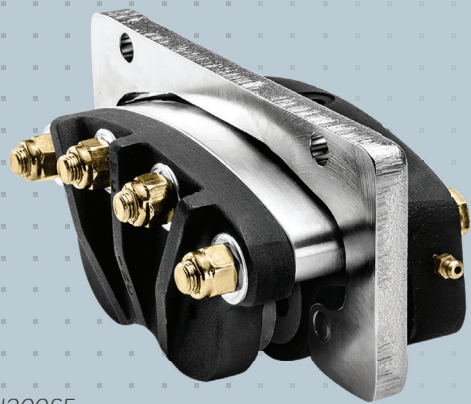


Caliper Disc Brakes

The Braking Force You Need When You Need. Take a Look.

High quality, reliable caliper disc brakes manufactured by W.C. Branham Inc. for over 40 years. Industrial and off-highway uses: Pneumatic, Hydraulic, Spring Applied, Mechanical, and Dual Function service. Brake Discs, Disc/Hub Assemblies and Air/Oil Intensifiers too.



H200SF

Pneumatic & Hydraulic

38 | 47 | 200 | 491 | 662 | 962

Standard Features:

- ❑ Cast or Extruded Aluminum Construction
- ❑ Hardcoated Housings
- ❑ Replaceable, Non-Asbestos Friction Pads
- ❑ Buna N Seals for Hydraulic & Pneumatic Service
- ❑ Internal Crossover Porting for Double Acting Models
- ❑ Can Be Mounted on Linear Rail or Plate. Except 200, 962 Series

Optional Features:

- ❑ Spring Retractable Piston Option. *Except 962 Series*
- ❑ EPR Seals for Automotive Brake Fluid
- ❑ Floating Bracket for Single Acting Models
- ❑ Spacers for Metric Disc Thicknesses
- ❑ Special Coatings for Washdown

Do it All. Stop. Hold. Maintain Tension.

From a little as 600 to over 150,000 inch pounds of braking torque, W.C. Branham makes a wide range of caliper disc brakes for industrial and off-highway vehicular applications. Most likely, we have standard models for your needs. If not, let's discuss your application as we welcome custom requests. Experience W.C. Branham innovation.

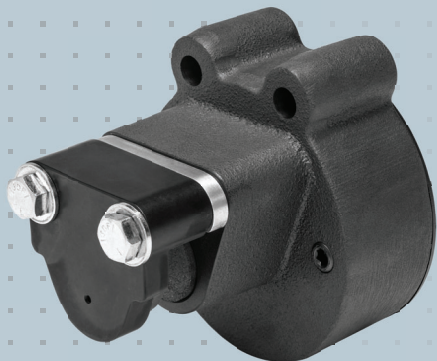
Uses. Manipulator arms | Hose Reels | Web and wire tensioning | Packaging | Printing presses | CNC machinery | Conveyor belts | Wind energy | Indexers | Utility trucks | Road construction | Turf vehicles | Lift trucks | Aircraft ground support equipment | Military trailers | Agricultural tractors | Mining



1-; P47SF, H962D, P38D

Brake Series	Dynamic Torque lbf (N) / 100 PSI ^(1.)	Park/Static Torque lbf (N) / 100 PSI ^(1.)	Disc Diameter Range, (in.)	Bore Diameter (inch)	Total Friction Pad Area, (in. ²)	Maximum Pressure Rating, PSI
H/P 38	70 (311)	35 (155)	Unlimited	1.125	2.0	1000
H/P 47	144 (640)	72 (320)	Unlimited	1.625	4.0	1000
H/P 200	288 (1281)	144 (640)	< 16	1.625	8.0	1500
H/P 491	352.5 (1572)	211 (935)	> 12	2.5	9.14	1500
H/P 662	693 (3082)	347 (1543)	> 14	3.5	19.24	1500
H/P 962	693 (3082)	347 (1543)	12 - 18	3.5	21.96	1000

1. Ex Dynamic torque (inch/lb) - 70 lbf per 100 psi x braking/static torque = 35 lbf per 100 psi x braking radius



PFS38

Pneumatic Spring Applied - PFS

38 | 47 | 200 | 400 | 520 | 522

Standard Features:

- ❑ Cast Aluminum Construction
- ❑ Hardcoated Housings
- ❑ Replaceable, Non-Asbestos Friction Pads
- ❑ Buna N Seals
- ❑ Float or Fixed Mount
- ❑ Belleville Disc Spring Stack(s)
- ❑ Models for 8 Different Brake Disc Thicknesses
- ❑ Can Be Mounted on Linear Rail or Plate
Most Series

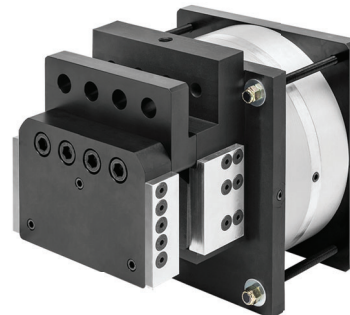
Optional Features:

- ❑ Viton® Seals
- ❑ Spacers for Metric Disc Thicknesses
- ❑ Special Coatings for Washdown
- ❑ Shoulder Bolts for Mounting

W.C. Branham PFS Brakes.

W.C. Branham PFS Brakes include the PFS38, PFS47, PFS200, PFS200UL, and PFS400 series' as well as the recently introduced PFS520 and PFS522. The PFS400 has 2X the brake holding torque than the PFS200 series and 4X than that of the PFS47. The PFS520 has 3.3X and the PFS522 has 6.6X the brake holding torque of the PFS400.

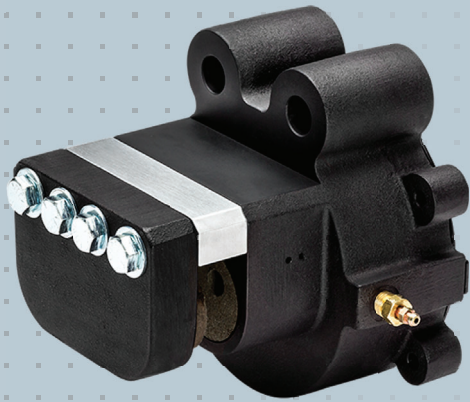
The '-UL' types allows for use with an unlimited brake disc diameter range. The '-EP' types include Extended Friction Pads for 3X more wearable material.



l-r, PFS200, PFS520, PFS400ULEP

Brake Series	Max Tangential Force, lb (N) ^(1.)	Max Clamping Force, lb (N) ^(1.)	Disc Diameter Range, (in.)	Braking Torque Using 30 in. Dia. Disc, in.lb (Nm)	Bore Diameter (Inch)	Total Friction Pad Area, (in. ²)	Release Pressure Rating, PSI (bar)
PFS38	216 (960)	480 (2135)	Unlimited	3350 (378)	3.25	2.0	85 (5.9)
PFS47	465 (2068)	1033 (4592)	Unlimited	6570 (742)	4.625	4.0	85 (5.9)
PFS200	929 (4132)	2065 (9181)	< 16	6626 (749) @ 16 in. Dia. Disc	4.625 x2	8.19	85 (5.9)
PFS200SUL /-EP	929 (4132)	2065 (9181)	> 12	13,129 (1483)	4.625 x2	8.19 23.89 - EP	85 (5.9)
PFS400F/-EP	1859 (8269)	4130 (18,371)	> 12	26,258 (2966)	4.625 x3	8.19 23.89 - EP	100 (6.9)
PFS520	6419 (28,553)	14,264 (63,449)	> 20	78,228 (8838)	12.0 x2	62.0	75 (5.2)
PFS522	12,236 (54,429)	27,192 (120,956)	> 20	159,472 (18,018)	12.0 x3	62.0	85 (5.9)

1. Force ratings at zero pad wear. Pad wear reduces force. Torque, (in.lb) = Tangential Force (lb.) x Braking Radius (in.)



FS210

Hydraulic Spring Applied - FS

FS38 | 47 | 200 | 210 | 400 | 410
| 500 | 510 | 525 | 541 | 580 | 581

Standard Features:

- ❑ Cast Aluminum Construction
 - ❑ Hardcoated Housings
 - ❑ Replaceable, Non-Asbestos Friction Pads
 - ❑ Buna N Seals
 - ❑ Float or Fixed Mount
 - ❑ Belleville Disc Spring Stack(s)
 - ❑ Choose from 8 Different Brake Disc Thicknesses
 - ❑ Can Be Mounted on Linear Rail or Plate
- Most Series

Optional Features:

- ❑ EPR Seals for Automotive Brake Fluid
- ❑ Spacers for Metric Disc Thicknesses
- ❑ Special Coatings for Washdown
- ❑ Custom Configurations

W.C. Branham FS Brakes.

Ideal for emergency stopping and holding of industrial machinery, off-highway vehicles and much more. W.C. Branham Inc. offers a wide range of hydraulic spring applied caliper disc brakes for just any application requiring emergency stopping and holding. We have brake series ranging from 233 lb up to 12,838 lb. tangential braking force. We also provide models with different release pressure ratings to accommodate your needs.

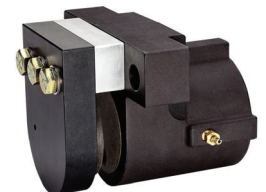
How do they work?

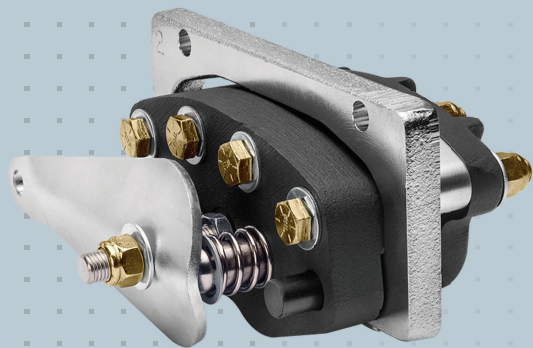
Active minimum hydraulic pressure starting, depending on brake series type, releases the brake piston(s) (pulls the brake piston(s) away) from the brake disc rotor and stores that energy in Belleville disc spring stack(s).

Brake Series	Max Tangential Force, lb (N) ^(1.)	Max Clamping Force, lb (N) ^(1.)	Disc Diameter Range, (in.)	Braking Torque Using 30 in. Dia. Disc, in.lb (Nm)	Bore Diameter (Inch)	Total Friction Pad Area, (in. ²)	Release Pressure Rating, PSI (bar)
FS38	233 (1036)	480 (2133)	Unlimited	3315 (374)	1.125	2.0	680 (47)
FS47	465 (2068)	1033 (4592)	Unlimited	6630 (794)	1.625	4.0	750 (52)
FS200	929 (4132)	2065 (9181)	< 16	6626 (749) @ 16 in. Dia. Disc	1.625	8.19	750 (52)
FS210/-EP	929 (4132)	2065 (9181)	> 12	13,129 (1483)	4.625	8.19 23.89 - EP	200 (14)
FS400	1859 (8269)	4130 (18,371)	< 16	13,260 (1498) @ 16 in. Dia. Disc	1.625	8.19	1500 (103)
FS410/-EP	1859 (8269)	4130 (18,371)	> 12	26,273 (2968)	4.625	8.19 23.89 - EP	288 (20)
FS500/500D	3059 (13,607)	6798 (30,239)	> 14	41,112 (4645)	3.0	14.14	1500 (103)
FS510	3059 (13,607)	6798 (30,239)	> 14	41,112 (4645)	6.0	14.14	300 (21)
FS525	3059 (13,607)	6798 (30,239)	> 14	41,112 (4645)	6.0	14.14	150 (10)
FS541S (DUAL BORE)	6419 (28,553)	14,264 (63,475)	> 16	83,659 (9453)	6.0	28.12	300 (21)
FS580S/QC (DUAL BORE)	6419 (28,553)	14,264 (63,475)	> 16	83,659 (9453)	6.0	28.12	626 (43)
FS581S (DUAL BORE)	6419 (28,553N)	14,264 (63,475)	> 16	83,659 (9453)	3.0 x2	28.12	1500 (103)
FS585S/QC (DUAL BORE)	12,838 (57,106)	28,528 (126,590)	> 20	167,318 (18,904)	6.0	47.0	1300 (90)

1. Force ratings at zero pad wear. Pad wear reduces force. Torque, (in.lb) = Tangential Force (lb.) x Braking Radius (in.)

I-r; FS47F, FS200F, FS500





M200F

Mechanical and Dual Function Caliper Disc Brakes

38 | 47 | 200 Series

Standard Features:

- Cast or Extruded Aluminum Construction
- Hardcoated Housings
- Replaceable, Non-Asbestos Friction Pads
- Spring Retractable Piston(s)
- Buna N Seals for Dual Function Hydraulic Service
- Machined Lever and Cam, M38 and M47 Series
- Stamped, Heat treated 1 piece lever arm/cam, M200 series
- Adjustable Nut for Pad Wear

Optional Features:

- EPR seals for Automotive Brake Fluid, MH Series
- Floating Bracket
- Spacers for Metric Width Brake Discs, Custom Spacers too
- Special Coatings

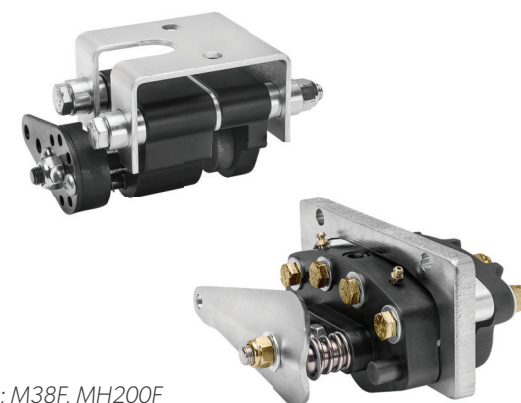
W.C. Branham offers Mechanical and Dual Function series.

Dual Function models combines hydraulic and mechanical service into one caliper disc brake. MH47 is designed around our standard 200 series twin bore, live side housing. One bore provides mechanical service and the other bore provides hydraulic service, side by side.

Each bore offers the equivalent performance of a M47 and H47 series brake. Unlike the MH47, the MH200 uses both bores for hydraulic and mechanical service and doubles the braking torque.

Brake Series	Dynamic Torque lbf/ 100 PSI ^(1.)	Park/Static Torque lbf/ 100 PSI ^(1.)	Disc Diameter Range, (in.)	Bore Diameter (inch)	Total Friction Pad Area, (in. ²)	Maximum Pressure Rating, PSI
M38	-	-	Unlimited	1.125	2.0	-
M47	-	-	Unlimited	1.625	4.0	-
M200	-	-	< 16	1.625	8.0	1500
M200UL	-	-	Unlimited	1.625	8.0	1500
MH47	144	72	< 16	1.625	4.0	1000
MH200	288	144	< 16	1.625	8.0	1500

Brake Series	Dynamic Torque lbf/ 1 lb. Lever Force ^(2.)	Park/Static Torque lbf/ 1 lb. Lever Force ^(2.)	Maximum Lever Force, lbf.
M38	2.69	1.75	450
M47	2.69	1.75	450
M200	7.45	3.73	580
M200UL	7.45	3.73	580
MH47	2.69	1.75	450
MH200	7.45	3.73	580



l-r; M38F, MH200F

1. Ex. Dynamic torque (inch/lb) 144 lbf per 100 psi x braking radius | Parking/static torque 72 lbf per 100 psi x braking radius

2. Ex. Dynamic torque (inch/lb) 7.45 x Lever Force (lb.) x braking radius. Parking/static torque 3.73 x Lever Force (lb) per x braking radius



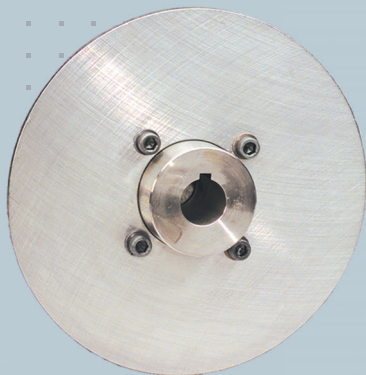
1777

Air/Oil Intensifiers

1777 | 1778 | 1779 | 1780 | 1781
| 1782

Standard Features:

- ❑ Quad Piston Seal
- ❑ Construction Tube: Aluminum Hardcoat ID/OD
- ❑ Construction Base: Aluminum Anodized
- ❑ 1/8 NPTF Port Size; except 1782 1/4 NPTF



Brake Discs and Disc /Hub Assemblies

6 5/16 | 8.0 | 10.0 | 12.0 | 16.0 Inch

W.C. Branham Air/Oil Intensifiers.

W.C. Branham Air/Oil Intensifiers give you the ability to use hydraulic caliper disc brakes without the need of a hydraulic system pressure source by converting typically shop air, 80-100 psi, into hydraulic pressure. The benefit to you is achieving the required braking torque without the need for additional hydraulic caliper disc brakes for your braking application, other components and cost savings.



1782

Intensifier Model	Ratio	Max Input Pressure, PSI	Max Output Pressure, PSI	Hyd Fluid Displacement / Stroke (In. ³)	Use with Brake Models
1777	5:1	100	500	0.44	Non-retractable H38/H47/H200
1778	10:1	100	1000	0.44	Non-retractable H38/H47/H200
1779	20:1	100	2000	0.50	Non-retractable H38/H47/H200
1780	18:1	100	1800	7.068	H491/H493/H662/H962/ All FS Models
1781	9:1	100	900	7.068	H491/H493/H662/H962/ All FS Models
1782	36:1	100	3600	1.77	H491/H493/H662/H962/ All FS Models

Standard Features:

- ❑ Use with Brake Series 38/47/200/491/662/962
- ❑ Machined discs with bolt circle pattern and pilot hole
- ❑ Blank discs
- ❑ Wide selection of fixed hubs for each disc diameter
- ❑ Make to suit your custom design. Including Metric Bore Sizes
- ❑ Quick disconnect bushings and hubs for greater range of shaft sizes
- ❑ 1008/1010 carbon steel
- ❑ Stress relieved
- ❑ Flat to .010 inch
- ❑ Blanchard ground
- ❑ 80 RMS finish



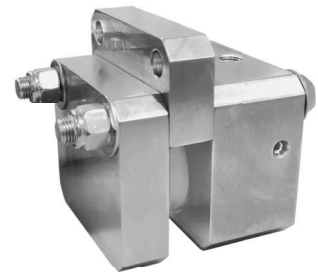
Custom Manufacturing

Nobody loves a good challenge more than our design and engineering team at W.C. Branham.

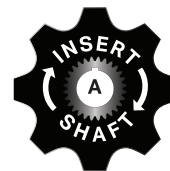
We get many opportunities to exercise our creativity because almost 40% of the work we do involves some amount of custom design. It might be a small tweak to a standard product, or it might be something entirely new, designed from scratch.

Customers say they are excited to find us because we can help them devise solutions for even the most unique applications. And they are even more excited when our solution is a big success.

Each opportunity calls for creative application of design and engineering principles as well as experience, yet they go smoothly because we apply our proven design processes. No wonder the Branham team thinks custom work is fun. Will your project be our next challenge?



Other W.C. Branham Inc. Quality Products





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