

Victaulic Check Valves

Series 716 Check Valve

Series 716H High Pressure Check Valve



Series 716
(2 1/2 – 3"/73.0mm - DN80)



Series 716
(4 – 12"/DN100 - DN300)



Series 716H
(2 – 3"/DN50 - DN80)

1.0 PRODUCT DESCRIPTION

Available Sizes

- Series 716H: 2 – 3"/DN50 – DN80
- Series 716: 2 1/2 – 12"/73.0mm – DN300

Maximum Working Pressure

- Series 716H: up to 365 psi/2500 kPa/25 bar
- Series 716: up to 300 psi/2100 kPa/21 bar
- Working pressure dependent on size of pipe, valve size and approval requirements.

Operating Temperature

- Dependent on seat selection from section 3.0

Application

- Prevents back flow.
- Single-disc mechanism incorporates a spring-assisted feature.
- Can be installed either vertically (flow upwards only) or horizontally.
- Valve body cast with arrow indicator to assist with proper valve orientation.
- Optional upstream and downstream pressure taps included on select sizes. See section 3.0.

End Preparation

- Victaulic Original Grooved System (OGS) standard groove ends

2.0 CERTIFICATION/LISTINGS

Product designed and manufactured under Victaulic's Quality Management System, as certified by LPCB in accordance with ISO 9001:2008.

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

Body: (specify choice)

Ductile Iron conforming to ASTM A-536, Grade 65-45-12.

Ductile Iron conforming to ASTM A-395, Grade 65-45-15, is available upon special request.

Body Coating: (specify choice)

Series 716H Body: Black Paint

Series 716H Endface: Electroless Nickel conforming to ASTM B-733

Series 716 (2 ½ – 3"/73.0mm – DN80): PPS Coating

Series 716 (4 – 12"/DN100 – DN300): Black Paint

Body Seat: (specify choice)

Series 716H: Nitrile O-ring installed into an Electroless Nickel plating conforming to ASTM B-733

Series 716 (2 ½ – 3"/73.0mm – DN80): PPS Coated Ductile Iron

Series 716 (4 – 12"/DN100 – DN300): Ductile Iron with Electroless Nickel plating conforming to ASTM B-733

Disc Seal or Coating: (specify choice)

Victaulic EPDM

(Green color code). Temperature range –30°F to +230°F/–34°C to +110°C. UL Classified in accordance with ANSI/NSF 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and ANSI/NSF 372.

NOT COMPATIBLE FOR USE WITH PETROLEUM AND STEAM SERVICES.

Victaulic Nitrile

(Orange color code). Temperature range -20°F to +180°F/–29°C to +82°C. Not compatible for hot water services over +150°F/+66°C or for hot dry air over +140°F/+60°C. NOT COMPATIBLE FOR USE WITH STEAM SERVICES.

Victaulic Fluoroelastomer

(Blue color code). Temperature range +20°F to +300°F/–7°C to +149°C. May be specified for many oxidizing acids, petroleum oils, halogenated hydrocarbons, lubricants, hydraulic fluids, organic liquids and air with hydrocarbons. NOT COMPATIBLE FOR USE WITH STEAM SERVICES.

Discs: (specify choice)

Series 716H: CF8M Cast Stainless Steel

Series 716 (2 ½ – 3"/73.0mm – DN80): Aluminum bronze with elastomer seal

Series 716 (4 – 12"/DN100 – DN300): Ductile Iron disc conforming to ASTM A-536, Grade 65-45-12 encapsulated in rubber

Shaft: (specify choice)

Series 716H: Brass

Series 716 (2 ½ – 3"/73.0mm – DN80): Type 416 Stainless Steel

Series 716 (4 – 12"/DN100 – DN300): Type 316 Stainless Steel

Spring:

Type 302/304 Stainless Steel

Shaft Plug:

Type 416 Stainless Steel

Pipe Plug:

Carbon Steel Zinc Plated

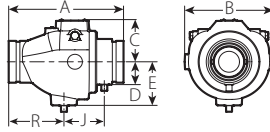
Optional Pressure Taps: (specify choice)

Series 716H: Available on all sizes

Series 716: Available on sizes 4 – 12"/DN100 – DN300

4.0 DIMENSIONS

Series 716H

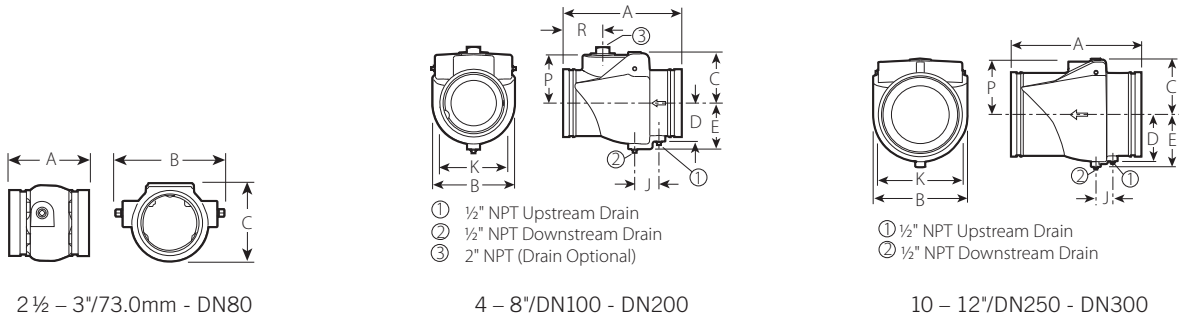


2 - 3"/DN50 - DN80

Size		Dimensions							Weight	
Nominal	Actual Outside Diameter	E to E	B	C	D	E	J	R	Approximate (Each)	
inches	inches	A	inches	inches	inches	inches	inches	inches	lb	kg
mm	mm	inches	mm	mm	mm	mm	mm	mm		
2	2.375	8.75	6.50	3.25	1.50	3.13	2.88	4.25	10.7	
DN50	60.3	220	165	83	38	77	71	108	4.9	
2½	2.875	9.38	7.00	3.38	1.75	3.50	3.38	4.38	13.8	
	73.0	238	177	85	43	87	86	112	6.3	
DN65	3.000	9.38	7.00	3.38	1.75	3.50	3.38	4.38	13.8	
	76.1	238	177	85	43	87	86	112	6.3	
3	3.500	9.63	7.50	3.63	2.00	3.75	3.38	4.63	20.0	
DN80	88.9	245	189	90	49	93	86	118	9.1	

4.1 DIMENSIONS

Series 716



Size		Dimensions									Weight
Nominal inches mm	Actual Outside Diameter inches mm	E to E A inches mm	B inches mm	C inches mm	D inches mm	E inches mm	J inches mm	K inches mm	P inches mm	R inches mm	Approximate (Each) lb kg
2 ½	2.875 73.0	3.88 99	4.25 108	3.63 91	-	-	-	-	-	-	3.6 1.6
DN65	3.000 76.1	3.88 99	4.25 108	3.63 91	-	-	-	-	-	-	3.6 1.6
3 DN80	3.500 88.9	4.25 108	5.13 129	4.25 106	-	-	-	-	-	-	4.5 2.0
4 DN100	4.500 114.3	9.63 245	6.00 152	3.88 99	2.75 70	3.50 89	2.00 51	4.50 114	3.50 89	3.38 85	20.0 9.1
	5.500 139.7	10.50 267	6.88 173	4.50 114	-	4.25 106	2.25 55	5.88 149	4.13 104	4.00 101	27.0 12.3
5 DN125	5.563 141.3	10.50 267	6.88 173	4.50 114	-	4.25 106	2.25 55	5.88 149	4.13 104	4.00 101	27.0 12.3
	6.500 165.1	11.50 292	8.00 203	5.00 127	-	4.50 114	2.38 61	6.75 169	4.75 120	3.88 99	38.0 17.2
6 DN150	6.625 168.3	11.50 292	8.00 203	5.00 127	-	4.50 114	2.38 61	6.75 169	4.75 120	3.88 99	38.0 17.2
8 DN200	8.625 219.1	14.00 356	9.88 251	6.13 154	5.13 128	5.75 144	2.25 55	8.88 225	5.75 144	5.75 146	64.0 29.0
10 DN250	10.750 273.0	17.00 432	12.00 305	7.13 180	6.00 151	6.75 170	2.25 55	11.00 277	6.75 171	-	100.0 45.4
12 DN300	12.750 323.9	19.50 495	14.00 356	8.13 205	7.00 176	7.75 194	2.50 64	12.88 925	7.75 196	-	140.0 63.5

5.0 PERFORMANCE

The seat provides leak-free sealing under conditions as low as five feet of head. Cv/Kv values for flow of water at +60°F/+16°C with a fully open valve are shown in the table below.

Formulas for Cv/Kv values:

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

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

Where:

Q = Flow (GPM)
 ΔP = Pressure Drop (psi)
 Cv = Flow Coefficient

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

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

Where:

Q = Flow (m³/hr)
 ΔP = Pressure Drop (Bar)
 Kv = Flow Coefficient

Series 716H

Valve Size		Cv/Kv
Nominal inches mm	Actual Outside Diameter inches mm	(Full Open)
2	2.375	160
DN50	60.3	138
2½	2.875	215
	73.0	186
DN65	3.000	215
	76.1	186
3	3.500	315
DN80	88.9	273

Series 716

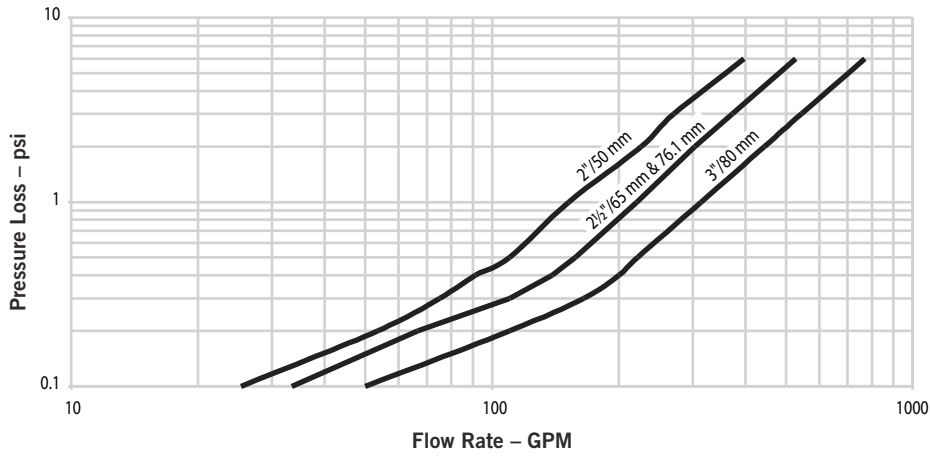
Valve Size		Cv/Kv
Nominal inches mm	Actual Outside Diameter inches mm	(Full Open)
2½	2.875	140
	73.0	121
DN65	3.000	140
	76.1	121
3	3.500	250
DN80	88.9	216
4	4.500	390
DN100	114.3	337
	5.500	700
	139.7	606
5	5.563	700
DN125	141.3	606
	6.500	1000
	165.1	865
6	6.625	1000
DN150	168.3	865
8	8.625	1800
DN200	219.1	1557
10	10.750	3000
DN250	273.0	2595
12	12.750	4200
DN300	323.9	3633

5.1 PERFORMANCE

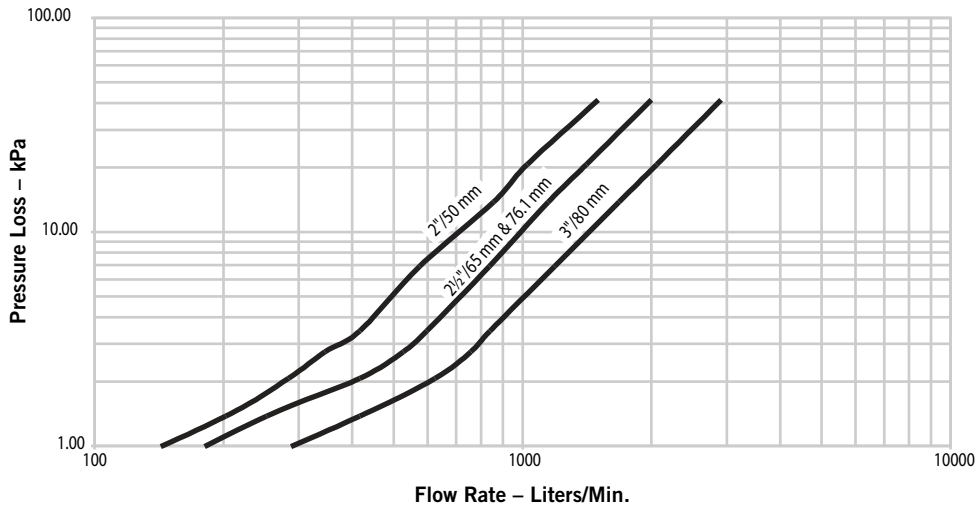
Flow Characteristics

The charts below express the flow of water at 60°F/16°C through valve.

Series 716H



Series 716H

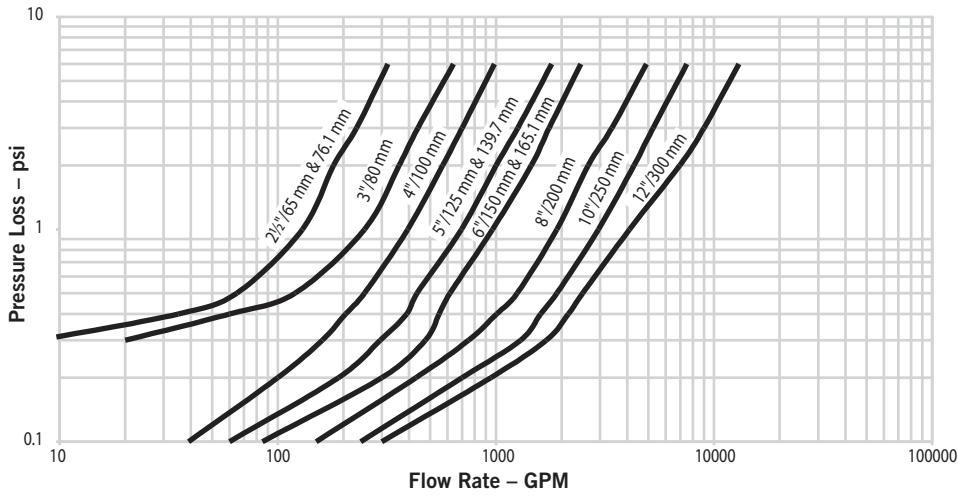


5.2 PERFORMANCE

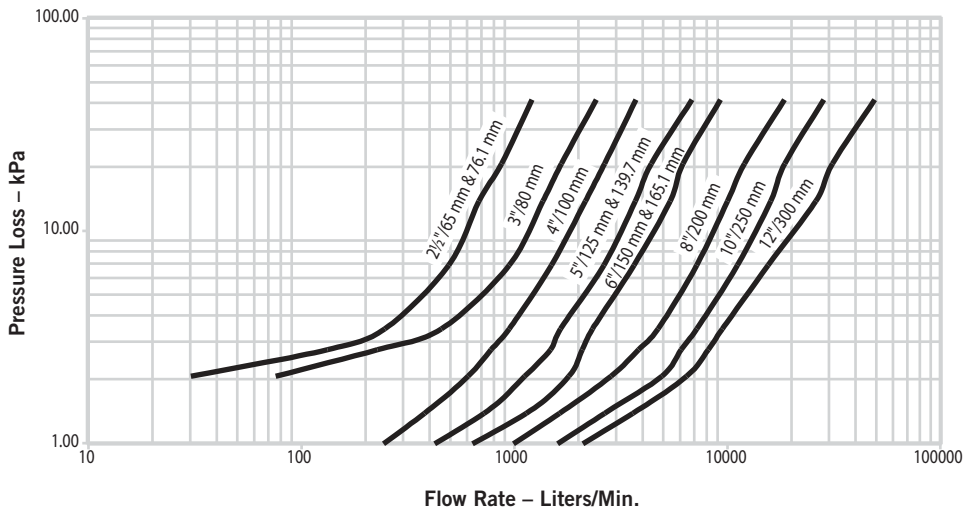
Flow Characteristics

The charts below express the flow of water at 60°F/16°C through valve.

Series 716





Series 716



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/Warranty](#)
- [I-100: Field Installation Handbook](#)

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, as well as Victaulic performance, maintenance, safety, and warning 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, installation guide, or this disclaimer.

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Note

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of 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 www.victaulic.com.

Warranty

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

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