

5023-S SPRING APPLIED BRAKE CALIPER

The model 5023-S brake caliper is a very compact and high torque brake caliper. It is basically of the same design as Model 5021 but only employs a more powerful actuator. Most parts are interchangeable with Model 5021 except for the lever, brake shoe and actuator. The spring applied actuator provides very accurate control over the brake torque. Maximum torque is achieved with minimum fluid pressure.

It is important to keep the clearance between the disc and brake shoes at the very minimum in order to achieve maximum torque. Minimum clearance also means fast response. The actuator clevises can be adjusted to compensate for lining wear. In cycling applications a tremendous amount of fluid medium can be saved by a shorter stroke of the actuator piston.

Our standard 2 x 4 disc series are suitable with this caliper for optimum energy absorption.

Ordering Information

5023-S Spring Applied Brake Caliper
5023-SR Spring Applied Brake Caliper with manual release screw

When ordering brake calipers for discs smaller than the standard thickness, shim kits are available for adjustment (refer to the shim kit table below). Add the last four digits of the appropriate kit to the code when ordering.

Example: 5023-S1500 is for a 5023-S brake caliper set for 1½" thick disc.

Specifications

Clamping force	16000 lbf	(71.3 kN)
Max. disc thickness	2 in.	(51 mm)
Req. disc face	4 in.	(102 mm)
Total lining area	60 sq. in.	(387 sq. cm)
Lining thickness	0.50 in.	(12.7 mm)
Max. allowable lining wear	0.30 in.	(7.6 mm)
Average wear rate	0.005 cu. in./HP-hr	(0.082 cu. cm/HP-hr)
Coefficient of friction	0.45 – 0.5	at 20° - 260°C
Max. release pressure	80 psi	(5.5 bar)
Max. pressure	250 psi	(17.2 bar)
Actuator volume	48 cu. in.	(787 cu. cm)
Weight	61 lb.	(28 kg)
Materials	Die cast silicon bronze with stainless steel hardware	

Important: Use only hydraulic fluid or air. Standard seals are not compatible with brake fluid.

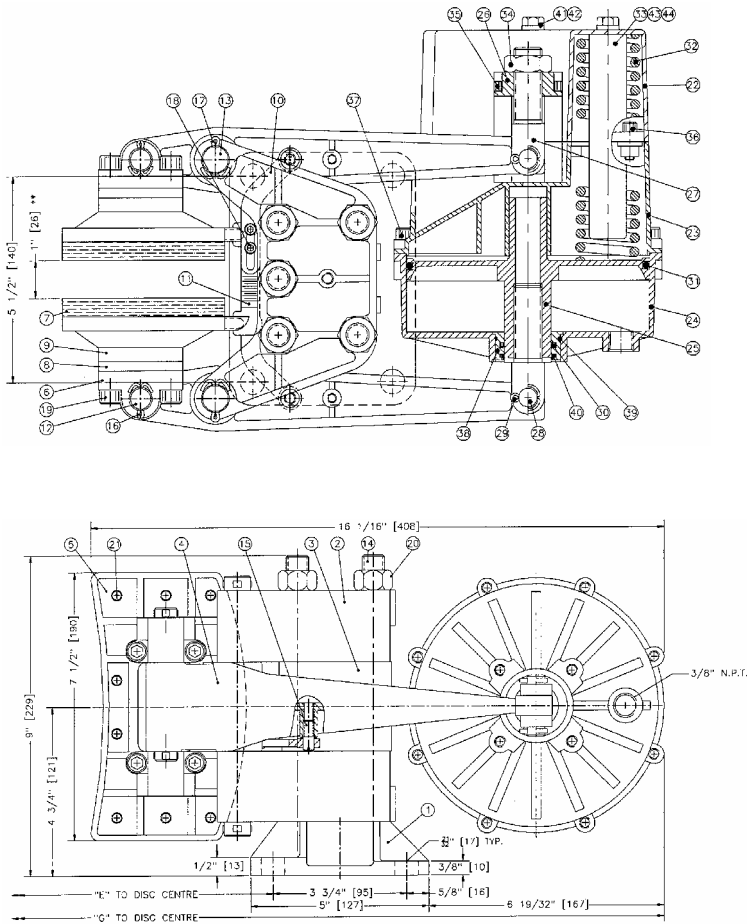
STANDARD VENTILATED KOBELT DISC: 2 in. (51 mm)

Disc Dia.	18	20	25	30	35	40	45	50
inches	18	20	25	30	35	40	45	50
mm	457	508	635	762	889	1016	1143	1270
Actg. Rad								
ft	0.58	0.67	0.88	1.08	1.29	1.50	1.71	1.92
meter	0.18	0.20	0.27	0.33	0.39	0.46	0.52	0.58
Torque †								
ft-lb	3890	4476	5943	7410	8876	10343	11810	13276
kg-m	538	619	822	1024	1227	1430	1633	1835
Maximum RPM	3070	2750	2200	1800	1550	1350	1200	1070

† Brake torques are theoretical values only

Disc thickness	Shim Kit Part number	Total shim size
1.50 in. (38.1 mm)	5023-1500	0.50 in (13 mm) 1 shim (1/4") per side
1.25 in. (31.8 mm)	5023-1250	0.75 in. (19 mm) 1 shim (3/8") per side
1.00 in. (25.4 mm)	5023-1000	1.00 in (25 mm) 2 shims (1/4") per side
0.75 in. (19 mm)	5023-0750	1.25 in. (31.8 mm) 2 shims (1/4" & 3/8") per side
0.50 in. (12.7 mm)	5023-1500	1.50 in (38 mm) 2 shims (3/8") per side

MODEL 5023-S



All dimensions in inches (mm)

Disc dia. inches mm	18 457	20 508	25 635	30 762	35 889	40 1016	45 1143	50 1270
Dim. "E" inches mm	9.63 245	10.63 270	13.13 334	15.63 397	18.13 461	20.63 524	23.13 588	25.63 651
Dim. "G" inches mm	20.5 521	21.5 546	24.0 610	26.5 673	29.0 737	31.5 800	34.0 864	36.5 927

Caution: When dismantling the actuator, it is important that it is retained in a press before the holding screws are removed.

Item	Qty	Part No.	Description
1	1	5021-0001	Foot
2	2	5023-0002	Saddle
3	1	5021-0003	Spacer
4	2	5023-0004	Lever
5	2	5021-0005	Shoe
6	4	5021-0006	Bearing
7	2	5021-0007	Lining
8	*	5021-0008	1/4" Shim
9	*	5021-0009	3/8" Shim
10	2	5021-0011	Balancing Link No. 1
11	2	5021-0012	Balancing Link No. 2
12	2	5021-0021	Shoe Pin
13	2	5021-0022	Saddle Pin
14	5	5021-0023	Tie Rod
15	2	5021-0226	Link Pin
16	4	1026-0516	Cotter Pin
17	4	1026-0824	Cotter Pin
18	4	1002-0808	Socket Hd. Screw
19	8*	1002-1216	Socket Hd. Cap Screw (standard)
19	*	1002-1220	Socket Hd. Cap Screw (-1500/1250 shim kit)
19	*	1002-1224	Socket Hd. Cap Screw (-1000/0750 shim kit)
19	*	1002-1228	Socket Hd. Cap Screw (-0500 shim kit)
20	5	1022-0116	Nut
21	24	1033-1007	Rivet
6230 Spring Applied Pot			
22	1	6230-0001	Spring Housing No. 1
23	1	6230-0101	Spring Housing No. 2
24	1	6230-0002	Piston Housing
25	1	6230-0003	Piston
26	1	6230-0004	Bracket
27	2	6230-0005	Clevis
28	2	6230-0010	Pin
29	4	1026-0516	Cotter Pin
30	1	1102-3026	"U" Cup
31	1	1101-1361	"O" Ring
32	6	1201-0158	Outer Spring
33	2	6230-0011	1" Spring Guide
34	1	1022-0217	Hex Jam Nut
35	4	1002-1028	Hex Hd Cap Screw
36	8	1002-1012	Hex Hd Cap Screw
37	8	1002-1116	Hex Hd Cap Screw
38	1	6230-PHB	Bushing
39	1	1101-0030	"O" Ring
40	1	6230-94013	Wiper
41	4	1023-0311	Lock Washer
42	4	1001-1116	Hex Hd Cap Screw
43	4	1201-0159	Inner Spring
44	2	6230-0012	3/4" Spring Guide