## *S Series Basic Valves*

**LEAD FREE***

# Full Port Stainless Steel Dual Chamber Basic Valve with Mechanical Check Feature

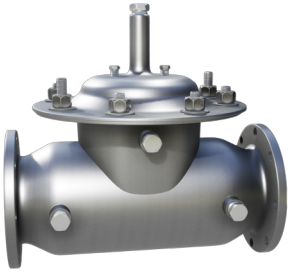
This Watts ACV is a full port, dual chamber basic valve that incorporates a two-piece telescoping disc and diaphragm assembly. This assembly is the only moving part within the valve, allowing it to open or close as commanded by the pilot control system. The lower portion of this two-piece assembly is a mechanical check feature, which acts independent of diaphragm position or pilot control system, and provides immediate check action when flow ceases. When pressure is applied to the upper diaphragm chamber and released from the lower diaphragm chamber, the valve travels to a closed position. When pressure is applied to the lower diphragm chamber and released from the upper diaphragm chamber the valve travels to a full open position.

The Stainless Steel design offers superior corrosion resistance, as well as a lightweight alternative to conventional heavy iron valves. Stainless Steel construction reduces corrosion, reducing diaphragm wear and the frequency and labor costs associated with traditional maintenance repairs.

Watts ACV Main Valves are Lead Free. The Watts ACV piloting system contains Lead Free* components, ensuring all of our configurations are Lead Free compliant.

Globe Pattern Dual Chamber Basic Valve with Mechanical Check Feature (S518)

Angle Pattern Dual Chamber Basic Valve with Mechanical Check Feature (S1518)



Flanged Globe

Flanged Angle

## Standard Materials

| | |
|---|---|
| Body, Cover & Flanges: | 304L Stainless Steel (Standard)<br>316L Stainless Steel (Optional) |
| Trim: | 316 Stainless Steel |
| Elastomers: | Buna-N (standard)<br>EPDM (optional)<br>Viton® (optional) |
| Nut & Spring, Stem: | Stainless Steel |
| Anti-Scale (Optional): | Xylan Coated Stem and Seat |

NSF Certified to NSF/ANSI 61-G

***The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.**

Viton® is a registered trademark of DuPont Dow Elastomers.

## Operating Pressure

150# Flanged = 250psi (17.2 bar)

300# Flanged = 400psi (27.5 bar)

## Operating Temperature

Buna-N: 160°F (71°C) Maximum

EPDM: 300°F (140°C) Maximum

Viton®: 250°F (121°C) Maximum

***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.



WATTS®

# *Full Port Stainless Steel Dual Chamber Basic Valve with Mechanical Check Feature*

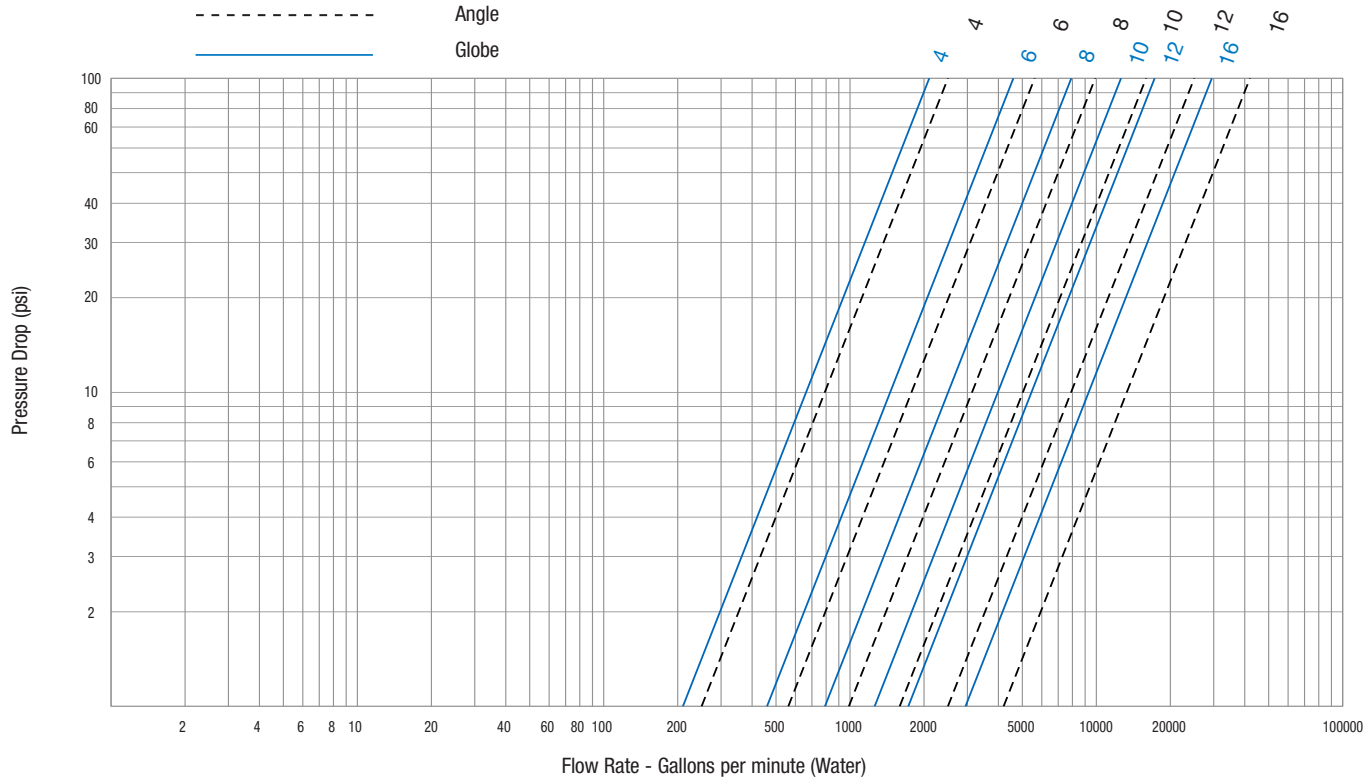
## Flow Data

| | Valve Size - Inches | 4 | 6 | 8 | 10 | 12 | 16 |
|---|---|---|---|---|---|---|---|
| Suggested | Maximum Continuous Flow Rate Gpm (Water) | 800 | 1850 | 3100 | 5000 | 7000 | 11100 |
| | Maximum Intermittent Flow Rate Gpm (Water) | 1000 | 2300 | 4000 | 6250 | 8900 | 14100 |
| | Minimum Flow Rate Gpm (Water) | 16 | 17 | 25 | 55 | 70 | 400 |
| $C_V$ | Factor GPM (Globe) | 161 | 342 | 591 | 1060 | 1404 | 2581 |
| | Factor GPM (Angle) | 177 | 561 | 860 | 1590 | 1645 | 4200 |

- Maximum continuous flow based on velocity of 20 ft. per second.
- Maximum intermittent flow based on velocity of 25 ft. per second.
- Minimum flow rates based on a 20-40 psi pressure drop.
- The $C_v$ Factor of a value is the flow rate in US GPM at 60°F that will cause a 1psi drop in pressure.
- $C_v$ factor can be used in the following equations to determine Flow (Q) and Pressure Drop (ΔP):

  **Q (Flow) = $C_v\sqrt{\Delta P}$** **ΔP (Pressure Drop) = $(Q/C_v)^2$**

- The $C_v$ factors stated are based upon a fully open valve.
- Many factors should be considered in sizing control valves including inlet pressure, outlet pressure and flow rates.
- For sizing questions including cavitation analysis consult Watts with system details.




## Valve Cover Chamber Capacity

| Valve Size (in) | 4 | 6 | 8 | 10 | 12 | 16 |
|---|---|---|---|---|---|---|
| fl.oz. | 22 | 70 | | | | |
| U.S. Gal | | | 1¼ | 2½ | 4 | 9½ |

## Valve Travel

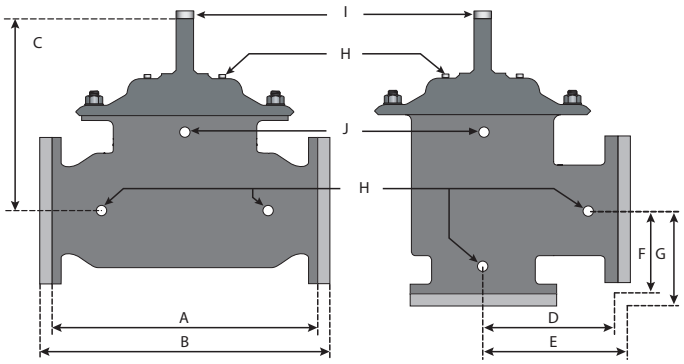
| Valve Size (in) | 4 | 6 | 8 | 10 | 12 | 16 |
|---|---|---|---|---|---|---|
| Travel (in) | 1 | 1½ | 2 | 2½ | 3 | 4 |

***NOTICE***

Installation: If unit is installed in any orientation other than horizontal (cover up) OR extreme space constraints exist, consult customer service prior to or at the time of order.

# *Full Port Stainless Steel Dual Chamber Basic Valve with Mechanical Check Feature*

## Dimensions




| Valve Size | Globe 150# | | Globe 300# | | Cover To Center | | Angle 150# | | Angle 300# | | Angle 150# | | Angle 300# | | Port Size NPT | Port Size NPT | Port Size NPT | Shipping Weights* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | | B | | C | | D | | E | | F | | G | | H | I | J | | |
| *in.* | *in.* | *mm* | *in.* | *mm* | *in.* | *mm* | *in.* | *mm* | *in.* | *mm* | *in.* | *mm* | *in.* | *mm* | *in.* | *in.* | *in.* | *lbs.* | *kgs.* |
| 4 | 15 | 381 | 15⅝ | 397 | 14¼ | 362 | 7½ | 191 | 7⅞ | 200 | 5 | 127 | 5 5/16 | 135 | ½ | ¾ | ½ | 87 | 39 |
| 6 | 20 | 508 | 21 | 533 | 18 7/16 | 468 | 10 | 254 | 10½ | 267 | 6 | 152 | 6½ | 165 | ½ | ¾ | ½ | 178 | 81 |
| 8 | 25⅜ | 645 | 26⅜ | 670 | 21 13/16 | 554 | 12¾ | 324 | 13¼ | 337 | 8 | 203 | 8½ | 216 | 1 | 1 | ½ | 240 | 109 |
| 10 | 29¾ | 756 | 31⅛ | 791 | 23⅜ | 594 | 14⅞ | 378 | 15 9/16 | 395 | 8⅝ | 219 | 9 5/16 | 237 | 1 | 1¼ | ½ | 397 | 180 |
| 12 | 34 | 864 | 35½ | 902 | 29 5/16 | 744 | 17 | 432 | 17¾ | 451 | 13¾ | 349 | 14½ | 368 | 1 | 1¼ | 1 | 480 | 217 |
| 16 | 41⅜ | 1051 | 43½ | 1105 | 35 | 889 | 20 13/16 | 529 | 21⅝ | 549 | 15 11/16 | 398 | 16½ | 419 | 1 | 1½ | 1 | 925 | 420 |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