

PROCO

The Expansion Joint and Check Valve People



PROFLEX™ RUBBER CHECK VALVES SERIES 700

Frequently Asked Questions

ProFlex™ Check Valve

1. Does the ProFlex™ rubber check valve have to be installed in a certain position?

Yes; it should be installed in a vertical position with the bill being the vertical. In zero clearance situations the valve can be rotated up to 30 Deg to gain bottom clearance if required.

2. In which degree can the ProFlex™ rubber check valve be installed?

Because the valve is not reliant on any hinges, gates, or weights the ProFlex™ rubber check valve can be installed in any angle from vertical to horizontal.

3. What is "Back Pressure"?

When the ProFlex™ rubber check valve is submerged in a liquid it is subjected to external pressure. It is critical that the maximum depth that the valve will be submerged is specified as this will be considered the maximum back pressure that the valve will be subjected to.

4. What is the cracking pressure to allow the valve to open?

1" to 2" of water column over back pressure will normally drain a pipe.

5. What back pressures can the ProFlex™ rubber check valve withstand?

Back pressures are in direct relation to the size of the valve, on the smaller diameters it is acceptable to specify up to 200 psi of back pressure and on larger diameters a back pressure limitation would be approximately 12 psi. Each ProFlex™ rubber check valve is manufactured to the exact line pressure, back pressure and flow rates which we require from you for manufacture. Proco can even supply valves up to 650 psig utilizing internal back pressure supports.

6. What are the most common installations?

The ProFlex™ 710 flanged rubber check valve is bolted directly to a head wall replacing an existing flap gate, the ProFlex™ 730 sleeved type rubber check valves are clamped directly to a fabricated flanged nipple or clamped directly to an existing pipe.

7. Can I use the ProFlex™ rubber check valve on potable water applications?

The ProFlex™ rubber check valves are available with an ANSI/NSF-61 certified elastomer. Due to the large demand for clean water and potable applications, this will eliminate the concerns commonly affiliated with contaminants or leaching of elastomers in potable water systems.

8. Can the ProFlex™ rubber check valve be installed on an "out of round" pipe?

Yes, please have the approximate dimensions from 4 different angles to provide proper sizing.

9. Can river currents and ocean waves damage the valves?

In most cases river currents and ocean waves will not damage the ProFlex™ rubber check valves, but if currents or waves in question are of an abnormal nature, it is suggested that side walls or rock pilings are utilized.

10. Can the ProFlex™ rubber check valve be used as a pressure relief valve?

No, the ProFlex™ rubber check valves have been designed to offer superior service as a back flow preventer and should not be considered for a pressure relief valve.

11. Can PROCO make a special design to suit my requirements?

In most instances the ProFlex™ rubber check valve can be fabricated to suit different applications. Contact PROCO for your requirements.

12. What types of elastomer is available?

The ProFlex™ rubber check valve can be manufactured and supplied to withstand almost any type of media. Most commonly supplied are Nitrile (NSF/ANSI Standard 61 certified), Neoprene, Gum Rubber, Chlorobutyl and EPDM.

13. What types of materials are available for the backing rings and banding clamps?

ProFlex™ rubber check valves are supplied with 316 stainless steel backing rings and 304 stainless steel clamps as a standard. Other materials are available upon request.

14. Can the ProFlex™ 710 be supplied with special flanges or drilling?

Yes, the standard drilling pattern is ANSI 125/150# drilling, other drilling standards such as: ANSI 250/300#, BS-10, DIN NP-10 and DIN NP-16, JIS-5k and JIS-10K are available upon special request.

15. Can I install a ProFlex™ rubber check valve near a residential area?

Yes, one of the unique features of the ProFlex™ rubber check valve is the design of the bill section. While the bill will open and allow passage of fluid when head pressure is present, the bill will close and not allow children or animals to crawl inside when there is no head pressure.

Since the ProFlex™ rubber check valve is manufactured entirely of rubber compounds there is no chance of loud banging which is commonly heard from flap type valves.

16. Can I use a ProFlex™ rubber check valve in winter conditions?

Yes, as in any installation the ProFlex™ rubber check valve will not be hindered by winter or sub-zero installations. If the valve is installed in a running water application the valve will continue to operate satisfactorily, due to the elastomers unique chemical makeup. If unusual circumstances occur the ProFlex™ rubber check valve will freeze without any damage and will return to operation upon thaw.

17. Will the ProFlex™ rubber check valve operate if buried in sand or sediment?

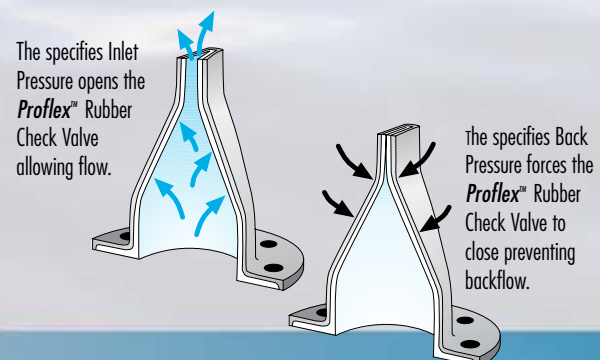
In normal conditions the discharge flow will create a small flow pattern which will then be followed by the flow velocity of the media. This velocity will flush the rest of the sediment away from the valve opening. This has been found to be unique only to the straight bill design as supplied by Proco.

18. What is the maximum temperature that the ProFlex™ rubber check valve can handle?

Temperature can range from -65 Deg to +400 Deg depending on the specified elastomer.

19. Is the ProFlex™ rubber check valve suitable for direct sunlight and UV areas?

Yes, all ProFlex™ rubber check valves are manufactured with a highly resistant Nitrile external cover. In some applications the ProFlex™ rubber check valve may be subjected to oil sludge's which make Nitrile the perfect choice for protection.



Proco Series 700

The PROCO Series 700 "ProFlex™" Rubber Check Valve is a cost effective way to control back pressures from sewage treatment plants, outfalls and tidal operations. They are a fully passive flow device requiring neither maintenance nor any outside sources of power or manual assistance to operate.

The PROCO Series 700 "ProFlex™" Check valves are offered as direct replacements for ineffective and maintenance ridden flap type check valves, commonly known to seize, rust and bind in unwanted positions. Unlike flap type valves, the "ProFlex™" rubber check valve will handle large obstructions without jamming or having swing gates binding open. Specify the PROCO Series 700 "ProFlex™" rubber check valves to provide backflow protection from (1) Sewage slurries, (2) Outfalls to ocean fronts from heavy rainfall activity, (3) Prevention from land erosion due to back flow conditions, (4) Protection from saltwater to fresh water ponds and catch basins and numerous other water based applications. Our history in the manufacture of rubber piping products dates back to 1930. When an engineered solution is needed to solve a piping or backflow problem, call PROCO.

The PROCO Series 700 "ProFlex™" Rubber Check valves are available in a Flanged (Style 710 or 720), Sleeved (Style 730 or 740), or Jacketed (Style 750). Inline orifice (style 770/780)

- **Style 710: Flanged:** Designed to bolt directly to existing flanges or new installations, flanges are drilled 150# standard. Other drilling standards are also available upon request. The style 710 can be installed in either vertical or horizontal application.
- **Style 720: Flanged Inline:** Designed to fit directly inside of an existing pipe. Supplied with a flat face rubber flange which allows installation between existing pipe flanges eliminating the requirement for a valve body. Other drilling standards are also available upon request.

- **Style 730: Sleeve Type:** Designed to easily slip over an existing pipe, is affixed to a pipe with heavy-duty Stainless Steel clamps. Can be installed in either vertical or horizontal application.
- **Style 740: Slip In Inline:** Designed to slip directly inside of an existing pipe. Supplied with a stainless steel expandable clamp to secure it in place.
- **Style 750: Jacketed:** Designed with a full metal enclosure which allows easy installation in existing piping systems. Utilizes the Style 710 as the check valve.
- **Style 770/780:** Designed with a metal or plastic orifice plate and a rubber disk, this valve is an ideal valve to provide high back pressure capability on clean water applications

ELASTOMERS: All of the PROCO Series 700 "ProFlex™" Rubber Check Valves are available in a various selection of elastomers including NSF/ANSI 61 certified material and back pressure capabilities to suit most applications.

The PROCO Series 700 "ProFlex™" Rubber Check Valves will not freeze or deform and functions solely on the inlet and back pressure which will be present in each application.

Each valve is carefully constructed using the finest of engineered materials and some of the most experienced rubber technicians in the industry. All check valves are engineered in precise detail to ensure proper operation and will provide years of unhindered operation and trouble free service.

Benefits of the PROCO Series 700 "ProFlex™" Rubber Check Valves:

- All rubber construction resists abrasive slurries
- NSF61 is standard construction
- Very quiet operation with no water hammer
- Its unique design prevents backflow
- Negligible maintenance and energy costs
- Will not warp or freeze
- Quick interchange with any flap type check valve
- Available in sizes 1" – 96"
- Available with special I.D to suit concrete pipe.

Table 1: Available Materials • Temperatures

For Specific Elastomer Recommendations, See: PROCO™ "Chemical To Elastomer Guide"

| PROCO Material Codes | Cover 1, 2 Elastomer | Tube Elastomer | Maximum Operating Temp. °F (°C) | Branding Label Color | F.S.A. Material Class |
|----------------------|----------------------|----------------------|---------------------------------|----------------------|-----------------------|
| BB | Chlorobutyl | Chlorobutyl | 250° (121°) | Black | STD. III |
| EE | EPDM | EPDM | 250° (121°) | Red | STD. III |
| NH | Neoprene | CSM | 212° (100°) | Green | STD. II |
| NN | Neoprene | Neoprene | 225° (107°) | Blue | STD. II |
| PP | Nitrile | Nitrile ³ | 225° (107°) | Yellow | STD. II |
| NR | Neoprene | Natural Rubber | 180° (82°) | White | STD. I |

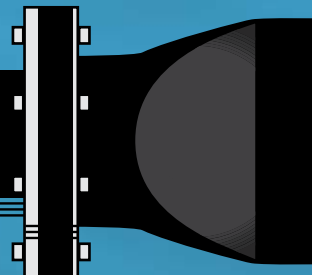
Notes: ProFlex™ is a trademark of PROCO Products, Inc.

All products are reinforced with polyester tire cord.

1. Check Valve "cover" can be coated with Hypalon® on special order.

2. Styles with Neoprene covers meet all requirements of U.S.C.G.

3. NSF/ANSI Standard 61 certified materials available upon request.



**PROCO Office hours are:
5:30 am to 5:15 pm (PST) • Monday thru Friday**

email: sales@procoproducts.com • **(800) 344-3246** 2

Proco Style 710

ProFlex™ Flanged Rubber Check Valves

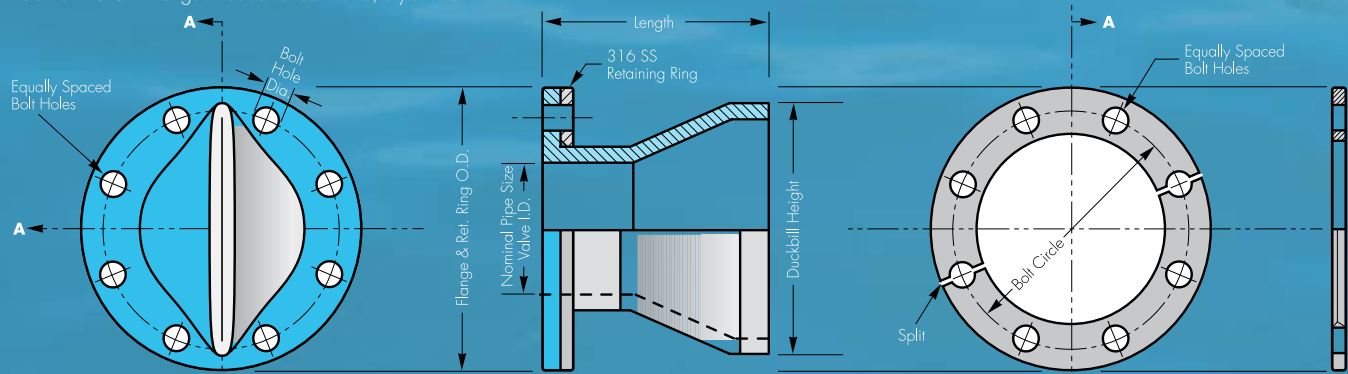


Notes: 1. Larger sizes available upon request.
2. Weights are approximate, based on service conditions.

Table 2: Sizes • Drilling • Weights

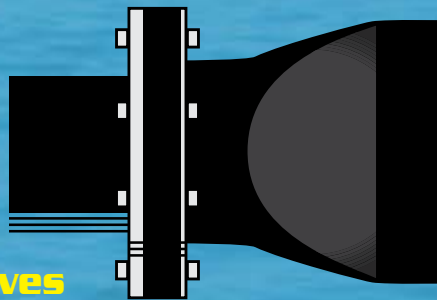
| NOMINAL 1 PIPE SIZE Inch / (mm) | Standard Dimensions for PROCO Style 710 | | Standard Drilling for PROCO Style 710 | | | | WEIGHT 2 lbs / (kgs) | |
|---------------------------------------|---|--------------------------------|---------------------------------------|----------------------------|-----------------|------------------------------|-------------------------|---------------|
| | Length Inch / (mm) | Duckbill Height Inch / (mm) | Flange O.D. Inch / (mm) | Bolt Circle Inch / (mm) | No. of Holes | Size of Holes Inch / (mm) | | |
| 1 | (25) | 4 (102) | 2.125 (54) | 4.25 (107.95) | 3.13 (79.50) | 4 | 0.625 (15.9) | 1.5 (0.68) |
| 1.5 | (40) | 5 (127) | 2.625 (67) | 5.00 (127.00) | 3.88 (98.55) | 4 | 0.625 (15.9) | 1.75 (0.79) |
| 2 | (50) | 6.5 (165) | 3.875 (99) | 6.00 (152.40) | 4.75 (120.65) | 4 | 0.750 (19.1) | 3 (1.36) |
| 2.5 | (65) | 7.5 (191) | 4.625 (118) | 7.00 (177.80) | 5.50 (139.70) | 4 | 0.750 (19.1) | 4.2 (1.90) |
| 3 | (80) | 8.5 (216) | 5.500 (140) | 7.50 (190.50) | 6.00 (152.40) | 4 | 0.750 (19.1) | 7 (3.18) |
| 4 | (100) | 10 (254) | 7.375 (188) | 9.00 (228.60) | 7.50 (190.50) | 8 | 0.750 (19.1) | 9 (4.08) |
| 5 | (125) | 12 (305) | 8.750 (223) | 10.00 (254.00) | 8.50 (215.90) | 8 | 0.875 (22.2) | 12 (5.44) |
| 6 | (150) | 13 (330) | 10.500 (267) | 11.00 (279.40) | 9.50 (241.30) | 8 | 0.875 (22.2) | 14 (6.35) |
| 8 | (200) | 15 (381) | 13.750 (350) | 13.50 (342.90) | 11.75 (298.45) | 8 | 0.875 (22.2) | 23 (10.43) |
| 10 | (250) | 17 (423) | 17.000 (432) | 16.00 (406.40) | 14.25 (361.95) | 12 | 1.000 (25.4) | 29 (13.15) |
| 12 | (300) | 19 (483) | 19.625 (499) | 19.00 (482.60) | 17.00 (431.80) | 12 | 1.000 (25.4) | 46 (20.87) |
| 14 | (350) | 21 (533) | 24.750 (629) | 21.00 (533.40) | 18.75 (476.25) | 12 | 1.250 (31.8) | 64 (29.03) |
| 16 | (400) | 24 (610) | 26.500 (674) | 23.50 (596.90) | 21.25 (539.75) | 16 | 1.250 (31.8) | 82 (38.20) |
| 18 | (450) | 26 (661) | 29.750 (756) | 25.00 (635.00) | 22.75 (577.85) | 16 | 1.250 (31.8) | 109 (49.44) |
| 20 | (500) | 34 (867) | 32.250 (819) | 27.50 (698.50) | 25.00 (635.00) | 20 | 1.250 (31.8) | 137 (62.14) |
| 24 | (600) | 42 (1067) | 43.000 (1093) | 32.00 (812.80) | 29.50 (749.30) | 20 | 1.375 (34.9) | 167 (75.75) |
| 28 | (700) | 45 (1143) | 46.000 (1169) | 36.50 (927.10) | 34.00 (863.60) | 28 | 1.375 (34.9) | 260 (117.94) |
| 30 | (750) | 47 (1194) | 49.000 (1245) | 38.75 (984.25) | 36.00 (914.40) | 28 | 1.375 (34.9) | 317 (143.79) |
| 32 | (800) | 53 (1346) | 51.000 (1296) | 41.75 (1060.45) | 38.50 (977.90) | 28 | 1.625 (41.3) | 333 (151.05) |
| 36 | (900) | 58 (1473) | 55.250 (1404) | 46.00 (1168.40) | 42.75 (1085.85) | 32 | 1.625 (41.3) | 450 (204.12) |
| 42 | (1050) | 62 (1575) | 66.250 (1683) | 53.00 (1346.20) | 49.50 (1257.30) | 36 | 1.625 (41.3) | 818 (371.04) |
| 48 | (1200) | 72 (1829) | 78.000 (1893) | 59.50 (1511.30) | 56.00 (1422.40) | 44 | 1.625 (41.3) | 1005 (455.87) |
| 54 | (1350) | 74 (1880) | 78.250 (1988) | 66.25 (1682.75) | 62.75 (1593.85) | 44 | 2.000 (50.8) | 1310 (594.22) |
| 60 | (1500) | 82 (2083) | 85.000 (2159) | 73.00 (1854.20) | 69.25 (1758.95) | 52 | 2.000 (50.8) | 1445 (655.45) |
| 72 | (1800) | 98 (2489) | 105.000 (2667) | 86.50 (2197.10) | 82.50 (2095.50) | 60 | 2.000 (50.8) | 1586 (719.41) |

Detail of ProFlex™ Flanged Rubber Check Valve; Style 710



Proco Style 730

ProFlex™ Sleeved Rubber Check Valves



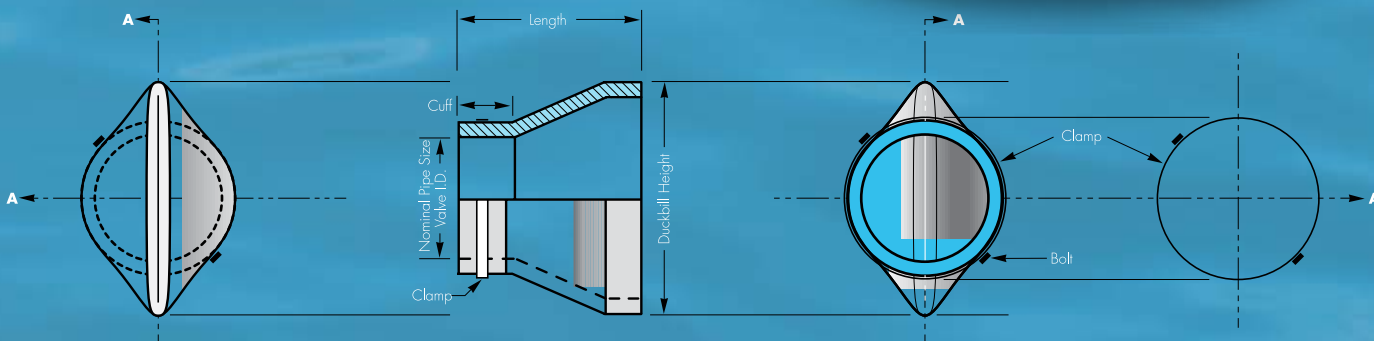
Notes: 1. Larger sizes available upon request.
2. Weights are approximate, based on service conditions.

Table 3: Sizes • Weights

| NOMINAL 1 PIPE SIZE Inch / (mm) | Standard Dimensions for PROCO Style 730 | | | WEIGHT 2 lbs / (kgs) | |
|---------------------------------------|---|-----------------------------|--------------------------------|-------------------------|---------------|
| | Length Inch / (mm) | Collar Width Inch / (mm) | Duckbill Height Inch / (mm) | | |
| 1 | (25) | 4 (102) | 1.000 (25) | 2.125 (54) | 0.5 (0.23) |
| 1.5 | (40) | 5 (127) | 1.000 (25) | 2.625 (67) | 0.75 (0.34) |
| 2 | (50) | 8 (203) | 1.500 (38) | 3.875 (98) | 1.5 (0.68) |
| 2.5 | (65) | 7.5 (191) | 2.000 (51) | 4.625 (117) | 1.75 (0.79) |
| 3 | (80) | 8.5 (216) | 3.000 (76) | 5.500 (140) | 4 (1.81) |
| 4 | (100) | 12.5 (318) | 3.000 (76) | 7.250 (184) | 5 (2.27) |
| 5 | (125) | 14 (356) | 3.000 (76) | 8.750 (222) | 7 (3.18) |
| 6 | (150) | 18 (457) | 4.000 (102) | 10.500 (267) | 12 (5.44) |
| 8 | (200) | 20 (508) | 4.000 (102) | 13.750 (349) | 18 (8.16) |
| 10 | (250) | 19 (483) | 4.000 (102) | 17.000 (432) | 20 (9.07) |
| 12 | (300) | 28 (711) | 6.000 (152) | 19.625 (498) | 48 (21.77) |
| 14 | (350) | 30 (762) | 6.000 (152) | 23.000 (584) | 60 (27.22) |
| 16 | (400) | 32 (813) | 6.000 (152) | 26.000 (660) | 75 (34.02) |
| 18 | (450) | 33 (838) | 6.000 (152) | 29.600 (752) | 115 (52.16) |
| 20 | (500) | 36 (914) | 8.000 (203) | 32.250 (819) | 139 (63.05) |
| 24 | (600) | 47 (1194) | 8.000 (203) | 39.000 (991) | 192 (87.09) |
| 28 | (700) | 44 (1118) | 8.000 (203) | 46.000 (1168) | 181 (82.10) |
| 30 | (750) | 46 (1168) | 10.000 (254) | 49.000 (1245) | 267 (121.11) |
| 32 | (800) | 53 (1346) | 10.000 (254) | 51.000 (1295) | 329 (149.23) |
| 36 | (900) | 60 (1524) | 10.000 (254) | 58.000 (1473) | 439 (199.13) |
| 42 | (1050) | 61 (1549) | 12.000 (305) | 66.250 (1683) | 743 (337.02) |
| 48 | (1200) | 72 (1829) | 12.000 (305) | 74.500 (1892) | 952 (431.83) |
| 54 | (1350) | 74 (1880) | 12.000 (305) | 78.250 (1988) | 1212 (549.76) |
| 60 | (1500) | 81 (2057) | 12.000 (305) | 85.000 (2159) | 1315 (596.48) |
| 72 | (1800) | 98 (2489) | 14.000 (358) | 105.000 (2667) | 1522 (690.38) |



Detail of ProFlex™ Sleeved Rubber Check Valve; Style 730



Proco Style 720

ProFlex™ In-line Flanged Rubber Check Valves



Notes: Higher back pressures can be obtained by using Internal Supports, contact PROCO.

Dimensions are approximate and may change due to pipe dimension changes, inlet, back pressures and flow rates.

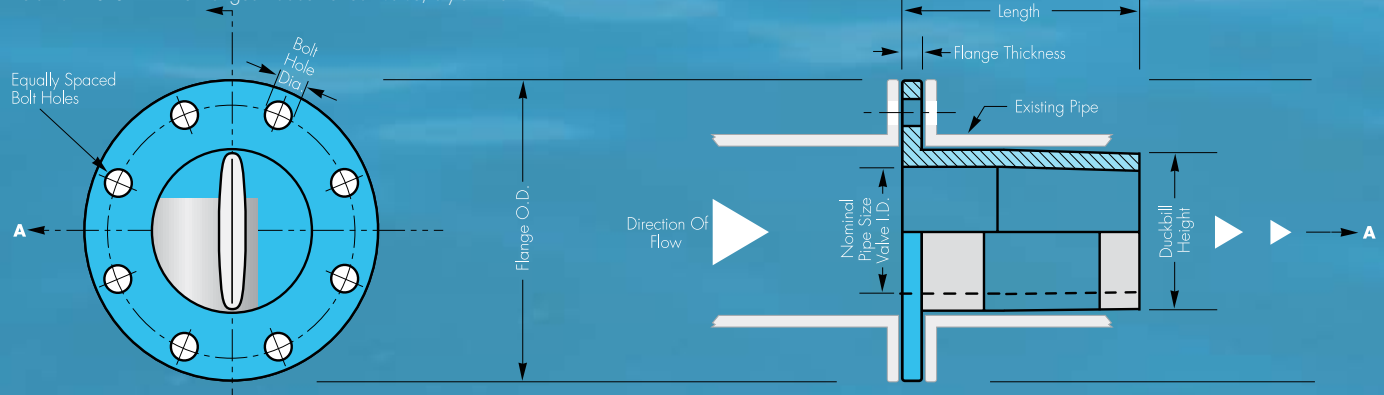
1. Larger sizes available upon request.

2. Weights are approximate.

Table 4: Sizes • Drilling • Working Pressures • Weights

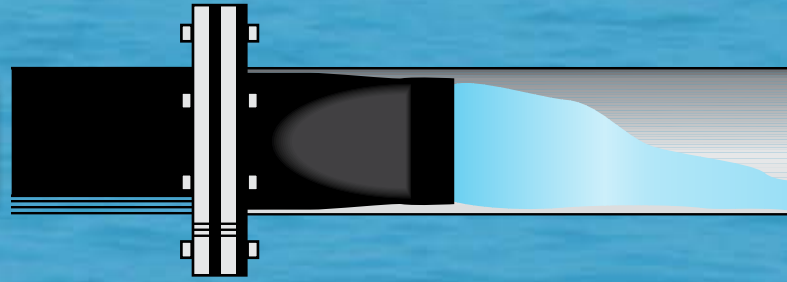
| NOMINAL ¹ PIPE SIZE Inch / (mm) | Standard Dimensions for PROCO Style 720 | | Standard Drilling for PROCO Style 720 | | | | MAXIMUM WORKING PRESSURE (PSIG) | WEIGHT ² lbs / (kgs) | |
|--|---|--------------------------------|---------------------------------------|----------------------------|-----------------|------------------------------|--|------------------------------------|--------------|
| | Length Inch / (mm) | Duckbill Height Inch / (mm) | Flange O.D. Inch / (mm) | Bolt Circle Inch / (mm) | No. of Holes | Size of Holes Inch / (mm) | | | |
| 2 | (50) | 7.25 (184) | 1.250 (32) | 6.00 (152.40) | 4.75 (120.65) | 4 | 0.750 (19.1) | 125 | 3 (1.4) |
| 3 | (80) | 9 (229) | 2.250 (57) | 7.50 (190.50) | 6.00 (152.40) | 4 | 0.750 (19.1) | 125 | 4 (1.8) |
| 4 | (100) | 10 (254) | 3.875 (98) | 9.00 (228.60) | 7.50 (190.50) | 8 | 0.750 (19.1) | 100 | 8 (3.6) |
| 5 | (125) | 13 (330) | 4.875 (124) | 10.00 (254.00) | 8.50 (215.90) | 8 | 0.875 (22.2) | 75 | 10 (4.5) |
| 6 | (150) | 14.5 (368) | 5.875 (149) | 11.00 (279.40) | 9.50 (241.30) | 8 | 0.875 (22.2) | 75 | 12 (5.4) |
| 8 | (200) | 15 (381) | 6.750 (171) | 13.50 (342.90) | 11.75 (298.45) | 8 | 0.875 (22.2) | 75 | 13 (5.9) |
| 10 | (250) | 21 (533) | 9.875 (250) | 16.00 (406.40) | 14.25 (361.95) | 12 | 1.000 (25.4) | 50 | 29 (13.2) |
| 12 | (300) | 26 (660) | 11.875 (302) | 19.00 (482.60) | 17.00 (431.80) | 12 | 1.000 (25.4) | 50 | 37 (16.8) |
| 14 | (350) | 27 (686) | 12.000 (305) | 21.00 (533.40) | 18.75 (476.25) | 12 | 1.250 (31.8) | 50 | 41 (18.6) |
| 16 | (400) | 32 (813) | 14.000 (356) | 23.50 (596.90) | 21.25 (539.75) | 16 | 1.250 (31.8) | 50 | 50 (22.7) |
| 18 | (450) | 29 (737) | 17.000 (431) | 25.00 (635.00) | 22.75 (577.85) | 16 | 1.250 (31.8) | 25 | 158 (71.7) |
| 20 | (500) | 34 (864) | 19.000 (502) | 27.50 (698.50) | 25.00 (635.00) | 20 | 1.250 (31.8) | 25 | 234 (106.1) |
| 24 | (600) | 44 (1118) | 23.000 (603) | 32.00 (812.80) | 29.50 (749.30) | 20 | 1.375 (34.9) | 25 | 308 (139.7) |
| 28 | (700) | 47 (1194) | 27.000 (687) | 36.50 (927.10) | 34.00 (863.60) | 28 | 1.375 (34.9) | 25 | 362 (164.2) |
| 30 | (750) | 49 (1245) | 29.000 (737) | 38.75 (984.25) | 36.00 (914.40) | 28 | 1.375 (34.9) | 25 | 417 (189.1) |
| 32 | (800) | 54 (1372) | 31.000 (787) | 41.75 (1060.45) | 38.50 (977.90) | 28 | 1.625 (41.3) | 25 | 454 (206.0) |
| 36 | (900) | 59 (1499) | 35.000 (889) | 46.00 (1168.40) | 42.75 (1085.85) | 32 | 1.625 (41.3) | 25 | 499 (226.3) |
| 42 | (1050) | 66 (1676) | 41.000 (1041) | 53.00 (1346.20) | 49.50 (1257.30) | 36 | 1.625 (41.3) | 25 | 729 (330.7) |
| 48 | (1200) | 74 (1880) | 47.000 (1194) | 59.50 (1511.30) | 56.00 (1422.40) | 44 | 1.625 (41.3) | 25 | 754 (342.0) |
| 54 | (1350) | 75 (1905) | 53.000 (1346) | 66.25 (1682.75) | 62.75 (1593.85) | 44 | 2.000 (50.8) | 25 | 813 (368.8) |
| 60 | (1500) | 83 (2108) | 59.000 (1499) | 73.00 (1854.20) | 69.25 (1758.95) | 52 | 2.000 (50.8) | 25 | 964 (437.3) |
| 72 | (1800) | 99 (2515) | 71.000 (1803) | 86.50 (2197.10) | 82.50 (2095.50) | 60 | 2.000 (50.8) | 25 | 1125 (510.3) |

Detail of ProFlex™ In-line Flanged Rubber Check Valve; Style 720



Proco Style 740

ProFlex™ In-line Slip-in Flanged Rubber Check Valves



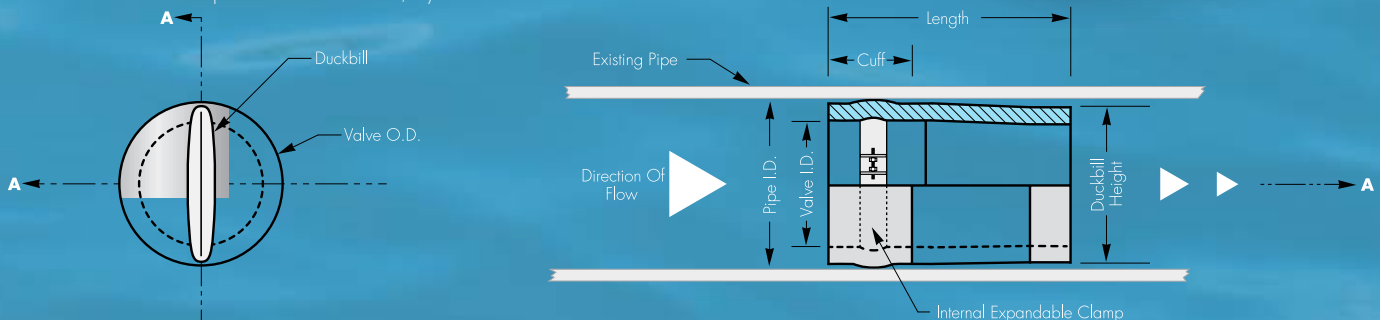
Notes: Higher back pressures can be obtained by using Internal Supports, contact PROCO.
 Dimensions are approximate and may change due to pipe dimension changes, inlet, back pressures and flow rates.
 1. Larger sizes available upon request.
 2. Weights are approximate.

Table 5: Sizes • Working Pressures • Weights

| NOMINAL 1 PIPE SIZE Inch / (mm) | Standard Dimensions for PROCO Style 740 | | | MAXIMUM WORKING PRESSURE (PSIG) | WEIGHT 2 lbs / (kgs) |
|---------------------------------------|---|-----------------------|--------------------------------|--|-------------------------|
| | Valve I.D. Inch / (mm) | Length Inch / (mm) | Duckbill Height Inch / (mm) | | |
| 2 | (50) | 1.250 (32) | 6.750 (171) | 1.875 (48) | 125 4 (1.8) |
| 3 | (80) | 2.250 (57) | 9.000 (229) | 2.875 (73) | 125 6 (2.72) |
| 4 | (100) | 3.000 (80) | 12.500 (317) | 3.875 (98) | 100 8 (3.63) |
| 5 | (125) | 4.000 (100) | 16.000 (406) | 4.875 (124) | 75 12 (5.4) |
| 6 | (150) | 5.000 (125) | 13.500 (343) | 5.875 (149) | 75 14 (6.35) |
| 8 | (200) | 6.625 (168) | 19.000 (483) | 7.875 (200) | 75 18 (8.2) |
| 10 | (250) | 8.625 (219) | 21.000 (533) | 9.875 (251) | 50 28 (12.7) |
| 12 | (300) | 10.000 (250) | 27.000 (686) | 11.875 (302) | 50 43 (19.5) |
| 14 | (350) | 11.500 (292) | 28.000 (711) | 13.000 (349) | 50 55 (24.9) |
| 16 | (400) | 13.500 (343) | 31.000 (787) | 15.000 (401) | 50 92 (41.8) |
| 18 | (450) | 15.250 (387) | 33.000 (838) | 17.000 (451) | 25 152 (68.9) |
| 20 | (500) | 17.000 (432) | 35.000 (889) | 19.000 (502) | 25 236 (107.0) |
| 24 | (600) | 20.500 (521) | 37.000 (940) | 23.000 (603) | 25 300 (136.1) |
| 28 | (700) | 24.500 (622) | 46.000 (1168) | 27.000 (686) | 25 364 (165.1) |
| 30 | (750) | 26.500 (673) | 51.000 (1295) | 29.000 (737) | 25 423 (191.9) |
| 32 | (800) | 28.500 (724) | 58.000 (1473) | 31.000 (787) | 25 466 (211.4) |
| 36 | (900) | 32.500 (826) | 63.000 (1600) | 35.000 (889) | 25 501 (227.2) |
| 42 | (1050) | 38.250 (972) | 65.000 (1651) | 41.000 (1041) | 25 728 (330.2) |
| 48 | (1200) | 44.250 (1073) | 74.000 (1880) | 47.000 (1194) | 25 762 (345.6) |
| 54 | (1350) | 50.250 (1276) | 77.000 (1956) | 53.000 (1346) | 25 820 (371.9) |
| 60 | (1500) | 56.000 (1422) | 85.000 (2159) | 59.000 (1499) | 25 969 (439.5) |
| 72 | (1800) | 68.000 (1727) | 102.000 (2591) | 71.000 (1803) | 25 1089 (494.0) |

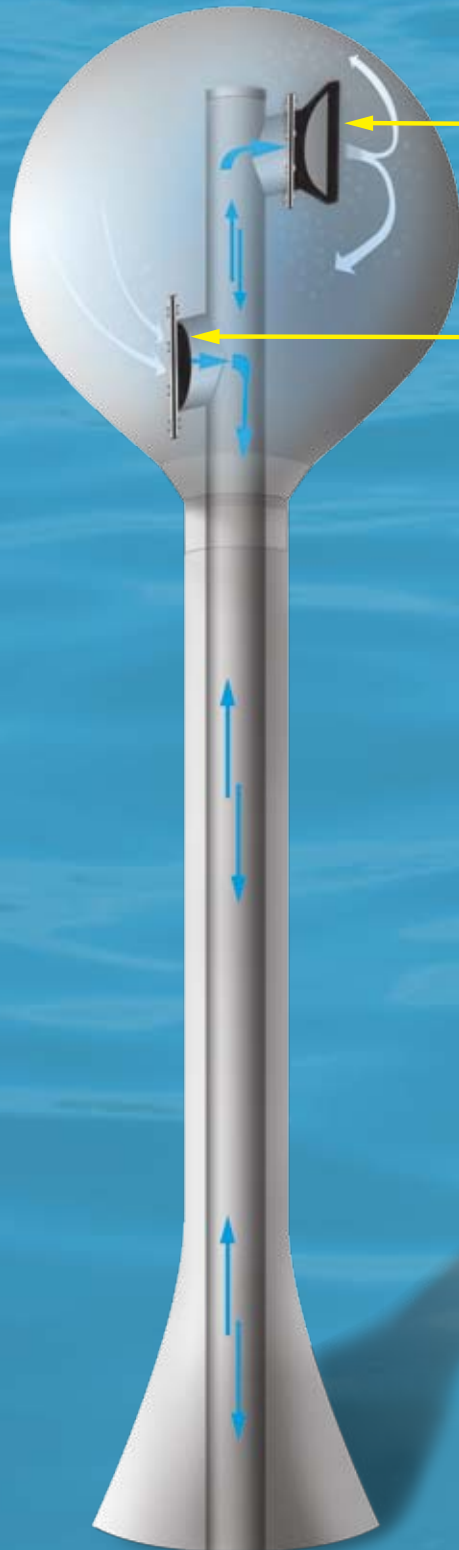
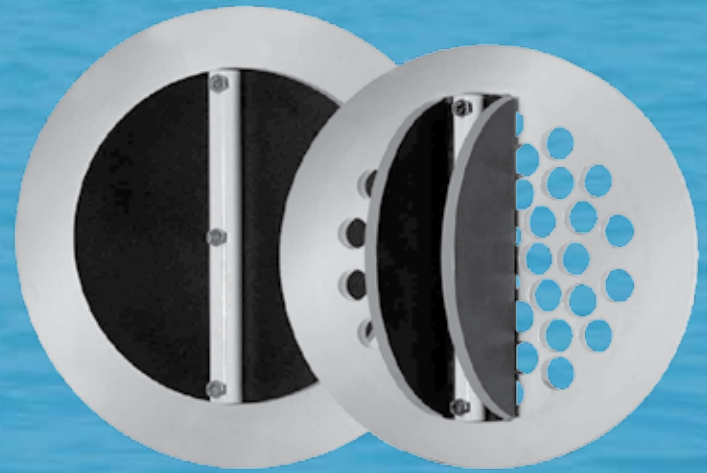


Detail of ProFlex™ In-line Slip-In Rubber Check Valve; Style 740



Proco Style 770

ProFlex™ Water Style In-line Rubber Check Valves



Inlet Valves

- ProFlex Style 710
- Opens during tank filling
- Provides complete mixing with optimal jet velocities
- Closed during tank draining

Outlet Valves

- ProFlex Style 780
- Closed during tank filling
- Opens for tank draining

Table 6: Sizes • Dimensions • Flow Data

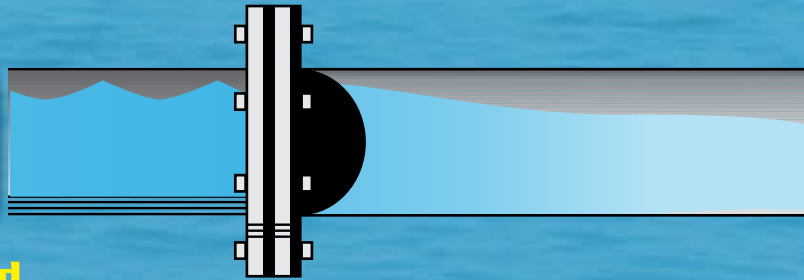
| NOMINAL ¹ PIPE SIZE Inch / (mm) | Standard Dimensions for PROCO Style 770 | | Back Pressure PSIG / (bar) | VELOCITY (ft/s) vs. HEADLOSS (ft) ² | | | | | |
|--|---|---------------------------|----------------------------------|--|------|------|------|-------|-------|
| | Plate Thickness Inch / (mm) | Plate O.D. Inch / (mm) | | 1 | 2 | 4 | 6 | 8 | 10 |
| 4 (100) | 0.250 (6.35) | 6.19 (157.23) | 150 (10.0) | 0.40 | 1.29 | 3.97 | 6.18 | 8.17 | 9.83 |
| 6 (150) | 0.250 (6.35) | 8.50 (215.90) | 150 (10.0) | 0.44 | 1.48 | 4.31 | 6.54 | 8.50 | 10.16 |
| 8 (200) | 0.375 (9.53) | 10.63 (270.00) | 150 (10.0) | 0.48 | 1.67 | 4.64 | 6.91 | 8.84 | 10.48 |
| 10 (250) | 0.375 (9.53) | 12.75 (323.85) | 150 (10.0) | 0.52 | 1.86 | 4.98 | 7.27 | 9.17 | 10.81 |
| 12 (300) | 0.500 (12.70) | 15.00 (381.00) | 150 (10.0) | 0.56 | 2.05 | 5.32 | 7.63 | 9.51 | 11.14 |
| 14 (350) | 0.500 (12.70) | 16.25 (412.75) | 150 (10.0) | 1.18 | 2.77 | 5.82 | 8.02 | 9.79 | 11.37 |
| 16 (400) | 0.750 (19.05) | 18.00 (457.20) | 150 (10.0) | 1.80 | 3.50 | 6.33 | 8.41 | 10.08 | 11.60 |
| 18 (450) | 0.750 (19.05) | 19.88 (504.95) | 150 (10.0) | 2.42 | 4.23 | 6.84 | 8.79 | 10.37 | 11.83 |
| 20 (500) | 0.750 (19.05) | 22.00 (558.80) | 150 (10.0) | 2.82 | 4.69 | 7.17 | 9.05 | 10.56 | 11.98 |
| 24 (600) | 1.000 (25.40) | 27.25 (692.15) | 150 (10.0) | 2.86 | 4.75 | 7.24 | 9.12 | 10.64 | 12.06 |
| 30 (750) | 1.000 (25.40) | 34.50 (876.30) | 150 (10.0) | 2.93 | 4.84 | 7.35 | 9.21 | 10.75 | 12.17 |
| 36 (900) | 1.000 (25.40) | 41.00 (1041.40) | 150 (10.0) | 2.99 | 4.93 | 7.46 | 9.31 | 10.86 | 12.28 |

Notes: 1. Larger sizes available upon request.

2. Velocity vs. Headloss data is approximate and based on varying flow rates.

With current global awareness for clean water and the urgency to have all water treatment plants operating under stricter standards, the PROCO Style 770/780 ProFlex™ Rubber Check Valve's standard construction will be 316SS plate with an NSF/ANSI Standard-61 certified material for all potable water applications. This will include water treatment plants, direct installation on potable water pump systems, reservoirs, potable water tanks/towers and other pipe systems directly related to the potable water industry.

Proco Style 780



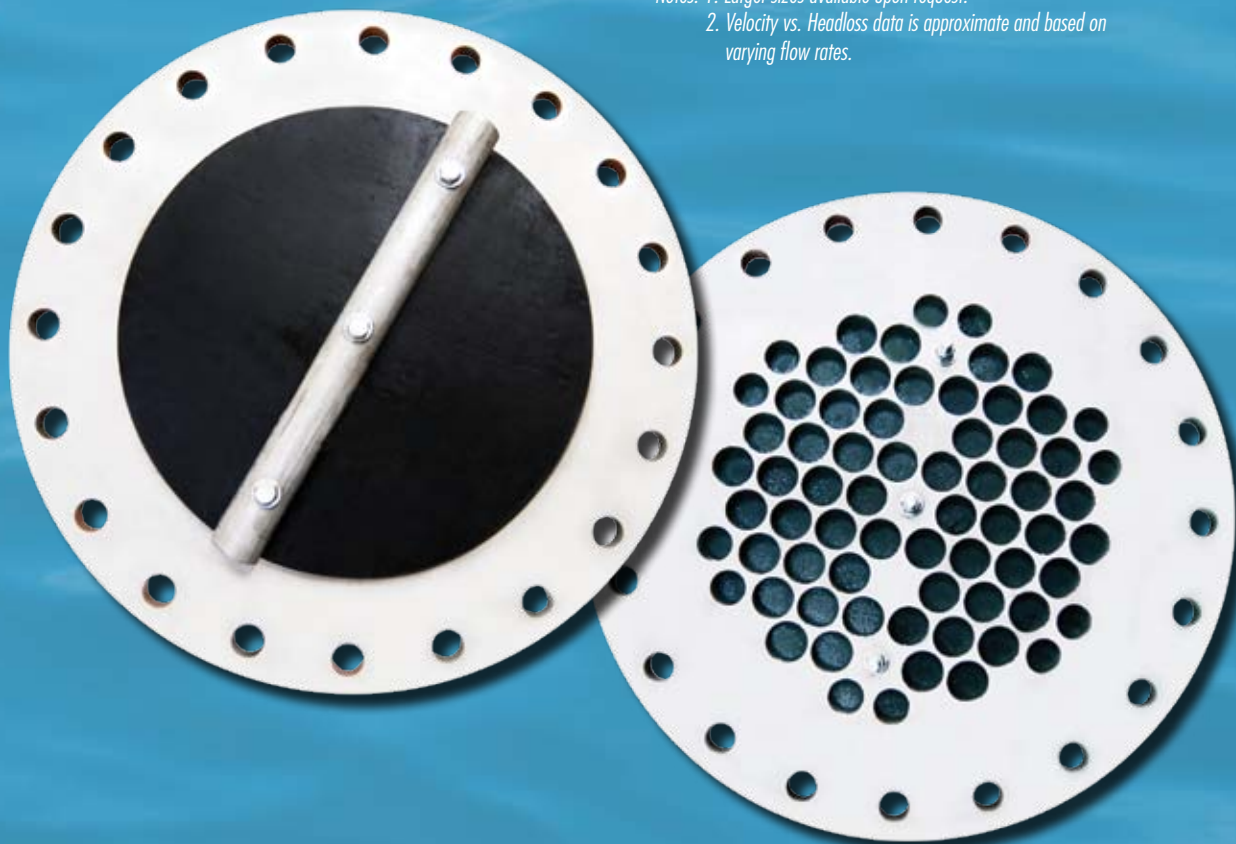
ProFlex™ Water Style In-line Flanged Rubber Check Valves

Table 7: Sizes • Dimensions • Drilling • Flow Data

| NOMINAL ¹ PIPE SIZE Inch / (mm) | Standard Dimensions for PROCO Style 780 | | | | | | Back Pressure PSIG / (Bar) | VELOCITY (ft/s) vs. HEADLOSS (ft) ² | | | | | |
|--|---|----------------------------|----------------------------|-----------------|------------------------------|--------------|----------------------------------|--|------|------|------|-------|-------|
| | Plate Thickness Inch / (mm) | Flange O.D. Inch / (mm) | Bolt Circle Inch / (mm) | No. of Holes | Size of Holes Inch / (mm) | 1 | | 2 | 4 | 6 | 8 | 10 | |
| 4 | (100) | 0.250 (6.35) | 9.00 (228.60) | 7.50 (190.50) | 8 | 0.750 (19.1) | 150 (10.0) | 0.40 | 1.29 | 3.97 | 6.18 | 8.17 | 9.83 |
| 6 | (150) | 0.250 (6.35) | 11.00 (279.40) | 9.50 (241.30) | 8 | 0.875 (22.2) | 150 (10.0) | 0.44 | 1.48 | 4.31 | 6.54 | 8.50 | 10.16 |
| 8 | (200) | 0.375 (9.53) | 13.50 (342.90) | 11.75 (298.45) | 8 | 0.875 (22.2) | 150 (10.0) | 0.48 | 1.67 | 4.64 | 6.91 | 8.84 | 10.48 |
| 10 | (250) | 0.375 (9.53) | 16.00 (406.40) | 14.25 (361.95) | 12 | 1.000 (25.4) | 150 (10.0) | 0.52 | 1.86 | 4.98 | 7.27 | 9.17 | 10.81 |
| 12 | (300) | 0.500 (12.70) | 19.00 (482.60) | 17.00 (431.80) | 12 | 1.000 (25.4) | 150 (10.0) | 0.56 | 2.05 | 5.32 | 7.63 | 9.51 | 11.14 |
| 14 | (350) | 0.500 (12.70) | 21.00 (533.40) | 18.75 (476.25) | 12 | 1.250 (31.8) | 150 (10.0) | 1.18 | 2.77 | 5.82 | 8.02 | 9.79 | 11.37 |
| 16 | (400) | 0.750 (19.05) | 23.50 (596.90) | 21.25 (539.75) | 16 | 1.250 (31.8) | 150 (10.0) | 1.80 | 3.50 | 6.33 | 8.41 | 10.08 | 11.60 |
| 18 | (450) | 0.750 (19.05) | 25.00 (635.00) | 22.75 (577.85) | 16 | 1.250 (31.8) | 150 (10.0) | 2.42 | 4.23 | 6.84 | 8.79 | 10.37 | 11.83 |
| 20 | (500) | 0.750 (19.05) | 27.50 (698.50) | 25.00 (635.00) | 20 | 1.250 (31.8) | 150 (10.0) | 2.82 | 4.69 | 7.17 | 9.05 | 10.37 | 11.98 |
| 24 | (600) | 1.000 (25.40) | 32.00 (812.80) | 29.50 (749.30) | 20 | 1.375 (34.9) | 150 (10.0) | 2.86 | 4.75 | 7.24 | 9.12 | 10.56 | 12.06 |
| 30 | (750) | 1.000 (25.40) | 38.75 (984.25) | 36.00 (914.40) | 28 | 1.375 (34.9) | 150 (10.0) | 2.93 | 4.84 | 7.35 | 9.21 | 10.75 | 12.17 |
| 36 | (900) | 1.000 (25.40) | 46.00 (1168.40) | 42.75 (1085.85) | 32 | 1.625 (41.3) | 150 (10.0) | 2.99 | 4.93 | 7.46 | 9.31 | 10.86 | 12.28 |

Notes: 1. Larger sizes available upon request.

2. Velocity vs. Headloss data is approximate and based on varying flow rates.



Proco Style 750



ProFlex™ In-line Flanged Rubber Check Valves

Unique Features

- Maintenance free
- Will seal even with solids entrapment
- Designed to withstand wear
- Quiet operation, no water hammer!
- 100% backflow prevention
- Tough enough for abrasive slurries
- No body halves with problematic sealing issues

The ProFlex™ 750 is designed to be the answer to enclosed body check valve requirements for slurry applications. It requires no external power sources, thereby making operation costs obsolete.

The valve's unique design means there are no mechanical parts to break down or wear therefore reducing maintenance costs.

The ProFlex™ 750 easily allows flow of abrasive materials such as raw sewage, sludges or slurries. The elastomers flexible design allows the media to flow through without significant head losses and will seal around solids trapped in the valve.

The ProFlex™ 750 valves are versatile and can be installed either horizontally or vertically and are designed within industry standards for flange size and drilling.

Vacuum supports can be supplied independent to the valve as well as internal supports which can ensure back pressures up to 600 psi.

Applications

Potable Water Outfalls – Stand Pipes - Sewer Interceptors - Wet Wells - Mine Tailing Pipe line out falls - Dredging – Scrubber Pipe Systems - Outfall Lines – Pneumatic Conveying- Pump Backflow Protection

Construction

The solid carbon steel body (optional materials are available) and one-piece rubber valve provide lasting durability. The unique feature is the pull through design which provides a tamper proof valve required for Homeland Security Issues. The 2 flush ports allows for easy cleaning of the valves interior body.

Vacuum and Hi-back pressure supports ensure continued protection in severe back flow conditions

Table 8: Sizes • Dimensions • Working Pressure

| PIPE SIZE Id | D Length | C Height | W Width | Working Pressure (psig) |
|-----------------|-------------|-------------|------------|-------------------------------|
| 1" | 4.5" | 5.75" | 4.25" | 125 |
| 1.25" | 5.5" | 6" | 4.5" | 125 |
| 1.5" | 6.5" | 6.5" | 5" | 125 |
| 2" | 8.5" | 8" | 6" | 125 |
| 2.5" | 9.5" | 9.25" | 7" | 125 |
| 3" | 11.5" | 9.75" | 7.5" | 125 |
| 4" | 11.75" | 11.75" | 9" | 125 |
| 6" | 19" | 14.5" | 11" | 100 |
| 8" | 21" | 19" | 13.5" | 100 |
| 10" | 23" | 23" | 16" | 75 |
| 12" | 25" | 27" | 19" | 75 |
| 14" | 29" | 28.5" | 21" | 50 |
| 16" | 33" | 30" | 25" | 50 |
| 18" | 38" | 33.5" | 25" | 50 |
| 20" | 41.5" | 37" | 27.5" | 50 |
| 24" | 49.5" | 48" | 32" | 50 |

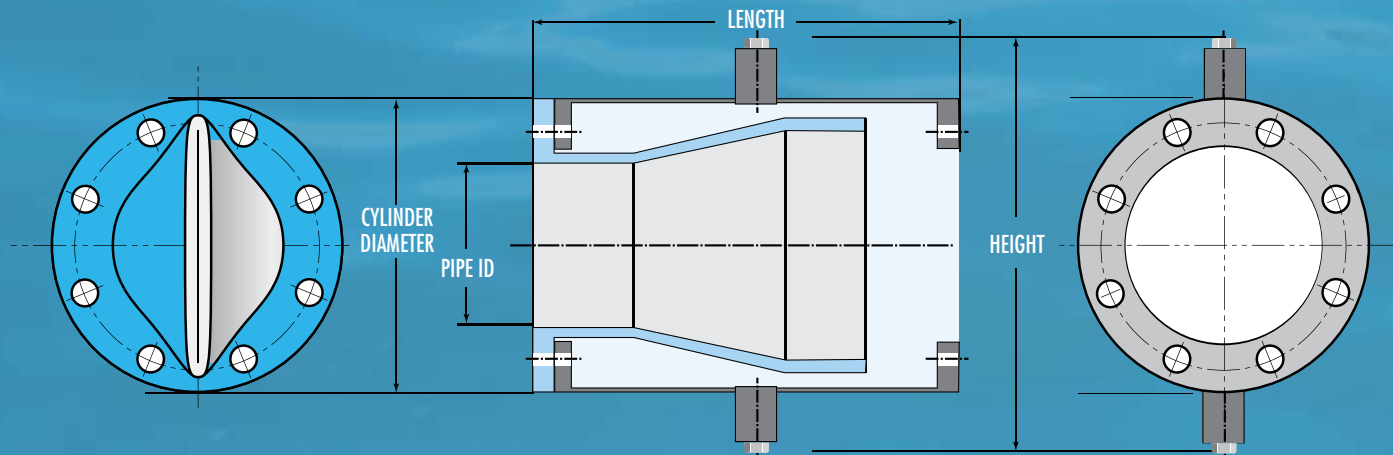
Larger sizes available upon request.

Replacement Costs?

Cost Effective and Simple! The inner sleeve is a standard ProFlex 710 readily available for quick replacement if the sleeve does need unlikely replacement

Available Elastomers

EPDM, Nitrile, Natural Rubber, CSM, Chlorobutyl, Neoprene, NSF/ANSI Standard-61 certified material is also available.





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