

Shown in AHV Configuration

### APPLICATIONS

- Unit Heaters
- Sterilizers
- Air Vents
- Autoclaves
- Dry Kilns
- Dryers
- Flash Tanks
- Small Heat Exchangers
- Plating Tanks
- Cookers
- Kettles
- Other Process Equipment

### OPTIONS *See page 9*

- ST - Sterilizer Trim
- SLR - SLR Orifice
- HC - High capacity orifice

Canadian Registration # 0E0591.9

# ACHIEVER "A" SERIES THERMOSTATIC STEAM TRAPS

Pressures To 200 PSIG (13.8 barg)  
Temperatures to 400°F (204°C)

**Temperature Sensitive Actuator** — One moving part stainless steel welded actuator for maximum corrosion, thermal and hydraulic shock resistance.

**Improved Energy Savings** — Maximum elimination of air and non-condensibles—trap closes at saturated steam temperature.

**Compact** — Requires minimum space and provides condensate capacities equal to larger mechanical traps.

**Freeze Proof** — Type A with horizontal inlet and vertical outlet. Type AHV when installed vertically (outlet down) or horizontally on side (cover perpendicular to ground).

**Renewable In-line** — With factory packaged, precision matched internal parts kits.

**Superior Performance** — Fast response to changing pressure and condensate loads. Maximum air handling capability.

**Guaranteed** — Guaranteed against defects in materials or workmanship for 3 years.

### MODELS

- A33–1/2" right angle trap
- A43–3/4" right angle trap
- A53–1" right angle trap
- AHV33–1/2" straight thru trap
- AHV43–3/4" straight thru trap
- AHV53–1" straight thru trap

\*Add (-HC) to end of model number for high capacity.

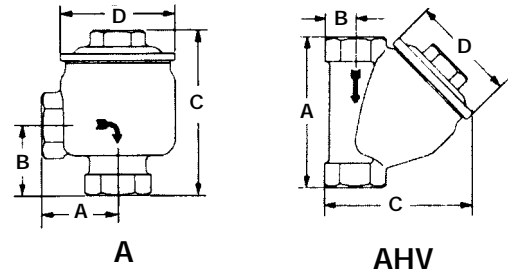
### OPERATION

Thermal actuator is filled at its free length with a liquid having a lower boiling point than water. On start-up, valve is normally open. When steam enters trap, thermal actuator fill vaporizes to a pressure higher than line pressure. This forces valve into seat orifice to prevent any

further flow. As condensate collects, it takes heat from thermal actuator, lowering internal pressure. Line pressure will then compress thermal actuator to open valve and discharge condensate. Valve opening automatically adjusts to load conditions from minimum on very light loads to full lift at maximum load.

# ACHIEVER "A" SERIES THERMOSTATIC STEAM TRAPS

## SPECIFICATION



Connections: 1/2" - 1" NPT

Steam trap shall be of balanced pressure design with stainless steel welded actuator capable of discharging condensate within 10°F of saturated temperature. Where greater sensitivity is required, SLR orifice and Sterilizer trim shall be available to allow condensate evacuation at or near saturated temperatures. Thermostatic actuator shall employ a conical valve lapped in matched sets with the seat ring assuring tight shut off. A minimum of two orifice sizes shall be available allowing for custom capacity sizing. Trap shall be bronze bodied suitable for pressures through 200 psig and available in 1/2" through 1" NPT connections.

### MAXIMUM OPERATING CONDITIONS

PMO: Max. Operating Pressure 200 psig (13.8 barg)  
 TMO: Max. Operating Temperature 400°F (204°C)  
 PMA: Max. Allowable Pressure 200 psig (13.8 barg)  
 TMA: Max. Allowable Temperature 400°F (204°C)

### MATERIALS OF CONSTRUCTION

Body & Cover .....ASTM B283 C37700  
 Actuator .....Welded Stainless Steel  
 Cover Gasket .....Copper Jacketed  
 Valve & Seat .....Hardened 416 Stainless Steel

| Dimensions |                  |               |                |               |            |                |
|------------|------------------|---------------|----------------|---------------|------------|----------------|
| Trap       | Pipe Size inches | Inch (mm)     |                |               |            | Weight lb (kg) |
|            |                  | A             | B              | C             | D          |                |
| A33        | 1/2              | 2<br>(41)     | 1 1/2<br>(106) | 4 3/8<br>(76) | 3<br>(1.5) | 3.3<br>(1.5)   |
| A43        | 3/4              | 2<br>(47)     | 1 1/2<br>(113) | 4 3/8<br>(76) | 3<br>(1.5) | 3.3<br>(1.5)   |
| A53        | 1                | 2 1/8<br>(56) | 2 3/8<br>(125) | 4 1/2<br>(76) | 3<br>(2.2) | 4.8<br>(2.1)   |
| AHV33      | 1/2              | 4<br>(19)     | 3/4<br>(98)    | 3 1/2<br>(76) | 3<br>(1.4) | 3.1<br>(1.4)   |
| AHV43      | 3/4              | 4 1/4<br>(22) | 7/8<br>(108)   | 4 1/4<br>(76) | 3<br>(1.6) | 3.6<br>(1.6)   |
| AHV53      | 1                | 5 1/8<br>(25) | 1<br>(116)     | 4 3/8<br>(76) | 3<br>(2.4) | 5.3<br>(2.4)   |

| Maximum Capacity—lbs/hr 10°F Below Saturation (Kg/hr 5°C Below Saturation) |                   |                          |          |          |           |           |          |          |          |          |          |           |           |            |            |            |
|--|-------------------|--------------------------|----------|----------|-----------|-----------|----------|----------|----------|----------|----------|-----------|-----------|------------|------------|------------|
| Trap   | Orifice inch (mm) | Differential PSIG (barg) |          |          |           |           |          |          |          |          |          |           |           |            |            |            |
|  |                   | 1 (0.07)                 | 2 (0.14) | 5 (0.34) | 10 (0.69) | 15 (1.03) | 20 (1.4) | 40 (2.8) | 50 (3.4) | 60 (4.1) | 80 (5.5) | 100 (6.9) | 125 (8.6) | 150 (10.3) | 175 (12.1) | 200 (13.8) |
| 1/2" A33, AHV33  | 5/16              | 785                      | 1050     | 1650     | 2325      | 2575      | 2825     | 3295     | 3815     | 4200     | 4675     | 5035      | 5535      | 5720       | 6085       | 6210       |
| 3/4" A43, AHV43  | (8)               | (357)                    | (477)    | (750)    | (1057)    | (1170)    | (1284)   | (1498)   | (1734)   | (1909)   | (2125)   | (2289)    | (2516)    | (2600)     | (2766)     | (2823)     |
| 1" A53, AHV53  | 3/8               | 985                      | 1390     | 2180     | 3070      | 3255      | 3735     | 4225     | 5040     | 5480     | 5990     | 6645      | 7315      | 7560       | 8045       | 8200       |
|  | (10)              | (448)                    | (632)    | (991)    | (1395)    | (1480)    | (1698)   | (1920)   | (2291)   | (2491)   | (2723)   | (3020)    | (3325)    | (3436)     | (3657)     | (3727)     |
| 1/2" - 1" All High Capacity "HC"   | 1/2               | 1140                     | 1610     | 2545     | 3600      | 4405      | 5090     | 7195     | 8045     | 8810     | 9800     | 10560     | 11375     | 12090      | 12725      | 13305      |
|  | (13)              | (518)                    | (732)    | (1157)   | (1636)    | (2002)    | (2314)   | (3270)   | (3657)   | (4005)   | (4455)   | (4800)    | (5170)    | (5495)     | (5784)     | (6048)     |