

For Residential, Commercial and Industrial Applications

Job Name _____
 Job Location _____
 Engineer _____
 Approval _____

Contractor _____
 Approval _____
 Contractor's P.O. No. _____
 Representative _____

Series BRV

Combination Ball Valve and Relief Valve

Sizes: 3/4" – 1" (20 – 25mm)

Series BRV, Combination Ball Valve and Relief Valve is an easy to install two-in-one device. Designed to be used as water heater shutoff valves to provide both a means to shut off the water supply to the water heater and to provide protection against excess water pressure caused by thermal expansion.

These valves use a bronze body full port valve design* which includes PTFE seats and a blow out proof stem design. The relief valve section includes a Viton® ball and stainless steel spring. It is provided with a compression, BARB or PEX end fitting to provide a secure method of connecting a discharge line.

Features

- Easy Installation - Installs in any position
- Low profile design
- Full port ball valve with virgin PTFE seats
- Blowout proof stem
- Stainless steel spring/Viton® ball relief valve components
- Secure drain tube connection available with PEX, BARB or compression fitting models

Specifications

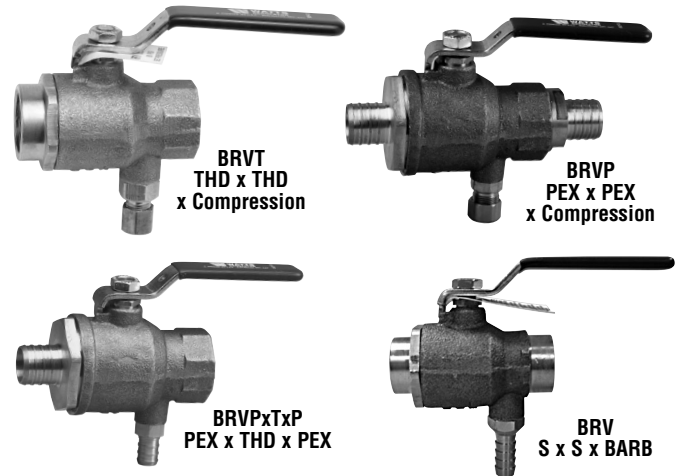
Valve shall include built-in relief protection from water pressure in excess of 75, 80, 100, or 125psi. Each valve shall be full port construction*, bronze ASTM B-584 body, electroless nickel plated ASTM B-16 or B-124 brass ball, blowout proof ASTM B-16 brass stem, virgin PTFE seats, PTFE stem packing and stem thrust bearing, Viton® relief ball and 302 stainless steel relief spring. Valves shall include brass compression nut and ferrule or PEX end connection for a drain line. Valve shall be IAPMO listed. Valve shall be a Watts Regulator Company Series BRV.

* PEX end connections reduce full port to reduced port dimensions.

Viton® is a registered trademark of DuPont Dow Elastomers.

Note For Sweat Connections Only:

This valve is designed to be soft soldered into lines without disassembly, using a low temperature solder 420°F (216°C). Other solders such as 95/5 tin antimony 460°F (238°C) or 96/4 tin silver 430°F (221°C) can be used. However, extreme



Available Models

| INLET | OUTLET | RELIEF OUTLET |
|--------|--------|---------------|
| Sweat | Sweat | PEX |
| Sweat | Sweat | Compression |
| Thread | Thread | Compression |
| PEX | PEX | Compression |
| PEX | Thread | Compression |
| PEX | Thread | PEX |
| PEX | Sweat | Compression |
| PEX | Sweat | PEX |
| Thread | PEX | Compression |
| Sweat | PEX | Compression |
| PEX | PEX | PEX |
| Sweat | Sweat | Barb |
| Thread | Thread | Barb |
| PEX | PEX | Barb |
| PEX | Sweat | Barb |
| PEX | Thread | Barb |
| Sweat | PEX | Barb |
| Thread | PEX | Barb |

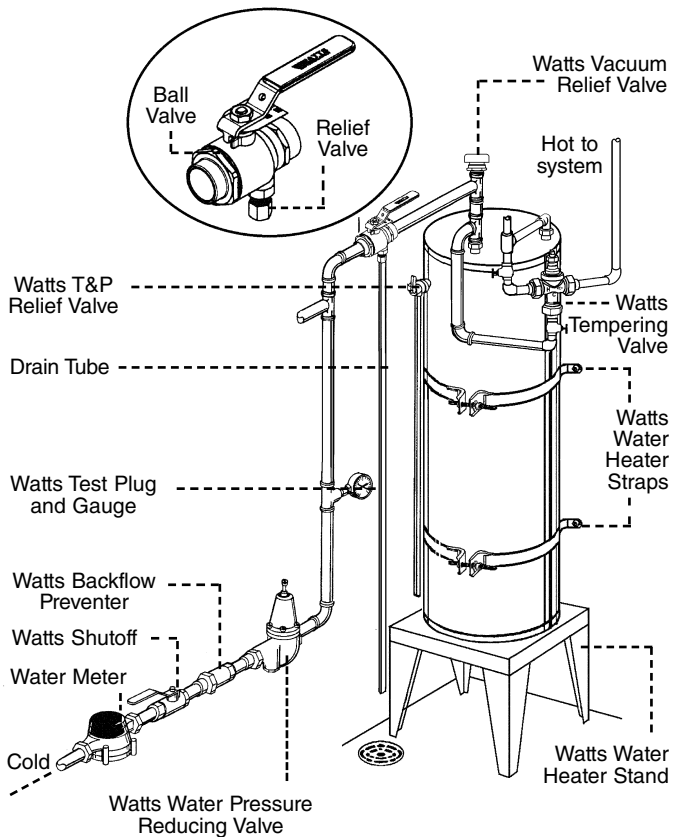
caution must be used to prevent seat damage. Higher temperature solders will damage the seat material. ANSI B16.18 states that the maximum operating pressure of 50-50 solder connections is 200psi (14 bar) at 100°F (38°C) and decreases with higher temperatures.

Apply heat with the flame directed AWAY from the center of the valve body. Excessive heat can harm the seats. After soldering, the packing nut may have to be tightened.



Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

Typical Installation



Temperature – Pressure Rating

Maximum Temperature: 210°F (99°C)

Maximum Pressure: Valve body rated to 400psi (28 bar)

Standards

Listed by IAPMO



Material of Construction

Handle Nut - Zinc plated carbon steel

Handle - Zinc plated carbon steel with vinyl insulator

Packing Nut - ASTM B-16 brass

Stem Packing - PTFE

Thrust Washer - PTFE

Stem - Brass ASTM B-16 UNS No. C36000

Body - Bronze ASTM B-584 UNS No. C84400

Seats - Virgin PTFE

Ball - Electroless nickel free cutting brass rod ASTM B-16
UNS No. C36000, or forging brass ASTM B-124

Adapter - Brass ASTM B-16

Ball - Viton®

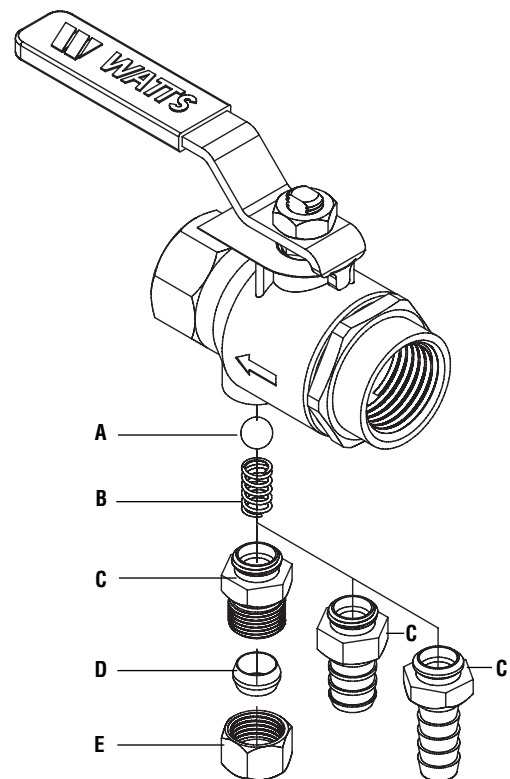
Spring - 302 stainless steel

Spring Cage - Brass ASTM B-16 UNS No. 36000

Ferrule - Brass

Nut - Brass

Relief Valve



COMPRESSION:

A. Ball

B. Spring

C. Spring Cage

D. Ferrule

E. Nut

PEX:

A. Ball

B. Spring

C. Spring Cage

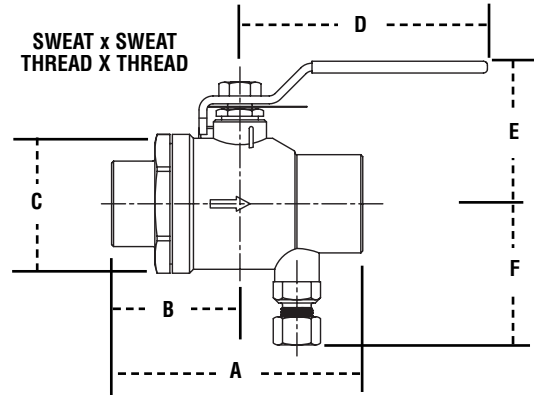
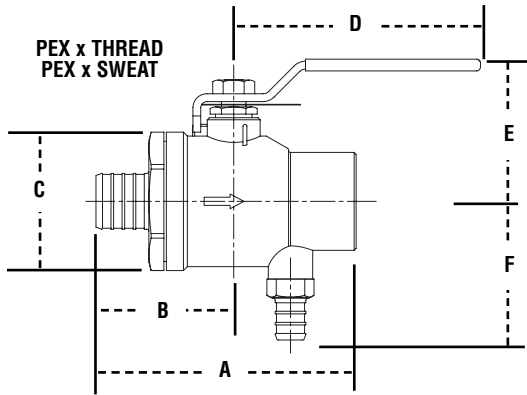
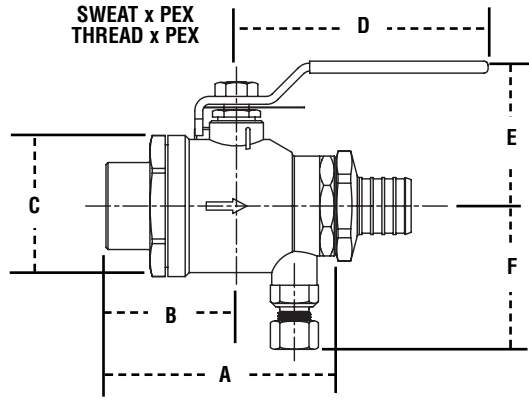
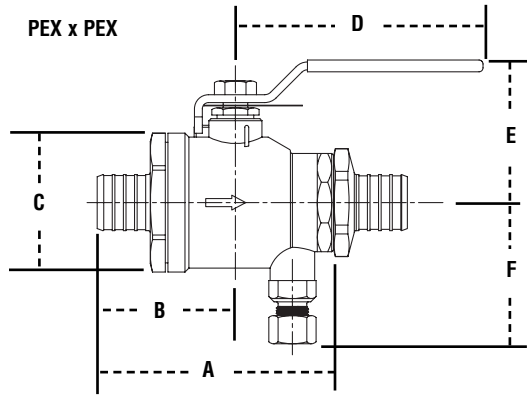
BARB

A. Ball

B. Spring

C. Spring Cage

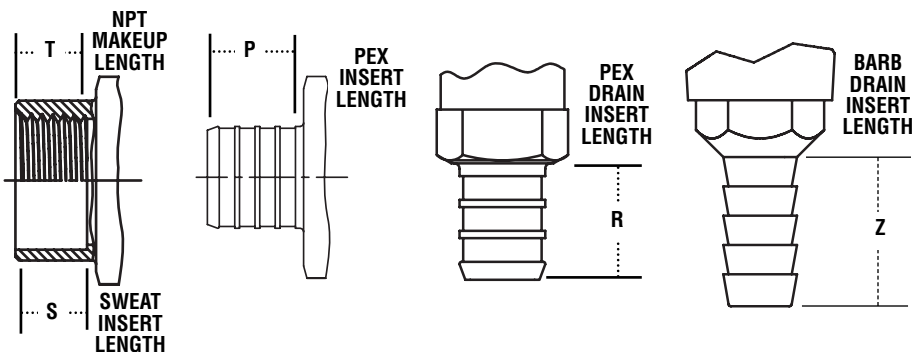
Dimensions — Weights



| MODEL | INLET/OUTLET | SIZE (DN) | | DIMENSIONS | | | | | | | | | | WEIGHT | | | |
|--------|--------------|-----------|----|------------|-----|---------|----|--------|----|-------|------|---------|----|---------|----|------|-----|
| | | in. | mm | A | B | C | D | E | F | lbs. | kgs. | | | | | | |
| BRVT | THD x THD | 3/4 | 20 | 2 15/16 | 75 | 1 3/8 | 36 | 1 9/16 | 40 | 3 3/4 | 95 | 1 15/16 | 49 | 1 15/16 | 49 | 1.00 | .45 |
| BRVT | THD x THD | 1 | 25 | 3 9/16 | 90 | 1 11/16 | 43 | 2 1/8 | 54 | 3 3/4 | 95 | 2 3/16 | 56 | 2 1/8 | 55 | 1.80 | .82 |
| BRVS | SWT x SWT | 3/4 | 20 | 2 15/16 | 75 | 1 3/8 | 36 | 1 9/16 | 40 | 3 3/4 | 95 | 1 15/16 | 49 | 1 15/16 | 49 | 1.00 | .45 |
| BRVS | SWT x SWT | 1 | 25 | 3 7/8 | 99 | 1 15/16 | 49 | 2 1/8 | 54 | 3 3/4 | 95 | 2 3/16 | 56 | 2 1/8 | 55 | 1.80 | .82 |
| BRVP | PEX x PEX | 3/4 | 20 | 3 5/8 | 93 | 1 11/16 | 43 | 1 9/16 | 40 | 3 3/4 | 95 | 1 15/16 | 49 | 1 15/16 | 49 | 1.20 | .54 |
| BRVP | PEX x PEX | 1 | 25 | 4 3/4 | 121 | 2 1/8 | 54 | 2 1/8 | 54 | 3 3/4 | 95 | 2 3/16 | 56 | 2 1/8 | 55 | 2.10 | .95 |
| BRVPxT | PEX x THD | 3/4 | 20 | 3 3/16 | 81 | 1 11/16 | 43 | 1 9/16 | 40 | 3 3/4 | 95 | 1 15/16 | 49 | 1 15/16 | 49 | 1.00 | .45 |
| BRVPxT | PEX x THD | 1 | 25 | 4 | 101 | 2 1/8 | 54 | 2 1/8 | 54 | 3 3/4 | 95 | 2 3/16 | 56 | 2 1/8 | 55 | 1.80 | .82 |
| BRVPxS | PEX x SWT | 3/4 | 20 | 3 3/16 | 81 | 1 11/16 | 43 | 1 9/16 | 40 | 3 3/4 | 95 | 1 15/16 | 49 | 1 15/16 | 49 | 1.00 | .45 |
| BRVPxS | PEX x SWT | 1 | 25 | 4 1/16 | 103 | 2 1/8 | 54 | 2 1/8 | 54 | 3 3/4 | 95 | 2 3/16 | 56 | 2 1/8 | 55 | 1.80 | .82 |
| BRVTxP | THD x PEX | 3/4 | 20 | 3 3/8 | 86 | 1 3/8 | 36 | 1 9/16 | 40 | 3 3/4 | 95 | 1 15/16 | 49 | 1 15/16 | 49 | 1.20 | .54 |
| BRVTxP | THD x PEX | 1 | 25 | 4 5/16 | 109 | 1 11/16 | 43 | 2 1/8 | 54 | 3 3/4 | 95 | 2 3/16 | 56 | 2 1/8 | 55 | 2.10 | .95 |
| BRVSxP | SWT x PEX | 3/4 | 20 | 3 3/8 | 86 | 1 3/8 | 36 | 1 9/16 | 40 | 3 3/4 | 95 | 1 15/16 | 49 | 1 15/16 | 49 | 1.20 | .54 |
| BRVSxP | SWT x PEX | 1 | 25 | 4 9/16 | 116 | 1 15/16 | 49 | 2 1/8 | 54 | 3 3/4 | 95 | 2 3/16 | 56 | 2 1/8 | 55 | 2.10 | .95 |

Standard relief drain connection is a 3/8" Compression Fitting, add P for 1/2" PEX

Outlet Options



| SIZE | DIMENSIONS | | | | |
|--------|------------|--------|--------|----------|----------|
| | P | R | S | T | Z |
| in. mm | in. mm | in. mm | in. mm | in. mm | in. mm |
| 3/4 20 | 13/16 21 | 5/8 16 | 3/4 19 | 9/16 14 | 27/32 21 |
| 1 25 | 13/16 21 | 5/8 16 | 7/8 23 | 11/16 17 | 27/32 21 |

For additional information, visit our web site at: www.watts.com



Water Safety & Flow Control Products

ES-BRV 0632



USA: 815 Chestnut St., No. Andover, MA 01845-6098; www.watts.com
Canada: 5435 North Service Rd., Burlington, ONT. L7L 5H7; www.wattscanada.ca

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