### Installation

Series 34 Air Release Valves are typically installed at high-points in pipelines and at regular intervals, of approximate 1/2 mile, along uniform grade line pipe.

Mount the unit in the vertical position on top of the pipeline with an isolation valve installed below each valve in the event servicing is required. A vault with adequate air venting and drainage is recommended.

**Note:**
Vacuum check valves can be supplied on the discharge of all size air release valves to prevent air re-entering the system; during negative pressure conditions.

### Purchase Specifications

The air release valve shall be of the float operated, simple lever or compound lever design, and capable of automatically releasing accumulated air from a fluid system while the system is pressurized and operating.

An adjustable designed orifice button shall be used to seal the valve discharge port with drip-tight shut-off. The orifice diameter must be sized for use within a given operating pressure range to insure maximum air venting capacity.

The float shall be of all stainless steel construction and guaranteed to withstand the designed system surge pressure without failure. The body and the cover shall be ductile iron and valve internal parts shall be stainless steel and Viton® or Buna-N® (standard) for water tight shut-off.

The air release valve shall be manufactured per ANSI/AWWA C512-04 Series 34 from Cla-Val in Newport Beach, CA, USA.

### Product Specifications

<table>
<thead>
<tr>
<th>Sizes</th>
<th>1/2&quot;, 3/4&quot;, 1&quot;, 2&quot;, 3&quot; NPT</th>
</tr>
</thead>
</table>

**Pressure Ratings (see note)**

<table>
<thead>
<tr>
<th>150 psi</th>
<th>175 psi</th>
<th>300 psi</th>
<th>600 psi</th>
<th>800 psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 psi</td>
<td>175 psi</td>
<td>300 psi</td>
<td>600 psi</td>
<td>800 psi</td>
</tr>
</tbody>
</table>

**Temperature Range**

Water to 180°F

**Materials**

- **Body and Cover:** Ductile Iron ASTM 536 65-45-12
- **Float:** Stainless Steel
- **Internal Parts:** Stainless Steel
- **Seal:** Viton™ or Buna-N® (Standard)

Note: Specify when operating pressure below 10 PSI

Visit www.cla-val.com to see our complete line of air and check valves.
Air Release Valve Sizing

Air release valve sizing requires determining the volume of air that must be released from pipeline high points during normal operation and the diameter of the pipeline. Series 34 Air Release Valves are primarily used to continuously release pockets of air (as they develop) from high point, hence it is not critical to determine exact volume of air to be released.

See chart on page 3 for sizing based on venting capacity.

### Air Release Valve Sizing Chart For Water Pipelines

<table>
<thead>
<tr>
<th>Figure</th>
<th>Model No.</th>
<th>Inlet Size</th>
<th>Outlet Size</th>
<th>Orifice Size</th>
<th>GPM</th>
<th>MWP</th>
<th>Height</th>
<th>Width</th>
<th>Wt. (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure A</td>
<td>UL Listed · FM Approved 3450-AR332 3475-AR332 3410-AR332</td>
<td>1/2&quot;, 3/4&quot;, 1&quot;</td>
<td>1/2&quot;</td>
<td>3/32&quot;</td>
<td>200 - 2200</td>
<td>175</td>
<td>5-7/8&quot;</td>
<td>3-3/4&quot;</td>
<td>6</td>
</tr>
<tr>
<td>Figure A</td>
<td>FM Approved UL Listed 3450-AR116.3 3475-AR116.3 3410-AR116.3</td>
<td>1/2&quot;, 3/4&quot;, 1&quot;</td>
<td>1/2&quot;</td>
<td>1/16&quot;</td>
<td>200 - 2200</td>
<td>300</td>
<td>5-7/8&quot;</td>
<td>3-3/4&quot;</td>
<td>6</td>
</tr>
<tr>
<td>Figure B</td>
<td>3410-AR316C 3420-AR316C</td>
<td>1&quot;, 2&quot;</td>
<td>1/2&quot;</td>
<td>3/16&quot;</td>
<td>2200 - 15000</td>
<td>150</td>
<td>10&quot;</td>
<td>7&quot;</td>
<td>20</td>
</tr>
<tr>
<td>Figure B</td>
<td>3410-AR532.3C 3420-AR532.3C</td>
<td>1&quot;, 2&quot;</td>
<td>1/2&quot;</td>
<td>5/32&quot;</td>
<td>2200 - 15000</td>
<td>300</td>
<td>10&quot;</td>
<td>7&quot;</td>
<td>20</td>
</tr>
<tr>
<td>Figure B</td>
<td>3410-AR332.6C</td>
<td>1&quot;, 2&quot;</td>
<td>1/2&quot;</td>
<td>3/32&quot;</td>
<td>2200 - 15000</td>
<td>600</td>
<td>10&quot;</td>
<td>7&quot;</td>
<td>20</td>
</tr>
<tr>
<td>Figure C</td>
<td>3420-AR038C 3430-AR038C</td>
<td>2&quot;, 3&quot;</td>
<td>1&quot;</td>
<td>3/8&quot;</td>
<td>15000 - 50000</td>
<td>150</td>
<td>12-1/2&quot;</td>
<td>9-1/2&quot;</td>
<td>45</td>
</tr>
<tr>
<td>Figure C</td>
<td>3420-AR732C 3430-AR732C</td>
<td>2&quot;, 3&quot;</td>
<td>1&quot;</td>
<td>7/32&quot;</td>
<td>15000 - 50000</td>
<td>300</td>
<td>12-1/2&quot;</td>
<td>9-1/2&quot;</td>
<td>45</td>
</tr>
<tr>
<td>Figure D</td>
<td>3420-AR-HP500</td>
<td>2&quot;</td>
<td>1&quot;</td>
<td>7/32&quot;</td>
<td>2200 - 50000</td>
<td>500</td>
<td>132&quot;</td>
<td>12&quot;</td>
<td>75</td>
</tr>
<tr>
<td>Figure D</td>
<td>3420-AR-HP800</td>
<td>2&quot;</td>
<td>1&quot;</td>
<td>1/8&quot;</td>
<td>2200 - 50000</td>
<td>800</td>
<td>132&quot;</td>
<td>12&quot;</td>
<td>75</td>
</tr>
</tbody>
</table>
Follow these steps to select and size an air release valves when a specific venting capacity is required:

A) Enter graph with required system pressure and venting capacity
B) Read off nearest orifice diameter to intersection of pressure and capacity lines on graph
C) Enter table above with orifice diameter and select valve that can use this orifice diameter with the corresponding pressure
Series 34 Technical Data

Installation Tips

1. The effectiveness of Series 34 Air Release Valve is dependent upon it being located at appropriate high points in a pipeline and at uniform intervals of approximately 2500 feet on horizontal pipelines.

2. There are four variables that can cause an air pocket to form slightly downstream of the true high point in a piping system:
   1. Severity of the slope adjacent to the high point or change of gradient
   2. Velocity of the liquid
   3. Texture of the inside surface of the pipe being used
   4. Viscosity of the fluid

It is recommended where an air pocket can form slightly downstream of the high point, to install additional Series 34 Air Release Valve at this point.

3. Cla-Val has available, upon request, a Slide Rule Air Valve Calculator. It will greatly reduce the amount of time to size valves for pipeline service.

Other typical applications include:
1. Centrifugal pumps
2. Hydropneumatic tanks
3. Enclosed systems
4. Sewage lines

When Ordering, Please Specify:
1. Model Number
2. Inlet Size (NPT)
3. Inlet Pressure Rating
4. Orifice Size