Introduction

Schroeder Industries desiccant breathers are pivotal in keeping hydraulic fluid dry. Dry hydraulic fluid lasts longer and reduces wear and tear on components as well as reducing varnish formation in the hydraulic fluid. Maintaining a consistent fluid condition at the optimum level is critical for performance.

Schroeder Industries offers two types of desiccant breathers to our customers. Schroeder D-AB series desiccant breather has been a flagship of the breather portfolio for many years. Using silica gel, the D-AB series breathers remove moisture from the air as it passes through the breather into the reservoir. The D-AB desiccant breathers can hold up to 18.5 oz. of water. The silica gel changes color according to the color code on the package to indicate when the breather element has been spent and the breather needs replaced. The D-AB breather has a 2 micron sponge breather at the base of the element to prevent particulate contamination from entering the reservoir.

The second desiccant breather offered by Schroeder Industries is the DBE. This next generation desiccant breather expands on the capabilities of the D-AB. The DBE desiccant breather utilizes two stages of absorbent media to increase performance and optimizes the drying efficiency. The first stage of the drying process is Silica gel which is efficient at removing high humidity levels quickly. The second stage is a molecular sieve which can reduce low level humidity efficiently. Finally there is a Star pleated 3 micron phenolic resin impregnated media to filter our particulate contamination. All of these features improve the performance life of the DBE. However, the most important improvement made to the DBE is the addition of a base with integral inlet and outlet check valves. During operation, as air is drawn into the breather, the inlet valves open and the outlet valves close forcing the air through the breather media. But as the reservoir exhales, the outlet valves open and the inlet valves close allowing the air to vent directly to atmosphere without going through the media. This allows the media to last longer and for a reduction in operations costs.

Schroeder Industries Desiccant breathers will help maintain the cleanliness and condition of the fluid in the circuit by keeping the fluid dry and free from airborne particulate contamination.
The Schroeder desiccant air breathers are designed to increase operational efficiency while reducing operating costs by protecting industrial systems from moisture and particle contaminants.

As fluid levels drop and pressure changes occur in a system, moist air is drawn through the breather (as shown in the diagram below). Air passes through a 2-micron solid contaminant filter and a diffuser to ensure maximum efficiency in the silica gel chamber. Water vapor in the air is absorbed by the silica gel before the dry air passes through a second 2-micron contaminant filter. The filtered air that enters the reservoir is void of moisture and contaminants.

**Features**

**Bi-directional Air Flow**
As moist air flows through the breather’s filtration system, it is cleaned of impurities and dried. Expelled air partially regenerates the silica gel and “backflushes” the particulate to prolong the life of the breather.

**Durable Construction**
The desiccant air breathers are manufactured from rugged ABS plastic and impact-modified Plexiglas.

**Water Vapor Absorbent**
Silica gel is chemically inert, non-toxic, non-deliquescent, non-corrosive and environmentally disposable. Its internal structure of interconnected microscopic pores absorbs up to 40% of its weight. The operating temperature range is -20°F to 200°F (-29°C to 93°C).

**Color Indicator**
As the gold silica gel absorbs water, it turns green to indicate that it has reached its functional capacity and that replacement of the breather is required.

**Dual Anti-static Filter System**
The solid contaminant filters are designed to reduce the potential for explosion in dusty environments.

**Safety Sealed**
To ensure a long shelf life and premium operating performance, each desiccant breather is individually sealed and vacuum packed to protect it from moisture before it is placed in service. All seals are easily removable without the use of tools or sharp instruments.

**Benefits**
- Anti-static features to protect against fire ignition
- High water absorption capacity (D-AB-2 = 3.3 oz and D-AB-8=18.5 oz)
- Long operating life and low maintenance costs
- Environmentally safe disposable silica gel
- Compatibility with a variety of applications
- Prevents rust and oxidation
- Minimizes component wear and maintenance
- Curtails freezing and additive depletion
- Diminishes fluid degradation and orifice blockage
- Extends oil filter and hydraulic system life

**Applications**
- New and Retrofit Applications
- Gear Boxes
- Hydraulic Reservoirs
- Storage Tanks

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Connection</th>
<th>Normal Capacity</th>
<th>Air Flow/psi Drop</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-AB-2</td>
<td>.75” NPT Male</td>
<td>20 SCFM</td>
<td>2 psi at 20 SCFM</td>
<td>3.16 (80)</td>
<td>0.95 (24)</td>
<td>3.25 (83)</td>
</tr>
<tr>
<td>D-AB-2-F</td>
<td>2.25” SAE J829 Flange</td>
<td>20 SCFM</td>
<td>2 psi at 20 SCFM</td>
<td>3.16 (80)</td>
<td>Contact factory</td>
<td>3.25 (83)</td>
</tr>
<tr>
<td>D-AB-8</td>
<td>2” NPT Male</td>
<td>20 SCFM</td>
<td>0.5 psi at 20 SCFM</td>
<td>10.0 (254)</td>
<td>1.75 (44)</td>
<td>5.0 (127)</td>
</tr>
</tbody>
</table>

**Specifications**

- D-AB-2
- D-AB-2-F
- D-AB-8

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Desiccant Air Breathers

The R-AB-4 features inlet and outlet check valves located in the reusable cap (head), which control both the airflow into the reservoir and the airflow out of the reservoir and prolongs the life of the desiccant by allowing the air to flow through the breather only when needed to protect the integrity of the reservoir by establishing the thresholds of vacuum (air in) and pressure (air out). Check valve settings are 0.3 psi in and 2.1 psi out.

The R-AB-4 also includes a reusable top cap which allows for the economic replacement of the desiccant cartridge.

P/N for replacement cartridge is R-AB-ELE.

Both D-AB-4 and R-AB-4 require an adapter. Purchase separately. See below for Adapter Selection Guide.

### Specifications

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Max. Air Flow</th>
<th>Air Flow/psi Drop</th>
<th>A</th>
<th>B</th>
<th>C</th>
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</thead>
<tbody>
<tr>
<td>D-AB-4</td>
<td>20 SCFM</td>
<td>0.70 psi at 35 SCFM</td>
<td>8</td>
<td>1.75</td>
<td>0.75</td>
</tr>
<tr>
<td>R-AB-4</td>
<td>20 SCFM</td>
<td>0.70 psi at 35 SCFM</td>
<td>10</td>
<td>3.00</td>
<td>1.50</td>
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</tbody>
</table>

### Adapter Selection Guide

- **Flange Adapter**
  - Part No. D-AB-FA (without holes)
  - Part No. D-AB-FA1 (with holes)

- **Threaded Adapter**
  - Part No. D-AB-TA1 (1" MNPT)
  - Part No. D-AB-TA34 (3/4" MNPT)

- **Bayonet Adapter**
  - Part No. D-AB-SA

- **Spin On Adapter**
  - Part No. D-AB-SOA1 (1"-1/2" 16UNF)
  - Part No. D-AB-SO112 (1-1/2" 16UNF)
Features and Benefits

- Unique air flow design with suction tube as splash protection and protection against absorbent getting into the tank.
- 2 stages of absorbent provide optimal combination of drying efficiency and water retention.
- Pleated air filter with 2 µm filtration rating.
- Reusable base with check (intake) and bypass (outflow) valves.
- Check valves prevent absorbents being saturated during system downtime.
- Bypass valves divert out flow away from water removal media to preserve its life.
- Robust Zinc die-casting connection piece with integrated anti-splash baffles.
- Replacement cartridge available in 3 different sizes.

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Water Retention Capacity (gallon)</th>
<th>Optimal Air Flow Rate (SCFM)</th>
<th>Max. Drying Capacity at Medium Humidity (SCF)</th>
<th>Max. Drying Capacity at High Humidity (SCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBE-2</td>
<td>.06</td>
<td>21</td>
<td>350</td>
<td>210</td>
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<td>DBE-4</td>
<td>.13</td>
<td>28</td>
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<td>DBE-10</td>
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</table>

Element Contamination Retention Capacity: (2 µm), 26g

Operating Temperature: -20°F to 210°F (-29°C to 99°C)

Storage Temperature: from -40°F (-40°C)

Applications

- New and Retrofit Applications
- Gear Boxes
- Hydraulic Reservoirs
- Wind Turbines

Dimensions
### How to Build a Valid Model Number for a Schroeder DBE:

<table>
<thead>
<tr>
<th>BOX 1</th>
<th>BOX 2</th>
<th>BOX 3</th>
<th>BOX 4</th>
<th>BOX 5</th>
<th>BOX 6</th>
<th>BOX 7</th>
<th>BOX 8</th>
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<tr>
<td>DBE</td>
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**Example:** NOTE: One option per box

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<th>BOX 7</th>
<th>BOX 8</th>
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</thead>
<tbody>
<tr>
<td>DBE</td>
<td>4</td>
<td>R</td>
<td>P</td>
<td>2</td>
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= DBE4RP2N1R.04

### How to Build a Valid Model Number for a Schroeder DBE Base:

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= DBEP1R.04

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**Replacement Cartridge Only:**

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<table>
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