

5026-A

FLUID APPLIED BRAKE CALIPER



The **5026** Brake Caliper is designed for high energy input applications with medium torque requirements. It is designed to fit the 4 x 7 disc series which is 4" thick and has a 7" wide rubbing face. This disc offers excellent thermal capabilities and is ideally suited for marine and industrial applications that require high energy input for extended periods such as tensioning brakes for winches, small draw works, anchor handling equipment, etc. Because of its large brake lining area, the caliper offers many hours of operation before lining replacement is needed.

The diaphragm actuator is extremely responsive to varying fluid pressure and precise control can be exercised over the braking application. Maximum supply pressure to the actuator should not exceed 100 psi (6.9 bar).

SPECIFICATIONS

Clamping force	32000 lbf	(142.3 kN)
Maximum disc thickness	4 in.	(102 mm.)
Req. disc face	7 in.	(178 mm)
Total lining area	194 sq. in.	(1251 sq. cm)
Lining thickness	0.625 in.	(15.8 mm)
Max allowable lining wear	0.42 in.	(10.6 mm)
Average wear rate	0.005 cu.in/HP-hr	(0.082 cu.cm/HP-hr)
Coefficient of friction	0.45 – 0.49	at 20° - 260°C
Maximum pressure	100 p.s.i.	(6.9 bar)
Actuator volume	110 cu. in.	(1802 cu. cm)
Weight	178 lbs.	(81 kg)
Materials	Die cast silicon bronze with stainless steel hardware and steel studs	

The actuator clevises can be adjusted to compensate for lining wear. The clearance between disc and brake shoe can therefore be maintained at an absolute minimum. In cycling applications, shorter stroke of the actuator can save the requirement of a tremendous amount of compressed air.

Ordering number: 5026-A

When ordering brake calipers for discs smaller than the standard thickness, shim kits are to be used. Add the last four digits of the appropriate shim kit to the part number. Example 5026-A caliper set for 3" thick disc, the order number is **5026-A3000**

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

For the use of shim kits on discs thinner than standard of 4", refer to the Shim Kit table below:

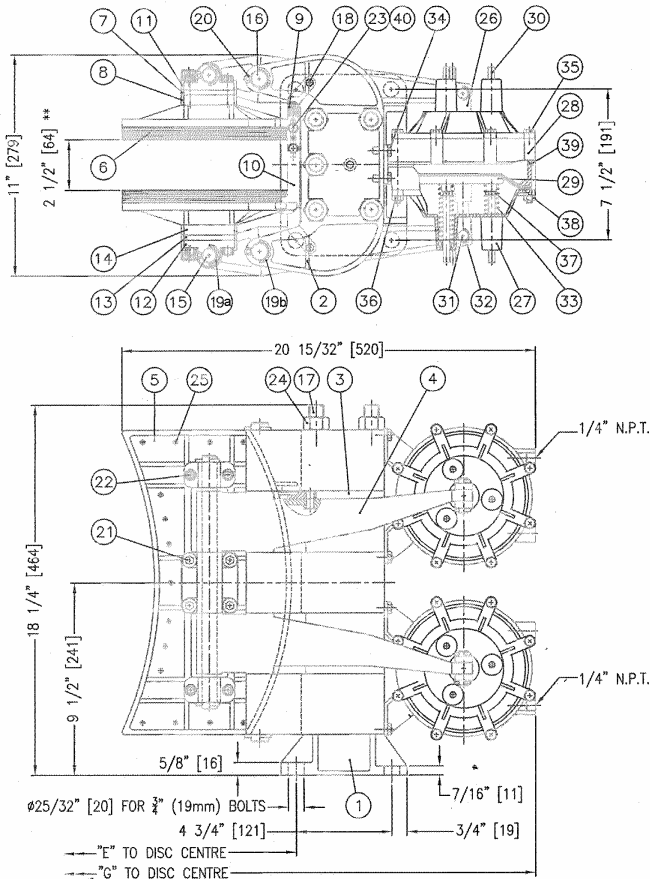
STANDARD VENTILATED KOBELT DISCS: 4 in. (102 mm)

Disc dia.	inches.	30	35	40	48
	mm.	762	889	1016	1219
Acting rad.	feet	0.96	1.17	1.37	1.71
	meters	.292	.356	.417	.521
Torque ‡	ft-lb	12719	15652	18586	23279
	kg-m	1758	2164	2570	3218
Max. RPM		1800	1500	1300	1100

‡ Brake torques are theoretical values only

Disc thickness	Part Number	Total Shim Size
3.5 in. (89 mm)	5026-3500	0.5 in. (12.7 mm) one shim (1/4") per side
3.0 in. (76 mm)	5026-3000	1.0 in. (25.4 mm) one shim (1/2") per side
2.5 in. (63 mm)	5026-2500	1.5 in. (38.1 mm) two shims (1/4" & 1/2") per side

MODEL 5026-A



All dimensions in inches (mm)

Disc diameter	30	35	40	48
inches	30	35	40	48
mm	762	889	1016	1219
Dimension "E"				
inches	15.14	17.64	20.14	24.14
mm	385	448	512	613
Dimension "G"				
inches	27.14	29.64	32.14	36.14
mm	689	753	816	918

Item	Qty	Part No.	Description
1	1	5025/26-0001	Foot
2	3	5025/26-0002	Saddle
3	2	5025/26-0003	Spacer
4	4	5026-0004	Lever
5	2	5026-0005	Shoe
6	2	5026-0007	Lining
7	*	5026-0008	Shim 1/4" (Centre Hinge)
8	*	5026-0009	Shim 1/2" (Centre Hinge)
9	2	5025/26-0011	Balancing Link No. 1
10	2	5025/26-0012	Balancing Link No. 2
11	2	5026-0013	Centre Hinge Block
12	4	5026-0014	Outer Hinge Block
13	*	5026-0015	Shim 1/4" (Outer Hinge)
14	*	5026-0016	Shim 1/2" (Outer Hinge)
15	2	5026-0027	Shoe Pin
16	2	5026-0028	Pin (Saddle)
17	5	5027-0023	Tie Rod
18	2	5024-0026	Link Pin
19a	4	1039-0352	Hitch Pin, 3/16"
19b	4	1039-0470	Hitch Pin, 1/4"
21	8	1002-1420	Socket Hd. Cap Screw (standard)
21	*	1002-1424	Socket Hd. Cap Screw (-3500 Shim kit)
21	*	1002-1428	Socket Hd. Cap Screw (-3000 Shim kit)
21	*	1002-1432	Socket Hd. Cap Screw (-2500 Shim kit)
22	8	1002-1220	Socket Hd. Cap Screw (standard)
22	*	1002-1224	Socket Hd. Cap Screw (-3500 Shim kit)
22	*	1002-1228	Socket Hd. Cap Screw (-3000 Shim kit)
22	*	1002-1232	Socket Hd. Cap Screw (-2500 Shim kit)
23	4	1002-1010	Socket Hd. Cap Screw
24	5	1022-0117	Hex Nut
25	58	1033-1007	Rivet
40	4	1023-0232	Flat Washer
6120 Fluid Applied Pot			
26	4	6120-0001	Pot Clevis
27	4	6120-0002	End Cap
28	4	6120-0003	Centre Housing
29	4	6120-0004	Diaphragm Washer
30	12	6120-0005	Guide Pin
31	4	6230-0010	Pin
32	8	1026-0312	Cotter Pin
33	12	1201-0185	Spring
34	8	1001-1008	Hex Hd Cap Screw
35	16	1001-1056	Hex Bolt
36	16	1022-0410	Hex Nut - plated
37	12	1022-0211	Hex Jam Nut
38	4	1105-0020	Diaphragm
39	2	1101-2166	"O" Ring 170 mm x 2.5 mm

* Quantity may vary with options



Specifications

Clamping force	32000 lbf	(142.3 kN)
Maximum disc thickness	4 in.	(102 mm)
Req. disc face	7 in.	(178 mm)
Total lining area	194 sq. In.	(1251 sq. mm)
Lining thickness	0.625 in.	(15.8 mm)
Max. allowable lining wear	0.420 in.	(10.6 mm)
Average wear rate	0.005 cu.in./HP-hr	(0.082 cu.cm/HP-hr)
Coefficient of friction	0.45 – 0.49	at 20° - 260°C
Maximum pressure	100 P.S.I.	(6.9 bar)
Weight	202 lbs	(92 kg)
Material	Die cast silicon bronze with stainless steel hardware and alloy steel studs	
	Air actuator is supplied by a prominent industrial actuator manufacturer	

ACCESSORIES AVAILABLE

Standard Shim Kit
5026-3500 Shim Kit
5026-3000 Shim Kit
5026-2500 Shim Kit

MODEL 5026-CM Air/Spring Applied Brake

US Patent 7,857,109 B2

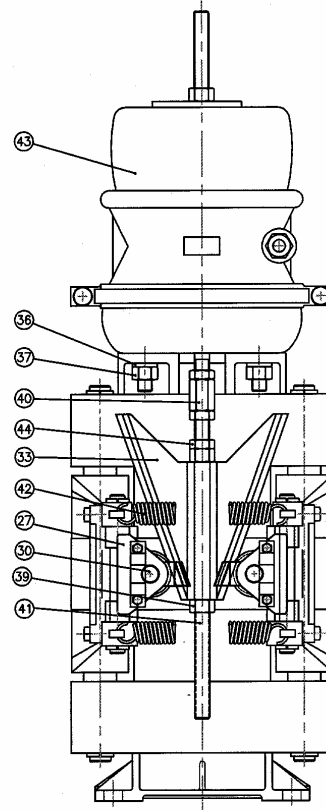
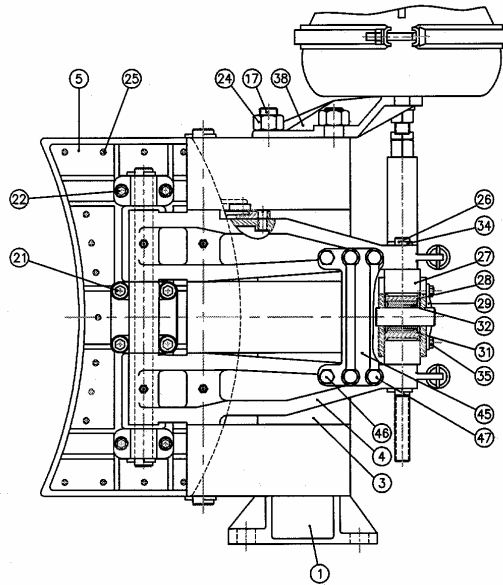
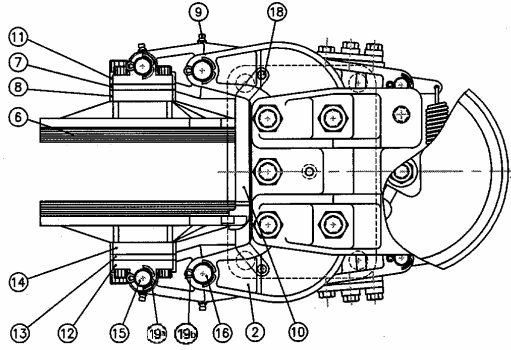
This caliper is operated by an automotive brake actuator. The brake actuator, mostly used on medium and heavy duty trucks, has a dual function. The upper housing has a spring which is forcing the actuator rod downward, pushing the wedge against the rollers and applying the brake. Air pressure is required to overcome the spring to put the brake into a released position. If there is no air pressure going to the actuator, the upper brake portion applies the brake providing emergency braking.

The lower portion of the actuator is a diaphragm that also pushes the rod downward and applies the brake proportionately. A very light return spring pushes the wedge upward

to release the brake. This allows for the brake to be used in two different versions. The upper spring can only provide up to 60% of brake force. In order to modulate the brake, the air pressure can be varied in the diaphragm portion. Since there is no piston in this actuator assembly, there is practically no hysteresis, as far as the actuator is concerned. This makes it extremely sensitive to varying air pressures.

The wedge mechanism consists of a wedge and rollers that force the levers apart to apply pressure to the brake disc and give a very accurate control over the brake torque.

Model 5026-CM Air/Spring Applied Brake



Item	Qty	Part No.	Description
1	1	5025-0001	Foot
2	3	5026-0002	Saddle
3	2	5026-0003	Spacer
4	4	5026-1004	Lever
5	2	5026-0005	Shoe
6	2	5026-0007	Lining
7	*	5026-0008	Shim ¼" (Centre Hinge)
8	*	5026-0009	Shim ½" (Centre Hinge)
9	8	1501-0301	Grease Nipple
10	2	5026-0030	Balancing Link
11	2	5026-0013	Centre Hinge Block
12	4	5026-0014	Outer Hinge Block
13	*	5026-0015	Shim ¼" (Outer Hinge)
14	*	5026-0016	Shim ½" (Outer Hinge)
15	2	5026-0027	Shoe Pin
16	2	5026-0028	Pin (Saddle)
17	5	5027-0023	Tie Rod †
18	2	5024-0026	Link Pin
19	4	1039-0352	Hitch Pin, 3/16"
19	4	1039-0470	Hitch Pin, ¼"
20	4	1023-0232	Flat Washer
21	8	1002-1420	Skt Hd. Cap Screw (standard)
21	*	1002-1424	Skt Hd. Cap Screw (-3500 Shim kit)
21	*	1002-1428	Skt Hd. Cap Screw (-3000 Shim kit)
21	*	1002-1432	Skt Hd. Cap Screw (-2500 shim kit)
22	8	1002-1220	Skt Hd. Cap Screw (standard)
22	*	1002-1224	Skt Hd. Cap Screw (-3500 Shim kit)
22	*	1002-1228	Skt Hd. Cap Screw (-3000 Shim kit)
22	*	1002-1232	Skt Hd. Cap Screw (-2500 Shim kit)

Item	Qty	Part No.	Description
23	4	1002-1010	Socket Hd. Cap Screw
24	5	1022-0117	Hex Nut
25	58	1033-1007	Rivet
26	2	5026-0017	Roller Pin
27	2	5026-0151	Roller Box
28	2	5026-0019	Roller
29	2	5026-0041	Locking Plate
30	2	5026-0021S	Roller Shaft
31	2	5026-0022	Roller Bearing BH-1620
32	2	5026-0023	Roller IR-1220
33	1	5026-0153	Wedge
34	4	1026-0516	Cotter Pin 1/8" x 1"
35	4	1001-1008	Hex Head Cap Screw
36	2	1023-0316	Lock Washer
37	2	1022-0116	Reg. Nut
38	1	5026-0052	Mounting Bracket
39	2	1022-0166	Reg. Nut
40	1	5026-0025	Connecting Nut
41	1	5026-0026	Extension Push Rod
42	2	1202-0003S	Return Spring
43	1	3636	Spring Actuator
44	4	1022-0266	Jam Nut
45	2	5026-0043	Connection Bracket
46	4	1001-1216	Hex Hd Cap Screw
47	8	1001-1220	Hex Hd Cap Screw

† Tie rods are made of rolled steel

* Quantity may vary



5028-CM Air/Spring Applied Combination Brake Caliper

Material Die cast silicon bronze with stainless steel hardware and alloy steel studs
Weight 345 lb (156.5 kg)

The 5028-CM brake caliper is operated by a heavy duty industrial type dual-function brake actuator which can provide reliability and precision in the braking operation. These actuators are supplied by a prominent industrial actuator manufacturer.

In the upper chamber of the actuator pot, air pressure is required to overcome the spring pressure to put the brake into a released position. In the absence of air pressure, the spring will provide the necessary force for emergency braking. The upper spring can only provide slightly more than half of the brake force.

In the lower portion, modulated air pressure is applied to the diaphragm against a light spring for the normal braking action. The combination of these actions results in a sensitive and precise braking operation on varying control air pressures.

The wedge mechanism consists of a wedge and rollers that force the levers apart thus applying pressure to the brake disc and give a very accurate control over the brake torque.

Total clamping force	48000 lbf (213.5 kN)
Total lining area	420 in ² (2710 cm ²)
Allowable lining wear	0.5 in. (12.7 mm)
Max. air pressure	100 psi (690 kPa)
Disc max. thickness	4 in. (102 mm)
Required disc face	10 in. (254 mm)

KOBELT Disc – 4” (102 mm)

Disc Dia. in. mm	42.5 (1080)	48.5 (1232)	54.5 (1384)	60.5 (1537)	72.0 (1829)	84.0 (2134)
Acting Rad. in. mm	16.0 (405)	19.0 (482)	22.0 (558)	25.0 (634)	30.5 (774)	36.5 (927)
‡Torque ft-lb kg-m	28800 3980	34200 4730	39600 5470	45000 6220	54900 7590	65700 9080
Max. RPM	1300	1100	1000	900	700	600

Dimensions are in inches (mm). Specifications in metric units are shown in parentheses.

‡ Brake torques are theoretical values based on ideal operating conditions only

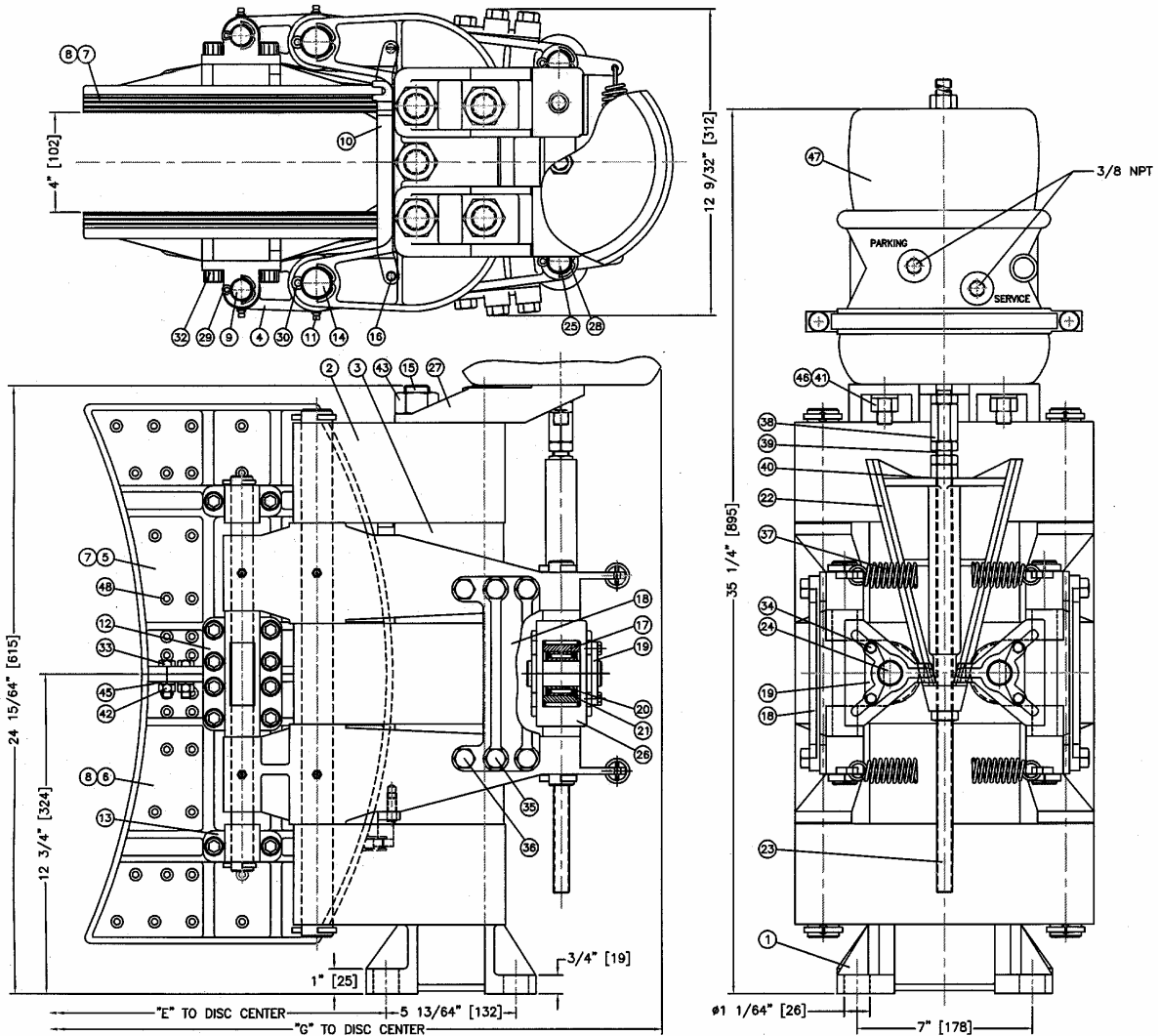
Refer to drawing on the back page.

Disc Diameter	42.5” (1080 mm)	48.5” (1232 mm)	54.5” (1384 mm)	60.5” (1537 mm)
DIM “E”	21.0” (532 mm)	24.0” (608 mm)	27.0” (685 mm)	30.0” (761 mm)
DIM “G”	34.5” (876 mm)	37.5” (954 mm)	40.5” (1031 mm)	43.5” (1107 mm)

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Performance data are for information only and subject to change without notice.
For updated information, please call our Sales and Technical Support department.

Model 5028-CM



All Dimensions in inches (mm)

Item	Qty	Part Number	Description	Item	Qty	Part Number	Description
1	1	5028-0001	Foot	25	2	5028-0050	Roller Guide Pin
2	3	5028-0002	Saddle	26	2	5028-0151	Roller Box
3	2	5028-0003	Spacer	27	1	5028-0152	Mounting Bracket
4	2	5028-1004L	Lever (left)	28	4	1026-1024	Cotter Pin
4	2	5028-1004R	Lever (right)	29	4	1039-0470	Hitch Pin
5	2	5028-1005L	Shoe (left)	30	4	1039-0553	Hitch Pin
6	2	5028-1005R	Shoe (right)	31	4	1002-1010	Socket Hd. Cap Screw
7	2	5028-0007L	Lining (left)	32	24	1002-1420	Socket Hd. Cap Screw
8	2	5028-0007R	Lining (right)	33	10	1001-1220	Hex Head Cap Screw
9	2	5026-0028	Pin (Shoe)	34	4	1001-1010	Hex Head Cap Screw
10	2	5028-0030	Balancing Link	35	8	1001-1424	Hex Head Cap Screw
11	8	1501-0301	Grease Nipple	36	4	1001-1416	Hex Head Cap Screw
12	2	5028-0013	Centre Hinge Block	37	2	1202-1010	Return Spring
13	4	5028-0014	Outer Hinge Block	38	1	5026-0025	Extension Nut
14	2	5028-0022	Saddle Pin	39	4	1022-0266	Jam Nut
15	5	5028-0023	Tie Rod	40	1	1022-0166	Hex Nut
16	2	5028-0025	Link Pin	41	2	1022-0116	Hex Nut
17	2	5028-0031	Roller	42	10	1022-0112	Hex Nut
18	2	5028-0043	Lever Bracket	43	5	1022-0123	Hex Nut
19	2	5028-0044	Locking Plate	44	4	1023-0232	Flat Washer
20	2	5028-0045	Inner Bushing, IR-162020	45	10	1023-0312	Lock Washer
21	2	5028-0046	Outer Bearing HU-202820-2RS	46	2	1023-0316	Lock Washer
22	1	5028-1047	Wedge	47	1	3636	Actuator Pot
23	1	5028-0048	Extension Push Rod	48	124	1033-1007	Rivet
24	2	5028-0049	Roller Shaft				