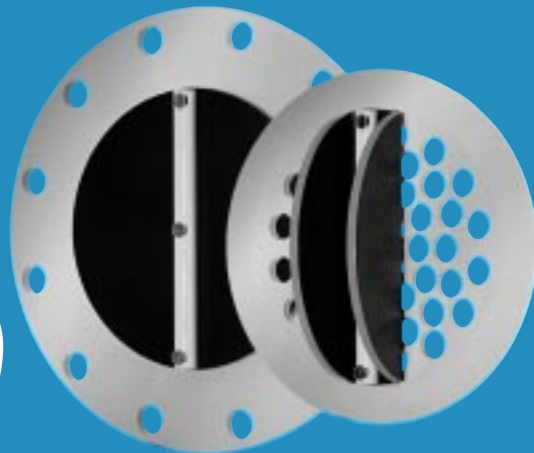


PROCO™

STYLES

770/780

ProFlex™ in-line 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, tidal operations, and potable water systems. 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, (5) Potable water tank outlet/Inlet protection and numerous other water based applications. When an engineered solution is needed to solve a piping or backflow problem, call PROCO.

The introduction of the PROCO Style 770/780 ProFlex Series 700 Check Valves are 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 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.

The PROCO Style 770/780 ProFlex Rubber Check Valves are available in a Wafer Type (770) or a Flanged Type (780) and are designed for potable water systems, and commonly used as inlet check valves on the intake side of the pump.

- **Style 770 — Wafer Type:** Designed to fit inside existing bolt circles between the mating flanges. The Style 770 can be supplied to suit numerous flange configurations and can be installed in a vertical, horizontal, or any other angled application.
- **Style 780 — Flanged Type:** Designed to bolt directly between flanges or new installations, flanges are commonly drilled to ANSI 125/150# stan-

dards. Other drilling standards such as: ANSI 250/300#, British Standard 10, JIS, and DIN are available upon request. The Style 780 can be installed in a vertical, horizontal, or any other angled 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 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 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 Style 770/780 ProFlex Rubber Check Valves:

- All rubber elastomeric disc construction resists abrasive slurries
- NSF/ANSI Standard 61 certified materials are standard construction
- 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"
- Extremely short face-to-face lengths allow installations in close proximity areas

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

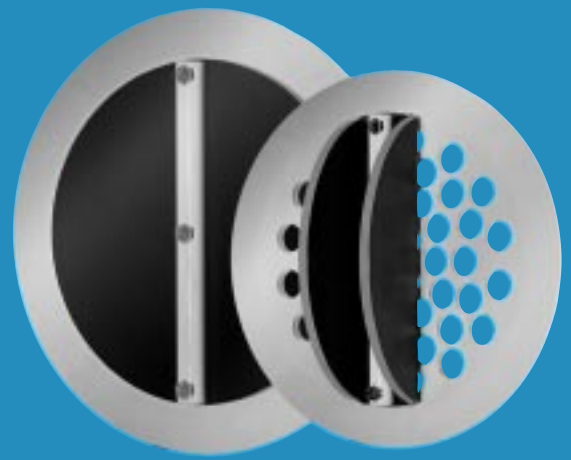
For Specific Elastomer Recommendations, See: PROCO™ "Chemical To Elastomer Guide"					
PROCO Material Codes	Plate ¹ Material	Disc ² Elastomer	Maximum Operating Temp. °F (°C)	Branding Label Color	F.S.A. Material Class
BB	Stainless	Chlorobutyl	250° (121°)	Black	STD. III
EE	Stainless	EPDM	250° (121°)	Red	STD. III
NH	Stainless	Hypalon®	212° (100°)	Green	STD. II
NN	Stainless	Neoprene	225° (107°)	Blue	STD. II
NSF	Stainless	NSF/ANSI-61 ³	225° (107°)	Yellow	STD. II
NR	Stainless	Natural Rubber	180° (82°)	White	STD. I
NV	Stainless	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.
 1. Specify 304ss, 316ss or Carbon Steel plate material.
 2. Styles with Neoprene material meet all requirements of U.S.C.G.
 3. NSF/ANSI Standard 61 certified material.



PROCO™

STYLE 770



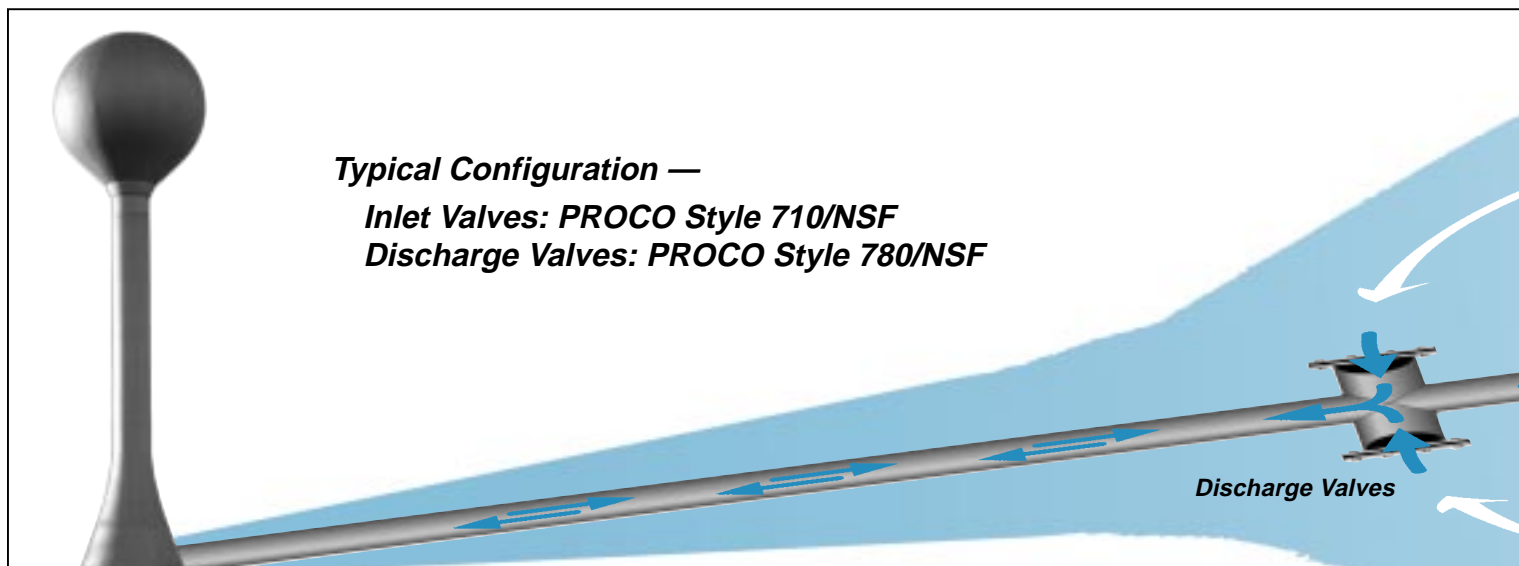
ProFlex™ wafer style in-line rubber check valves

Table 2: 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

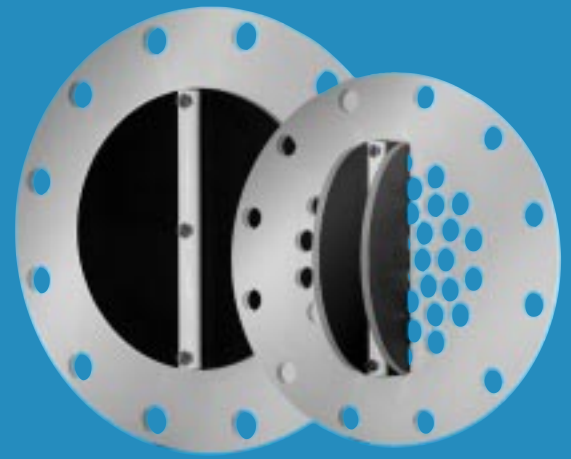
Notes: 1. Larger sizes available upon request.

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



PROCOTM

STYLE 780

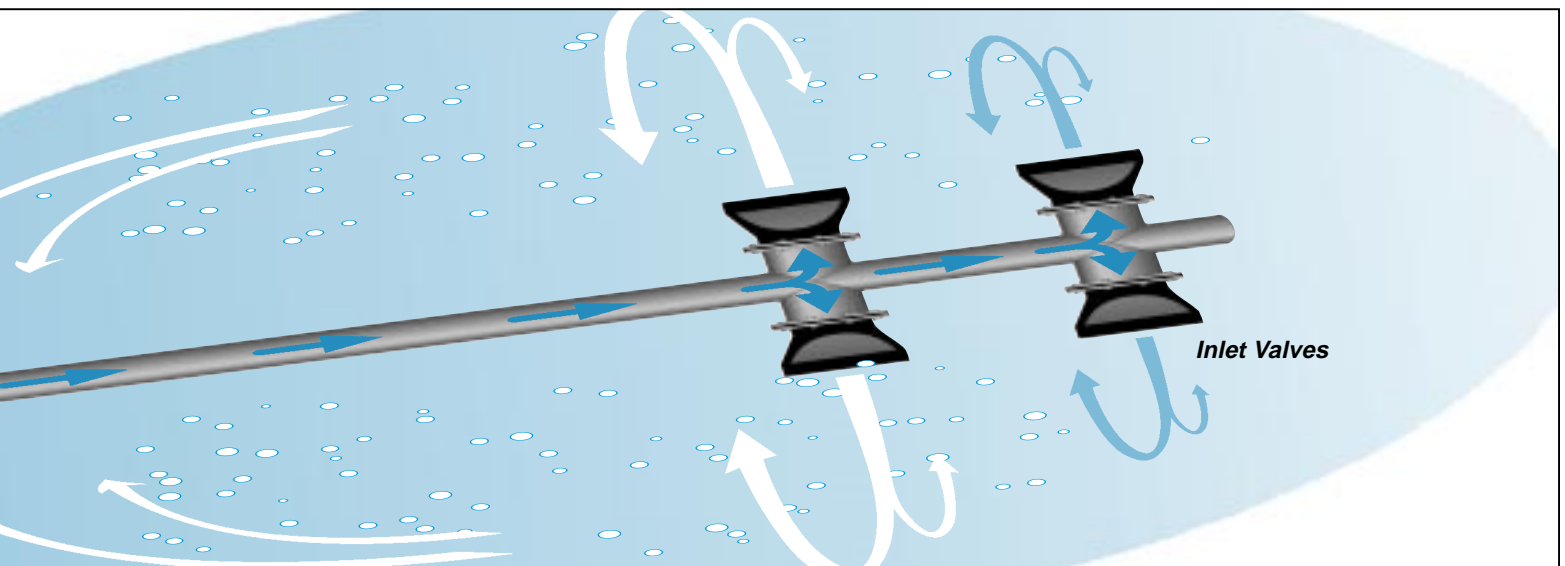


ProFlexTM in-line flanged rubber check valves

Table 3: 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.



FAQS

Frequently Asked Questions to help you understand the In-Line Flow-Flex Check Valves

1. Does the ProFlex In-Line Flow-Flex Check Valve have to be installed in a certain position?

The ProFlex In-Line Flow-Flex Check Valve can be installed in any position. If the adjoining pipe is horizontal, the ideal installation is to have the back pipe in a vertical position.

2. What is the primary application for the 770/780?

The Styles 770 and 780 valves are normally used as discharge valves in potable water tanks and tower mixing systems.

3. What is "Back Pressure"?

When the ProFlex In-Line Flow-Flex Check Valve is submerged in a liquid it is subjected to external pressure. Back pressure is the external force that keeps the disc closed while in operation.

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

The 770/780 will begin to open with as little as 1 inch of head pressure.

5. What back pressures can the ProFlex In-Line Flow-Flex Check Valve withstand?

The 770/780 valves are all be designed to withstand 150 psi back pressure. Contact PROCO for higher pressure possibilities.

6. What are the most common installations?

The 770/780 has been engineered and manufactured as a silent, zero water hammer valve normally used in potable water towers and potable water mixing systems. The valve will be used in conjunction with the ProFlex 710 Series to ensure proper mixing in any tank or tower.

7. Can I use the ProFlex In-Line Flow-Flex Check Valve on potable water applications?

Yes, the standard material for the ProFlex In-Line Flow-Flex Check Valves is an NSF/ANSI Standard 61 certified material. Due to the large demand for clean water and potable applications, PROCO will be the leading supplier of NSF61 certified material. This will eliminate the concerns commonly affiliated with contaminants or leaching of elastomers in potable water systems.

8. Can the ProFlex In-Line Flow-Flex Check Valve be installed on an "out-of-round" pipe?

No. The ProFlex In-Line Flow-Flex Check Valve has been designed to simply attach to a mating pipe flange (780) or also as a wafer type (770) which is supplied to fit inside a bolt circle diameter.

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

Though not often used for this application, the Styles 770 and 780 valves have been used as water check valves on dirty water applications in river and ocean areas which will assist pumps from "loss-of-prime" failure.

10. Can PROCO supply a special design to suit my requirements?

In most instances the ProFlex In-Line Flow-Flex Check Valve can be fabricated to suit different applications. Contact PROCO for your requirements.

11. What types of elastomers are available?

The ProFlex In-Line Flow-Flex Check Valve can be manufactured and supplied to withstand almost any type of media. Most commonly supplied are NSF/ANSI Standard 61 certified material, Neoprene, Gum Rubber, Hypalon®, Chlorobutyl, and EPDM.

12. What types of materials are available for the flow plate?

The ProFlex In-Line Flow-Flex Check Valve standard material is all 316SS, but can be supplied with other materials such as: Carbon Steel, 304SS, Plastic or other metals.

13. Can the ProFlex In-Line Flow-Flex Check Valve 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.

14. Can I use a ProFlex In-Line Flow-Flex Check Valve in winter conditions?

Yes, as in any installation the ProFlex In-Line Flow-Flex 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 elastomeric disc's unique chemical makeup.

15. What is the maximum temperature that the ProFlex In-Line Flow-Flex Check Valve can handle?

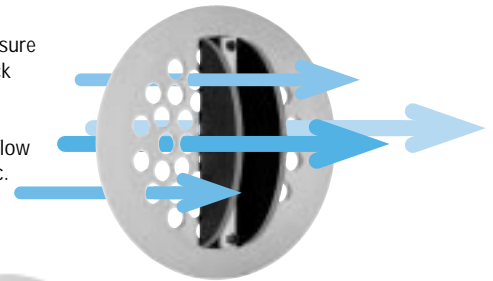
Temperature capabilities can range from -65°F (-54°C) to +250°F (+121°C) depending on the specified elastomer. Contact PROCO if your requirements call for higher temperatures.

16. What is NSF/ANSI Standard 61?

This is the nationally recognized benchmark for setting the health effect standards for all devices, components and materials that come into contact with drinking water.

When using or designing a mixing system, contact PROCO about ProFlex and Flow-Flex Check Valves for assistance in the design of your potable water mixing system.

When Line Pressure exceeds the Back Pressure, the elastomer disc opens to allow flow through the disc.



When Back Pressure exceeds the Line Pressure, the elastomer disc closes preventing backflow.



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