Victaulic® Swing Check Valve
Series 713

08.54



1.0 PRODUCT DESCRIPTION

Available Sizes

- 2 – 4"/DN50 – DN100

Pipe Material

- Carbon steel

Pressure Class

- Rated up to 750 psi/5170 kPa for 2 ½ – 4"/65 mm– DN100 sizes
- Rated up to 1000 psi/6895 kPa for 2"/DN50 size

Operating Temperature Range

- Dependent on gasket selection from Section 3.0
- For alternate gasket materials available, reference Victaulic submittal publication 05.01

Function

- Control flow through the valve with a stainless steel clapper

Pipe Preparation

- Victaulic Original Groove System (OGS)
- Optional: EndSeal groove configuration

Application/Media

NOTE

- Not recommended for vertical installations

2.0 CERTIFICATIONS/LISTINGS

CE

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

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3.0 MATERIAL SPECIFICATION

Body: Ductile iron conforming to ASTM A536, grade 65-42-12 painted black enamel. Contact Victaulic for other coating options

☐ **Optional Coating:** Fusion bonded epoxy

Closure Housing: Ductile iron conforming to ASTM A536, grade 65-45-12, painted.

Access Cap: Ductile iron conforming to ASTM A536, grade 65-45-12, painted. Contact Victaulic for other coating options.

Cap Plug: Pipe plug, square head, Class 300 ASME B16.14, ½ NPT, zinc plated carbon steel.

Clapper: Stainless steel conforming to ASTM A351 Grade CF8M.

Clapper Pin: Type 316 stainless, UNS S31600.

Closure Bolt/Nut: Heat treated carbon steel track-head conforming to ASTM A183, zinc electroplated.

Shaft Plug: Pipe plug, square head, Class 300 ASME B16.14, ⅛ NPT, zinc plated carbon steel.

Torsion Spring: 2 ½ – 4" Type 302/304 stainless steel. No torsion spring in 2" size.

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

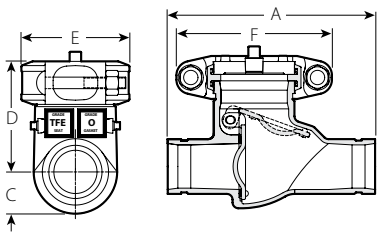
☐ **Victaulic Grade "EHP" EPDM**
EPDM (Red and Green stripes color code). Temperature range -30°F to +250°F/-34°C to +120°C. May be specified for hot water service within the specified temperature range plus a variety of dilute acids, oil-free air, and many chemical services. NOT COMPATIBLE FOR USE WITH PETROLEUM SERVICES OR STEAM SERVICES

☐ **Victaulic Grade "T" Nitrile**
Nitrile (Orange stripe color code). Temperature range -20°F to +180°F/-29°C to +82°C. May be specified for petroleum products, air with oil vapors, and vegetable and mineral oils within the specified temperature range. Not compatible for hot water services over +150°F/+66°C or for hot dry air over +140°F/+60°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 713



Size		Access Cap		Bolt/Nut		Working Pressure	Dimensions					Weight
Nominal inches DN	Actual Outside Diameter inches mm	Access Cap Size	Acc. Cap Coupling Style	Qty.	Size inches	Maximum psi kPa	A End to End inches mm	C inches mm	D inches mm	E inches mm	F inches mm	Approximate (Each) lb kg
2 DN50	2.375 60.3	3"	HP-70	2	⅝ x 3½	1000 6895	9.00 229	1.81 46	4.88 124	4.38 111	6.38 162	11.6 5.3
2 ½	2.875 73.0	4"	77	2	⅝ x 3¼	750 5170	9.25 235	2.25 57	5.32 135	6.13 156	8.88 226	19.6 8.9
3 DN80	3.500 88.9	133 mm	77	2	M20 x 108	750 5170	10.75 273	2.50 64	5.57 141	7.63 194	10.38 264	26.4 11.7
4 DN100	4.500 114.3	6"	77	2	¾ x 4¼	750 5170	12.00 305	3.38 86	7.45 189	8.63 220	11.88 302	41.8 18.9

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5.0 PERFORMANCE

C_v Values

C_v values for flow of water at +60°F/+16°C with a fully open valve are shown in the tables below.

Formulas for C_v Values:

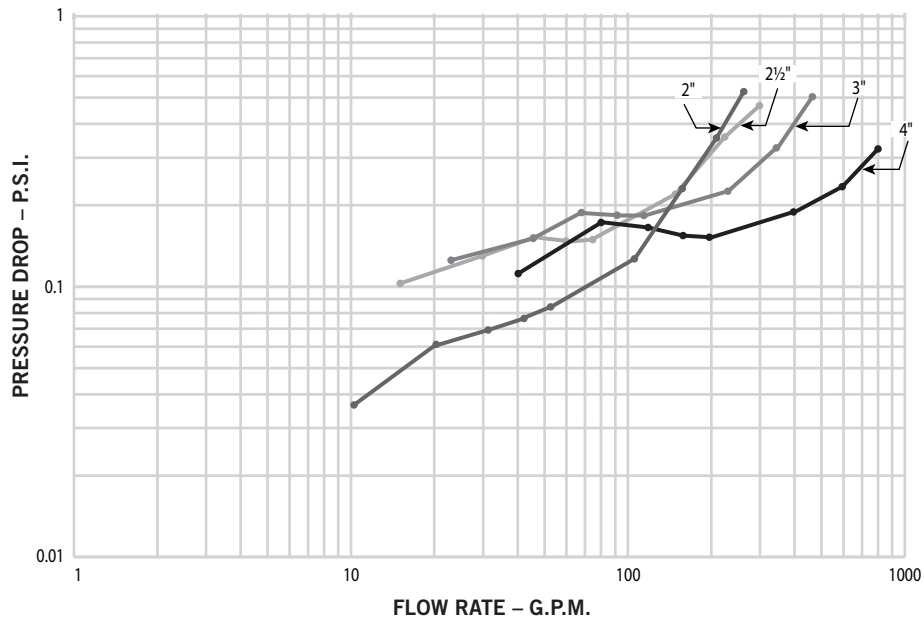
$$\Delta P = \frac{Q^2}{C_v^2}$$

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

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

Flow Characteristics



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

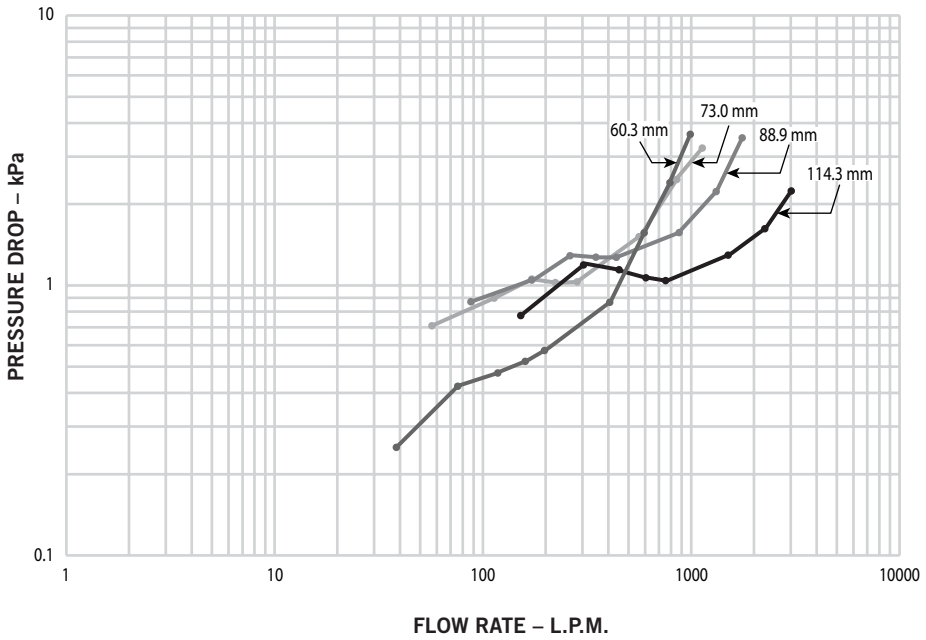
NOTE

- 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.

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5.0 PERFORMANCE (CONTINUED)

Flow Characteristics



713 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.

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6.0 NOTIFICATIONS

⚠ WARNING



- **Read and understand all instructions before attempting to install, remove, adjust, or maintain any Victaulic piping products.**
- **Depressurize and drain the piping system before attempting to install, remove, adjust, or maintain any Victaulic piping products.**
- **Wear safety glasses, hardhat, and foot protection.**

Failure to follow these instructions could result in death or serious personal injury and property damage.

7.0 REFERENCE MATERIALS

05.01: Seal Selection Guide

29.01: Terms and Conditions of Sale

I-100: Field Installation Handbook

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for determining the suitability of Victaulic products for their end-use application, in accordance with industry standards, project specifications, and Victaulic's published performance, maintenance, and safety data, as well as all warnings and installation instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, warranty, installation instructions, or this disclaimer.

Installation

Always refer to and follow the Victaulic Installation Handbook or installation instructions for the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our website at victaulic.com.

Warranty

Refer to the Warranty section of the current Price List or contact Victaulic for details.

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Note

All products bearing a Victaulic trademark are manufactured by Victaulic or to Victaulic specifications. All products are to be installed only in accordance with the applicable Victaulic installation instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

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