

Model 702 & 702A Shock Free Check Valves

The Model 702 series check valves are designed to prevent reverse flow with a smooth shock-free closure. Manual flow control valves control the rate of both opening and closing. Model 702 utilizes a single control for opening/closing while Model 702A uses independent controls for opening/closing.

The 702 Series check valve is recommended for use on applications requiring shock-free reverse flow prevention.

The valves operate on a balanced piston principle, spring biased to a closed position. Pressure differential overcomes the force of the spring, causing the main valve to open and establish flow. When outlet pressure is equal to or greater than inlet pressure, the main valve closes preventing reverse flow.

"AP" (AGGRESSIVE PRODUCTS) OPTION

The "AP" option valve cylinder incorporates a combination of seals and O-ring materials to provide optimum performance in aggressive product applications. This option includes reinforced cylinder heads, stat-o-seals, washers and gaskets. Specify "AP" Option at time of order when used on alcohols, MTBE, TAME and reformulated fuels.

FEATURES

- Modular construction - all internal parts including seat ring can be removed with the cylinder assembly without disturbing line connections.
- No diaphragms or stuffing boxes
- 45° body design assures high capacity
- Positive shut-off
- Uniform speed of response
- Linear control characteristics
- Inherently checks reverse flow
- O-Ring plus metal-metal seat

FLANGE CONNECTIONS/RATINGS (ANSI)

Valve Size" 2" - 12"

Maximum Working Pressure at 100°F

150 lbs. ANSI: 285 psi (1964 kPa)

300 lbs. ANSI: 740 psi (5099 kPa)

600 lbs. ANSI: 1480 psi (10,197 kPa)

FLANGE CONNECTIONS/RATINGS (DIN)

Valve Size" 2" - 12"

Maximum Working Pressure at 120°C

DIN PN16: 16 bar

DIN PN25: 25 bar

DIN PN40: 40 bar

DIN PN64 (300 lbs.38°C): 51 bar

DIN PN64 (600 lbs at 120°C): 64 bar

DIN PN100 at 38°C: 100 bar

Temperature Range: -20 to 150°F (-29 to 66°C)

Optional: 250°F (121°C)



MATERIALS OF CONSTRUCTION

Main Valve Body

Steel - ASTM-A216-GR-WCB

Main Valve Cylinder

2-4" Stainless Steel

6-12" Steel, Nickel Coated

Main Valve Piston

2-6" Stainless Steel

8-12" Bronze Standard

Stainless Steel - Optional

Seat Ring

2-8" Stainless Steel

8-12" Steel, Nickel Coated

O-Rings

Standard - Buna-N

Optional - Other O-Rings are available Neoprene[†],

EPR, all Viton[®], all Buna-N, Kalrez/Teflon[®] ("AP"

Valves)

Other Internal Parts

Stainless Steel

Tubing and Fittings
 Standard - Steel
 Optional - Stainless Steel

VALVE CAPACITY DATA

Valve Size	2"	3"	4"	6"	8"	10"	12"
*Cv - gpm	86	186	309	688	1296	2040	2920

For capacities and pressure drops, see Daniel Product Selector
 *Cv based on wide open valve utilizing water at 60°F (16°C).

OPTIONAL EQUIPMENT

1. Valve Position Indicator
2. Stainless Steel Position Indicator - (Visual only)
3. Position Indicator Switches
4. Stainless Steel Main Valve Piston
5. Stainless Steel Tubing
6. Thermal Relief

RECOMMENDED SPARE PARTS

O-Rings

PURCHASE SPECIFICATIONS

These valves shall provide a smooth shock-free closure to prevent reverse flow in the event downstream pressure exceeds upstream pressure. They shall be hydraulically operated, using the flowing stream as the operating medium. The main valves shall be pressure balanced, single seated, piston operated with 45° body construction. All internal parts, including cylinder, spring, piston and seat ring shall be removed as a cartridge assembly without disturbing line connections. One manual flow control valve shall be included in the pilot supply line of the 702 to control the rate of opening and closing. Two manual flow control valves shall be included in the pilot supply line of the 702A to independently control opening and closing rates. These valves shall, in all respects, be similar or equal to a Model 702 and 702A check valve.

ORDERING INFORMATION

When ordering, the following information must be supplied:

1. Size
2. Flange connections
3. Product, product viscosity, product specific gravity
4. Minimum and maximum operating temperature
5. Minimum and maximum flow rate
6. Minimum, normal and maximum operating pressure
7. Control functions to be performed
8. O-Ring material
9. Tubing material
10. Main valve piston material

SHIPPING WEIGHT AND VOLUME (Approximate)

Size	150-300 lb. (ANSI Fig.)		600 lb. (ANSI Fig.)		150-300 lb. (ANSI Fig.)		600 lb. (ANSI Fig.)	
	lbs.	Kg.	lbs.	Kg.	Cubic Feet	Cubic Meters	Cubic Feet	Cubic Meters
2"	60	27.22	100	45.36	1.66	0.047	1.79	0.051
3"	105	47.63	150	68.04	2.36	0.067	2.5	0.071
4"	140	63.5	205	92.99	2.51	0.071	3.13	0.089
6"	250	113.4	400	181.44	4.84	0.137	6.07	0.172
8"	465	210.92	725	328.85	8.94	0.253	9.98	0.283
10"	700	317.51	1170	530.7	12.08	0.342	15.13	0.428
12"	1251	551.11	1820	825.54	20.25	0.573	21.94	0.621

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 Optional - Stainless Steel

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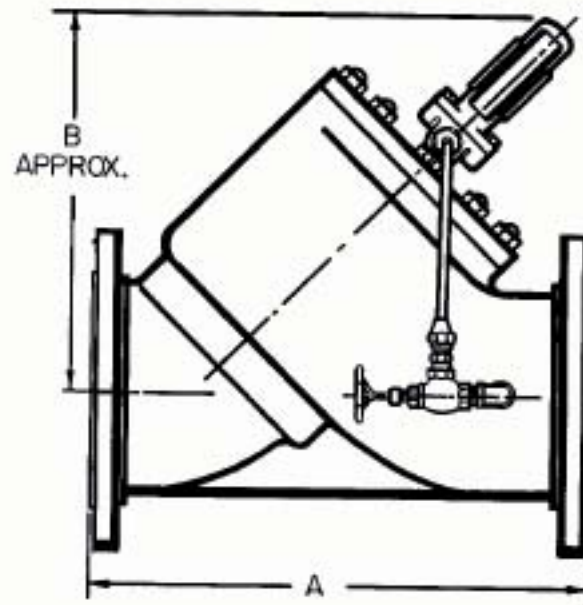
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Valve Size	A						B			
	125 - 150 LB.		300 LB.		600 LB.		125 - 300 LB.		600 LB.	
	Inches	Milli Meters	Inches	Milli Meters	Inches	Milli Meters	Inches	Milli Meters	Inches	Milli Meters
2	10-1/4	260	10-1/2	267	11-1/2	292	9-5/8	244	9-3/4	248
3	11	279	13-1/8	333	14	356	10-3/8	264	11-1/4	286
4	13	330	14-1/2	368	17	432	10-7/8	276	11-1/2	292
6	17	432	17-7/8	454	22	559	13-3/8	340	13-5/8	346
8	22-1/4	565	23-1/4	594	26	660	17-1/4	438	17-3/4	451
10	26-1/2	673	27-7/8	708	31	787	17-5/8	448	20-5/8	524
12	30-7/8	784	33-5/8	854	36-1/2	927	22-7/8	581	22-7/8	581
16	41-3/8	1051	43-1/2	1105	46	1168	30	762	30	762

DANIEL

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