

# Vic-Check® Valves

## SERIES 716H/716

The Series 716H/716 check valves are a product of computer-assisted innovative engineering with quality features including a new hydrodynamically efficient profile. The Vic-Check® valve utilizes a spring-assisted, single-disc design that achieves a leak-free seal with as little as 5ft./1.5m of head pressure. The valve can be installed in both horizontal and vertical positions.

Series 716H/716 check valves are engineered for long life and seize-free sealing. For the Series 716H, in 2-3"/50-80mm sizes, the stainless steel disc seats against the o-ring seal which is mounted on the electroless nickel plated end face. The Series 716, in 4-12"/100-300 mm sizes, feature an elastomer encapsulated disc and a welded in nickel seat. 2-3"/50-80 size check valves are rated to 365 psi/2500 kPa and 4-12"/100-300 mm sizes check valves are rated to 300 psi/2065 kPa. All sizes are factory tested to the rated working pressure. Drains can be optionally provided both upstream and downstream of the disc.

Grooved ends allow fast, easy installation with just two Victaulic couplings. The valve may also be connected to flanged (ANSI Class 150) components using Style 741 Vic-Flange adapters on either end.



**SERIES 716H**  
SIZES 2 - 3"/50 - 80 MM



**SERIES 716**  
SIZES 4 - 12"/100 - 300 MM

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<b>JOB OWNER</b>	<b>CONTRACTOR</b>	<b>ENGINEER</b>
System No. _____	Submitted By _____	Spec Sect _____ Para _____
Location _____	Date _____	Approved _____
		Date _____

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#### MATERIAL SPECIFICATIONS

**Body:** 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 Seat:** Sizes 2 – 3"/50 – 80mm machined surfaces electroless nickel plated. 4 – 12"/100 – 300mm integrally welded-on nickel alloy.

**Disc Coating / O-rings:** (Specify Material Choice)

- **Grade "E" EPDM**

EPDM (Green color code). Temperature range –30°F to +230°F/–34°C to +110°C. Recommended for hot water service within the specified temperature range plus a variety of 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; except hot, dry air over +140°F/+60°C and water over +150°F/+66°C. NOT RECOMMENDED FOR HOT WATER SERVICES.

- **Grade "O" fluoroelastomer**

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.

\* Services listed are General Service Recommendations only. It should be noted that there are services for which these disc liners are not recommended. Reference should always be made to the latest Victaulic Gasket Selection Guide for specific liner service recommendations and for a listing of services which are not recommended.

**Discs:** 2-3"/50-80 mm the stainless steel disc seats against the o-ring seal which is mounted on the electroless nickel plated end face; 4-12"/100-300 mm feature an elastomer encapsulated disc and a welded in nickel seat.

**Shaft:** 2 - 3"/50 – 80mm Brass. 4 – 12"/100 – 300mm Type 316 stainless steel.

**Spring:** All sizes Type 302/304 stainless steel.

**Shaft Plug:** 2 – 3"/50 – 80mm only; Type 416 stainless steel.

**Pipe Plug:** 4 – 12"/100 – 300mm only; carbon steel zinc plated to ASTM B-633.

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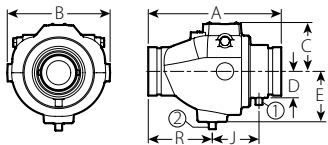
## SERIES 716H/716



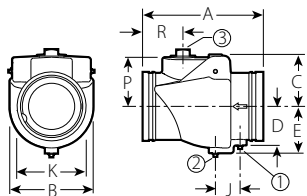
**SERIES 716H**  
SIZES 2 – 3/50 – 80 MM

**SERIES 716**  
SIZES 4 – 12/100 – 300 MM

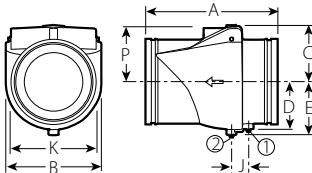
### DIMENSIONS



① ½" NPT Upstream Drain (Optional)  
② ½" NPT Downstream Drain (Optional)  
**SERIES 716H**  
TYPICAL 2 – 3"/50-80 MM



① ½" NPT Upstream Drain (Optional)  
② ½" NPT Downstream Drain (Optional)  
③ 2" NPT (Drain Optional)  
**SERIES 716**  
TYPICAL 4 – 8"/100-200 MM



① ½" NPT Upstream Drain (Optional)  
② ½" NPT Downstream Drain (Optional)  
**SERIES 716**  
TYPICAL 10 – 12"/250-300 MM

Size		Dimensions – Inches/mm										Approx. Wgt. Each	
Nominal Size Inches/ mm	Actual Outside Diameter Inches/ mm	E-E A	Overall Width B	C	D	E	J	K	P	R	Lbs. kg		
2 50	2.375 60.3	8.66 220	6.46 164	3.23 82	1.48 38	3.02 77	2.80 71	-	-	4.25 108.0	10.7 4.9		
2½ 65	2.875 73.0	9.37 238	6.94 176	3.31 84	1.66 42	3.40 86	3.38 86	-	-	4.38 111.3	3.6 1.6		
76.1 mm	3.000 76.1	9.37 238	6.94 176	3.31 84	1.66 42	3.40 86	3.38 86	-	-	4.38 111.3	3.6 1.6		
3 80	3.500 88.9	9.62 244	7.44 189	3.53 90	1.91 49	3.65 93	3.38 86	-	-	4.63 117.6	4.5 2.0		
4 100	4.500 114.3	9.63 245	6.00 152	3.90 99	2.75 70	3.50 89	2.00 51	4.50 114	3.50 89	3.35 85	16.0 7.3		
139.7 mm	5.500 139.7	10.50 267	6.80 173	4.50 114	4.17 106	4.17 106	2.15 55	5.88 149	4.08 104	4.02 102	27.0 12.3		
5 125	5.563 141.3	10.50 267	6.80 173	4.50 114	4.17 106	4.17 106	2.15 55	5.88 149	4.08 104	4.02 102	20.0 9.1		
6 150	6.625 168.3	11.50 292	8.00 203	5.00 127	4.50 114	4.50 114	2.38 61	6.67 169	4.73 120	3.89 99	28.0 12.7		
165.1 mm	6.500 165.1	11.50 292	8.00 203	5.00 127	4.50 114	4.50 114	2.38 61	6.67 169	4.73 120	3.89 99	28.0 12.7		
8 200	8.625 219.1	14.00 356	9.88 251	6.10 155	5.05 128	5.65 144	2.15 55	8.75 222	5.70 145	5.75 146	40.0 18.1		
10 250	10.750 273.0	17.00 432	12.00 305	7.10 180	5.96 151	6.69 170	2.15 55	10.92 277	6.93 176	-	100.0 45.4		
12 300	12.750 323.9	19.50 495	14.00 356	8.10 206	6.91 176	7.64 194	2.51 64	12.81 325	7.93 201	-	140.0 63.5		

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SIZES 4 – 12/100 – 300 MM

## PERFORMANCE

Vic-Check valves combine high pressure capabilities with low pressure drop performance. The grooved end design permits fast, easy installation. The seat provides leak-free sealing under conditions as low as five feet of head.  $C_v/K_v$  values for flow of water at +60°F/+16°C with a fully open valve are shown in the table at right.

### 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)

$\Delta P$  = Pressure Drop (psi)

$C_v$  = Flow Coefficient

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

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

**Where:**

Q = Flow (m<sup>3</sup>/h)

$\Delta P$  = Pressure Drop (bar)

$K_v$  = Flow Coefficient

Valve Size		$C_v/K_v$ (Full Open)	Valve Size		$C_v/K_v$ (Full Open)	Valve Size		$C_v/K_v$ (Full Open)
Nominal Size Inches/ mm	Actual Outside Diameter Inches/ mm		Nominal Size Inches/ mm	Actual Outside Diameter Inches/ mm		Nominal Size Inches/ mm	Actual Outside Diameter Inches/ mm	
2	2.375	160	4	4.500	390	6	6.625	1000
50	50.3	138	100	114.3	337	150	168.3	865
2½	2.875	215	139.7 mm	5.500	700	8 5/8	8.625	1800
65	73.0	186		139.7	606	200	219.1	1557
76.1 mm	3.000	215	5	5.563	700	10 5/8	10.750	3000
	76.1	186	125	141.3	606	250	273.0	2595
3	3.500	315	165.1 mm	6.500	1000	12 5/8	12.750	4200
80	88.9	273		165.1	865	300	323.9	3633

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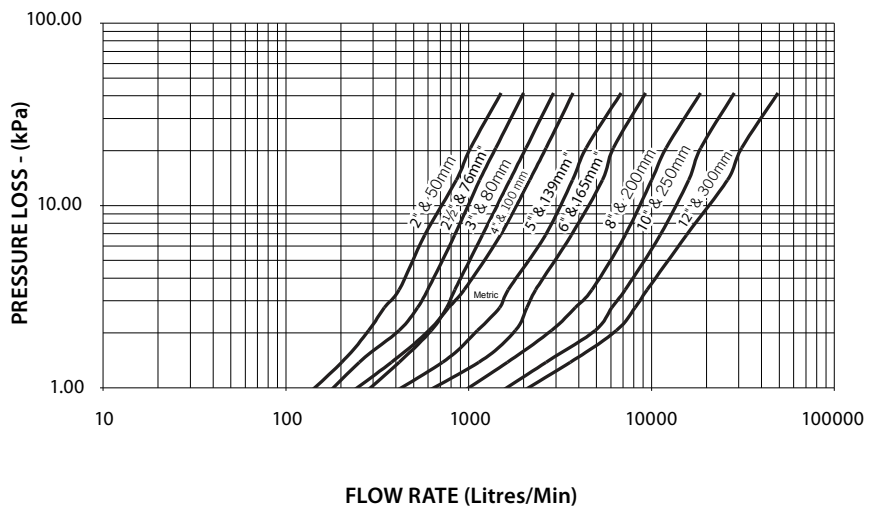
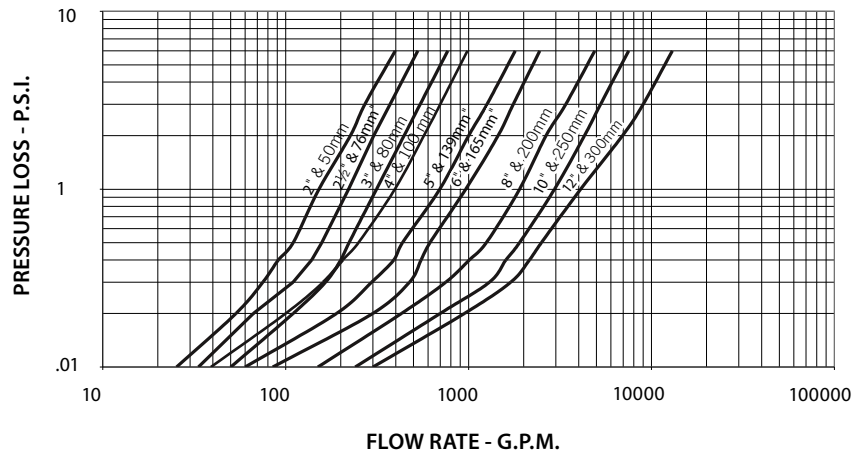
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## FLOW CHARACTERISTICS

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

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 meters per second). Distances less than three (3) diameters are not recommended and will violate the Victaulic product warranty.



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### WARRANTY

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

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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.