Airflex® Caliper Description

Section H

Caliper disc brakes are ideally suited for most large torque, high energy stopping applications. By proper choice of actuating pressure, number of calipers per disc, number of discs and disc diameter a braking system can be custom designed for most applications.

The calipers are of the opposed piston design. This design permits fixed mounting of the caliper and the brake disc. Symmetrical split construction of the piston housings permits a center reaction mounting and the ability to accommodate brake discs of different thicknesses. Friction shoes attach to the caliper actuating pistons and are replaceable without disturbing the caliper mounting. Pressurizing the piston cylinders causes the piston mounted friction shoes to clamp the disc, developing the braking torque.

Caliper model 225DP100 is designed with self adjusting retracting mechanisms which compensates for friction material wear and maintains a constant running clearance between the friction shoes and brake disc. They also maintain a constant displacement volume and hence a constant response time for each brake engagement.

Caliper model 200DPA is a symmetrical opposed piston caliper brake design that is well suited for most high torque, high energy stopping applications. Model HC-3 and HD-3 calipers are designed for very heavy duty braking service. The design automatically compensates for run out on large diameter brake discs. Because of this feature, they require manual adjustment to compensate for friction material wear and to maintain a constant volume displacement for actuation. Model HC-3 requires a mounting between the piston housings. Model HD-3 is used for side surface mounting.

Low coefficent friction shoes are available which permits the calipers to be used as tension brakes.

All three caliper models can be air or hydraulic actuated. The pressurizing media must be specified to insure proper piston seal compatibility.

Two seals are available: one for air and mineral base fluids, and the other for vegetable base fluids.

Maximum allowable operating pressure is 1000 psi (69 bar). For those installations not equipped with a high pressure power source, a pressure intensifier can be used to provide the required pressure. This device multiplies a low air pressure input into a high hydraulic pressure output.

Where used:

- Conveyors
- Flywheel Brakes
- Mining Equipment
- Railroad Maintenance Equipment
- Tension Brakes

Features:

Split construction
Accommodates discs of different thicknesses and diameters to meet a wide array of customer requirements.

Air or hydraulic operation
The DP and H calipers can be actuated with either air or hydraulic fluid to accommodate existing systems and provide a wide range of torque capabilities.

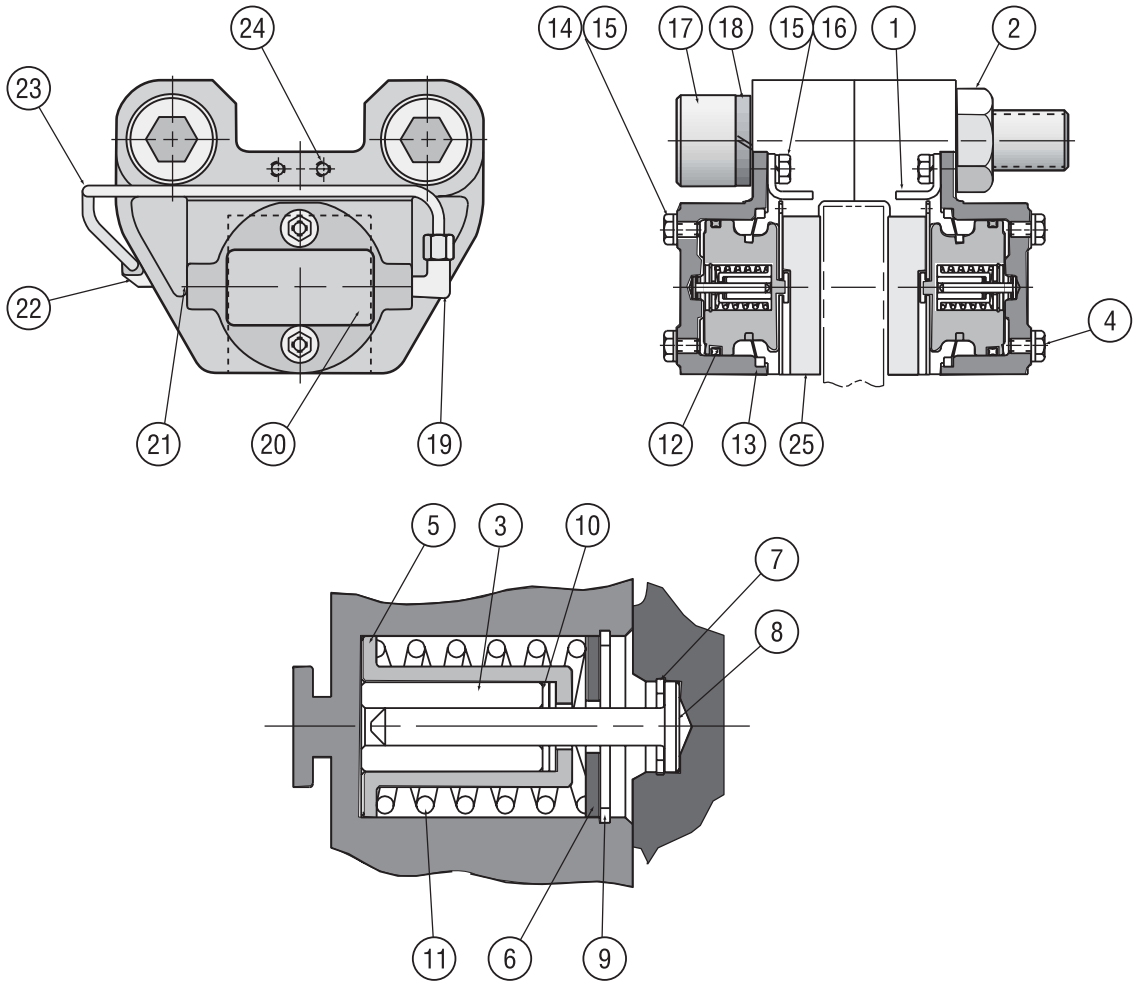
Large piston area
The large piston area coupled with high actuating pressure gives high braking torque.

Ventilated disc
Ventilated brake disc improves cooling capabilities and improves friction material life to minimize downtime and maintenance costs.

Ease of maintenance
Friction pads can be easily replaced without disturbing caliper mounting. The friction pads

225DP100 Caliper Component Parts

Section H



Item Number	Description
1	Friction Shoe Retainer
2	Hex Nut
3	Sleeve
4	Piston
5	Spring Guide
6	Washer
7	Snap Ring
8	Pin
9	Snap Ring
10	Retaining Ring
11	Spring
12	Quad Ring

Item Number	Description
13	Boot
14	Dyna Seal
15	Hex Hd Cap Screw
16	Lockwasher
17	Socket Hd Screw
18	Lockwasher
19	Elbow
20	Decal
21	Pipe Plug
22	45° Elbow
23	Bridge Pipe
24	Cylinder Block
25	Friction Shoe Assy

Item Number	Kit Description	Part Number
12, 13 & 25	Standard Lininig and Vegetable Seal Kit	146258
3, 4, 5, 6, 9 10, 11, 12 & 13	Piston Replacement Kit:	
	For Air and Mineral Base Fluid	145862X
	For Vegetable Base Fluid	145862Y

225DP100 Caliper

Dimensional Data

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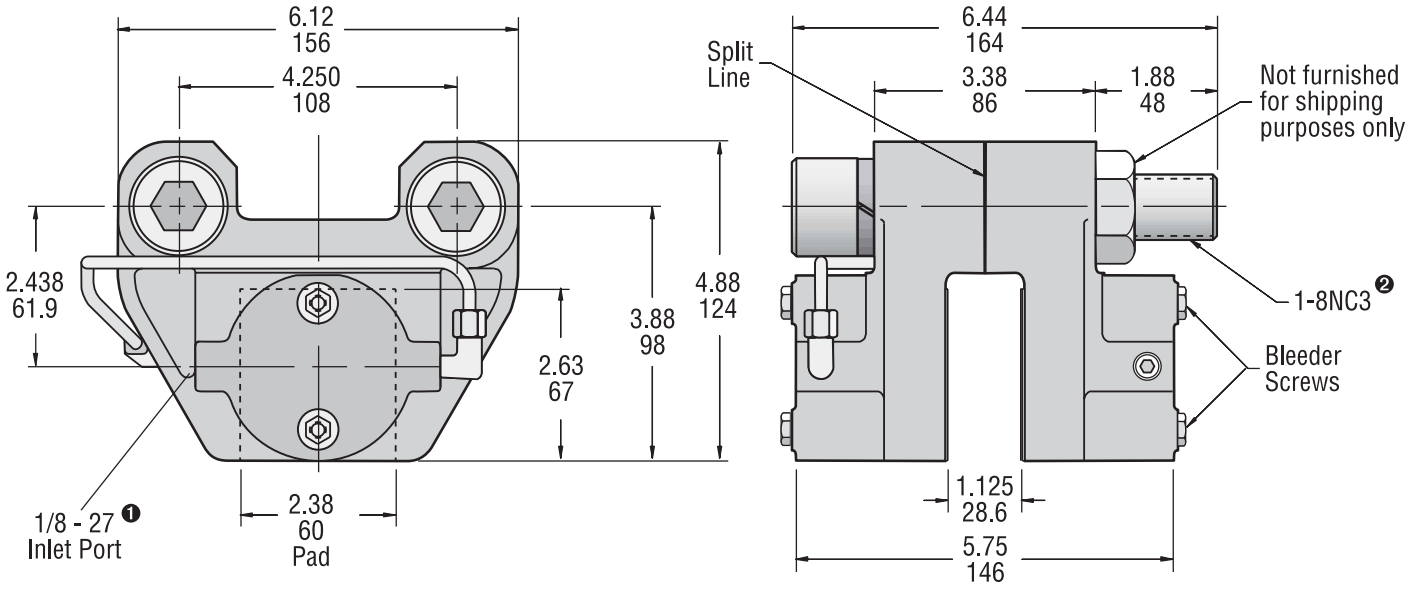

Caliper Description	Part Number
Calilper w/low coefficient linings and seals for vegetable base fluids	**142862AD**
Caliper w/low coefficient linings and seals for mineral base fluids	**142862C**
Caliper w/standard linings and seals for vegetable base fluids	**142862H**
Caliper w/standard linings and seals for mineral base fluids	**142862J**

Notes:

❶ American National Pipe Thread

❷ American National Standard for Unified Screw Threads.

*Data shown is subject to change. Please consult factory for current dimensional data.

225DP100 Caliper

Dimensional Data

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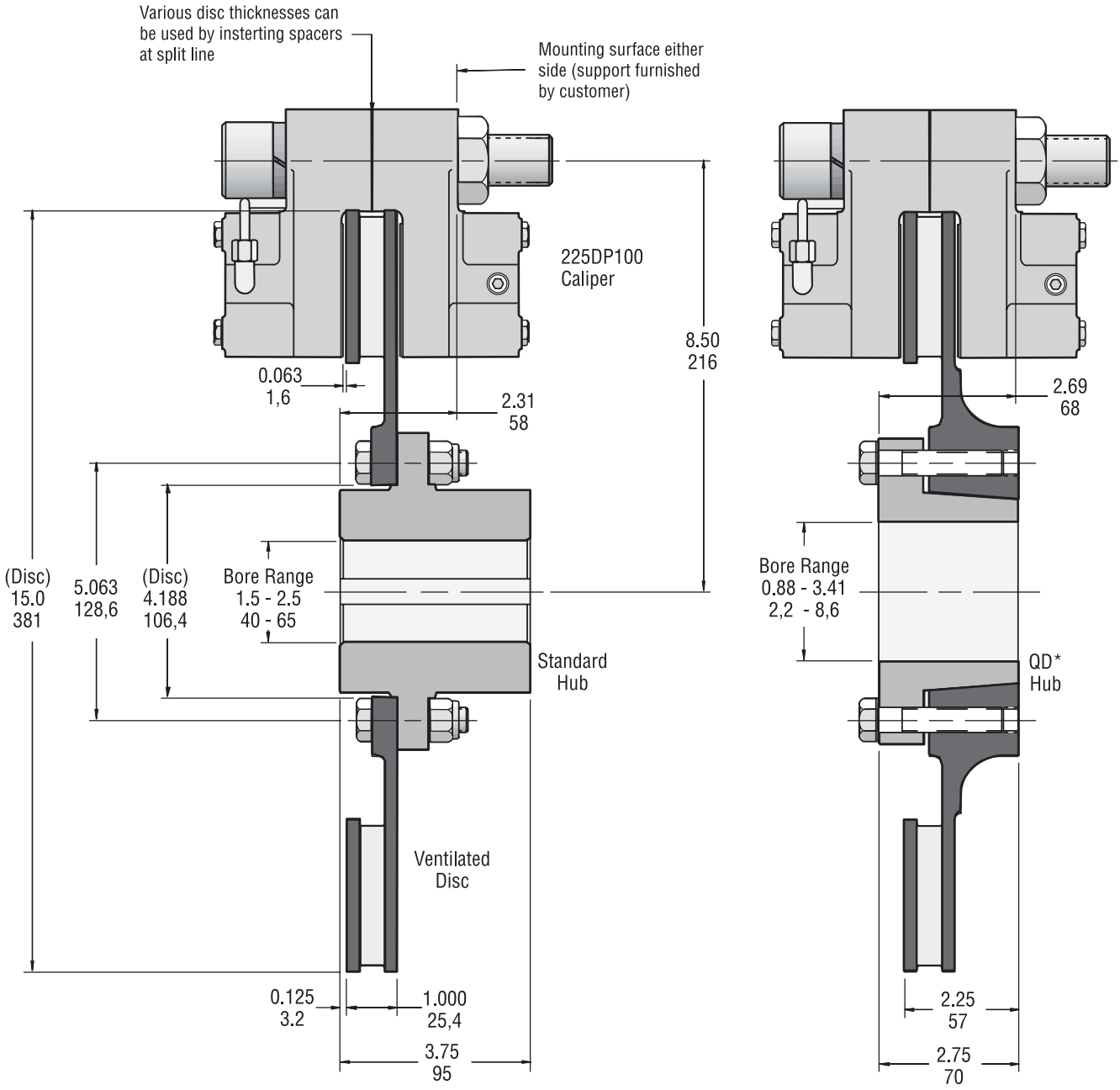

Component	Part Number	English Units Weight lb	English Units Wk² lb•ft2	SI Units Mass kg	SI Units J kg•m²
Caliper	142862 ❶	17	N/A	7,7	N/A
Disc for standard hub	407936 ❸ ❺	24	5.6	10,9	0,23
Disc for QD hub	410851 ❸ ❺	25	5.7	11,3	0.24
Standard Hub	404351 ❷	13	0.3	5,9	0,01
QD Hub	304582 ❷	12	0.2	5,4	0,01

*QD is a registered trademark of Emerson Electric Co.

Notes:

❶ Basic part number only. Type of friction linings and actuating fluid must be specified.

❷ Basic part number only. Suffix must be added for specific bore.

❸ Maximum speed is 1800 rpm.

❹ Minimum gap during operations: 0.030" (0,8 mm) typical.

❺ Contact factory for non-standard disc requirements.

*Data shown is subject to change. Please consult factory for current dimensional data.