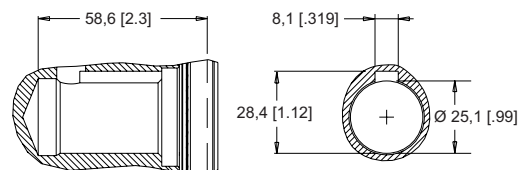
**6-B Spline Input Dimensions**



**ZZ** 6B Spline Output With 6B Spline Input

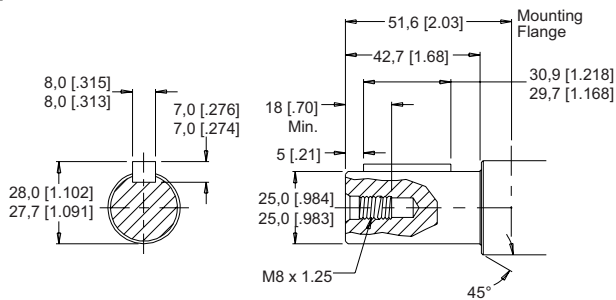


**25MM Straight Input Dimensions**



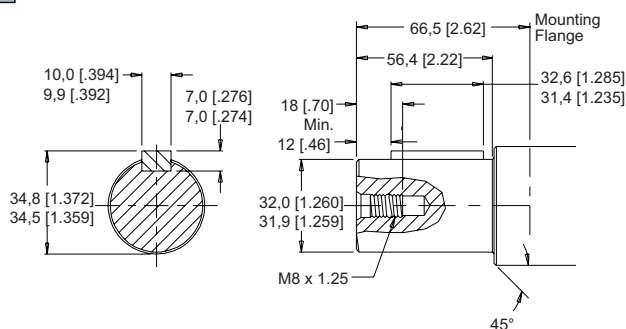
**ZY** 25mm Straight Output With 25mm Straight Input

**ZT** 25mm Straight Output With 6B Spline Input



**ZX** 32mm Straight Output With 25mm Straight Input

**ZU** 32mm Straight Output With 6B Spline Input



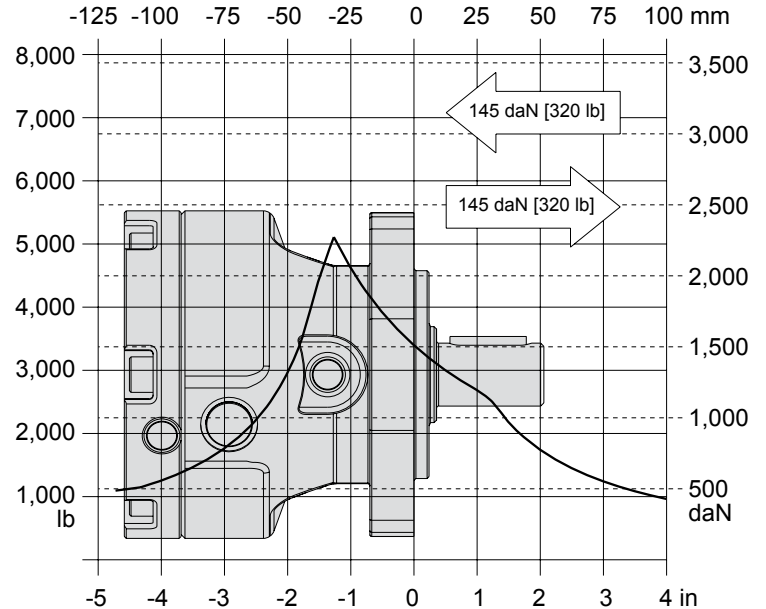


930 SERIES MODEL CODE BUILDER

**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 below.



BEARING LOAD MULTIPLICATION FACTOR TABLE			
RPM	FACTOR	RPM	FACTOR
50	1.23	500	0.62
100	1.00	600	0.58
200	0.81	700	0.56
300	0.72	800	0.50
400	0.66		



SERIES	DISPLACEMENT	HOUSING	SHAFT	PAINT	CAVITY	ADD ON	MISCELLANEOUS
STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8

STEP 1 - Select a series

930 SB Series Brake

STEP 2 - Select a holding torque

225	225 Nm [2000 lb-in]	520	520 Nm [4600 lb-in]
315	315 Nm [2800 lb-in]	620	620 Nm [5500 lb-in]
415	415 Nm [3700 lb-in]		

STEP 3 - Select a housing option

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

STEP 4 - Select a shaft option

ZW	1" Straight Output With 6B Spline Input
ZZ	6B Spline Output With 6B Spline Input
ZY	25mm Straight Output With 25mm Straight Input
ZT	25mm Straight Output With 6B Spline Input
ZX	32mm Straight Output With 25mm Straight Input
ZU	32mm Straight Output With 6B Spline Input

STEP 5 - Select a paint option

A	Black
B	Black (unpainted flange face)
Z	No Paint

STEP 6 - Select a valve cavity option

A	None
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STEP 7 - Select an add on option

A	Standard
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STEP 8 - Select a miscellaneous option

AA	Standard *
JA	Stand Alone Brake Cover **

**NOTE:** The SB brake can be configured as a "Stand-Alone" brake for applications without an input drive motor. See page 180 for SB installation information. \* The standard paint code for an SB brake with an input drive motor is the Z option (no paint). \*\* The standard paint code for an SB brake that is used without an input drive motor is the A option (black paint).



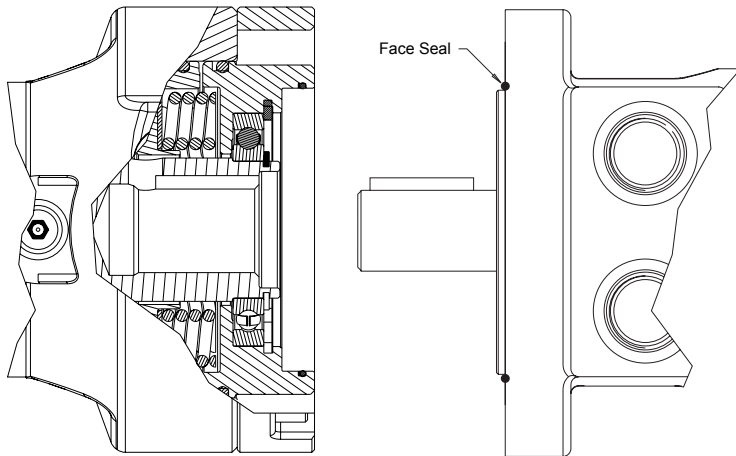
## 930 SERIES INSTALLATION INFORMATION

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.

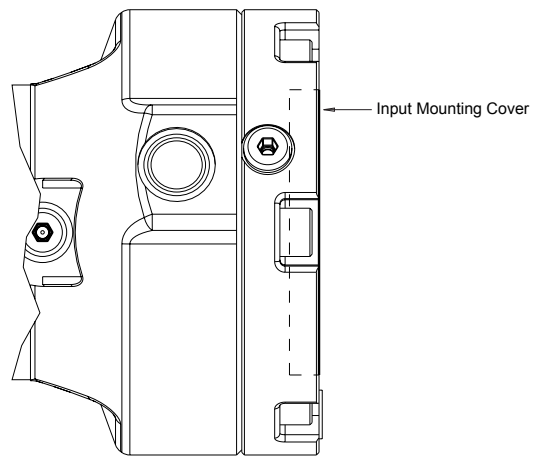
An internal seal is provided to seal long-pilot motors. When a short-pilot motor is used, an o-ring face seal is needed to properly seal the motor/brake interface. Two mounting bolts (M12 x 1.75 thread) and an o-ring seal with mounting instructions are included in the brake installation kit 930999001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

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



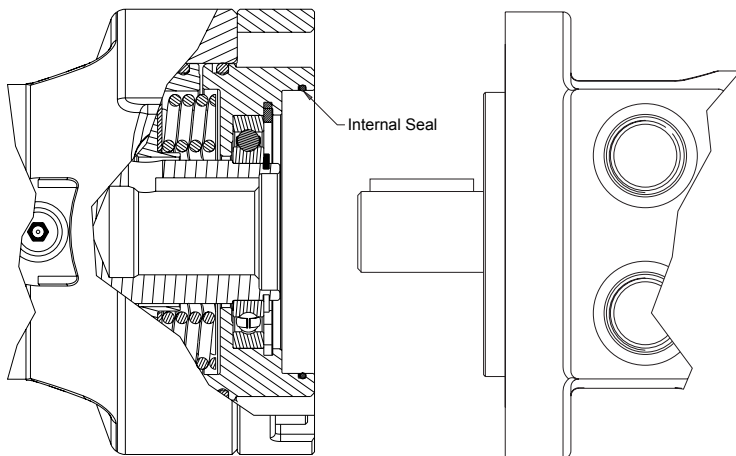
**NOTE:** The factory installed pilot seal may be left in place. However, this seal will not provide proper sealing for motors with short pilot mounts, therefore, a face seal must be used.

### Stand-Alone Installation

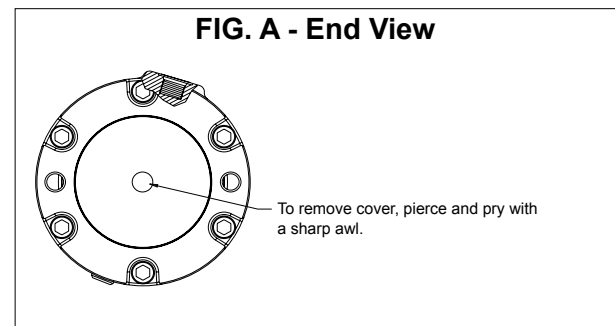


The SB can also be used as a stand-alone brake without an input drive motor. In these cases, the mounting cover should remain in place and not be removed. The cover seals the unit and keeps the bearings immersed in oil for lubrication and long life.

### 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.



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