Performance is standard: Design and features incorporated into every Watts ACV means consistent, dependable, high performance, positive control and long life.

Efficient design: The main valve, globe or angle pattern, is diaphragm actuated, hydraulically operated. Its four major components are the body, cover, interior seat and diaphragm/stem assembly.

Variable volume cover chamber: A synthetic rubber/nylon diaphragm is between the valve body and cover creating a sealed chamber into which line fluid and pressure is introduced. Varying the amount of pressure positions the stem assembly to open, close or modulate the valve as required.

Precise alignment and stable throttling: A cover bearing and integral seat bearing guide the stem assembly for precise alignment with the seat. With the quad seal retainer plate, progressive opening/closing flows, stable throttling, low friction operation and positive closure is ensured.

Drip tight seal: Watts ACV leads the automatic valve industry by being the first to incorporate the dynamic quad seal. The seat, retained on 3 1/2+ sides, provides positive closure while eliminating the need to “bite” into the seal, adding years to the valve’s life. Each quad seal has two usable sides.

Fused epoxy prolongs life: Applied under rigorous preparation and application standards, it is non-porous, improving the flow coefficient of the valve and effectively sealing the casting from interaction with the controlled liquid. The coating also protects the valve from the environment, preventing mineral buildup and rust, simplifies maintenance, and prolongs the life of the valve.

Multiple function performance: By varying the control/piping arrangement, the Watts ACV is able to perform a diversity of functions and applications. A multi-functioning valve results in more system protection at lower cost.

Simplified Maintenance: The main valve and pilot system can be serviced without removing the valve from the line.
Standard Production Valves

* Wide range of sizes 1 1/4" - 24"
* Fused epoxy coating 100% inside and out. (FDA and NSF approved, Meets AWWA standards)
* Exclusive “QUAD SEAL”
  - retained on 3 1/2 + sides
  - positive drip-tight closure
  - longer life span (non-edged seat)
* Diaphragm actuated (one moving part)
* FDA approved diaphragm materials
* Hydraulically operated (frictionless)
* Top and bottom guided stem
* Packless construction (less maintenance)

Watts ACV Base Main Valve Numbers:

Watts ACV FEATURES

BASIC VALVE

* Body and Cover
  Ductile Iron: ASTM A536 65-45-12
  Fused Epoxy Coated 100% inside/outside
* Seat - Stainless Steel - AISI 316 - 11/4" - 8"
  Bronze ASTM B62 - 10" - 24"
  Optional: Stainless Steel - AISI 316 - 10" - 24"
* Stem - Stainless Steel - AISI 303
* Spring - Stainless Steel - AISI 302
* Elastomers
  Diaphragm: Nylon reinforced BUNA-N (Nitrile)
  "Quad Seal": BUNA-N (Nitrile)
  Other materials available

HYDRAULIC CONTROL PILOTS

* Bodies: ASTM B584, Alloy C84400
* Internals: Stainless Steel - AISI 303
* Elastomers: BUNA-N (Nitrile)
  Other materials available

MISCELLANEOUS CONTROL ACCESSORIES

* Bodies: Brass - ASTM B584, Alloy C84400
* Internals: Stainless Steel - AISI 303
* Elastomers: (where applicable): BUNA-N (Nitrile)
  Other materials available

ELECTRICAL

* 120 VAC, 60 Hz, Optional voltage available
* Body: Brass, Optional: Stainless Steel
* Enclosure: General Purpose (NEMA Type 1, 2, 3, 3S, 4, 4X)
  Optional: Explosion proof (NEMA Type 3, 3S, 4, 4X, 6P, 7, 9)

CONTROL CIRCUIT STRAINER

11/4"-3" In-line, Flo-clean, Optional: Isolation Cocks
4-24" External, “Y” strainer + Isolation Cocks

CONTROL TUBING/FITTINGS

* Copper, seamless annealed/Brass flared end
  Optional: Stainless Steel / Stainless Steel

OPERATING TEMPERATURES (BUNA-N)

* Water: +32 degrees to 180 degrees F

END CONNECTIONS/MAXIMUM WORKING PRESSURE

Threaded: ANSI B16.4 / 400 PSIG

(800) 66-BKFLO  (619) 527-2525  Fax: (619) 527-2527
### Dimensions:
All Watts ACV base valves have similar dimensions as shown.

![Diagram of ACV Globe and Angle Valves](image)

<table>
<thead>
<tr>
<th>VALVE SIZE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
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<tr>
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<td>3-1/4</td>
<td>1-7/8</td>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
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<td>4-15/16</td>
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<td>4-1/4</td>
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<tr>
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### Accessory List
- Float control
- Solenoid control
- Pump control
- Rate of flow
- Pressure reducing
- Pressure relief & sustaining
- Check valves
- Altitude valves

### Determining which ACV main valve & accessories you have:

```
XXX - XXX  EX: 110 - 10
```

- **base**
- **accessory**
- **Series 110** with rotary float control

### Accessories on following page.
### Rate of Flow Control Pilot
Opens fully when the level reaches the preset low point and shuts off drip tight when the high level is reached. The rotary 3-port pilot is equipped with a vertical rod which allows the float to rise and lower to the adjustable upper and lower stops. Inches: 3/8.

### Pressure Reducing Pilot
Automatically reduces a higher inlet pressure to a constant lower outlet pressure regardless of changing flow rate and/or varying inlet pressure. Useful for dead-end systems and/or systems using high demand, on-off equipment. Inches: 1/4, 3/8.

### Pressure Reducing Control Valve
Same as above model except for use where remote sensing is desired. Inches: 1/4, 3/8.

### Pressure Relief Pilot
Installed on a by-pass line, mainline pressure is accurately controlled by relief of excess pressure. Installed in a mainline it prevents upstream pressure from dropping below a preset minimum. Inches: 3/8, 1/2, 3/4.

### Pressure Relief Valve
Direct acting, spring loaded, diaphragm type relief valves. Held closed by a compression spring above the diaphragm. Control psi is applied to the chamber beneath the diaphragm through a sensing port to allow or constrict flow. Inches: 3/8, 1/2, 3/4.

### Pressure Reducing Pilot

### Pressure Reducing Pilot

### Pressure Reducing Pilot
## Main Valve Kits

### ELASTOMER KITS
- **(Buna-N - all rubber parts)**

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<thead>
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<th>VALVE SIZE</th>
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### Controls - Buna-N (all rubber parts)

<table>
<thead>
<tr>
<th>Valve</th>
<th>Range</th>
<th>Complete Units</th>
<th>Elastomer Kits</th>
<th>Overhaul Kits</th>
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<td>10 - ROTARY FLOAT CONTROL 1/2&quot;</td>
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