

# Victaulic® Butterfly Valve for Copper Tubing

## Series 608N



### 1.0 PRODUCT DESCRIPTION

#### Available Sizes

- 2 ½ – 6”/66.7 – 155.6 mm

#### Pipe Material

- ASTM B88 drawn temper tube Types K, L and M and ASTM B306 Type DWV copper tubing

#### Maximum Working Pressure

- Accommodates pressures ranging from full vacuum (29.9 in Hg/760 mm Hg) up to 300 psi/2068 kPa/21 bar
- Full working pressure for bi-directional, dead end services

#### NOTE

- WARNING: FOR ONE-TIME FIELD TEST ONLY, the Test Pressure may be increased to 1 ½ times the Maximum Working Pressure.

#### Operating Temperature Range

- Potable Water Applications: +20°F to +180°F/-7°C to +82°C
- Non-Potable Water Applications: +20°F to +230°F/-7°F to +110°C

#### Application

- For use in copper tubing systems

#### Actuation Options

- Standard ISO 5211 mounting flange
- Lever lock handle
  - Infinitely variable service with memory stop; Padlockable
- Gear operator
- Accommodates 2”/50 mm of insulation

#### NOTES

- A padlockable valve refers to those valves which can be padlocked to lockout equipment for preventing inadvertent valve operation. When used in conjunction with an appropriate lockout/tagout system, multiple padlocks may be used. The valve may be padlocked either fully open or fully closed.
- A tamper-resistant option is also available, which is meant to deter theft, vandalism or other malicious activity. The handles and associated components are assembled with tamper-resistant fasteners which are designed for one-time assembly. Attempts to defeat the padlock by partial disassembly of the valve will likely result in evidence of such activity. The valve may be padlocked either fully open or fully closed.
- Handwheel input shaft extensions are not for use with chainwheels.

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

## 2.0 CERTIFICATION/LISTINGS

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When utilizing a Victaulic Fluoroelastomer seat, the Series 608N is 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.

Valve construction and performance meet or exceed MSS-SP-67 requirements.

### NOTE

- See [publication 02.06](#): Victaulic Approvals for Potable Water Products – ANSI/NSF 61 and ANSI/NSF 372 for more details.

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## 3.0 SPECIFICATIONS – MATERIAL

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### Series 608N Butterfly Valve for Copper Tubing

**Body:** Brass castings conforming to UNS C87850

**Disc:** Aluminum-bronze casting conforming to UNS C95500

### Seat: Victaulic Fluoroelastomer

Fluoroelastomer (Double blue color code). Temperature range in potable water applications: +20°F to +180°F/-7°C to +82°C. Specifically formulated for compatibility with potable water systems. Optimized for improved resistance to chlorine, chloramine and other typical potable water disinfectants. 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. Temperature range in non-potable water applications: +20°F to +230°F/-7°F to +110°C.

**Drive Hub Adapter:** Black enamel coated steel

**Stem/Lower Nut Seals:** EPDM

**Trim (Stem/Lower Nut):** 316SS

**Operator Bracket:** Black enamel coated steel

**Bracket Bolts/Washers:** Zinc-plated steel

### Handle: (specify choice)

**Lever Lock:** Painted ductile iron conforming to ASTM A536, Grade 65-45-12, with carbon steel latch plate and zinc-plated carbon steel fasteners. Infinitely variable, padlockable and includes memory stop. Optionally available with tamper-resistant hardware.

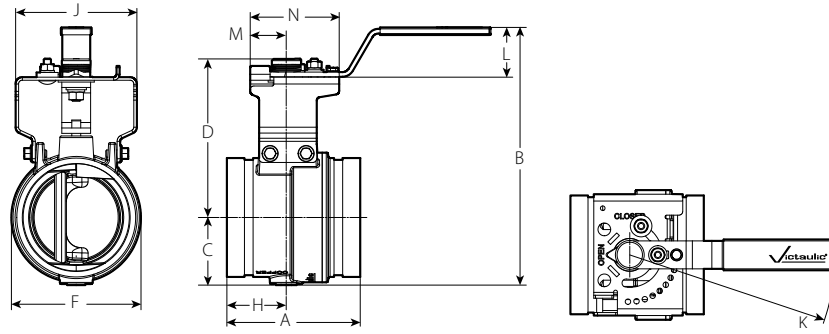
### Gear Operator with options below:

Handwheel with memory stop

Handwheel with chain wheel

## 4.0 DIMENSIONS

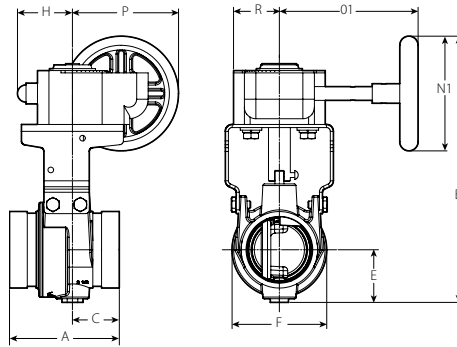
### Series 608N Butterfly Valve for Copper Tubing – With Lever Lock Handle



Size		Dimensions											Weight
Nominal	Actual Outside Diameter	A	B	C	D	F	H	J	K	L	M	N	Approx. (Each)
inches	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	lb kg
2½	2.625	3.77	7.80	1.81	4.90	3.25	1.61	4.21	7.20	1.70	1.25	3.09	5.3
	66.7	96	198	46	124	83	41	107	183	43	32	78	2.4
3	3.125	3.77	8.50	2.10	5.30	4.00	1.61	4.21	7.20	1.70	1.25	3.09	5.7
	79.4	96	216	53	135	102	41	107	183	43	32	78	2.6
4	4.125	4.63	8.90	2.35	5.50	4.50	2.06	4.21	7.20	1.70	1.25	3.09	7.8
	104.8	118	226	60	140	114	52	107	183	43	32	78	3.5
6	6.125	5.88	12.20	3.34	7.70	6.30	2.50	6.88	10.70	2.60	1.88	5.13	19.8
	155.6	149	310	85	196	160	64	175	272	66	48	130	9.0

## 4.1 DIMENSIONS

### Series 608N Butterfly Valve for Copper Tubing – With Gear Operator



Size		Dimensions										Weight
Nominal	Actual Outside Diameter	A	B	C	E	F	H	N1	O1	P	R	Approx. (Each)
inches	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	lb kg
2½	2.625	3.77	9.10	1.61	1.81	3.25	1.89	3.94	4.76	3.64	1.57	7.1
	66.7	96	231	41	46	83	48	100	121	92	40	3.2
3	3.125	3.77	9.80	1.61	2.10	4.00	1.89	3.94	4.76	3.64	1.57	7.5
	79.4	96	249	41	53	102	48	100	121	92	40	3.4
4	4.125	4.63	10.30	2.06	2.35	4.50	1.89	3.94	4.76	3.64	1.57	10.5
	104.8	118	262	52	60	114	48	100	121	92	40	4.8
6	6.125	5.88	13.20	2.50	3.34	6.30	2.20	4.92	7.20	4.43	1.97	4.5
	155.6	149	335	64	85	160	56	125	183	113	50	2.0

## 5.0 PERFORMANCE

### Series 608N Butterfly Valve for Copper Tubing

C<sub>v</sub>/K<sub>v</sub> values for flow of water at +60°F/+16°C with a fully open valve are shown in the table below.

Formulas for C<sub>v</sub>/K<sub>v</sub> 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

Size		Full Open C <sub>v</sub> K <sub>v</sub>
Nominal inches	Actual Outside Diameter inches mm	
2 ½	2.625	113
	66.7	98
3	3.125	276
	79.4	238
4	4.125	383
	104.8	330
6	6.125	1029
	155.6	887

## 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

- [02.06: Victaulic Potable Water Approvals ANSI/NSF](#)
- [05.01: Victaulic Seal Selection Guide](#)
- [22.01: Victaulic Copper Connection Systems for Copper Tubing \(CTS\)](#)
- [22.03: Victaulic Style 641 Vic-Flange™ Adapter for Copper Tubing](#)
- [22.04: Victaulic Copper Fittings](#)
- [22.13: Victaulic Style 607 QuickVic™ Rigid Coupling for Copper](#)
- [24.01: Victaulic Pipe Preparation Tools](#)
- [25.06: Victaulic Copper Tubing Roll Groove Specifications](#)
- [I-600: Victaulic Field Installation Handbook for Copper Products](#)

### 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](http://www.victaulic.com).

### Warranty

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

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