Swing Check Valve
Series 712

08.11

1.0 PRODUCT DESCRIPTION

Available Sizes

- 2 – 4"/DN50 – DN100

Pressure Class

- 300 psi/2065 kPa

Application

- Controls flow through the valve with a stainless steel clapper.

Codes and Requirements

- Not applicable- Contact Victaulic with any questions.

NOTES

- Should not be installed on vertical pipelines
- Available with Teflon, EPDM, nitrile or an optional fluoroelastomer seat.
- Available with EPDM, nitrile or fluoroelastomer bonnet gasket

2.0 CERTIFICATION/LISTINGS

Not applicable. Contact Victaulic for details.

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

3.0 SPECIFICATIONS – MATERIAL

Housing:
Ductile iron conforming to ASTM A-536, grade 65-45-12, painted. Series 712S stainless steel Type 316.

Closure Housing: Ductile iron conforming to ASTM A-536, grade 65-45-12, electrogalvanized.

Closure Cap: Ductile iron conforming to ASTM A-536, grade 65-45-12, painted.

Cap Plug: Carbon steel, zinc electroplated.

Clapper Seat: See Seat/Closure Gasket.

Bumper: See Seat/Closure Gasket.

Clapper: Stainless steel Type 316.

Clapper Pin: Stainless Steel Type 316.

Closure Bolt/Nut: Heat treated carbon steel track-head conforming to ASTM A-183, electroplated.

Pin Retaining Nut: Carbon steel (for ductile iron housings) and stainless steel (for stainless steel housings).

Seat/Closure Gasket: (specify choice[1])

☐ **Grade "E" EPDM**
EPDM (Green color code). Temperature range –30°F to +230°F/–34°C to +110°C. Recommended for cold and hot water service within the specified temperature range plus a varietyof dilute acids, oil-free air and many chemical services. UL classified in accordance with ANSI/NSF 61 for cold +86°F/+30°C and hot +180°F/+82°C potable water service. NOT RECOMMENDED FOR PETROLEUM SERVICES.

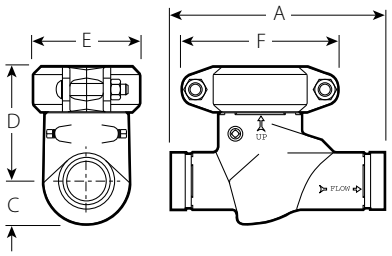
☐ **Grade "T" Nitrile**
Nitrile (Orange color code). Temperature range –20°F to +180°F/–29°C to +82°C. Recommended for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range. Not recommended for hot water services over +150°F/+66°C or for hot dry air over +140°F/+60°C.

☐ **Grade "O" Fluoroelastomer**
(Blue color code). Temperature range +20°F to +300°F/–7°C to +149°C. Recommended for many oxidizing acids, petroleum oils, halogenated hydrocarbons, lubricants, hydraulic fluids, organic liquids and air with hydrocarbons to +300°F/+149°C.

[1] Services listed are General Service Guidelines only. It should be noted that there are services for which these gaskets are not compatible. Reference should always be made to the latest Victaulic Gasket Selection Guide for specific gasket service guidelines and for a listing of services which are not compatible.

4.0 DIMENSIONS

Series 712



Valve Size		Maximum Working Pressure	Dimensions					Weight
Nominal inches mm	Actual Outside Diameter inches mm	psi kPa	End to End A inches mm	C inches mm	D inches mm	E inches mm	F inches mm	Approximate (Each) lb kg
2 50	2.375 60.3	300 2065	9.00 229	1.81 46	4.88 124	4.38 111	6.38 162	11.6 55.3
2 ½ 65	2.875 73.0	300 2065	9.25 235	2.25 57	5.50 140	5.69 145	7.69 195	18.0 8.2
3 80	3.500 88.9	300 2065	10.75 273	2.50 64	5.75 146	6.25 159	9.00 229	22.5 10.2
4 100	4.500 114.3	300 2065	12.00 305	3.38 86	7.63 194	7.96 202	10.75 273	38.0 17.2

5.0 PERFORMANCE

Series 712

C_v/K_v values for flow of water at +60°F/+16°C with various disc positions are shown in the table below. Some of the following values are estimated. For exact values, please contact Victaulic for details.

Formulas for C_v/K_v values:

$$\Delta P = \frac{Q^2}{C_v^2}$$

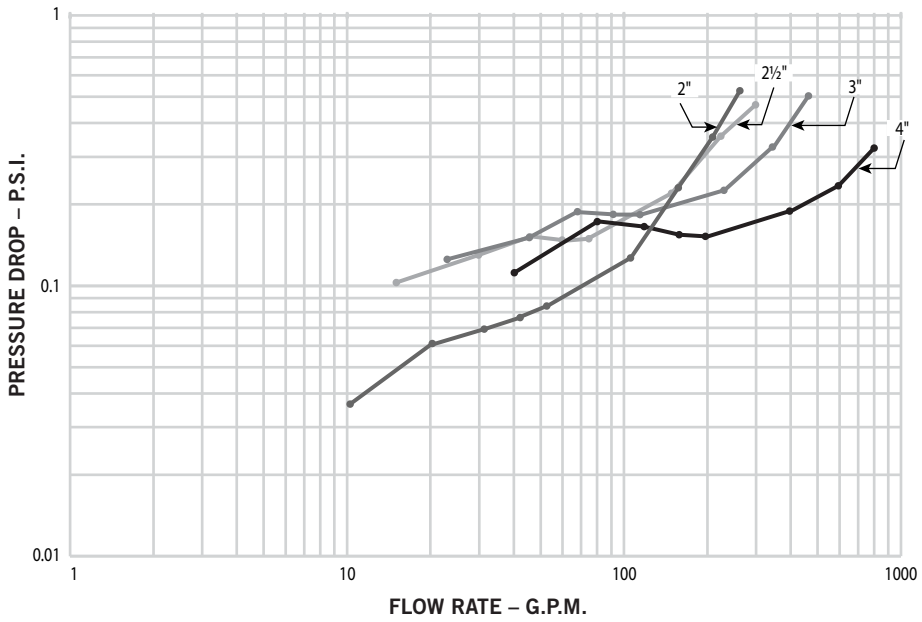
$$Q = C_v \times \sqrt{\Delta P}$$

Where:
Q = Flow (GPM)
ΔP = Pressure Drop (psi)
C_v = Flow Coefficient

Size		C_v	Size		C_v
Nominal inches DN	Actual Outside Diameter inches mm	(Full Open)	Nominal inches DN	Actual Outside Diameter inches mm	(Full Open)
2 DN50	2.375 60.3	360	3 DN80	3.500 88.9	646
2 ½	2.875 73.0	435	4 DN100	4.500 114.3	1392

5.0 PERFORMANCE (Continued)

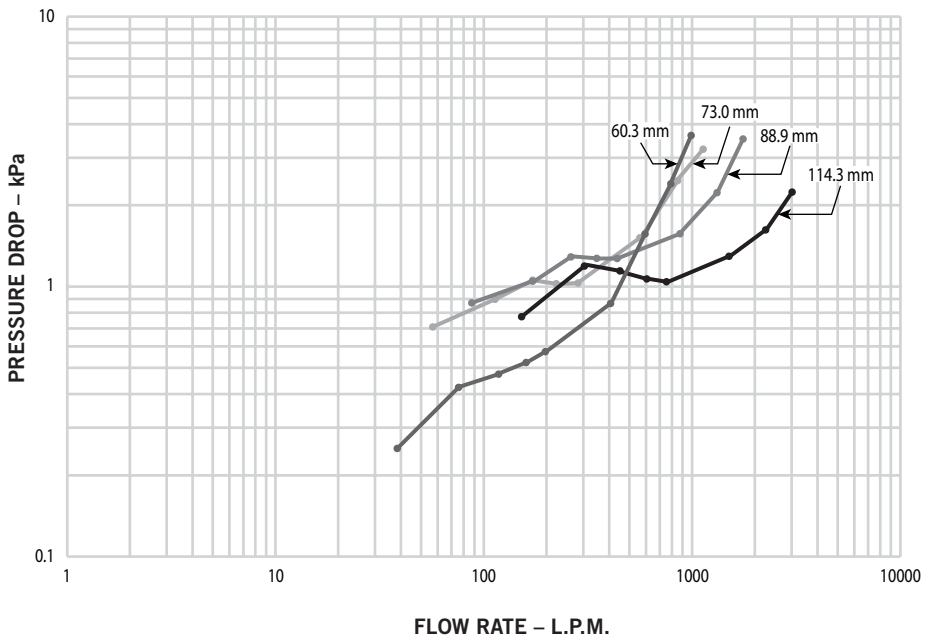
Flow Characteristics



712 Friction Loss: Gallons per Minute vs Delta P (Psi)

NOTE

- Placement of check valves too close to sources of unstable flow will shorten the life of the valve and potentially may damage the system. To extend valve life, valves should be installed a reasonable distance downstream from pumps, elbows, expanders, reducers or other similar devices. Sound piping practices dictate a minimum of five (5) times the pipe diameter for general use. Distances between three (3) and five (5) diameters are allowable provided the flow velocity is less than eight (8) feet per second (2.4 mps). Distances less than three (3) diameters are not recommended and will violate the Victaulic product warranty.



712 Friction Loss: Liters per Minute vs Delta P (kPa)

NOTE

- Placement of check valves too close to sources of unstable flow will shorten the life of the valve and potentially may damage the system. To extend valve life, valves should be installed a reasonable distance downstream from pumps, elbows, expanders, reducers or other similar devices. Sound piping practices dictate a minimum of five (5) times the pipe diameter for general use. Distances between three (3) and five (5) diameters are allowable provided the flow velocity is less than eight (8) feet per second (2.4 mps). Distances less than three (3) diameters are not recommended and will violate the Victaulic product warranty.

6.0 NOTIFICATIONS

Not applicable. Contact Victaulic for details.

7.0 REFERENCE MATERIALS

05.01: Seal Selection Guide
06.15: Pressure Ratings and End Loads for Victaulic Couplings on Steel Pipe
08.54: Victaulic Swing Check Valve Series 713
10.01: Regulatory Approval Reference Guide
17.08: Stainless Steel Swing Check Valve Series 712S
29.01: Terms and Conditions/Warranty
I-100: Field Installation Handbook

