Section 4: AIR BREATHERS
Air Breathers

Quality Air Breathers are Essential

Breathers are integral components of any hydraulic system. A common mistake is treating breathers as a commodity and selecting one based solely on price. Due to particulate contamination found in harsh industrial and mobile environments, this mistake can lead to system inefficiencies and component failures. We offer a portfolio of high quality, cost effective air breathers with various options for a wide range of applications. Choosing the proper breather combats the ingestion of airborne contamination while increasing the efficiency and improving the reliability of your hydraulic system.

The Schroeder Difference

Breather elements are typically constructed with low-grade paper or low-quality sponge material, which tend to tear when exposed to moisture and provide insufficient filtration ratings. Conversely, our breather elements are constructed of phenolic resin impregnated paper or synthetic media. Both types provide high resistance to moisture and adequate micron ratings, ensuring proper filtration while extending the operational service life of the breather.

Recommendations

Increasing demands for fluid cleanliness levels are requiring more frequent use of high-quality media for the filtration of oils. Schroeder recommends selecting a breather with a filtration rating (micron rating) that is equivalent to or finer than your finest system filters.

Since breathers do get clogged over time, Schroeder recommends the following change-out schedules:

- Breathers without pressure gauges or visual indicators change your breather every 6 months or with every service interval.
- Breathers with pressure gauges change your breather at 3 psi pressure drop (at higher pressure drops, the pump can cavitate).
Schroeder offers high quality breathers to effectively combat the ingestion of airborne contamination and moisture, therefore increasing the efficiency and reliability of the system.

Available breather series are ABF, PAB, SAB, and D-AB. Many are available with filler strainer, dipstick, indicator and check/relief valve options. The ABC air breather check can takes the guesswork out of when to change your breather.

### Features and Benefits
- Durable metal housing
- Optional dipstick or filler strainer
- Large pleated surface areas offers high dirt holding and air flow capacity
- NPT or Flange adapter available
- Available with three micron rating

<table>
<thead>
<tr>
<th>Model Number</th>
<th>A</th>
<th>B</th>
<th>Adapter Type</th>
<th>Minimal Micron Retention</th>
<th>Max Flow Rate</th>
<th>Air Flow/psi Drop</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABF-3/10</td>
<td>3.69 (94)</td>
<td>4.28 (109)</td>
<td>.75&quot; NPT Nylon</td>
<td>3</td>
<td>40 SCFM</td>
<td>0.4 psi at 20 SCFM - 1.25 psi at 40 SCFM</td>
</tr>
<tr>
<td>ABF-3/10-M-P12</td>
<td>3.69 (94)</td>
<td>4.28 (109)</td>
<td>.75&quot; NPT Steel</td>
<td>3</td>
<td>40 SCFM</td>
<td>0.29 psi at 20 SCFM - 1.06 psi at 40 SCFM</td>
</tr>
<tr>
<td>ABF-S40</td>
<td>5.06 (128)</td>
<td>8.31 (211)</td>
<td>1.25&quot; NPT Steel</td>
<td>3</td>
<td>200 SCFM</td>
<td>0.3 psi at 70 SCFM - 1.25 psi at 200 SCFM</td>
</tr>
<tr>
<td>MBF-3-M-P20</td>
<td>3</td>
<td>3</td>
<td>10</td>
<td>3</td>
<td>200 SCFM</td>
<td>0.3 psi at 70 SCFM - 1.25 psi at 200 SCFM</td>
</tr>
</tbody>
</table>

SCFM = Standard Cubic Feet per Minute

### Specifications

These breathers are designed for retrofit on hydraulic reservoirs using the SAE-type flange fill port assembly.

The Air Breather Check (ABC) takes the guesswork out of when to change your air breather because it doesn’t care how dirty the air breather looks or how long it’s been installed. It only cares how well the breather is working. The air breather check is calibrated in inches of water and will activate, providing a visual indication, when a vacuum equivalent of 15 inches of water (3.75 kPa) is reached. The ABC can be reset simply by depressing the yellow button and used over and over again.
Air Breathers

**Breathers with Dipstick**

ABF-3/10FA, B, C  ABF-S40FA, B, C

The air breathers above are also available with a dipstick up to 24 inches in length. The dimensions to the “add line” and the “fill line” must be specified in the model number ABF-3/10-F, A, B, C, where:

- **A** = overall length of the dipstick in inches
- **B** = length from tip of dipstick to fill line in inches
- **C** = length from tip of dipstick to add line in inches

For safety reasons, the tip of the dipstick is rounded. No tools are needed for installation and removal. A quarter turn should snugly seal the breather in place.

**Minimum order quantity is 12.**

**Filler Breather with Strainer**

ABF-3/10-S  ABF-S40-S

The strainer used here is #24 mesh and is available in the lengths shown.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Adapter Type</th>
<th>Minimal Micron Retention</th>
<th>Max Flow Rate</th>
<th>Air Flow/psi Drop</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABF-3/10-S</td>
<td>SAE-type flange</td>
<td>10</td>
<td>40 SCFM</td>
<td>0.4 psi at 20 SCFM - 1.25 psi at 40 SCFM</td>
</tr>
<tr>
<td>ABF-3/10-S6</td>
<td>SAE-type flange</td>
<td>10</td>
<td>40 SCFM</td>
<td>0.29 psi at 20 SCFM - 1.06 psi at 40 SCFM</td>
</tr>
<tr>
<td>ABF-S40-S</td>
<td>SAE-type flange</td>
<td>40</td>
<td>40 SCFM</td>
<td></td>
</tr>
<tr>
<td>ABF-S40-S6</td>
<td>SAE-type flange</td>
<td>40</td>
<td>40 SCFM</td>
<td></td>
</tr>
</tbody>
</table>

SCFM = Standard Cubic Feet per Minute

To replace breather only, order ABF-3/10-F or ABF-S40-F.
Features and Benefits
- Durable synthetic Nylon 6 housing
- Phenolic resin impregnated filter element
- Standard Buna N O-Ring
- Available with anti-splash or relief valve
- Optional customer logo (contact factory)
- Optional dipstick (contact factory)

Specifications

Max. Flow Rate: 7 SCFM / 51 gpm at .15 psi
13SCM / 100 gpm at .6 psi

Filtration Rating: 3 µm absolute

Operational Temperature: -22˚ to 212˚F (-30˚ to 100˚C)

How to Build a Valid Model Number for a Schroeder PAB1:

Example: NOTE: One option per box

PAB1 – – P – 3 – N – .5 – R6 = PAB1P3N.5R6

Options

AS = Anti-Splash
R6 = 6 psi relief valve
D = Dipstick

NOTE: Contact factory for lead time and minimum order quantity for other models.
Air Breathers

PAB3 Breather

Features and Benefits
- Durable synthetic Nylon 6 housing
- Phenolic resin impregnated filter element
- Standard Buna N O-Ring
- Available with anti-splash or relief valve
- Optional customer logo (contact factory)
- Optional dipstick (contact factory)

Specifications

Max. Flow Rate: 14 SCFM / 105 gpm at .15 psi
30 SCFM / 230 gpm at .6 psi

Filtration Rating: 3 µm absolute

Operational Temperature: -22˚ to 212˚F (-30˚ to 100˚C)

How to Build a Valid Model Number for a Schroeder PAB3:

BOX 1 BOX 2 BOX 3 BOX 4 BOX 5 BOX 6 BOX 7
PAB3

Example:NOTE: One option per box
BOX 1 BOX 2 BOX 3 BOX 4 BOX 5 BOX 6 BOX 7
PAB3 – P 3 N 12 R6

= PAB3P3N12R6

Filter Model Number Selection

Model Number
PAB3

Replacement Element
Omit

Connection Type
P = NPT
S = SAE

Filtration Rating
3

Gauge Option
N = No Gauge

Connection Size
1 = 1” NPT
12 = 3/4” SAE

Options

AS = Anti-Splash
R6 = 6 psi relief valve
D = Dipstick

NOTE:
Contact factory for lead time and minimum order quantity for other models.
Features and Benefits
- Durable synthetic Nylon 6 housing
- Phenolic resin impregnated filter element
- Standard Buna N O-Ring
- Integrated anti-splash insert
- Optional differential gauge
- Optional customer logo (contact factory)

Specifications

**PABR7 Breather**

**Max. Flow Rate:**
- 35 SCFM / 260 gpm at .15 psi
- 64 SCFM / 475 gpm at .6 psi

**Filtration Rating:** 3 µm

**Operational Temperature:**
- -22˚ to 212˚F (-30˚ to 100˚C)

**Range of Indication:** 0.5 psi

How to Build a Valid Model Number for a Schroeder PABR7:

**BOX 1**
- PABR

**BOX 2**
- P

**BOX 3**
- 3

**BOX 4**
- N

**BOX 5**
- .75

**BOX 6**
- AS

Example: NOTE: One option per box

**BOX 1**
- PABR

**BOX 2**
- P

**BOX 3**
- 3

**BOX 4**
- N

**BOX 5**
- .75

**BOX 6**
- AS

= PABR7P3N.75AS

**NOTE:** Contact factory for lead time and minimum order quantity for other models.
Air Breathers

**SAB22 Breather**

**Features and Benefits**
- Durable steel housing
- Wide range of flow rates
- Replaceable element

**Specifications**

| Max. Flow Rate: | 90 SCFM / 685 gpm at .15 psi |
|                | 105 SCFM / 790 gpm at .6 psi |
| Filtration Rating: | 3 µm absolute, Phenolic resin impregnated filter element |
| Connection: | G2 ½” female thread |
| Lid: | Removable lid to access fill port |

**How to Build a Valid Model Number for a Schroeder SAB22:**

```
BOX 1  BOX 2  BOX 3  BOX 4  BOX 5  BOX 6
SAB22  -  -  -  -  -
```

**Example:**

**NOTE: One option per box**

```
BOX 1  BOX 2  BOX 3  BOX 4  BOX 5  BOX 6
SAB22  R  G  3  N  2.5 = SAB22RG3N2.5
```

**Model Number**

- **SAB22**

**Replacement Element**

- R = Replacement Elements

**Connection Type**

- G = BSPP

**Filtration Rating**

- 3

**Gauge Option**

- N = No Gauge

**Connection Size**

- 2.5 = Female BSPP

**Replacement Elements:**

- R-SAB22-3

**Clearance Required for Element Removal**

| 3.54 |
| (90) |

**G 2 ½” (ISO 228) female**
### Features and Benefits

- Durable steel housing
- Wide range of flow rates
- Replaceable element

### Specifications

**Max. Flow Rate:**
- 127 SCFM / 950 gpm at .15 psi
- 176 SCFM / 1320 gpm at .6 psi

**Filtration Rating:** 3 µm absolute, Phenolic resin impregnated filter element

**Connection:** G2 ½" female thread

**Lid:** Removable lid to access fill port

### How to Build a Valid Model Number for a Schroeder SAB35:

<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>
</tr>
</thead>
<tbody>
<tr>
<td>SAB35</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Example:**

SAB35 – R – G – 3 – N – 2.5 = SAB35RG3N2.5

**NOTE:** One option per box

### Replacement Elements

- **R** = Replacement Elements
- **G** = BSPP
- **3** = Filtration Rating
- **N** = No Gauge

**Connection Size:**
- 2.5 = Female BSPP

**Replacement Elements:** R-SAB22-3 (2 per breather)
SAB70 Breather

Features and Benefits
- Ideal for large reservoir with high return flow
- Durable steel housing
- Replaceable element
- Unique Oil Mist Trap design
- Optional pressure indicator

Oil Mist Trap
The oil mist in the filter is collected in a “drip tray” and is returned safely to the tank, or it can be drained via an oil drain plug.

Specifications

<table>
<thead>
<tr>
<th>Max. Flow Rate</th>
<th>Filtration Rating</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>340 SCFM / 2560 gpm at .15 psi</td>
<td>2 µm Excellement® Z-Media®</td>
<td>8 bolt DN 125 flange</td>
</tr>
<tr>
<td>528 SCFM / 3960 gpm at .6 psi</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Filter Model Number Selection

How to Build a Valid Model Number for a Schroeder SAB70:

Example: NOTE: One option per box

<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>
</tr>
</thead>
<tbody>
<tr>
<td>SAB70</td>
<td>R</td>
<td>F</td>
<td>2</td>
<td>N</td>
<td>1</td>
</tr>
</tbody>
</table>

= SAB70RF2N1

Model Number
- SAB70

Replacement Element
- R = Replacement Elements

Connection Type
- F = Flanged

Filtration Rating
- 2

Gauge Option
- N = No Gauge
- W = With Gauge

Replacement Elements: R-SAB70-2

Connection Size
- 1 = Standard (DN125)