

# FireLock™ Check Valves

## Series 717 Check Valve

## Series 717H High Pressure Check Valve



10.08



Series 717H  
High-Pressure Check Valve  
(2 – 3"/DN50 – DN80)



Series 717  
(2 ½ – 3"/73 mm – DN80)



Series 717  
(4 – 12"/DN100 – DN300)

## 1.0 PRODUCT DESCRIPTION

### Available Sizes

- 2 – 3"/DN50 – DN80 (Series 717H)
- 2 ½ – 12"/73 mm – DN300 (Series 717)

### Pipe Material

- Carbon Steel, Schedule 10, Schedule 40. For use with alternative materials, please contact Victaulic.

### Maximum Working Pressure

- Up to 365 psi/2517 kPa/25 bar
- Working pressure dependent on pipe size, valve size, and approval requirements.

### Application

- Designed for use in fire protection systems.
- Prevents backflow.
- Single-disc mechanism incorporates a spring-assisted feature for non-slamming operation.
- 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.
- Provided with grooved ends.
- Rated for ambient temperature use in fire protection systems.

### Available End Connections

- Victaulic Original Groove System (OGS) groove

## 2.0 CERTIFICATION/LISTINGS



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



## 2.0 CERTIFICATION/LISTINGS

### Approvals/Listings

#### Series 717H

Size		Approval/Listing Service Pressures				
Nominal inches DN	Actual Outside Diameter inches mm	cULus psi kPa	FM psi kPa	LPCB psi kPa	VdS psi kPa	CCC psi kPa
2 DN50	2.375 60.3	365 2517	365 2517	365 2517	363 2500	N/A
2½	2.875 73.0	365 2517	365 2517	365 2517	N/A	363 2500
DN65	3.000 76.1	365 2517	365 2517	365 2517	363 2500	363 2500
3 DN80	3.500 88.9	365 2517	365 2517	365 2517	363 2500	363 2500

#### Series 717

Size		Approval/Listing Service Pressures				
Nominal inches DN	Actual Outside Diameter inches mm	cULus psi kPa	FM psi kPa	LPCB psi kPa	VdS psi kPa	CCC psi kPa
2½	2.875 73.0	250 1725	N/A	N/A	N/A	N/A
DN65	3.000 76.1	250 1725	N/A	N/A	232 1600	N/A
3 DN80	3.500 88.9	250 1725	N/A	N/A	232 1600	N/A
4 DN100	4.500 114.3	365 2517	365 2517	365 2517	363 2500	363 2500
DN125	5.500 139.7	365 2517	365 2517	365 2517	363 2500	363 2500
5	5.563 141.3	365 2517	365 2517	365 2517	N/A	N/A
	6.500 165.1	365 2517	365 2517	365 2517	N/A	363 2500
6 DN150	6.625 168.3	365 2517	365 2517	365 2517	363 2500	N/A
8 DN200	8.625 219.1	365 2517	365 2517	348 2400	247 1700	363 2500
10 DN250	10.750 273.0	250 1725	250 1725	250 1725	N/A	232 1600
12 DN300	12.750 323.9	250 1725	250 1725	250 1725	N/A	N/A

---

### 3.0 SPECIFICATIONS – MATERIAL

---

**Body:**

- Ductile Iron conforming to ASTM A536, Grade 65-45-12.

**Body Coating:**

- Series 717H Body: Black Paint
- Series 717H Endface: Electroless Nickel conforming to ASTM B733
- Series 717 (2 ½ – 3"/73mm – DN80): PPS Coating
- Standard: Series 717 (4 – 12"/DN100 – DN300): Black Paint
- Optional: Series 717 (4 – 12"/DN100 – DN300): PPS Coating

**Body Seat:**

- Series 717H: Nitrile O-ring installed into an Electroless Nickel plating conforming to ASTM B733
- Series 717 (2 ½ – 3"/73 mm – DN80): PPS Coated Ductile Iron
- Series 717 (4 – 12"/DN100 – DN300): Ductile Iron with Electroless Nickel plating conforming to ASTM B733

**Disc Seal or Coating: (specify choice<sup>1</sup>)**

- Nitrile (Series 717H only)**
- EPDM**

NOT COMPATIBLE FOR PETROLEUM SERVICES.

**Discs:**

- Series 717H: CF8M Cast Stainless Steel
- Series 717 (2 ½ – 3"/73 mm – DN80): Aluminum bronze with elastomer seal
- Series 717 (4 – 12"/DN100 – DN300): Elastomer encapsulated disc.

**Shaft:**

- Series 717H: Brass
- Series 717 (2 ½ – 3"/73 mm – DN80): Type 416 Stainless Steel
- Series 717 (4 – 12"/DN100 – DN300): Type 316 Stainless Steel

**Spring:**

- Type 302/304 Stainless Steel

**Shaft Plug:**

- Series 717H: Carbon Steel Zinc Plated
- Series 717: Carbon Steel Zinc Plated

**Pipe Plug:**

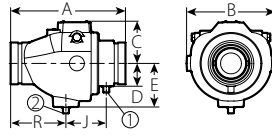
- Series 717H: Carbon Steel Zinc Plated
- Series 717: Carbon Steel Zinc Plated

**Optional Pressure Taps:**

- Series 717H: Available on all sizes
- Series 717: Available on sizes 4 – 12"/DN100 – DN300

## 4.0 DIMENSIONS

### Series 717H



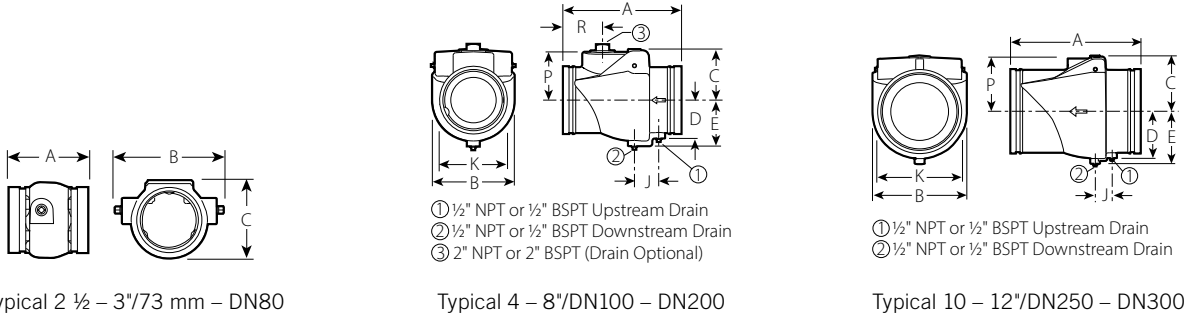
- ① ½" NPT or ½" BSPT Upstream Drain
- ② ½" NPT or ½" BSPT Downstream Drain

Typical 2 – 3"/50 – 80 mm

Size		Dimensions						Weight
Nominal inches DN	Actual Outside Diameter inches mm	E to E A inches mm	B inches mm	C inches mm	E inches mm	J inches mm	R inches mm	Approx. (Each) lb kg
2 DN50	2.375 60.3	8.66 220	6.46 165	3.23 83	3.02 77	2.80 72	4.25 108	10.7 4.9
2½	2.875 73.0	9.37 238	6.94 177	3.31 85	3.40 87	3.38 86	4.38 112	13.8 6.3
DN65	3.000 76.1	9.37 238	6.94 177	3.31 85	3.40 87	3.38 86	4.38 112	13.8 6.3
3 DN80	3.500 88.9	9.62 244	7.44 189	3.53 90	3.65 93	3.38 86	4.63 118	20.0 9.1

## 4.1 DIMENSIONS

### Series 717



Size		Dimensions									Weight
Nominal inches DN	Actual Outside Diameter inches mm	E to E A inches mm	B inches mm	C inches mm	E inches mm	J inches mm	K inches mm	P inches mm	R inches mm	Approx. (Each) lb kg	
2 1/2	2.875	3.88	4.26	3.57	–	–	–	–	–	3.6	
	73.0	99	109	91	–	–	–	–	–	1.6	
DN65	3.000	3.88	4.26	3.57	–	–	–	–	–	3.6	
	76.1	99	108	91	–	–	–	–	–	1.6	
3 DN80	3.500	4.25	5.06	4.17	–	–	–	–	–	4.5	
	88.9	108	129	106	–	–	–	–	–	2.0	
4 DN100	4.500	9.63	6.00	3.88	3.50	2.00	4.50	3.50	3.35	20.0	
	114.3	245	152	99	89	51	114	89	85	9.1	
DN125	5.500	10.50	6.80	4.50	4.17	2.15	5.88	4.08	3.98	27.0	
	139.7	267	173	114	106	55	149	104	101	12.2	
5	5.563	10.50	6.80	4.50	4.17	2.15	5.88	4.08	3.98	27.0	
	141.3	267	173	114	106	55	149	104	101	12.2	
6	6.500	11.50	8.00	5.00	4.50	2.38	6.67	4.73	3.89	38.0	
	165.1	292	203	127	114	60	169	120	99	17.2	
DN150	6.625	11.50	8.00	5.00	4.50	2.38	6.67	4.73	3.89	38.0	
	168.3	292	203	127	114	60	169	120	99	17.2	
8 DN200	8.625	14.00	9.88	6.06	5.65	2.15	8.85	5.65	5.75	64.0	
	219.1	356	251	154	144	55	225	144	146	29.0	
10 DN250	10.750	17.00	12.00	7.09	6.69	2.15	10.92	6.73	–	100.0	
	273.0	432	305	180	170	55	277	171	–	45.4	
12 DN300	12.750	19.50	14.00	8.06	7.64	2.51	12.81	7.73	–	140.0	
	323.9	495	356	205	194	64	325	196	–	63.5	

## 5.0 PERFORMANCE

### Flow Characteristics

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

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)

C<sub>v</sub> = Flow Coefficient

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

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

**Where:**

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

ΔP = Pressure Drop (Bar)

K<sub>v</sub> = Flow Coefficient

### Series 717H

Size		Flow Characteristics
Nominal inches DN	Actual Outside Diameter inches mm	Full Open C <sub>v</sub> K <sub>v</sub>
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	272

### Series 717

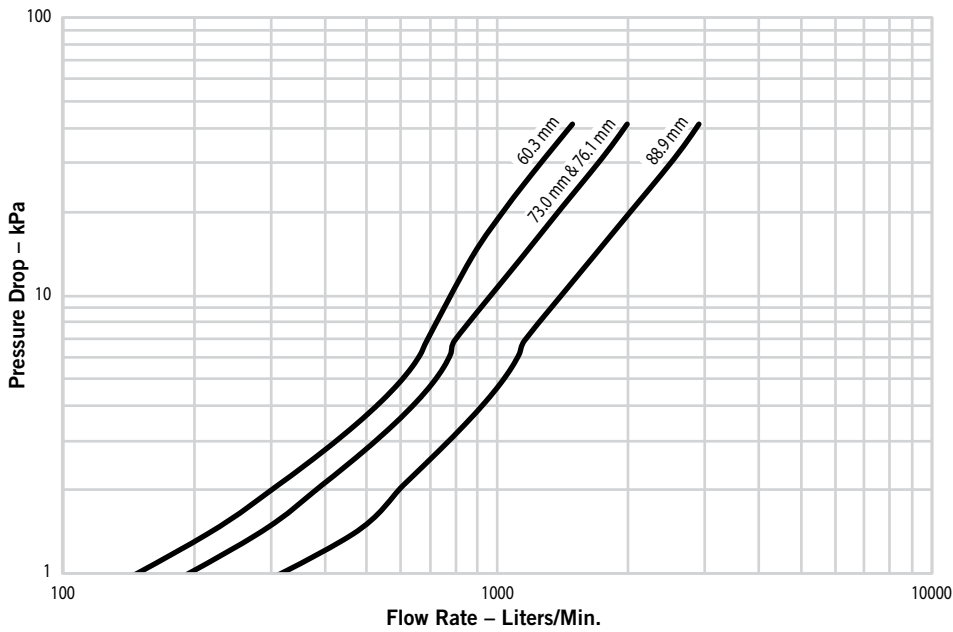
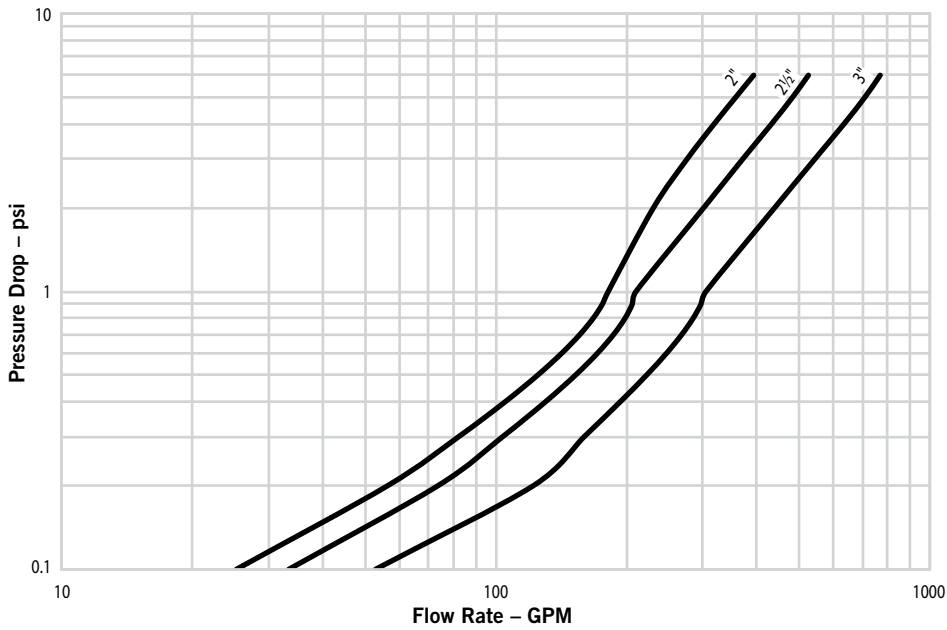
Size		Flow Characteristics
Nominal inches DN	Actual Outside Diameter inches mm	Full Open C <sub>v</sub> K <sub>v</sub>
2½	2.875	140
	73.0	121
DN65	3.000	140
	76.1	121
3	3.500	250
DN80	88.9	216
4	4.500	390
DN100	114.3	337
DN125	5.500	700
	139.7	606
5	5.563	700
	141.3	606
	6.500	1000
	165.1	865
6	6.625	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

## 5.0 PERFORMANCE (CONTINUED)

### Flow Characteristics

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

#### S717H

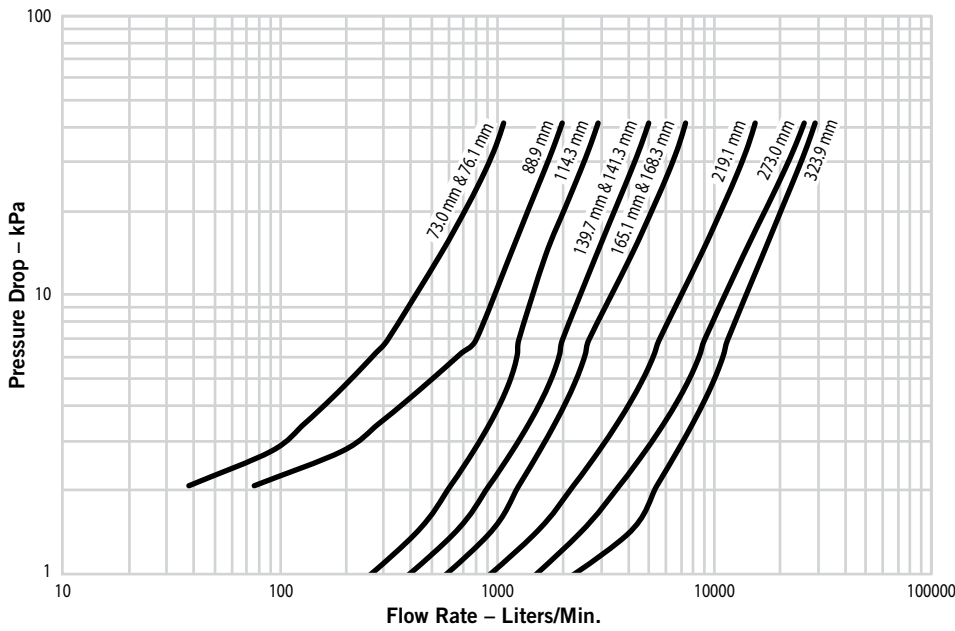
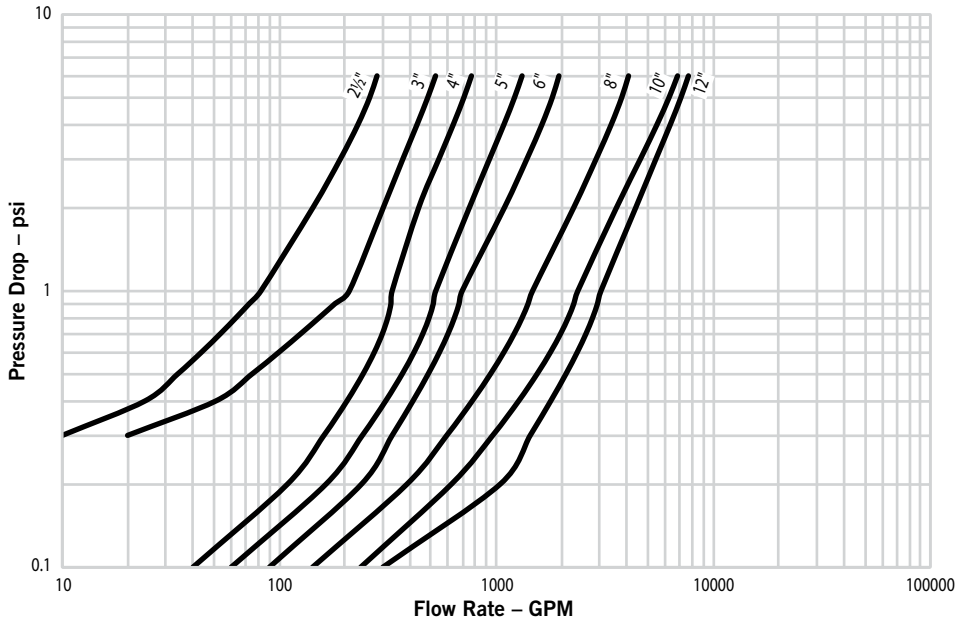


## 5.1 PERFORMANCE

### Flow Characteristics

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


#### S717





## 6.0 NOTIFICATIONS

⚠ **WARNING**



- Read and understand all instructions before attempting to install any Victaulic products.
- Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Confirm that any equipment, branch lines, or sections of piping that may have been isolated for/during testing or due to valve closures/positioning are identified, depressurized, and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Wear safety glasses, hardhat, and foot protection.

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

- These products shall be used only in fire protection systems that are designed and installed in accordance with current, applicable National Fire Protection Association (NFPA) standards, or equivalent standards, and in accordance with applicable building and fire codes. These standards and codes contain important information regarding protection of systems from freezing temperatures, corrosion, mechanical damage, etc.
- The installer shall understand the use of this product and why it was specified for the particular application.
- The installer shall understand common industry safety standards and potential consequences of improper product installation.
- It is the system designer's responsibility to verify suitability of materials for use with the intended fluid media within the piping system and external environment.
- The material specifier shall evaluate the effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on materials to confirm system life will be acceptable for the intended service.

Failure to follow installation requirements and local and national codes and standards could compromise system integrity or cause system failure, resulting in death or serious personal injury and property damage.

## 7.0 REFERENCE MATERIALS

- [05.01: Seal Selection Guide](#)
- [10.01: Regulatory Approval Reference 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 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.

### Intellectual Property Rights

No statement concerning the use of any material, product, service, or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Victaulic or any of its affiliates, or as a recommendation for the use of such material, product, service, or design in the infringement of any patent or other intellectual property right. The terms "Patented" or "Patent Pending" refer to design or utility patents or patent applications for articles and/or methods of use in the United States and/or other countries. Victaulic and all other Victaulic marks are the trademarks or registered trademarks of Victaulic Company, and/or its affiliated entities, in the U.S. and/or other countries.

### 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.