**SYSTEM AVAILABILITY**

Desiccant Breather Saves Valuable Resources at Class 1 Railroad

*Technical Application Bulletin*

**PROJECT BACKGROUND**

**DISCOVER**

- A Class 1 Railroad repair facility noticed their current desiccant breathers lasted only two (2) weeks on the hydraulic reservoir.
- It was discovered that the current breather was ineffectively inhaling and exhaling through the desiccant.
- It was also revealed that the setup required a valve to release tank pressure, and a vacuum breaker check to hold the 4 psi head pressure in the tank.

**DIAGNOSE**

- It was diagnosed that the amount of turn-over for the desiccant breather was not common, and that a better solution could and should be substituted instead.
- Schroeder expressed our capabilities in providing a lower-cost, higher-efficiency, in-tank breather solution, the DBE | Desiccant Air Breather.

**DESIGN**

The design of a Schroeder DBE | Desiccant Air Breather was this customer's solution for problems with their shortened desiccant breather life.

- The DBE only uses the desiccant while inhaling.
- The DBE consists of the required check valves on the base of the breather (4.35 psi check valve) to maintain the tank head pressure.
- Both features also allowed the removal of the vacuum breather and fittings.
Reduced desiccant breather changeouts

Cost saving per year for changeout and labor

Underlying values:
Reduced desiccant breather changeouts: 26 times/year (w/o DBE) - 3 times/year (w/ DBE).
26 - 3 = 23 less changeouts.
Cost savings per year for changeout and labor: $40,000

DELIVER

• A sample unit was sent to the customer’s facility in South USA.
  • This location was notorious for limiting the life of the breathers.
• The initial testing proved that Schroeder’s product lasted approx. 10x longer than the previous desiccant breather.
  • Because of these results, the DBE reduced overall usage of replacement desiccant breathers for this customer.

<table>
<thead>
<tr>
<th>Hydraulic Reservoir</th>
<th>Without DBE</th>
<th>With DBE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Savings / yr.</td>
<td>-$40,000.00</td>
<td>+$40,000.00</td>
</tr>
<tr>
<td># of Changeouts</td>
<td>26 times/yr.</td>
<td>3 times/yr.</td>
</tr>
<tr>
<td># of Replacements</td>
<td>Every 2 wks.</td>
<td>Every 18 wks.</td>
</tr>
</tbody>
</table>

CUSTOMER BENEFITS

• Decreased breather changeout charges and labor costs
• Reduced consumption of valves, fittings, and replacement desiccant cartridges
• Cost reduction of $40,000 per year

FURTHER APPLICATION AREAS

• Hydraulic Tanks/Reservoirs
• Gear Boxes
• Wind Turbines
• New and Retrofit Applications

ROI

Reduced desiccant breather changeouts

- 23 times

Cost saving per year for changeout and labor

$40K

Underlying values:
Reduced desiccant breather changeouts: 26 times/year (w/o DBE) - 3 times/year (w/ DBE).
26 - 3 = 23 less changeouts.
Cost savings per year for changeout and labor: $40,000

PRODUCT SPECS

<table>
<thead>
<tr>
<th>DBE</th>
<th>Desiccant Air Breather</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contamination Retention: 26g</td>
<td></td>
</tr>
<tr>
<td>Micron Rating: 2 µm</td>
<td></td>
</tr>
<tr>
<td>Operating Temp. Range: -20°F to 210°F</td>
<td></td>
</tr>
<tr>
<td>Storage Temp.: from -40°F</td>
<td></td>
</tr>
<tr>
<td>Element Material: Pleated Air Filter</td>
<td></td>
</tr>
<tr>
<td>Connection Piece Material: Robust Zinc Die-Casting</td>
<td></td>
</tr>
</tbody>
</table>

For internal use only. In case of questions please contact the ACCESSORIES group.