

PROCO™

STYLES

710/730

ProFlex™ rubber check valves



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, outside sources of power or manual assistance to operate.

The PROCO Series 700 *ProFlex* Rubber Check Valves are offered as direct replacements for ineffective and maintenance-ridden flap type check valves, which are commonly known to seize, rust and bind in unwanted positions. Unlike flap type valves, the *ProFlex* rubber check valves 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 or 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 introduction of the PROCO Series 700 *ProFlex* Rubber Check Valves is the latest addition to the PROCO line, which has been specifically designed for the Water and Wastewater industries.

With current global awareness for clean water and the urgency to have all water treatment plants operating under stricter standards, the PROCO Series 700 *ProFlex* Rubber Check Valves are also available in NSF/ANSI Standard 61 certified materials for all potable water and sewage applications. This will include water treatment plants, direct installation on potable water pump systems and other piping systems directly related to the potable water industry.

The PROCO Series 700 *ProFlex* Rubber Check Valves are available in a Flanged Type (Style 710), or a Sleeved Type (Style 730).

- **Style 710 — Flanged Type:** Designed to bolt directly to existing flanges or new installations, flanges are drilled 150# standard. Other drilling standards such as: ANSI 250/300#, British Standard BS-10, JIS, and DIN as well as square flanges are also available upon request. The Style 710 can be installed in either a vertical or horizontal application.
- **Style 730 — Sleeve Type:** Designed to easily slip over existing pipe and affixed with heavy-duty Stainless Steel clamps. The Style 730 can be installed in either a vertical or horizontal application.

Elastomers: All of the PROCO Series 700 *ProFlex* Rubber Check Valves are available in a various selection of elastomers (see Table 1 below) and back pressure capabilities to suit most applications.

The PROCO Series 700 *ProFlex* Rubber Check Valves will not freeze or deform and function solely on inlet and back pressures which will be present in most applications.

Each valve is carefully constructed using the finest of engineered materials and built by 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
- NSF/ANSI Standard 61 certified materials
- Very quiet operation with no water hammer
- 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" to 96"
- Available with special IDs to suit concrete pipe

For your complete project requirement PROCO also maintains the largest inventory of expansion joints in the world. Rubber, PTFE Lined, Plastic or Metal Hose — PROCO can ship the products you need when you need them! In fact, when it comes to expansion joints, if **PROCO doesn't have them in stock ... nobody does!**

Information • Ordering • Pricing • Delivery. Day or night, weekends and holidays ... the PROCO phones are monitored 24 hours around the clock. When you have a question, you can call us.

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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	Hypalon®	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
NV	Neoprene	Viton®	225° (107°)	Orange	STD. III

Notes: Hypalon® and Viton® are registered trademarks of DuPont Performance Elastomers. 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™

STYLE 710

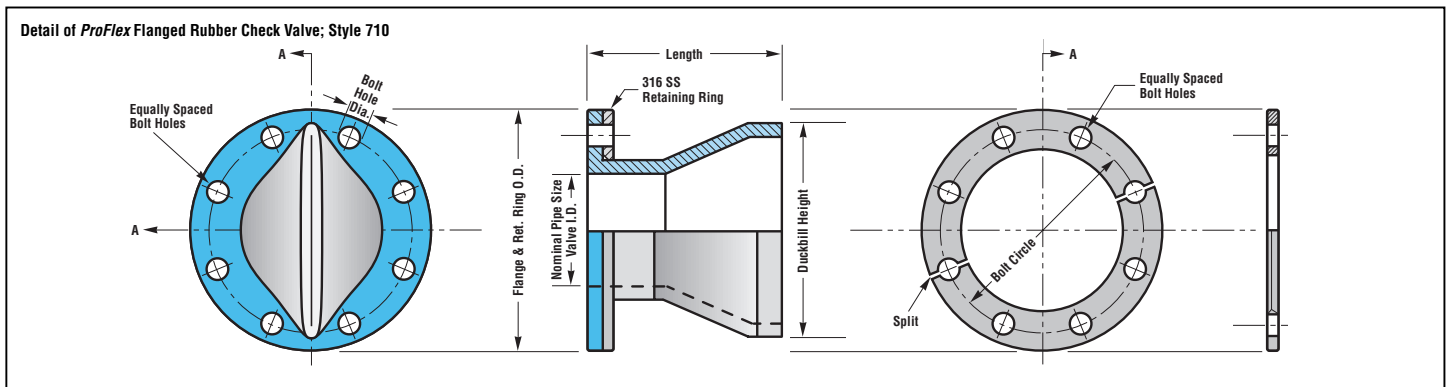
ProFlex™ flanged rubber check valves



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)

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



PROCOTM

STYLE 730

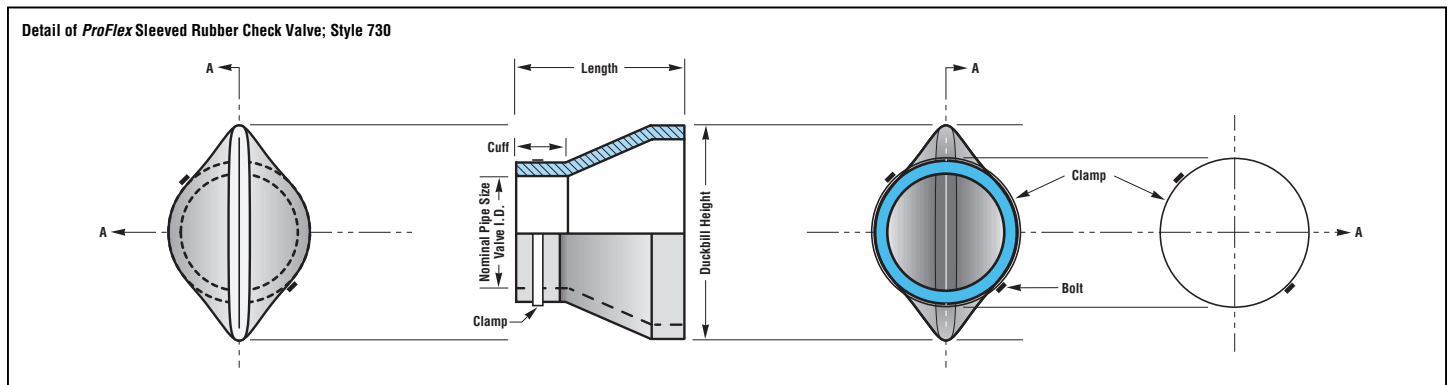


ProFlexTM sleeved rubber check valves

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)	6.5	(165)	1.500	(38)	3.875	(98)	1	(0.45)
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	(305)	3.000	(76)	7.375	(187)	5.5	(2.48)
5	(125)	14	(356)	3.000	(76)	8.750	(222)	7	(3.18)
6	(150)	16	(406)	4.000	(102)	10.500	(267)	12	(5.44)
8	(200)	18	(432)	4.000	(102)	13.750	(349)	14	(6.35)
10	(250)	19	(483)	4.000	(102)	17.000	(432)	20	(9.07)
12	(300)	27	(635)	6.000	(152)	19.625	(498)	33	(14.96)
14	(350)	28	(686)	6.000	(152)	24.750	(629)	45	(20.41)
16	(400)	29	(737)	6.000	(152)	26.500	(673)	63	(28.57)
18	(450)	31	(787)	6.000	(152)	29.750	(756)	88	(39.92)
20	(500)	33	(838)	8.000	(203)	32.250	(819)	112	(50.80)
24	(600)	42	(1067)	8.000	(203)	43.000	(1092)	141	(63.96)
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)	58	(1473)	10.000	(254)	55.250	(1403)	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)

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



FAQS

Frequently Asked Questions to help you understand the ProFlex™ Rubber Check Valves

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. However, in zero-clearance situations the valve can be rotated up to 30° to gain bottom clearance if required.

2. Is there a preferable angle in which the ProFlex Rubber Check Valve has to 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 to which the valve will be subjected.

4. What is the required inlet pressure to allow the valve to open?

Typically 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 inlet pressure, back pressure and flow rates which we require from you for manufacture.

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 Rubber Check Valve is 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?

Yes. One of the optional materials for the ProFlex Rubber Check Valves is the NSF/ANSI Standard 61. Due to the large demand for clean water and potable applications, PROCO is the leading supplier of NSF/ANSI Standard 61 approved material. 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 outside dimensions of the pipe from four (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 be utilized.

10. Can the ProFlex Rubber Check Valve be used as a back pressure 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 back pressure 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 elastomers are 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), Neoprene, Natural Rubber, Hypalon®, Chlorobutyl, EPDM, and Viton®.

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

ProFlex Rubber Check Valves are supplied with 316 stainless steel retaining rings and 304 stainless steel clamps as 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 inlet pressure is present, the bill will close and not allow children or animals to crawl inside when there is no inlet pressure. And 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?

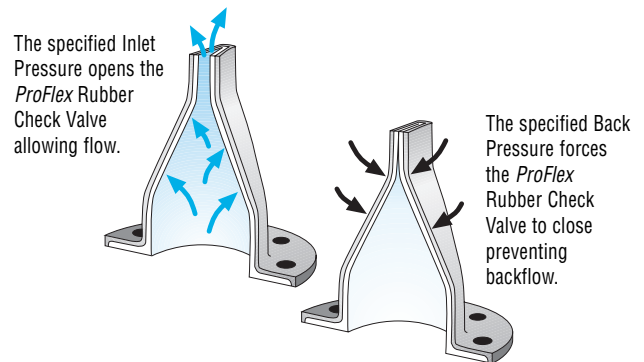
In normal conditions the discharge flow will create a small flow pattern which will then be followed by the flow velocity of the media. This velocity will flush the rest of the sediment away from the valve's opening.

18. What is the maximum temperature that the ProFlex Rubber Check Valve can handle?

Temperatures can range from -65° F (-54° C) to +250° F (+121° C) 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 UV-resistant elastomer cover. In some applications the ProFlex Rubber Check Valve may be subjected to oil sludges which make Nitrile the perfect choice for protection.



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