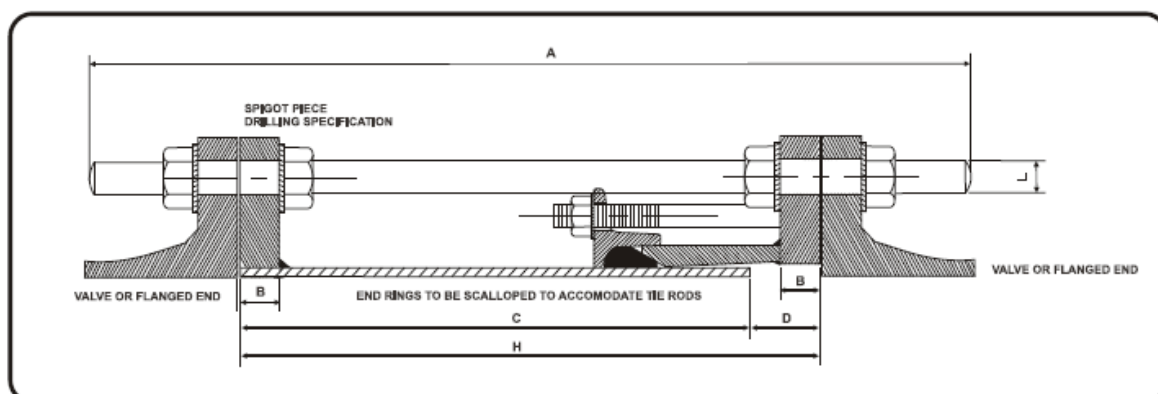


- Manufactured to AWWA C219 under quality management systems accredited to ISO 9001:2000, the KLAMFLEX VARiplus-DJ Dismantling Joint assembly is a double flanged composite fitting featuring a telescopic action between a flanged spigot and a flange adaptor. The joint is designed to provide longitudinal adjustment in flanged pipe systems. Dismantling Joints provide a simple method for the installation and removal of flanged valves, pumps, flow meters, flanged pipes and pipe fittings. ie rods are provided for final anchoring and location and these also double as mating flange jointing bolts, reducing the number of these required.
- The Dismantling Joint range from KLAMFLEX VARiplus-DJ extends from 50mm to 2000mm and whilst the chart indicates flange ratings of PN10/16, all common drillings are available in pressures up to 40 BAR. The range indicated overleaf is typical and KLAMFLEX can manufacture to specific customer specifications and dimensions, on request.
- Thickness of Klamflex flanges will not necessarily be the same as the mating flange. Flanges and flange adaptor will not be subject to full end or side thrust, most of which is absorbed by the flexibility in the rubber gaskets. Pipe end should be smooth, with no seams, score marks, dents or ovality.
- Installation is extremely simple and is generally done with the flange adaptor end connected to the valve or other appurtenance. In cases where a full faced flange is required, for example on wafer butterfly valves, the joint is simply turned round to use the spigot flange instead.



# Klamflex Dismantling Joints



NOMINAL BORE OF JOINT (mm)	FLANGE PN RATING (bar)	SPIGOT PIPE O.D. +/- (mm)	SPIGOT PIPE WALL THICK (mm)	C SPIGOT LENGTH INCLUDING FLANGE (mm)	B ADAPTOR & SPIGOT FLANGE THICKNESS (mm)	H MIN LENGTH OF JOINT (mm)	C + D RECOM. JOINT LENGTH (mm)	H MAX LENGTH OF JOINT (mm)	TIE ROD QTY	L (mm)	X	A TIE ROD LENGTH (mm)	APPROX MASS (kg)
50	PN 10/16	60	3.2	165	12	165	185	205	4	M16	X	300	9
65	PN 10/16	76	3.2	165	12	165	185	205	4	M16	X	300	10
80	PN 10/16	89	3.2	165	12	165	185	205	4	M16	X	300	12
100	PN 10/16	114	3.9	165	12	165	185	205	4	M16	X	300	13
125	PN 10/16	140	4.2	165	14	165	185	205	4	M16	X	300	16
150	PN 10/16	165	4.2	165	16	165	185	205	4	M20	X	320	23
200	PN 10	219	4.5	165	16	165	185	205	4	M20	X	320	31
200	PN 16	219	4.5	165	16	165	185	205	4	M20	X	320	33
250	PN 10	273	4.5	175	19	175	195	215	4	M20	X	330	34
250	PN 16	273	4.5	175	19	175	195	215	4	M24	X	350	38
300	PN 10	324	4.5	175	19	175	195	215	4	M20	X	330	43
300	PN 16	324	4.5	175	19	175	195	215	4	M24	X	350	44
350	PN 10	356	4.5	250	23	250	275	300	4	M20	X	420	49
350	PN 16	356	4.5	250	23	250	275	300	4	M24	X	450	71
400	PN 10	406	4.5	250	24	250	275	300	4	M24	X	450	77
400	PN 16	406	4.5	250	24	250	275	300	4	M27	X	470	88
450	PN 10	457	4.5	250	24	250	275	300	4	M24	X	450	95
450	PN 16	457	4.5	250	24	250	275	300	4	M27	X	470	99
500	PN 10	508	4.5	250	25	250	275	300	4	M24	X	450	111
500	PN 16	508	4.5	250	25	250	275	300	4	M30	X	500	131
600	PN 10	610	4.5	250	25	250	275	300	4	M27	X	480	135
600	PN 16	610	4.5	250	25	250	275	300	4	M33	X	520	175
700	PN 10	711	6.0	250	25	250	275	300	4	M27	X	480	168
700	PN 16	711	6.0	250	25	250	275	300	4	M33	X	520	184
800	PN 10	813	6.0	250	25	250	275	300	4	M30	X	500	200
800	PN 16	813	6.0	250	25	250	275	300	6	M36	X	550	220
900	PN 10	914	6.0	250	25	250	275	300	7	M30	X	520	225
900	PN 16	914	6.0	250	25	250	275	300	7	M36	X	570	245
1000	PN 10	1016	6.0	260	27	260	290	320	7	M33	X	560	298
1000	PN 16	1016	6.0	260	27	260	290	320	7	M39	X	610	331
1200	PN 10	1219	8.0	280	35	280	310	340	8	M36	X	610	496
1200	PN 16	1219	8.0	280	35	280	310	340	8	M45	X	680	559
1400	PN 10	1420	8.0	310	45	310	340	370	9	M39	X	670	610
1400	PN 16	1420	10.0	310	45	310	340	370	9	M45	X	730	665
1600	PN 10	1620	10.0	350	60	350	380	410	8	M45	X	750	1250
1600	PN 16	1620	10.0	350	60	350	380	410	8	M52	X	850	1320
1800	PN 10	1820	10.0	350	60	350	380	410	11	M45	X	770	1300
1800	PN 16	1820	10.0	350	60	350	380	410	11	M52	X	850	1500
2000	PN 10	2020	12.0	350	60	350	380	410	12	M45	X	800	1490
2000	PN 16	2020	12.0	350	60	350	380	410	12	M56	X	890	1750

FOR COUPLINGS OF 25 & 40 BAR WORKING PRESSURE PLEASE CONTACT KLAMFLEX  
THE ABOVE TABLE INCLUDES SAMPLES OF THE SIZES AVAILABLE, PLEASE CONTACT KLAMFLEX FOR ANY OTHER SIZES.

## PROCO STYLE 710

The ProFlex™ 710 is a full port, concentric design Rubber Duckbill Check Valve. The ProFlex™ 710 Rubber Duckbill Check Valves can be supplied with many different flange drilling configurations, including square or rectangular flanges to suit problematic sluice gate or flap gate replacements. The unique advantage to this valve is its very low 1" - 2" (25mm-50mm) cracking pressure and is often referred to as the lowest head loss valve in the industry. All ProFlex™ 710 Rubber Duckbill Check Valves are supplied with 316ss retaining rings and can also be supplied with 304ss, Galvanized, Epoxy coated or FRP material if required.

The ProFlex™ 710 Rubber Duckbill Check Valves come standard with ANSI 125/150 flange drilling and can also be supplied with DIN, JIS, BS or AS flange patterns. All ProFlex™ 710 Rubber Duckbill Check Valves are also available from inventory in a Standard Rated (SR) design up to 24in (600mm), and can also be custom manufactured to meet specific head and back pressures. For higher pressure/vacuum requirements, the ProFlex™ 710 Rubber Duckbill Check Valves can also be manufactured using a unique Internal Vacuum Supports (IVS) design which is homogeneous to the inner reinforced layers of the valve allowing a full flow with no obstructions and yet providing excellent anti-inversion features.



**Table 2: Sizes • Flange Drilling • Weights**

NOMINAL <sup>1</sup> PIPE SIZE Inch / (mm)		Standard Dimensions for PROCO Style 710		Standard Drilling for PROCO Style 710				WEIGHT <sup>2</sup> 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)	6 (130)	2.60 (66)	4.25 (108.0)	3.13 (79.4)	4	0.625 (15.9)	2.0 (0.91)
1.5	(40)	7 (153)	3.20 (82)	5.00 (127.0)	3.88 (98.4)	4	0.625 (15.9)	2.50 (1.14)
2	(50)	7 (168)	3.90 (98)	6.00 (152.4)	4.75 (120.7)	4	0.750 (19.1)	5.00 (2.27)
2.5	(65)	8 (188)	5.10 (130)	7.00 (177.8)	5.50 (139.7)	4	0.750 (19.1)	6.00 (2.73)
3	(80)	9 (216)	5.50 (140)	7.50 (190.5)	6.00 (152.4)	4	0.750 (19.1)	8.00 (3.63)
4	(100)	11 (262)	7.40 (187)	9.00 (228.6)	7.50 (190.5)	8	0.750 (19.1)	11.00 (4.99)
5	(125)	12 (293)	9.40 (240)	10.00 (254.0)	8.50 (215.9)	8	0.875 (22.2)	13.00 (5.90)
6	(150)	13 (326)	10.50 (267)	11.00 (279.4)	9.50 (241.3)	8	0.875 (22.2)	17.00 (7.72)
8	(200)	15 (380)	13.70 (349)	13.50 (342.9)	11.75 (298.5)	8	0.875 (22.2)	27.00 (12.25)
10	(250)	18 (455)	17.30 (440)	16.00 (406.4)	14.25 (362.0)	12	1.000 (25.4)	40.00 (18.15)
12	(300)	21 (517)	20.50 (520)	19.00 (482.6)	17.00 (431.8)	12	1.000 (25.4)	53.00 (24.05)
14	(350)	24 (600)	24.20 (615)	21.00 (533.4)	18.75 (476.3)	12	1.150 (28.6)	64.00 (29.04)
16	(400)	25 (617)	27.60 (700)	23.50 (596.9)	21.25 (539.8)	16	1.150 (28.6)	93.00 (42.19)
18	(450)	27 (676)	31.10 (790)	25.00 (635.0)	22.75 (577.9)	16	1.250 (31.8)	135.00 (49.44)
20	(500)	30 (742)	32.30 (820)	27.50 (698.5)	25.00 (635.0)	20	1.250 (31.8)	155.00 (61.24)
24	(600)	39 (966)	38.60 (980)	32.00 (812.8)	29.50 (749.3)	20	1.375 (34.9)	235.00 (70.31)
28	(700)	42 (1060)	44.90 (1140)	36.50 (927.1)	34.00 (863.6)	28	1.375 (34.9)	420.00 (106.60)
30	(750)	44 (1097)	49.20 (1250)	38.75 (984.3)	36.00 (914.4)	28	1.375 (34.9)	565.00 (190.52)
32	(800)	45 (1140)	51.60 (1310)	41.75 (1060.5)	38.50 (977.9)	28	1.625 (41.3)	595.00 (256.29)
36	(900)	53 (1337)	59.40 (1510)	46.00 (1168.4)	42.75 (1085.9)	32	1.625 (41.3)	725.00 (269.90)
40	(1000)	54 (1353)	65.70 (1670)	50.75 (1289.1)	47.25 (1200.2)	36	1.625 (41.3)	845.00 (328.86)
42	(1050)	57 (1428)	67.30 (1710)	53.00 (1346.2)	49.50 (1257.3)	36	1.625 (41.3)	915.00 (383.29)
48	(1200)	64 (1613)	75.20 (1910)	59.50 (1511.3)	56.00 (1422.4)	44	1.625 (41.3)	1035.00 (415.05)
54	(1350)	68 (1726)	83.10 (2110)	66.25 (1682.8)	62.75 (1593.9)	44	2.000 (50.8)	1165.00 (469.48)
60	(1500)	74 (1875)	85.00 (2160)	73.00 (1854.2)	69.25 (1759.0)	52	2.000 (50.8)	1255.00 (569.27)
72	(1800)	87 (2197)	111.40 (2830)	86.50 (2197.1)	82.50 (2095.5)	60	2.000 (50.8)	1590.00 (721.22)

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.

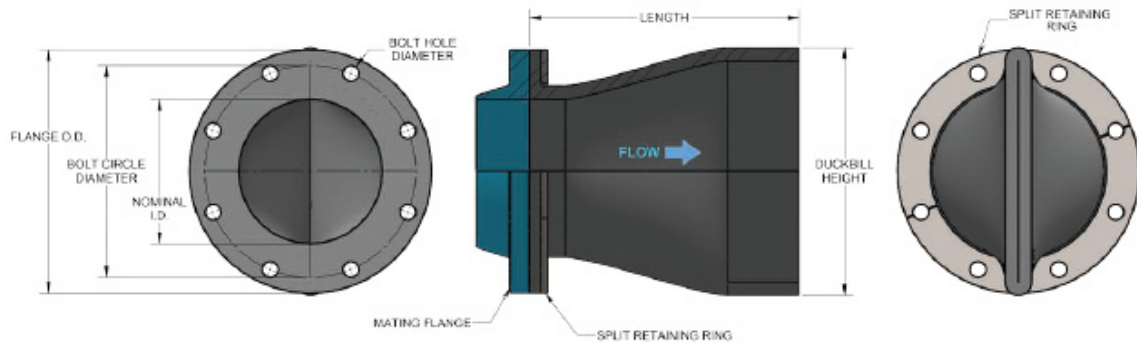


## PROCO STYLE 710



**Available Elastomers**  
Neoprene (Barnacle and Algae Resistant), NSF/ANSI Standard 61, EPDM, Nitrile, Natural Rubber, CSM and Chlorobutyl.

Detail of the ProFlex™ Flanged Rubber Check Valve; Style 710



## PROCO STYLE 720

The ProFlex™ 720 Flanged In-line Rubber Duckbill Check Valve is designed to fit directly inside of an existing pipe. The unique advantage of this valve is that it can be slipped inside of the pipe and installed between existing pipe flanges, and eliminates the need for a valve body. The ProFlex™ 720 Flanged Inline Rubber Duckbill Check Valve comes standard with ANSI 125/150# flange drilling and can also be supplied with ANSI 250/300, DIN, JIS, BS or AS flange patterns.

All ProFlex™ 720 Flanged Inline Rubber Duckbill Check Valve are special manufactured valves suited to your pipe I.D. and are available up to 96" in diameter and can also be custom manufactured to meet specific head and back pressures. For higher pressure/vacuum requirements, the ProFlex™ 720 Flanged In-line Rubber Duckbill Check Valve can also be manufactured using a unique Internal Vacuum Supports (IVS) design which is homogeneous to the inner reinforced layers of the valve allowing a full flow with no obstructions and yet providing excellent anti-inversion features.



**Table 4: Sizes • Flange Drilling • Working Pressures • Weights**

NOMINAL <sup>1</sup> PIPE SIZE Inch / (mm)	Standard Dimensions for PROCO Style 720		Standard Drilling for PROCO Style 720				MAXIMUM WORKING PRESSURE (PSIG)	WEIGHT <sup>2</sup> 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 (175)	1.90 (48)	6.00 (152.4)	4	0.750 (19.1)	125	2.00 (1.4)
3	(80)	9 (225)	2.90 (73)	7.50 (190.5)	4	0.750 (19.1)	125	3.00 (1.8)
4	(100)	10 (252)	3.60 (90)	9.00 (228.6)	8	0.750 (19.1)	100	5.00 (3.6)
6	(150)	12 (300)	5.60 (140)	11.00 (279.4)	8	0.875 (22.2)	75	8.00 (5.4)
8	(200)	15 (390)	7.10 (180)	13.50 (342.9)	8	0.875 (22.2)	75	11.00 (5.9)
10	(250)	2 (50)	9.90 251	16.00 (406.4)	12	1.000 (25.4)	50	18.00 (13.2)
12	(300)	2 (50)	11.90 302	19.00 (482.6)	12	1.000 (25.4)	50	29.00 (16.8)
14	(350)	22 (558)	12.30 (310)	21.00 (533.4)	12	1.150 (28.6)	50	48.00 (18.6)
16	(400)	23 (572)	15.00 (380)	23.50 (596.9)	16	1.150 (28.6)	50	54.00 (22.7)
18	(450)	29 (732)	16.60 (420)	25.00 (635.0)	16	1.250 (31.8)	25	65.00 (71.7)
20	(500)	28 (710)	18.90 (480)	27.50 (698.5)	20	1.250 (31.8)	25	95.00 (106.1)
24	(600)	34 (860)	22.10 (560)	32.00 (812.8)	20	1.375 (34.9)	25	165.00 (139.7)
28	(700)	39 (980)	26.40 (670)	36.50 (927.1)	28	1.375 (34.9)	25	253.00 (164.2)
30	(750)	53 (1354)	29.10 (738)	38.75 (984.3)	28	1.375 (34.9)	25	305.00 (189.1)
36	(900)	53 (1346)	35.80 (909)	46.00 (1168.4)	32	1.625 (41.3)	25	615.00 (226.3)
42	(1,050)	54 (1380)	40.60 (1030)	53.00 (1346.2)	36	1.625 (41.3)	25	695.00 (330.7)
48	(1,200)	61 (1555)	46.50 (1180)	59.50 (1511.3)	44	1.625 (41.3)	25	735.00 (342.0)
54	(1,350)	65 (1650)	53.20 (1350)	66.25 (1682.8)	44	2.000 (50.8)	25	1095.00 (368.8)
60	(1,500)	71 (1800)	58.70 (1490)	73.00 (1854.2)	52	2.000 (50.8)	25	1255.00 (437.3)
72	(1,800)	81 (2050)	70.50 (1790)	86.50 (2197.1)	60	2.000 (50.8)	25	1590.00 (510.3)

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.

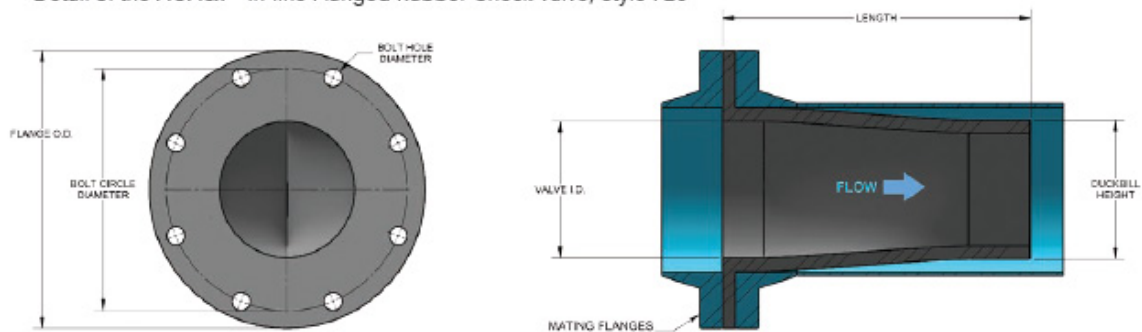
2. Weights are approximate.

## PROCO STYLE 720

**Available Elastomers**  
Neoprene (Barnacle and Algae Resistant), NSF/ANSI Standard 61, EPDM, Nitrile, Natural Rubber, CSM and Chlorobutyl.



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





## PROCO STYLE 730

The ProFlex™ 730 Slip-on Rubber Duckbill Check Valve is designed to slip directly over an existing pipe, and is supplied with heavy duty stainless steel clamp(s) to secure it in place. Sizes 1" – 10" utilize T-Bolt clamps and sizes above 10" utilize Bolt-On Clamps for securing. The ProFlex™ 730 Slip-on Rubber Duckbill Check Valve can be designed and manufactured to slip over any outside diameter pipe including oval and rectangular configurations.

For higher pressure/vacuum requirements, the ProFlex™ 730 Slip-on Rubber Duckbill Check Valve can also be manufactured using a unique Internal Vacuum Supports (IVS) design which is homogeneous to the inner reinforced layers of the valve allowing a full flow with no obstructions and yet providing excellent anti-inversion features.



Table 3: Sizes • Weights					
NOMINAL <sup>1</sup> PIPE SIZE Inch / (mm)	Standard Dimensions for PROCO Style 730				WEIGHT <sup>2</sup> lbs / (kgs)
	Cuff Width Inch / (mm)	Length Inch / (mm)	Duckbill Height Inch / (mm)		
1	(25)	4 (105)	2.60 (66)		0.5 (0.30)
1.5	(40)	5 (128)	3.20 (82)		0.75 (0.40)
2	(50)	6 (156)	3.90 (98)		2.5 (1.20)
2.5	(65)	7 (189)	5.10 (130)		3 (1.40)
3	(80)	10 (242)	5.50 (140)		5 (2.30)
4	(100)	12 (308)	7.40 (187)		7 (3.20)
5	(125)	13 (339)	9.40 (240)		10 (4.60)
6	(150)	18 (395)	10.50 (267)		12 (5.50)
8	(200)	18 (452)	13.70 (349)		20 (9.10)
10	(250)	21 (527)	17.30 (440)		33 (15.00)
12	(300)	26 (669)	20.50 (520)		59 (26.80)
14	(350)	30 (733)	24.20 (584)		76 (34.50)
16	(400)	33 (769)	27.60 (615)		90 (40.90)
18	(450)	36 (828)	31.10 (700)		130 (59.00)
20	(500)	37 (945)	32.30 (790)		200 (90.80)
24	(600)	44 (1119)	38.60 (820)		215 (97.60)
28	(700)	48 (1213)	44.90 (980)		365 (165.60)
30	(750)	51 (1301)	49.20 (1140)		460 (208.70)
32	(800)	53 (1344)	51.60 (1310)		495 (224.60)
36	(900)	61 (1541)	59.40 (1510)		585 (265.40)
40	(1000)	62 (1570)	65.80 (1670)		825 (374.20)
42	(1050)	66 (1683)	67.30 (1710)		1075 (487.70)
48	(1200)	74 (1868)	75.20 (1910)		1350 (612.40)
54	(1350)	78 (1981)	83.10 (2110)		1630 (739.40)
60	(1500)	84 (2130)	85.00 (2160)		1715 (778.00)
72	(1800)	97 (2452)	111.40 (2830)		1900 (861.90)

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.



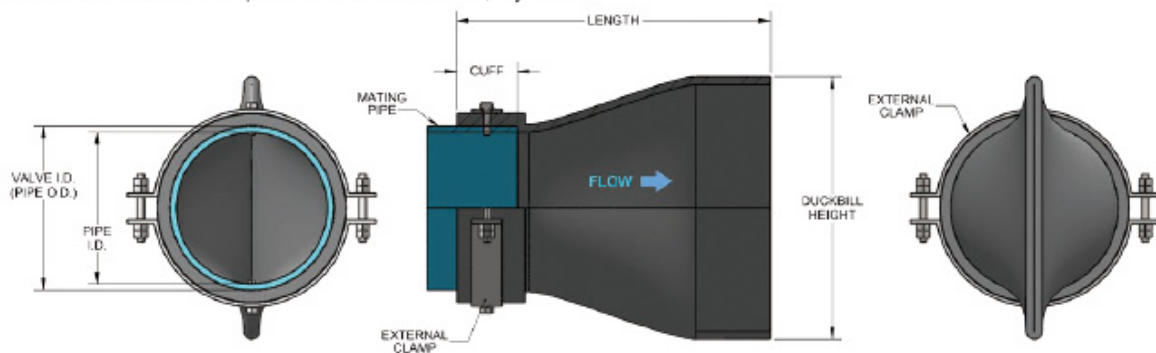
## PROCO STYLE 730



### Available Elastomers

Neoprene (Barnacle and Algae Resistant), NSF/ANSI Standard 61, EPDM, Nitrile, Natural Rubber, CSM and Chlorobutyl.

Detail of the *ProFlex™* Slip-on Rubber Check Valve; Style 730





## PROCO STYLE 740

The ProFlex™ 740 In-line Rubber Duckbill Check Valve is designed to fit directly inside of an existing pipe, and is supplied with a stainless steel internal expandable clamp to secure it in place. For higher pressure/vacuum requirements, the ProFlex™ 740

In-line Rubber Duckbill Check Valve can also be manufactured using a unique Internal Vacuum Supports (IVS) design which is homogeneous to the inner reinforced layers of the valve allowing full flow with no obstructions and yet providing excellent anti-inversion features.



**Table 5: Sizes • Working Pressures • Weights**

NOMINAL <sup>1</sup> PIPE SIZE Inch / (mm)	Standard Dimensions for PROCO Style 740			MAXIMUM WORKING PRESSURE (PSIG)	WEIGHT <sup>2</sup> lbs / (kgs)
	Cuff Width Inch / (mm)	Length Inch / (mm)	Duckbill Height Inch / (mm)		
<b>2</b>	(50)	1.50 (38)	7 (173)	125	2 (0.91)
<b>3</b>	(80)	2.99 (76)	10 (261)	125	3 (1.37)
<b>4</b>	(100)	2.99 (76)	11 (288)	100	4 (1.82)
<b>6</b>	(150)	4.02 (102)	14 (362)	75	12 (5.45)
<b>8</b>	(200)	4.02 (102)	18 (452)	75	14 (6.36)
<b>10</b>	(250)	4.02 (102)	4 (112)	50	17 (7.72)
<b>12</b>	(300)	5.98 (152)	6 (162)	50	27 (12.25)
<b>14</b>	(350)	5.98 (152)	26 (670)	50	39 (17.70)
<b>16</b>	(400)	5.98 (152)	27 (684)	50	44 (19.96)
<b>18</b>	(450)	5.98 (152)	33 (844)	25	72 (32.66)
<b>20</b>	(500)	7.99 (203)	34 (873)	25	110 (49.90)
<b>24</b>	(600)	7.99 (203)	38 (973)	25	125 (56.70)
<b>28</b>	(700)	7.99 (203)	43 (1093)	25	215 (97.53)
<b>30</b>	(750)	10.00 (254)	60 (1518)	25	415 (188.25)
<b>36</b>	(900)	10.00 (254)	62 (1575)	25	770 (349.27)
<b>42</b>	(1050)	12.00 (305)	63 (1595)	25	800 (362.88)
<b>48</b>	(1200)	12.00 (305)	70 (1770)	25	920 (417.31)
<b>54</b>	(1350)	12.00 (305)	73 (1865)	25	1110 (503.50)
<b>60</b>	(1500)	12.00 (305)	79 (2015)	25	1200 (544.32)
<b>72</b>	(1800)	12.00 (305)	89 (2265)	25	1450 (657.72)

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.

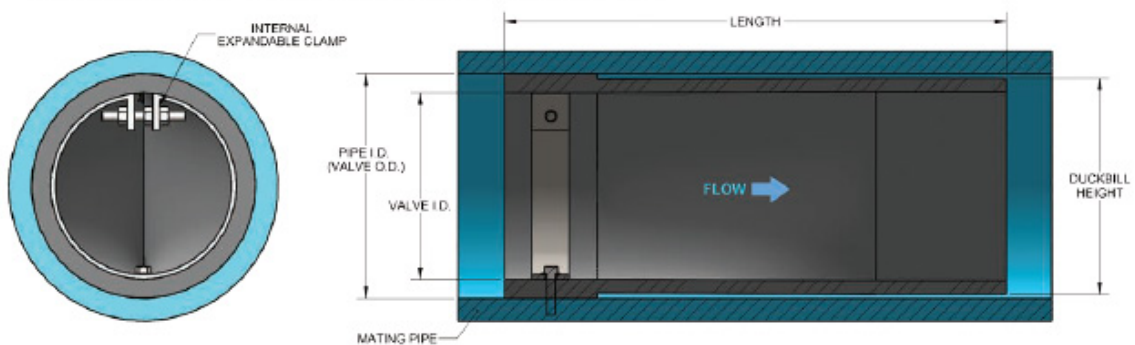
2. Weights are approximate.

## PROCO STYLE 740



**Available Elastomers**  
Neoprene (Barnacle and Algae Resistant), NSF/ANSI Standard 61, EPDM, Nitrile, Natural Rubber, CSM and Chlorobutyl.

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



## PROCO STYLE 750

### 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 elastomer's flexible design allows the media to flow 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 depending on pipe size.

Applications Potable Water Outfalls – Stand Pipes - Sewer Interceptors - Wet Wells - Mine Tailing Pipeline 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 valve's interior body.

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.



**Table 6: 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

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

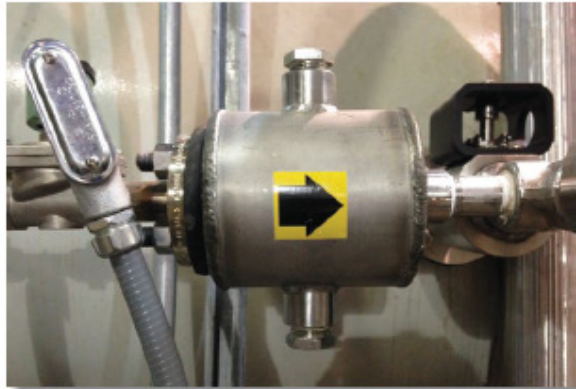
*Dimensions are approximate and may change due to pipe dimension changes, inlet, back pressures and flow rates.*

*1. Larger sizes available upon request.*

*2. Weights are approximate.*



## PROCO STYLE 750

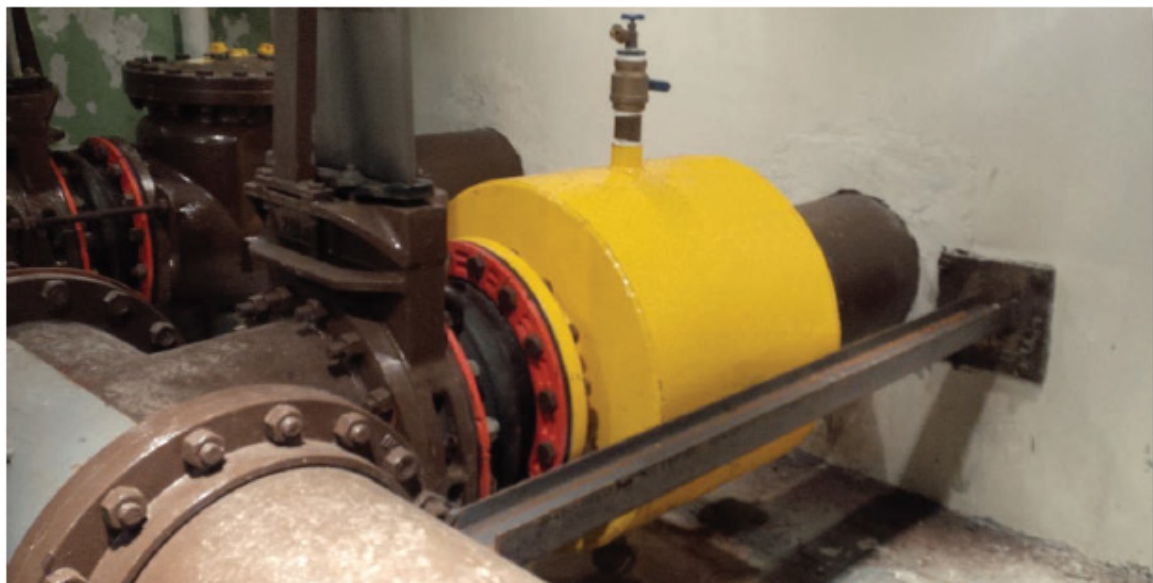
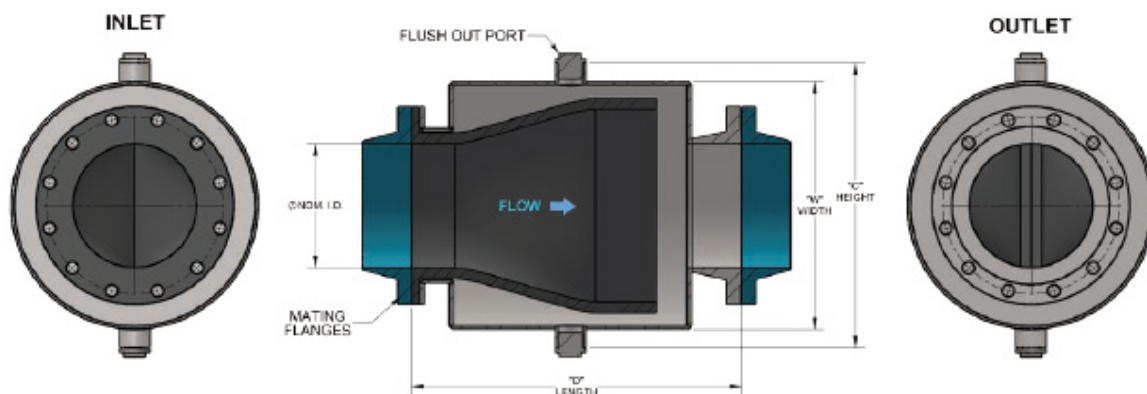


*Vacuum and high back pressure supports ensure continued protection in severe back flow conditions*

**Available Elastomers**  
Neoprene (Barnacle and Algae Resistant), NSF/ANSI Standard 61, EPDM, Nitrile, Natural Rubber, CSM and Chlorobutyl.



Detail of the ProFlex™ Jacketed In-line Flanged Rubber Check Valve; Style 750

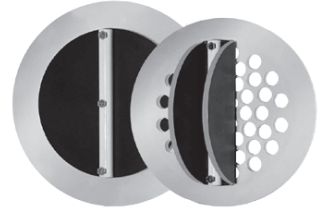


## PROCO STYLE 770

The ProFlex™ 770/780 Wafer Style In-line Rubber Check Valves are designed to be installed between two mating flanges and offers space saving dimensions as opposed to other flap type check valves. The ProFlex™ 780 Wafer Style In-line Rubber Check Valve comes standard with ANSI 125/150# flange drilling and can also be supplied with ANSI 250/300, DIN, JIS, BS or AS flange patterns. The ProFlex™ 770 Wafer Style In-line Rubber Check Valve Is designed to fit securely inside the bolt circle of the mating flanges.

### Available Elastomers

Neoprene (Barnacle and Algae Resistant), NSF/ANSI Standard 61, EPDM, Nitrile, Natural Rubber, CSM and Chlorobutyl.



**Table 7: Sizes • Dimensions • Flow Data**

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

1. Larger sizes available upon request.

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

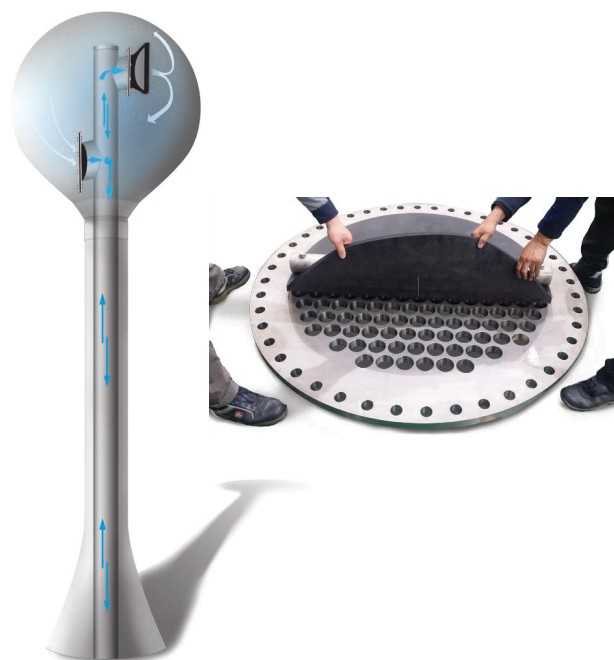
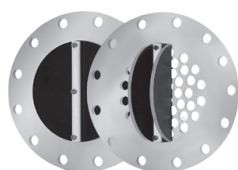
## PROCO STYLE 780

### 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 8: Sizes • Dimensions • Drilling • Flow Data**

NOMINAL PIPE SIZE Inch / (mm)	Standard Dimensions for PROCO Style 780						Back Pressure PSIG / (Bar)	VELOCITY (ft/s) vs. HEADLOSS (ft) <sup>2</sup>					
	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: Dimensions are approximate and may change due to pipe dimension changes, inlet, back pressures and flow rates.

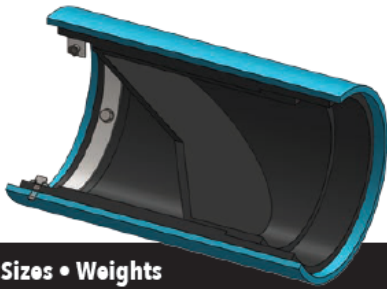
1. Larger sizes available upon request.

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



## PROCO STYLE 790

The ProFlex™ 790 Low Headloss In-line Rubber Duckbill Check Valve design allows for a passive flow and allows the valve to be installed without having to do any modifications to existing structures or costly pre-install planning. The unique fold away design of the inner sleeve also allows for a near full port flow, allowing for quick drainage. The ProFlex™ 790 Low Headloss In-line Rubber Duckbill Check Valve is the valve of choice for municipalities, airport runway runoffs, railway washouts, highway flood damage prevention and odor control. The 790's unique design provides rapid dispersion of head pressures and with its low cracking pressure, it prevents upstream flooding.



The ProFlex™ 790 Low Headloss In-line Rubber Duckbill Check Valve's ZERO backflow design, make it the perfect fit for:



- **Combined Sewer Overflows (CSO'S):** A combined sewer is a sewage collection system of pipe and tunnels designed to also collect surface runoff. Combined sewers can cause serious water pollution problems during combined sewer overflow (CSO) events when wet weather flows exceed the sewage treatment plant capacity.
- **Sanitary Sewer Overflow:** A condition in which untreated sewage is discharged from a sanitary sewer into the environment prior to reaching sewage treatment facilities.
- **Outfalls:** An outfall is the discharge point of a waste stream into a body of water; alternatively, it may be the outlet of a river, drain or a sewer where it discharges into a body of water.

**Table 9: Sizes • Weights**

NOMINAL <sup>1</sup> PIPE SIZE Valve I.D. Inch / (mm)		Internal Clamp(s)  #/Valve Segment	Standard Dimensions/Ratings for PROCO Style 790			WEIGHT <sup>2</sup> lbs / (kgs)
			Cuff Width Inch / (mm)	Length Inch / (mm)	Backpressure Feet / (m)	
3	(80)	1 1	2.00 (38)	8 (204)	40 (12)	5 (2.27)
4	(100)	1 1	2.00 (38)	9 (229)	40 (12)	5 (2.27)
6	(150)	1 1	3.00 (51)	12 (305)	40 (12)	8 (3.63)
8	(200)	1 1	3.00 (51)	14 (356)	40 (12)	14 (6.36)
10	(250)	1 1	3.00 (51)	16 (407)	40 (12)	18 (8.17)
12	(300)	1 1	3.00 (51)	20 (508)	40 (12)	35 (15.88)
14	(350)	1 1	5.00 (102)	26 (661)	20 (6)	75 (34.02)
16	(400)	1 1	5.00 (102)	29 (737)	20 (6)	115 (52.17)
18	(450)	1 1	5.00 (102)	31 (788)	20 (6)	137 (62.15)
20	(500)	2 2	8.00 (203)	43 (1093)	20 (6)	210 (95.26)
24	(600)	2 2	8.00 (203)	48 (1220)	20 (6)	300 (136.08)
30	(750)	2 2	8.00 (203)	55 (1397)	20 (6)	476 (215.92)
36	(900)	2 2	8.00 (203)	63 (1601)	20 (6)	785 (356.08)
42	(1050)	2 2	8.00 (203)	71 (1804)	15 (5)	1350 (612.36)
48	(1200)	2 3	8.00 (203)	80 (2032)	15 (5)	1725 (782.46)
54	(1350)	2 3	8.00 (203)	87 (2210)	15 (5)	2500 (1134.00)
60	(1500)	2 3	12.00 (305)	103 (2617)	15 (5)	3225 (1462.86)
72	(1800)	3 3	12.00 (305)	127 (3226)	12 (4)	6650 (3016.43)

Notes: 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.



## PROCO STYLE 790

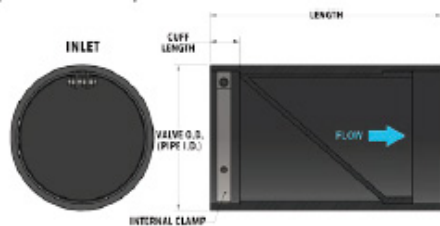


**Available Elastomers**  
Neoprene (Barnacle and Algae Resistant), NSF/ANSI Standard 61, EPDM, Nitrile, Natural Rubber, CSM and Chlorobutyl.

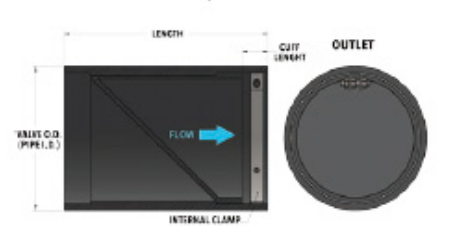


Detail of the ProFlex™ Low Headloss In-line Rubber Check Valve; Style 790

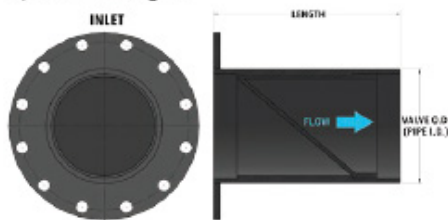
Upstream Clamp



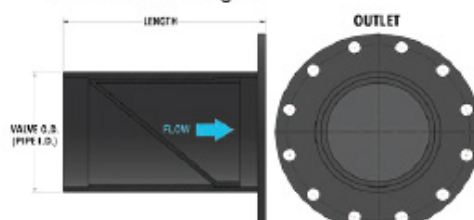
Downstream Clamp



Upstream Flanged



Downstream Flanged



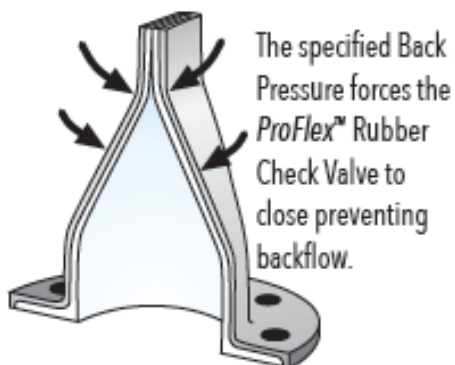
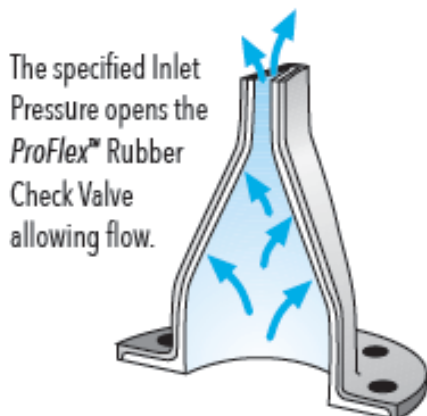
## PROCO STYLE 790

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 30-35 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 psi 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? The ProFlex™ rubber check valves have been designed to offer superior service as a backflow preventer and can also be considered as a pressure relief valve. Often used on reservoirs to prevent hydraulic lifting or floating of tanks.
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 are available? The ProFlex™ rubber check valves can be manufactured and supplied to withstand almost any type of media. Most commonly supplied is a barnacle and algae resistant Neoprene. Other common elastomers available are ANSI/NSF-61, ANSI/NSF-372 & EPDM. Contact Proco for other available elastomers.
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. What is the life expectancy of the ProFlex™ Rubber check valves? All of the ProFlex™ valves are manufactured with the highest grade of elastomers, which commonly are known to supply 35-50 years of service life.

