

Victaulic® Therm Zero Valve for Potable Water Applications

TA Series 7TZ



With Thermometer

Without Thermometer

With Measuring Point

1.0 PRODUCT DESCRIPTION

Available Sizes

- ½ – ¾"/DN15 – DN20

Maximum Working Pressure

- 230 psi/1600 kPa/16 bar

Maximum Static Pressure

- During temperature control: 145 psi/1000 kPa/10 bar

Maximum Operating Temperature

- +194°F/+90°C

Temperature Control Range

- +95°F to +176°F/+35°C to +80°C
- Factory pre-set at +131°F/+55°C

Application

- Heating (not steam) and cooling systems
- Potable water systems

Function

- Variable temperature setting
- Shut-off
- Temperature control
- Measuring (when using the PT port or the thermometer version)

2.0 CERTIFICATION/LISTINGS

IAPMO Certified 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.

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

3.0 SPECIFICATIONS – MATERIAL

TA Series 7TZ Therm Zero Valve for Potable Water Applications

Valve Body: Brass CC768S

Valve Plug: Corrosion-resistant acetal material

Seat: Corrosion-resistant polysulphone material

Other Parts in Contact with Water: Brass CW724R (CuZn21Si3P)

O-Rings: EPDM rubber

Handwheel: Fiberglass reinforced polyamide plastic

Measuring Points: Brass CW724R (CuZn21Si3P)

Seals: EPDM

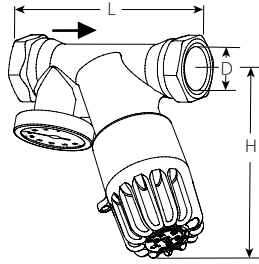
Caps: Polyamide and TPE

NOTE

- Measuring points are self-sealed. Remove the cap and insert the probe through the seal.

4.0 DIMENSIONS

TA Series 7TZ Therm Zero Valve for Potable Water Applications With Thermometer – Preset at +131°F/+55°C



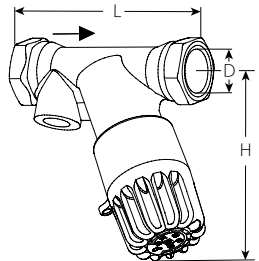
Size		Dimensions			Weight
Nominal	Actual Outside Diameter	L	H	D	Approx. (Each)
inches DN	inches mm	inches mm	inches mm	Thread Size	lb kg
1/2 DN15	0.84 21.3	3.39 86	3.54 90	1/2 NPT	0.99 0.45
3/4 DN20	1.05 26.9	3.62 92	3.54 90	3/4 NPT	1.10 0.50

NOTES

- = Flow direction
- Cv = gpm at a pressure drop of 1 psi and fully open valve

4.1 DIMENSIONS

TA Series 7TZ Therm Zero Valve for Potable Water Applications Without Thermometer – Preset at +131°F/+55°C



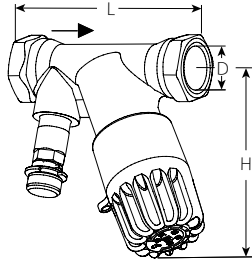
Size		Dimensions			Weight
Nominal	Actual Outside Diameter	L	H	D	Approx. (Each)
inches DN	inches mm	inches mm	inches mm	Thread Size	lb kg
1/2 DN15	0.84 21.3	3.39 86	3.54 90	1/2 NPT	0.95 0.43
3/4 DN20	1.05 26.9	3.62 92	3.54 90	3/4 NPT	1.06 0.48

NOTES

- = Flow direction
- Cv = gpm at a pressure drop of 1 psi and fully open valve

4.2 DIMENSIONS

TA Series 7TZ Therm Zero Valve for Potable Water Applications With Measuring Point – Preset at +131°F/+55°C



Size		Dimensions			Weight
Nominal	Actual Outside Diameter	L	H	D	Approx. (Each)
inches DN	inches mm	inches mm	inches mm	Thread Size	lb kg
1/2 DN15	0.84 21.3	3.39 86	3.54 90	1/2 NPT	0.99 0.45
3/4 DN20	1.05 26.9	3.62 92	3.54 90	3/4 NPT	1.12 0.51

NOTES

- → = Flow direction
- Cv = gpm at a pressure drop of 1 psi and fully open valve

5.0 PERFORMANCE

TA Series 7TZ Therm Zero Valve for Potable Water Applications

The TA Series 7TZ valve replaces the conventional balancing valve used in a domestic hot water recirculating system. The valve maintains minimum temperature rather than constant flow rate, thereby reducing the amount of flow and energy requirements in the reheat cycle.

The TA Series 7TZ opens when the temperature of the domestic hot water upstream of the valve is lower than the set temperature. The valve closes when the supply temperature exceeds the set temperature. The flow of domestic hot water stops until the temperature of the water in the pipe has fallen below the set value, then the valve re-opens and allows hot water to circulate.

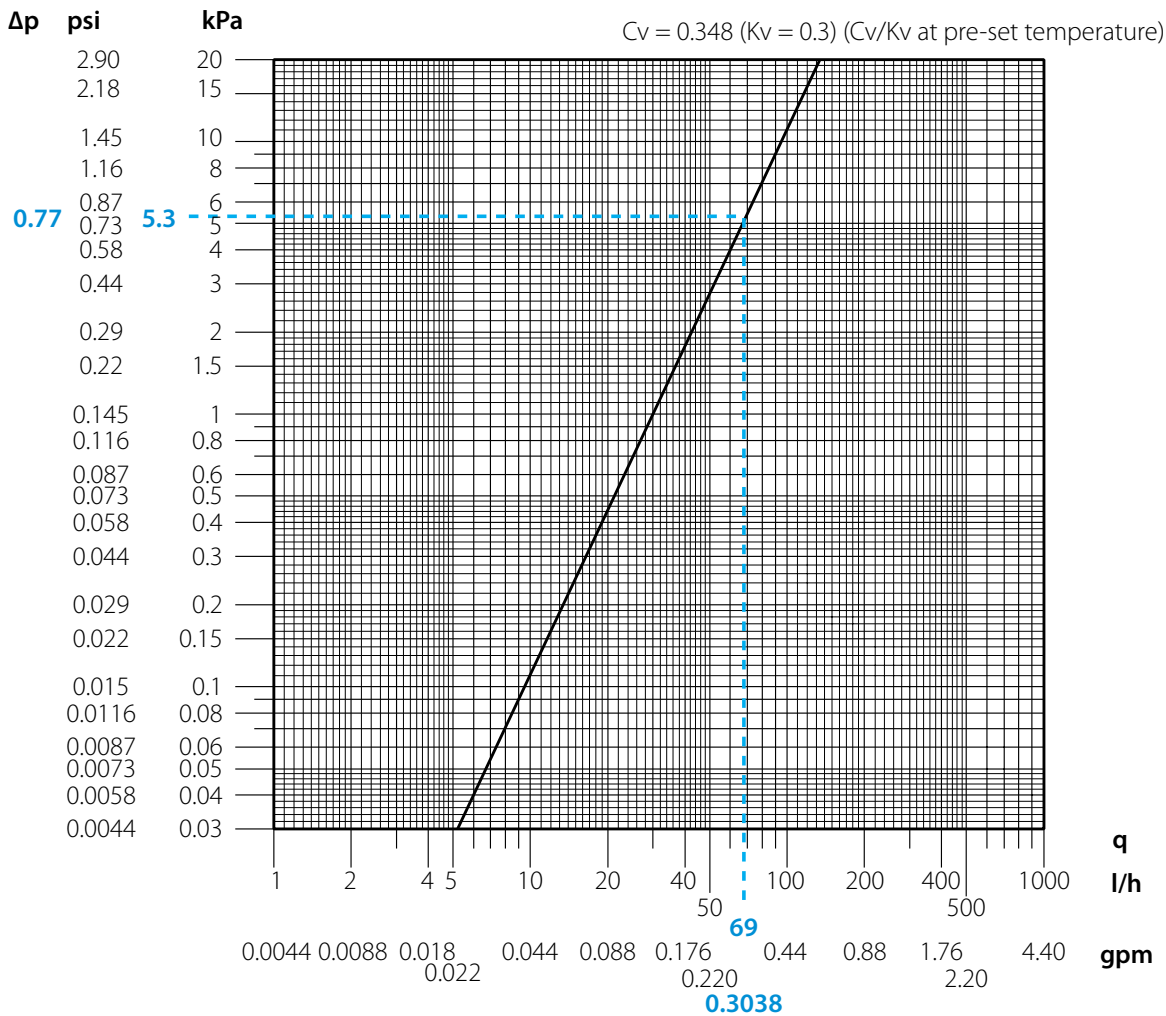
The TA Series 7TZ is fitted with a manual shut-off valve in order to allow repair work to be carried out on the system.

Sizing

Size inches	Maximum Cv (At 10°F or more below the setpoint)	Nominal Cv (At the temperature setpoint)	Minimum Cv (At 10°F or more above the setpoint)
1/2	1.28	0.348	≈ 0
3/4	1.28	0.348	≈ 0

NOTE

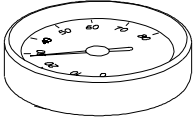
- As the temperature approaches the setpoint, the Cv decreases. As the fluid temperature increases above the set point, the flow is minimal as the valve is fully closed.



5.1 ACCESSORIES

Thermometer

+32°F to +212°F/0°C to +100°C



Part Code

P0007TZTHM

NOTE

- The thermometer cannot be retrofitted onto the TA Series 7TZ valve with PT port.

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

- [08.16: Victaulic Balancing Valves - TA Series 786H/787H/788/789 and Series 78KH](#)
- [08.29: Victaulic Differential Pressure Controller - TA Series 793/794](#)
- [08.30: Victaulic KOIL-KIT™ Coil Pack](#)
- [08.34: Victaulic Automatic Balancing Valves - Series 76T, 76B, 76K, 76V & 76G](#)
- [08.37: Victaulic Compact Pressure Independent Balancing and Control Valve \(Compact P\) - TA Series 7CP](#)
- [08.38: Victaulic TBV Terminal Balancing and Control Valves - Series TC & Series TCM](#)
- [08.46: Victaulic Differential pressure Controller - TA Series 7PR](#)
- [08.47: Victaulic Compact Differential Pressure Control TA Series 7DA](#)
- [08.50: Victaulic Balancing Valve TA Series 78BL](#)
- [08.55: Victaulic Pressure Independent Balancing and Modulating Control Valve - TA Series 7MP](#)
- [08.57: Victaulic Differential Pressure Relief Valve TA Series 782](#)
- [08.59: Victaulic Balancing Valve for Potable Water Applications TA Series 790](#)

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, and the applicable building codes and related regulations 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.

Intellectual Property Rights

No statement contained herein concerning a possible or suggested use of any material, product, service, or design is intended, or should be constructed, to grant any license under any patent or other intellectual property right of Victaulic or any of its subsidiaries or affiliates covering such use or design, 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.

Note

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

Installation

Reference should always be made to the current IMI TA installation/assembly instructions for the product you are installing. For coupling and strainer installation, reference should always be made to the [I-100 Victaulic Field Installation Handbook](#) for the product you are installing. Handbooks are included with each shipment of Victaulic products for 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.

Trademarks

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.