FEATURES

1. Extra large two-ply, seamless bellows used for long life and extra power.
2. Valve can be manually positioned or thermostatically operated alternately by hand crank as desired.
3. Over-temperature protection is standard feature.
4. EPT Rubber U-Cup packing is standard.
5. Quick-detach valve stem construction permits easy valve change.
6. Sturdy construction with cast iron frame.
7. Selection of bulb materials, etc. (See inside pages).
8. Setpoint adjustment wheel
9. Capillary selection (See inside pages).

GENERAL

Without need for external power, Robertshaw Self-Actuated Temperature Regulators (SATR) offer final control of the temperature of a liquid, an air space or flow, or gas flow for domestic, equipment, process, space, etc. on heating or cooling service.

The SATR sensing bulb is installed in the medium being controlled while the SATR valve is located on the supply line of the medium used as the heating (steam, hot water) or cooling (water, ethylene glycol, brine) agent. The SATR regulates the heating or cooling medium flow to maintain the desired temperature at the sensing bulb location. Robertshaw SATR are usually cataloged to detail the two-way direct acting (close on temperature rise) type valves for heating service. Two-way reverse-acting (open on temperature rise) and three-way valves are equally available for cooling service.

The cataloged Robertshaw SATR series offers a selection of: Throttling bands, Temperature Indication, Fail-safe to prevent overheating, Manual Positioning in addition to automatic control, Corrosive atmosphere resistant type, Small overall size and instantaneous heat exchanger service.

Most cataloged Robertshaw SATR specifications are starting points from which many alternates to cataloged capillary, sensing bulb, separable well and valve may be FURNISHED TO MEET YOUR SPECIFIC application's needs.

RT-1010-A SERIES

The RT-1010-A Series features a balanced 3-way valve and a means for manual valve positioning by hand crank as an alternate to the normal automatic control when desired or upon loss of thermal charge. The primary application is bypass or diverting cooling service for engines, gas turbines, etc. The RT-1010-A Series can also be used for rough mixing service (See inside pages) for process water.

HOW TO ORDER

1. Quantity
2. Size
3. Series Number
4. Setpoint and/or setpoint range
5. Capillary specs
6. Sensing bulb specs
7. Other features
8. Shipping and invoicing instructions
DESCRIPTION OF CATALOGED REGULATOR

NOTE: Due to slight difference in regulator frame construction, the 3" size is designated as RT-1010-A1; size 4" as RT-1010-A2; and sizes 5" and 6" as RT-1010-A3.

These regulators have cast frames and manual valve positioning hand crank. Pinion and adjustment spring are steel. Other parts not listed in the following specifications are made of non-ferrous metals.

The following setpoint adjustment ranges are available for the RT-1010-A regulators. The range should be selected so that the setpoint falls within the upper third of the span.

### Full Open Cv

<table>
<thead>
<tr>
<th>Valve Size In.</th>
<th>3&quot;</th>
<th>4&quot;</th>
<th>5&quot;</th>
<th>6&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>E to B</td>
<td>115</td>
<td>220</td>
<td>344</td>
<td>506</td>
</tr>
<tr>
<td>E to C</td>
<td>106</td>
<td>237</td>
<td>385</td>
<td>563</td>
</tr>
</tbody>
</table>

### Valve Specifications

**Type** - Three-way type "WD" with balanced sleeve type poppet. For complete details, see valve specification sheet.

**Sizes** - 3" (RT-1010-A1), 4" (RT-1010-A2), 5" and 6" (RT-1010-A3).

### Dimensions, Shipping Wgt., Sensing Bulb Sizes

<table>
<thead>
<tr>
<th>Regulator No.</th>
<th>RT-1010-A1</th>
<th>RT-1010-A2</th>
<th>RT-1010-A3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve Size, In.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WD</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ship. Wgt., Lbs.</td>
<td>130</td>
<td>220</td>
<td>300</td>
</tr>
<tr>
<td>A</td>
<td>18</td>
<td>19-1/8</td>
<td>21-1/2</td>
</tr>
<tr>
<td>B</td>
<td>14-3/8</td>
<td>15-15/16</td>
<td>15-15/16</td>
</tr>
<tr>
<td>C</td>
<td>6-1/2</td>
<td>6-1/2</td>
<td>6-1/2</td>
</tr>
<tr>
<td>D</td>
<td>3-5/8</td>
<td>3-3/16</td>
<td>5-9/16</td>
</tr>
<tr>
<td>E</td>
<td>10-1/2</td>
<td>15-7/8</td>
<td>19-1/4</td>
</tr>
<tr>
<td>L</td>
<td>6-3/4</td>
<td>8-9/16</td>
<td>11-5/8</td>
</tr>
</tbody>
</table>

Standard bulb for temperature ranges beginning at 120° F. or above.

- **G**: 1-1/4
- **H**: 24
- **T**: 1-1/2

**Standard bulb for ranges beginning below 120° F.**

- **G**: 1-1/2
- **H**: 32
- **T**: 1-1/2

**Separable Wells (For sensing bulb protection or ease of bulb removal):**

- **Material**: Stainless steel
- **Type GA or GA with Lagging Extension**: Mounting thread one size larger than bulb size
- **Type GB**: Mounting thread same as bulb size

**ALTERNATE SPECIFICATIONS INCLUDE:**

- **Capillary:**
  - Length: 1 ft. up to 50 ft. or more
  - Materials: Copper tube with brass armor (standard) or 304 stainless steel tube with SS braid

- **Sensing Bulbs:**
  - **Type 12B**: Copper (standard)
  - **Type 12BP**: 316 stainless steel
  - **Type 12B or 12BP**: With dead extension

- **Separable Wells:**
  - **Material**: Stainless steel
  - **Type GA or GA with Lagging Extension**: Mounting thread one size larger than bulb size
  - **Type GB**: Mounting thread same as bulb size
Valve Sizing

Valve Sizing is critical to control and life of regulator. Use Robertshaw's "Flo-Rule" Valve Sizing Slide Rule and valve Cv chart or contact our representative or factory. The application can frequently be satisfied by a smaller sized valve than the supply pipeline size.

NOTE 1 - IMPORTANT - If valve seat leakage can cause a problem or a hazard, the following should be taken into account. Maximum leakage of new WD valves – 1% of full open valve capacity. This leakage will usually increase somewhat as the valve seats wear in service.

NOTE 2 - IMPORTANT - Damage to or failure of the thermal element with loss of charge will ordinarily result in the regulator going to the "cold" position. The valve stem moves "up" (toward the bellows). Thus the E - B ports of the "WD" valve will be open while the E - C ports will be closed.

CE/ATEX Certification

Certificate number ITS03ATEX41501X

II3G T4

(-28° C ≤ Ta ≤ +65° C)

Maximum recommended Fluid/Gas operating temperature is 265° F (129° C).

Ambient temperature range is -20° F to 150° F (-28° C to 65° C)