CYCLONE SEPARATORS

DC Series
CONDENSATE ENTRAINED IN STEAM AND AIR WILL BE REMOVED WITH 98% EFFICIENCY

CONSTRUCTION (DC3S)

- **Body**: Ductile Cast Iron
- **Separator**: Stainless Steel
- **Screen**: (1/2” - 2”)* Stainless Steel
- **Float**: Stainless Steel
- **Trap Valve Seat**: Stainless Steel

* Screen for sizes 3” and 4” is in Trap Cover

FEATURES AND BENEFITS

1. **Cyclone-Effect Separator**:
   - Unique cyclone separator’s efficiency can deliver steam up to 99.8% dryness.*
   - Improves productivity and product quality with dry, high-quality steam/air.

2. **Free-Float Trap** (DC3 and DC7 need a separate trap)
   - Continuously discharges condensate as it is separated.
   - Provides a complete seal, even under low load conditions, with its precision ground spherical float and positive three-point seating.

* Under normal operating conditions

OPERATION

1. Fluid enters the inlet of the separator, and a complex series of fins changes the steam or air flow into a high-speed cyclone flow, separating even mist-like condensate.

2. The separated condensate accumulates at the bottom, lifting the float off the valve seat and discharging condensate continuously.

FLOW VELOCITY AND EFFICIENCY

- **Steam Flow Velocity (ft/s)**
- **Condensation Separation Rate (%)**

Separation rate (%) is given as:

\[
\text{Separation Rate} = \frac{\text{quantity of condensate discharged}}{\text{quantity of incoming condensate}} \times 100
\]

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Connection</th>
<th>Sizes</th>
<th>Material</th>
<th>Maximum Operating Pressure (psig)</th>
<th>Max. Differential Pressure (psi)</th>
<th>Maximum Operating Temperature (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC3S</td>
<td>Steam Separation Trap</td>
<td>Screwed Flanged</td>
<td>1/2, 3/4, 1</td>
<td>Ductile Cast Iron</td>
<td>150, 300</td>
<td>150, 300</td>
<td>428</td>
</tr>
<tr>
<td>DC3A</td>
<td>Air Separation Trap</td>
<td>Screwed Flanged</td>
<td>1/4, 1/2, 3</td>
<td>Cast Iron</td>
<td>100, 150</td>
<td>150, 212</td>
<td></td>
</tr>
<tr>
<td>DC3</td>
<td>Steam/Air Separator</td>
<td>Flanged 6</td>
<td>1/2, 2</td>
<td>Ductile Cast Iron</td>
<td>300</td>
<td>428</td>
<td></td>
</tr>
<tr>
<td>DC7</td>
<td>Steam/Air Separator</td>
<td>Screwed Flanged</td>
<td>1/4, 1, 1/2</td>
<td>Stainless Steel</td>
<td>362</td>
<td>572</td>
<td></td>
</tr>
</tbody>
</table>

LARGER SIZES

For larger sizes, carbon steel fabricated cyclone separators stamped to ASME code for unfired pressure vessels (ASME Code Section VIII, Div.1) are available in sizes up to 20” with maximum operating pressures up to 550 psig. See the DC-L Series SDS for details.

**CAUTION**

To avoid abnormal operation, accidents or serious injury. DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

DO NOT DISASSEMBLE OR REMOVE THIS PRODUCT WHILE IT IS UNDER PRESSURE. Allow internal pressure of this product to equal atmospheric pressure and its surface to cool to room temperature before disassembling or removing. Failure to do so could cause burns or other injury.