

# **Victaulic® Plug Valve** **MTS™ Series 465**



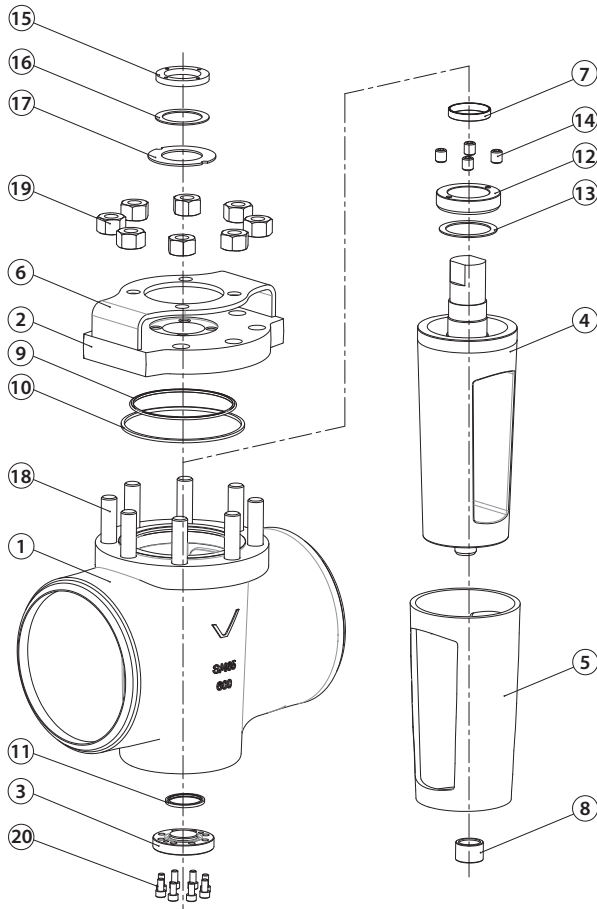
## **⚠ WARNING**



- 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.
- DO NOT loosen or tighten hardware when a valve is pressurized, and DO NOT impact the valve, pipe, couplings, or fittings when the system is pressurized.
- The system designer is responsible for verifying suitability of mating component materials with the intended fluid media. Valve bodies, discs, and other wetted components shall be compatible with the material flowing through the piping system. Refer to the current Victaulic product publication for the applicable valve, or contact Victaulic for details.
- The effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on mating component materials shall be evaluated to confirm system life will be acceptable for the intended service.

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

## **SERIES 465 PLUG VALVE COMPONENTS**



| Item | Description              |
|------|--------------------------|
| 1    | Body                     |
| 2    | Bonnet                   |
| 3    | Bottom Plug              |
| 4    | Plug                     |
| 5    | Sleeve                   |
| 6    | Support Bracket          |
| 7    | Top Bearing              |
| 8    | Bottom Bearing           |
| 9    | Rotary Seal              |
| 10   | Body/Bonnet Gasket       |
| 11   | Bottom Plug Gasket       |
| 12   | Pressure Ring            |
| 13   | Sliding Washer           |
| 14   | Pressure Ring Set Screws |
| 15   | Adjustment Nut           |
| 16   | Sliding Washer           |
| 17   | Sliding Track            |
| 18   | Body/Bonnet Studs        |
| 19   | Body/Bonnet Nuts         |
| 20   | Bottom Plug Bolts        |

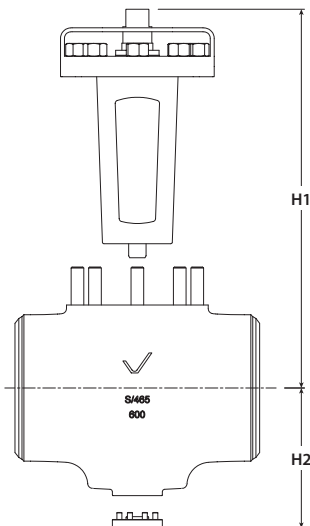
For complete dimensional, pressure rating, and application information, reference Victaulic publication 17.36, which can be downloaded by scanning the QR code to the right.



Scan QR code to download Victaulic publication 17.36 on [victaulic.com](http://victaulic.com)

IMPORTANT INFORMATION

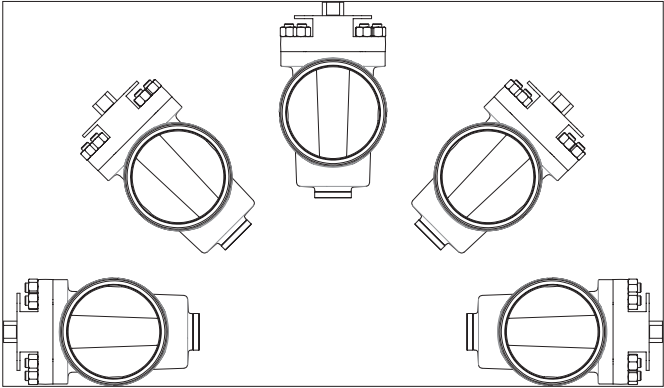
- Series 465 Plug Valves are designed for bidirectional and dead-end services.
- For complete dimensional, pressure rating, and application information, reference Victaulic publication 17.36, which can be downloaded by scanning the QR code on page 1.  
**DO NOT exceed the performance capabilities and hydrostatic test specifications listed in Victaulic publication 17.36.**
- Verify that there is adequate clearance around the valve for installation, operation, and removal (reference dimensions below).



| Nominal Valve Size<br>inches<br>DN | Actual Pipe<br>Outside Diameter<br>inches<br>mm | H1<br>inches<br>mm | H2<br>inches<br>mm |
|------------------------------------|---|--------------------|--------------------|
| 2<br>DN50                          | 2.375<br>60.3                                   | 10.433<br>265.0    | 7.283<br>185.0     |
| 2½ – 3<br>DN32 – DN80              | 2.875 – 3.500<br>73.0 – 88.9                    | 12.362<br>314.0    | 8.071<br>205.0     |
| 4<br>DN100                         | 4.500<br>114.3                                  | 15.582<br>396.0    | 8.661<br>220.0     |
| 5 – 6<br>DN125 – DN150             | 5.563 – 6.625<br>141.3 – 168.3                  | 17.716<br>450.0    | 9.567<br>243.0     |
| 8<br>DN200                         | 8.625<br>219.1                                  | 22.047<br>560.0    | 11.102<br>282.0    |
| 10<br>DN250                        | 10.750<br>273.0                                 | 27.559<br>700.0    | 13.386<br>340.0    |
| 12<br>DN300                        | 12.750<br>323.9                                 | 31.693<br>805.0    | 14.173<br>360.0    |
| 14<br>DN350                        | 14.000<br>355.6                                 | 33.267<br>845.0    | 14.764<br>375.0    |
| 16<br>DN400                        | 16.000<br>406.4                                 | 40.551<br>1030.0   | 17.323<br>440.0    |

- The valve can be mounted in vertical, sloped, and horizontal runs. **FOR MAINTENANCE PURPOSES OF HORIZONTAL AND SLOPED PIPING, THE VALVE SHALL BE INSTALLED SO THAT THE BONNET NEVER FALLS BELOW THE HORIZONTAL PLANE.** Reference the images below for proper and improper installation orientations.

PROPER INSTALLATION ORIENTATIONS



IMPROPER INSTALLATION ORIENTATION



- Verify that proper pipe supports are in place to prevent strain on the valve. The piping shall be laid out so that no thrust or bending forces act on the valve body during operation.
- Verify that the piping is aligned and supported properly before attempting to install the valve.
- Use lockout methods to prevent unauthorized operation of the valve.
- DO NOT stand on or use the actuator as a support or lift point.

## HANDLING

- To prevent damage to the sealing surfaces, the plastic shipping caps shall remain in place until the time of installation.
- Verify that proper lifting equipment is available for handling larger, heavier valve sizes. Lift the valve by placing nylon straps around the body, as shown below.



- To prevent damage to the body, **DO NOT** use straps containing metal components or lifting hardware that does not contain a protective coating.
- **DO NOT** lift or suspend the valve by the actuator support bracket or actuator.

## STORAGE

- Victaulic strongly recommends indoor storage of the valve. If outdoor storage is required, the valve shall be stored in the original shipping container and then covered completely with a weatherproof tarp.
- The shipping caps shall remain in place to prevent debris from entering the valve body during storage. Valves that are stored without shipping caps shall be flushed thoroughly with clean water prior to installation.
- The valve shall be stored with the plug in the vertical "UP" position (actuator pointing upward).

## PREPARING VALVE FOR INSTALLATION

- Prior to installation, check the valve for any damage. **DO NOT** use the valve if any damage is present.
- Remove the plastic shipping caps from the valve body. To prevent damage to the sealing surfaces of the valve body, **DO NOT** use any sharp instruments to remove the shipping caps.

| <b>⚠ DANGER</b>   |  |
|---|--|
|   | <ul style="list-style-type: none"> <li>• When directly connecting a Victaulic End Cap to a Victaulic Plug Valve, use only a tapped end cap with a ball valve that can be opened to verify if the system is depressurized.</li> <li>• Pressure shall be vented through the end cap's ball valve before attempting to remove the cap.</li> </ul> |
| <p>Failure to follow these instructions could result in death or serious personal injury and property damage.</p> |  |

## INSTALLATION OF SERIES 465 PLUG VALVES WITH GROOVED ENDS

| <b>⚠ WARNING</b>  |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Valves with Victaulic Original Groove System (OGS) ends shall be installed <b>ONLY</b> with couplings and pipe or fittings that are prepared to Victaulic OGS Specifications (Victaulic publication 25.01).</li> <li>• Valves with Victaulic <b>STRENGTH-IN™100</b> ends shall be installed <b>ONLY</b> with couplings and pipe or fittings that are prepared to Victaulic <b>STRENGTH-IN™100</b> Specifications (Victaulic publication 25.13).</li> </ul> |  |
| <p>Failure to follow these instructions may cause joint failure, resulting in death or serious personal injury and property damage.</p>   |  |

- Install the valve by using two Victaulic rigid couplings and pipe or fittings that are prepared to the corresponding Victaulic groove specification. Refer to the specific coupling's instructions for complete installation requirements. Installation instructions ship with the coupling and can be downloaded at [victaulic.com](http://victaulic.com).

## INSTALLATION OF SERIES 465 PLUG VALVES WITH FLANGED ENDS

| <b>⚠ WARNING</b>   |  |
|--|--|
| <ul style="list-style-type: none"> <li>• <b>Always consult with the mating flange manufacturer's instructions for complete installation requirements.</b></li> </ul> |  |
| <p>Failure to follow these instructions may cause joint failure, resulting in death or serious personal injury and property damage.</p>                              |  |

- Verify that the sealing surface of the mating flange is free from gouges or deformities. Assemble the Series 465 to the mating flanges by using the appropriate flange gasket and assembly hardware provided with the mating flange (Victaulic does not supply the flange gasket and assembly hardware).
- Tighten the assembly hardware evenly in a crossing pattern until the flange faces are in metal-to-metal contact or the standard flange bolt torque requirement is achieved (refer to mating flange manufacturer's instructions for complete installation requirements).

Continued on the following page

# **Victaulic® Plug Valve** **MTS™ Series 465**

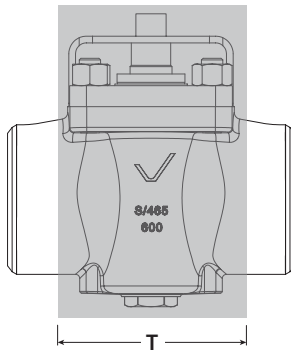
## **INSTALLATION OF SERIES 465 PLUG VALVES WITH BUTT-WELD ENDS**

**WARNING**

- Wear required personal protective equipment during the welding process, and follow all jobsite regulations regarding welding safety.
- The temperature shall be controlled between the valve and pipeline during the welding process, in accordance with the following instructions.

Failure to follow these instructions may cause result in death or serious personal injury and valve/property damage.

- The temperature shall be controlled during the welding process to prevent damage to the sleeve and seals inside the valve. The temperature shall not exceed 300° F/150° C within the "T" dimension area of the valve indicated in the drawing below.



| Nominal Valve Size<br>inches<br>DN | Actual Pipe<br>Outside Diameter<br>inches<br>mm | "T"<br>inches<br>mm |
|------------------------------------|---|---------------------|
| 2<br>DN50                          | 2.375<br>60.3                                   | 4.250<br>108.0      |
| 2½ – 3<br>DN32 – DN80              | 2.875 – 3.500<br>73.0 – 88.9                    | 6.000<br>153.0      |
| 4<br>DN100                         | 4.500<br>114.3                                  | 7.000<br>178.0      |
| 5 – 6<br>DN125 – DN150             | 5.563 – 6.625<br>141.3 – 168.3                  | 8.500<br>216.0      |
| 8<br>DN200                         | 8.625<br>219.1                                  | 10.000<br>254.0     |
| 10<br>DN250                        | 10.750<br>273.0                                 | 11.500<br>292.0     |
| 12<br>DN300                        | 12.750<br>323.9                                 | 14.750<br>375.0     |
| 14<br>DN350                        | 14.000<br>355.6                                 | 15.500<br>394.0     |
| 16<br>DN400                        | 16.000<br>406.4                                 | 19.500<br>495.0     |

## **OPERATION**

**On/Off (Isolating Valves)** – SHALL NOT be actuated with flow passing through the valve. The PTFE sleeve may be damaged by the flow/differential pressure combination in throttling service.

**Flow/Pressure Control** – Can be actuated in throttling service as the pump builds pressure. The valve SHALL NOT be subjected to cavitation conditions, regardless of the level of severity. **NOTE:** Contact Victaulic for guidance on solutions for downstream of the Series 465 when one stage is not enough to eliminate cavitation conditions (typical accessories used are diffusers or orifice plates). Reference Victaulic publication 17.36, which can be downloaded at victaulic.com.

## **INSPECTION**

- Inspect the valve on a frequency required by the facility manager or their representative.
- Verify that there is no strain on the valve and that the piping is aligned and supported properly.
- When necessary, contact Victaulic for details regarding specific maintenance instructions.

For complete contact information, visit [victaulic.com](http://victaulic.com)

**I-465 10860 REV A UPDATED 07/2022 Z000465000**  
VICTAULIC IS A REGISTERED TRADEMARK OF VICTAULIC COMPANY AND/OR ITS AFFILIATED ENTITIES IN THE UNITED STATES AND/OR OTHER COUNTRIES. © 2017 VICTAULIC COMPANY. ALL RIGHTS RESERVED.

