

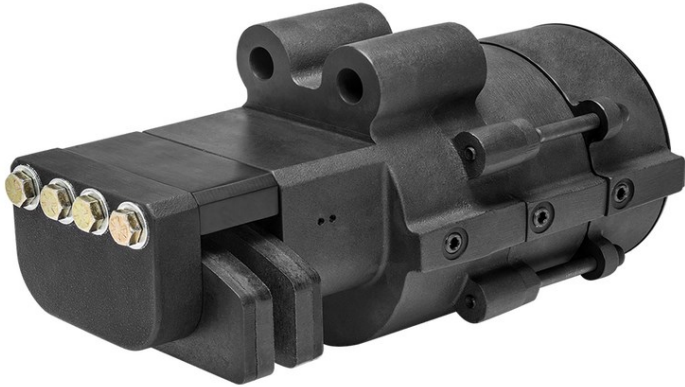


WARNING: SPRING-APPLIED CALIPER DISC BRAKES ARE UNDER SPRING TENSION.

USE CAUTION WHEN INSTALLING & PERFORMING ALL MAINTENANCE PROCEDURES.

INSTALLATION/MAINTENANCE GUIDE

PFS400-EP Series Spring Applied Caliper Disc Brakes



FEATURES:

- Hard-coat Anodized Aluminum Construction.
- Dual Belleville Disc Spring Stacks
- Fits on Brake Discs with Unlimited Disc Diameter.
- Available Branham Brake Discs: 8", 10", 12"
- Non-Asbestos .45 Coefficient of Friction Material
- Spring Stacks in Parallel
- 4130 lb Clamping Force
- 1859 lb. Maximum Tangential Force
- 35,568 in-lbs force using 40 inch Disc Diameter
- 100 PSI Release Pressure

ATTRIBUTES:

Description	Single Acting, Floating Mount, Use Fixed Disc
Disc Thickness	5/32", 1/4", 3/8", 1/2", 5/8", 3/4", 1"
Fluid Type(s)	Air
Max Pressure	150 PSI
Seals	Buna-N
Wearable Friction Material	1.82 cubic inches
Piston Diameter	1.625 inches
Total Friction Pad Area	23.89 square inches
Displacement & Type	25.2 cubic inches / Air

Do **NOT** attempt to mount/dismount, remove and/or fasten caliper assembly bolts without first retracting the caliper pistons. Pressure can be released once the caliper has been dismantled, assembly bolts have been removed and the caliper housings separated. Release pressure for PFS400 caliper disc brakes is 100 PSI. DO NOT EXCEED 150 PSI MAX. If the brake was shipped with a temporary spacer between the friction pads, it may be discarded.

PFS400 Series Installation / Mounting Instructions

1. When mounting your caliper, align the friction pad and brake disc/rotor surfaces so they are parallel. Make sure that disc/rotor will not come in contact with pads when brake is fully released. The clearance between disc and friction pad surface is .015" to .030" per side of brake disc.
2. Mount with two S.A.E. Grade 8 bolts, tighten to 30 ft-lbs torque.
3. The rotor/disc should be aligned between friction pads.
4. The brake disc should have less than .010" runout, ground to 80-120 RMS finish, flat within +/- .010" and be clean and dry.
5. Supply clean, dry air to brake. Install air fittings in brake port. Minimum release pressure 100 PSI. Do NOT exceed 150 PSI.
6. Inspect the brake pads frequently for signs of wear. The brake tangential force directly diminishes with friction pad wear. Refer to pad wear vs. tangential force in the attached dimensional drawing.

(See Attached Drawing for Additional Dimensional Mounting Detail.)

MAINTENANCE INFORMATION

Maximizing Pad Life & Braking Torque

In order to obtain maximum pad life and braking torque, make sure the disc remains free of contaminants like: oils and other forms of debris. If your application exists within a harsh environment, protecting your caliper from the elements is highly advised when possible. When caliper pistons are retracted check to make sure brake pads are not in contact with disc surface. Any rubbing between the two surfaces can cause excessive friction leading to premature pad wear.

Friction Pad Replacement

1. To replace friction pads, pressurize the brake to 100 psi prior to dismantling.
2. Remove the dead side (#10) by removing the (4) bolts (#14).
3. Remove friction pad from the live side pad holders (#8) by removing the screws (#12).
4. Remove remaining pad from the dead side using the same process.
5. Install new friction pads (#11). Use removeable thread locker on all brass screws when reinstalling.
6. Reassemble the dead side and spacer to the live side by installing the (4) bolts and tighten to 30 ft-lbs.
7. Remount brake. Refer to installation instructions.

PFS400-EP CALIPER MAINTENANCE

PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	4004-4329	HOUSING, SECONDARY
2	1	4004-4069	HOUSING, SECONDARY ALPHA
3	1	4004-4330	HOUSING, PRIMARY
4	1	4004-4067	PISTON, PRIMARY
5	2	4004-4496	PISTON, SECONDARY
6	3	1300-1009	O-RING, PISTON
7	2	4000-1553	SEAL, PISTON ROD
8	2	4004-4416	PAD HOLDER
9	1	SEE TABLE A	SPACER
10	1	4004-4460	HOUSING, DEAD SIDE
11	2	4005-4041	FRICTION PAD
12	4	4000-1046	SCREW, FRICTION PAD
13	4	4000-1192	WASHER
14	4	SEE TABLE A	BOLT, DEADSIDE HOUSING
15	3	4000-1126	O-RING, HOUSING
16	4	4004-1311	BOLT, HOUSING
17	4	4004-1312	WASHER
18	1	4004-4312	BACKING PLATE
19	2	4000-1520	SCREW, BACKING PLATE
20	1	4004-4500	CONNECTOR, PISTON 2ND STAGE
21	3	1880-1020	O-RING, CONNECTOR ROD
22	3	4000-1115	FLUSH SEAL
23	1	4004-4501	CONNECTOR, PISTON 3RD STAGE
24	2	4000-1192	WASHER, THRUST
25	48	4000-1195	DISC SPRING
26	2	4000-1309	WASHER, BACKING
27	2	4004-4-4457	CONNECTOR RODS, PAD

TABLE A

DESIGNATOR	ROTOR/DISC WIDTH	SPACER PART #	BOLT PART #	BOLT LENGTH	BRAKE MODEL	BRAKE PART #
A	5/32"	4004-4462	4000-1627	2 1/2"	PFS400AF-EP	4005-0133
B	1/4"	4004-4463	4000-1627	2 1/2"	PFS400BF-EP	4005-0126
L	3/8"	4004-4464	4000-1627	2 1/2"	PFS400LF-EP	4005-0127
E	1/2"	4004-4465	4004-1521	2 3/4"	PFS400EF-EP	4005-0128
T	3/4"	4004-4479	4004-1516	3"	PFS400TF-EP	4005-0130
O	1"	4004-4480	4000-1516	3"	PFS400OF-EP	4005-0131

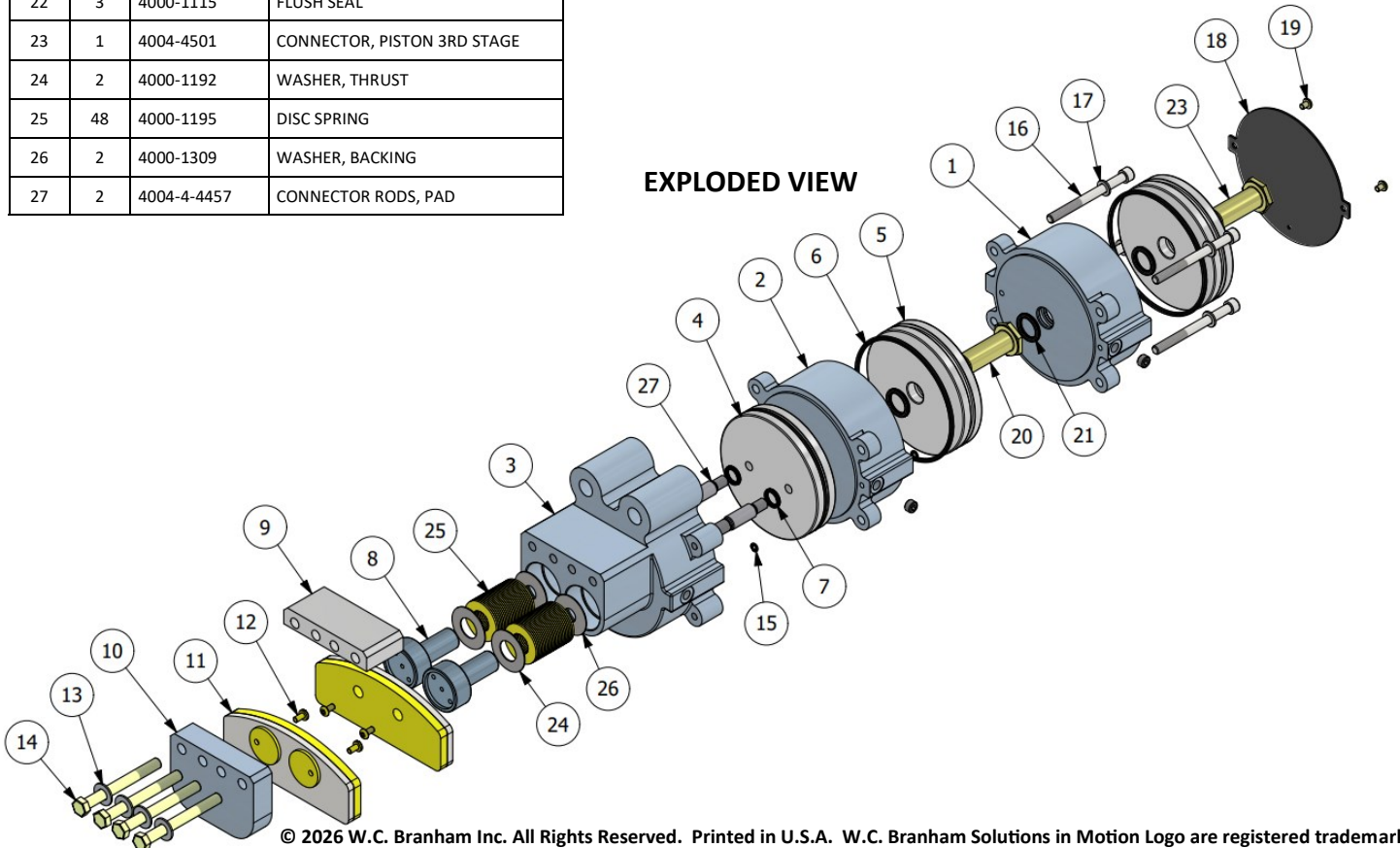
REPAIR KITS, SEAL KITS, AND FRICTION PADS

(QUANTITY OF PARTS SHOWN INCLUDED IN EACH KIT)

SEAL KIT	4004-9169					3	2	3	3
REPAIR KIT	4004-9043		2	4	48	3	2	3	3
SPRING WASHER KIT	4004-9170				48				
FRICTION PAD KIT	4005-9042		2	4					

ITEM#	DESCRIPTION
11	FRICTION PAD
12	SCREW, FRICTION PAD
25	DISC SPRING
6	O-RING, PISTON
7	SEAL, PISTON ROD
15	O-RING, HOUSING
21	O-RING, CONNECTOR ROD

EXPLODED VIEW



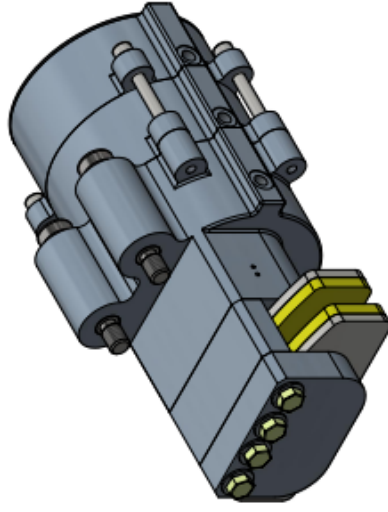
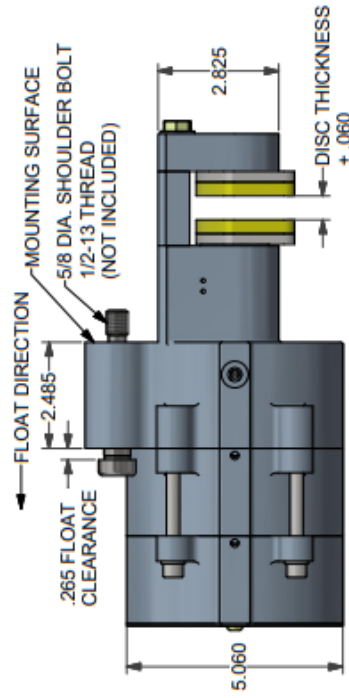
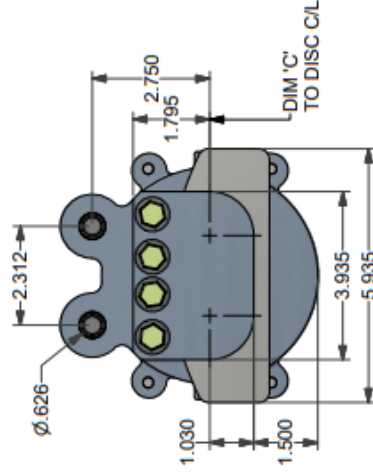
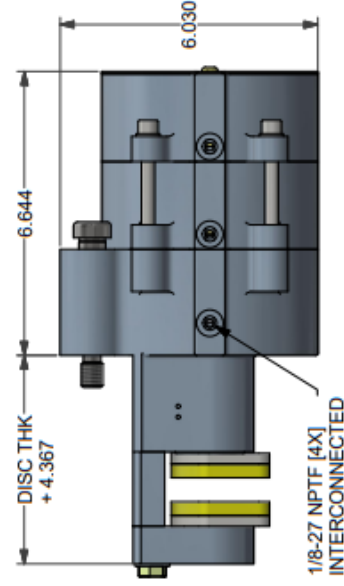
PART NO. MODEL NO. DISC THK.

4005-0125 PFS400IF-EP 3/16
 4005-0126 PFS400BF-EP 1/4
 4005-0127 PFS400LF-EP 3/8
 4005-0128 PFS400EF-EP 1/2
 4005-0129 PFS400JF-EP 5/8
 4005-0130 PFS400TF-EP 3/4
 4005-0131 PFS400OF-EP 1.0
 4005-0132 PFS400QF-EP 1.125

TOTAL PAD
 WEAR, INCHES TANGENTIAL
 FORCE, LBS.

0 1.859
 .06 1.549
 .12 1.239
 .18 929
 .24 619
 .30 309
 .36 0

- * PFS400 SERIES BRAKES ARE FOR EMERGENCY STOP & HOLD APPLICATIONS ONLY
- * TORQUE = TANGENTIAL FORCE X BRAKING RADIUS, INCHES
- * 100 PSI RELEASE PRESSURE
- * UNLIMITED DISC DIAMETER
- * 4,130 LBS. OF CLAMPING FORCE
- * .45 COFF. OF FRICTION, PAD #951023
- * 23.89 SQ. INCHES OF FRICTION PAD AREA
- * 7.72 CUBIC INCHES OF WEARABLE PAD VOLUME
- * CAST ALUM. CONSTRUCTION
- * HARD COATED HOUSINGS
- * (2) SPRING STACKS IN PARALLEL 24 EA.
- * BUNA N SEALS, VITON OPTIONAL



BRAKING RADIUS (IN) = SQ. ROOT OF (DIM 'C' SQUARED + .8789)
 DISC DIA. DIM. 'C' BRAKING RADIUS

12.0	5.030	5.11
16.0	7.030	7.09
18.0	8.030	8.08
20.0	9.030	9.08
22.0	10.030	10.07
30.0	14.030	14.06

WC BRANHAM SOLUTIONS IN MOTION 4005 WEST STREET • FARMINGTON, CT 06030-1000 TEL: 860.676.1000 FAX: 860.676.1001		UNLESS OTHERWISE SPECIFIED: DO NOT SCALE DRAWING DIMENSIONS ARE IN INCHES TAP DEPTHS FULL THRO DRILL DEPTHS FULL DIA.	
DESIGNER	DATE	DRAWN BY	DATE
CR	12/22/2010		
TITLE	PFS400 EP SERIES SPRING APPLIED/AIR RELEASE		
MATERIAL			
FINISH			
WEIGHT	N/A	SCALE	3/4
EXTERNAL CLASS 2A INTERNAL CLASS 2B		SHEET	1 of 1
DRAWING NO.			
REV			

