

## Engineering Specification

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_

Job Location \_\_\_\_\_

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

Contractor's P.O. No. \_\_\_\_\_

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# Series 007

## Double Check Valve Assembly

1/2" – 2"

### ⚠ WARNING

Freeze sensor solely provides alerts about a possible freeze event and cannot prevent a freeze event from occurring. User action is required to prevent freeze conditions from causing product and/or property damage.

Series 007 Double Check Valve Assemblies are designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation, fireline, or industrial processing. Only those cross-connections identified by local inspection authorities as non-health hazard shall be allowed the use of an approved double check valve assembly.

Check with local authority having jurisdiction regarding vertical orientation, frequency of testing or other installation requirements.

The series includes a freeze sensor for use with SentryPlus Alert® technology to monitor temperature and alert facility personnel when freeze conditions can cause damage to equipment. (The sensor is installed on the assembly exterior and does not alter assembly functions or certifications.)

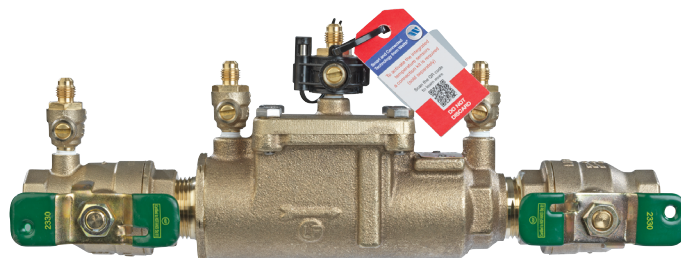
### NOTICE

An add-on connection kit (sold separately) is required to activate the freeze sensor. Without the connection kit, the sensor is a passive component that does not communicate with any other device. (For more information download RP/IS-007S.)

### NOTICE

Use of the freeze sensor does not replace the need to comply with all required instructions, codes, and regulations related to installation, operation, and maintenance of the backflow preventer.

Watts is not responsible for data transmission failures due to power outages, connectivity issues, or improper installation.



007 with Freeze Sensor

### Features

- Ease of maintenance with only one cover
- Top entry
- Replaceable seats and seat discs
- Modular design to facilitate maintenance and assembly by retaining the spring load
- Compact design
- Cast bronze body construction
- Top mounted ball valve test cocks
- Low pressure drop
- No special tools required for servicing
- Tee handles, 1/2" – 1"; lever handles, sizes 1 1/4" to 2"
- Available freeze sensor connection kit to activate a monitoring system that trigger alerts for low and freezing temperatures
  - Built-in Wi-Fi function to communicate freeze alerts directly to the user, eliminating the need for a third-party controller
  - Included standalone sensor to provide flexibility in locating a measuring tool at or near any water-carrying outdoor installation vulnerable to freezing conditions
  - Switched output relay to augment BMS or irrigation management systems with reinforced control of sprinkler systems

### NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Inquire with governing authorities for local installation requirements.

## Specification

A Double Check Valve assembly shall be installed at each noted location. The assembly shall consist of two positive seating check modules with captured springs and rubber seat discs. The check module seats and seat discs shall be replaceable. Service of all internal components shall be through a single bronze or stainless steel access cover secured with stainless steel bolts. The assembly shall also include two resilient seated isolation valves; four top mounted, resilient seated test cocks. The assembly shall meet the requirements of ASSE Std. 1015 and AWWA Std. C510. Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. Assembly shall be a Watts Series 007 and shall include a freeze sensor mounted to one of the test cocks.

## Model/Option

Prefix:

U Union end connections

Suffix:

FZ Freeze sensor

S Bronze strainer

LF Without shutoff valves

SH Stainless steel ball valve handles

HC 2½" inlet/outlet fire hydrant fittings (2" valve)

## Pressure — Temperature

Temperature Range: 33°F – 180°F (0.5°C – 82°C)

Maximum Working Pressure: 175 psi (12.1 bar)

## Standards

ASSE Std. 1015, AWWA Std. C510

IAPMO PS31, CSA B64.5

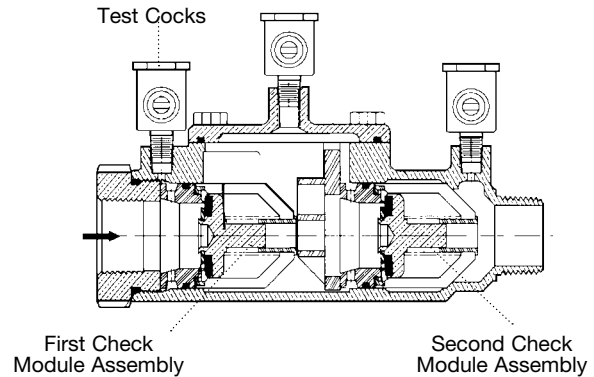
## Approvals



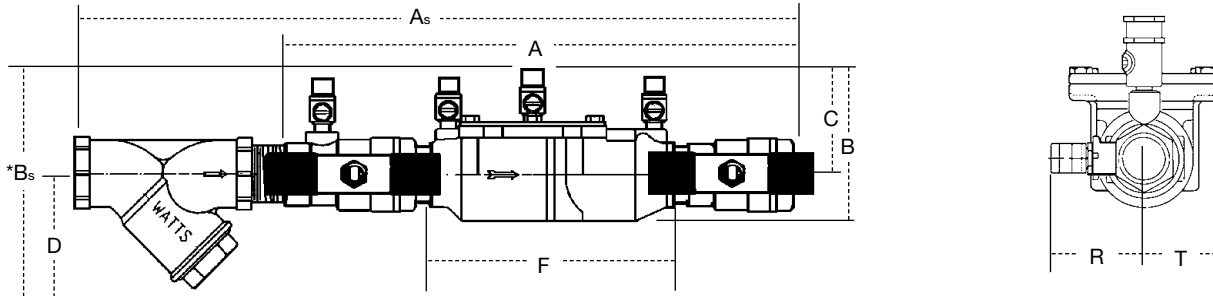
- ASSE, AWWA, IAPMO, CSA, UPC
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- Options FZ, LF, and S not listed
- UL Classified without shutoff valves only (¾" to 2", except 007M3LF)
- Horizontal and vertical "flow up" approval on all sizes

## Insulated Enclosure

The WattsBox insulated enclosure can be installed with this series. For more information, download ES-WB.



## Dimensions – Weights



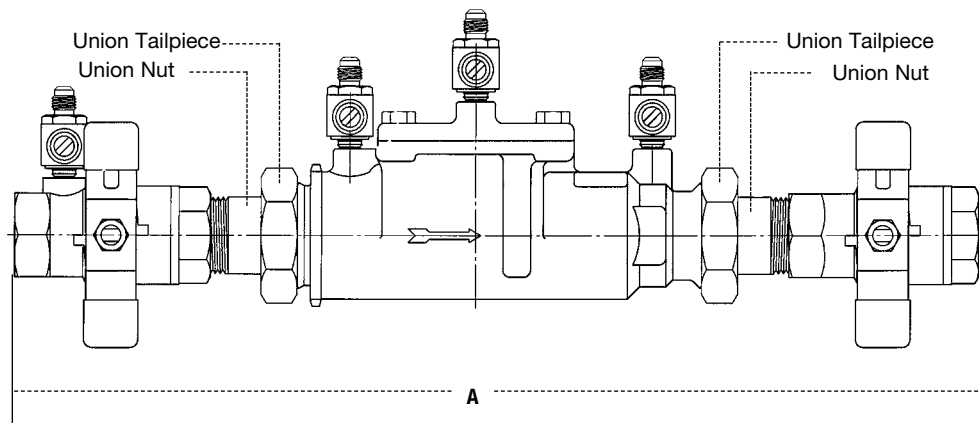
\*Subscript 'S' = strainer model

Call customer service if you need assistance with technical details.

| MODEL     | SIZE | DIMENSIONS |     |     |     |     |     |     |     |     |     |     |     |     |    |     |    | WEIGHT |      |
|-----------|------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|--------|------|
|           |      | A          |     | B   |     | C   |     | D   |     | F   |     | G   |     | R   |    | T   |    | lb     | kg   |
|           |      | in.        | mm  | in. | mm  | in. | mm  | in. | mm  | in. | mm  | in. | mm  | in. | mm | in. | mm |        |      |
| 007QT     | ½    | 10         | 254 | 4⅞  | 117 | 2⅞  | 62  | —   | —   | 5   | 127 | 3⅞  | 85  | 2⅞  | 59 | 2⅞  | 52 | 4.5    | 2.0  |
| 007M3QT   | ¾    | 11⅞        | 282 | 4   | 102 | 3⅞  | 79  | —   | —   | 6⅞  | 157 | 3⅞  | 87  | 2⅞  | 54 | 1⅞  | 33 | 5.0    | 2.3  |
| 007M1QT   | 1    | 13¼        | 337 | 5⅞  | 130 | 4   | 102 | —   | —   | 7½  | 191 | 3⅞  | 85  | 1⅞  | 43 | 1⅞  | 43 | 12.0   | 5.4  |
| 007M2QT   | 1¼   | 16⅞        | 416 | 5   | 127 | 3⅞  | 84  | —   | —   | 9½  | 241 | 5   | 127 | 3   | 76 | 2   | 50 | 15.0   | 6.8  |
| 007M2QT   | 1½   | 16¾        | 425 | 4⅞  | 124 | 3½  | 89  | —   | —   | 9¼  | 248 | 5⅞  | 148 | 3⅞  | 79 | 2⅞  | 52 | 15.9   | 7.2  |
| 007M1QT   | 2    | 19½        | 495 | 6¼  | 159 | 4   | 102 | —   | —   | 13⅞ | 340 | 6⅞  | 156 | 3⅞  | 87 | 2⅞  | 52 | 25.7   | 11.7 |
| 007QT-S   | ½    | 13         | 330 | 6   | 152 | 2⅞  | 62  | 3   | 76  | 5   | 127 | 3⅞  | 85  | 2⅞  | 59 | 2⅞  | 52 | 5.5    | 2.5  |
| 007M3QT-S | ¾    | 14½        | 368 | 6⅞  | 156 | 3⅞  | 79  | 3   | 76  | 6⅞  | 157 | 3⅞  | 87  | 2⅞  | 54 | 1⅞  | 33 | 6.7    | 3.1  |
| 007M1QT-S | 1    | 17⅞        | 456 | 7¾  | 197 | 4   | 102 | ¾   | 83  | 7½  | 191 | 3⅞  | 85  | 1⅞  | 43 | 1⅞  | 43 | 14.0   | 6.4  |
| 007M2QT-S | 1¼   | 21½        | 546 | 7⅞  | 179 | 3⅞  | 84  | ¾   | 83  | 9½  | 241 | 5   | 127 | 3   | 76 | 2   | 50 | 19.0   | 8.6  |
| 007M2QT-S | 1½   | 21¾        | 552 | 7⅞  | 179 | 3½  | 89  | ¾   | 95  | 9¼  | 248 | 5⅞  | 148 | 3⅞  | 79 | 2⅞  | 52 | 19.6   | 8.9  |
| 007M1QT-S | 2    | 25¾        | 654 | 8¾  | 222 | 4   | 102 | 4   | 102 | 13⅞ | 340 | 6⅞  | 156 | 3⅞  | 87 | 2⅞  | 52 | 33.5   | 15.2 |

Suffix HC — Fire Hydrant Fittings dimension "A" = 23½" (594 mm)

### 1" U007M1QT

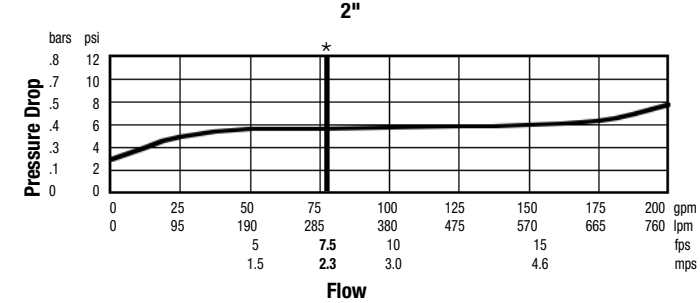
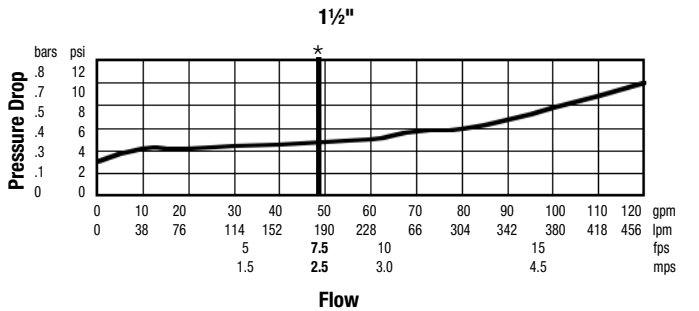
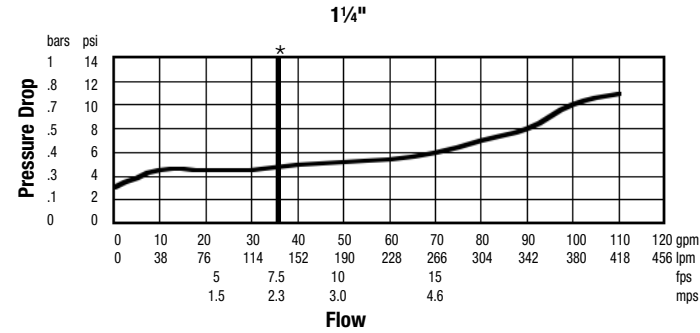
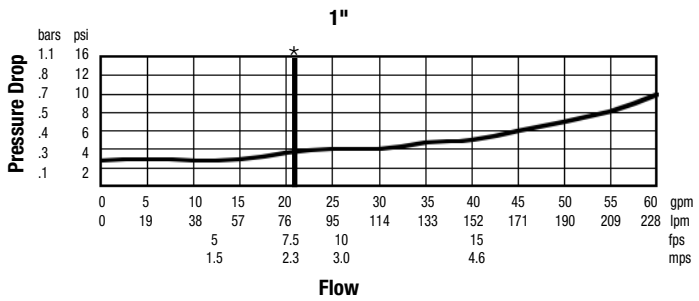
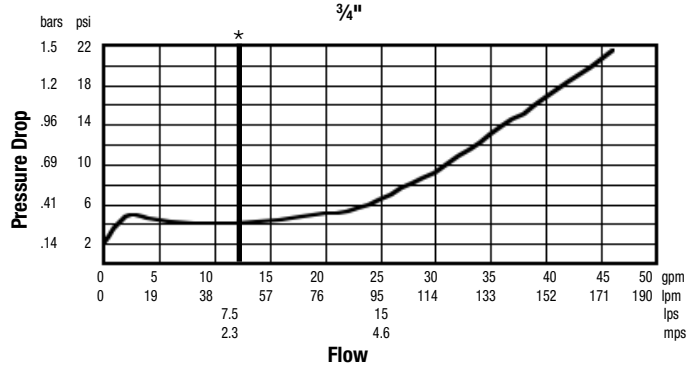
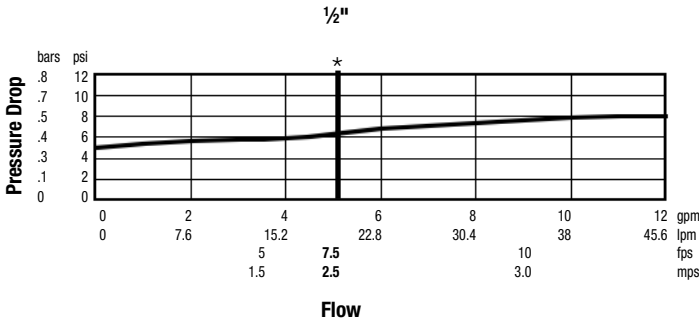


| MODEL    | SIZE | DIMENSIONS |     |  |
|----------|------|------------|-----|--|
|          |      | A          |     |  |
|          | in.  | in.        | mm  |  |
| U007QT   | ½    | 12⅞        | 326 |  |
| U007M2QT | ¾    | 13⅞        | 350 |  |
| U007M2QT | 1    | 16⅞        | 422 |  |
| U007M2QT | 1¼   | 20¾        | 527 |  |
| U007M2QT | 1½   | 21½        | 546 |  |
| U007M1QT | 2    | 24½        | 622 |  |

# Capacity

As compiled from documented Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California lab tests.

\* Typical maximum system flow rate (ft/s; 2.3 m/s)  
 \*\* UL rated flow



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