



Section 3:

DESICCANT BREATHERS

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 changed 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 out 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.

Desiccant Air Breathers

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

Bidirectional 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 polycarbonate in DLP 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 -22°F to 212°F (-30°C to 100°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 (4 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

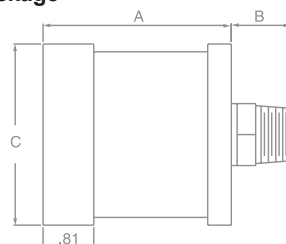
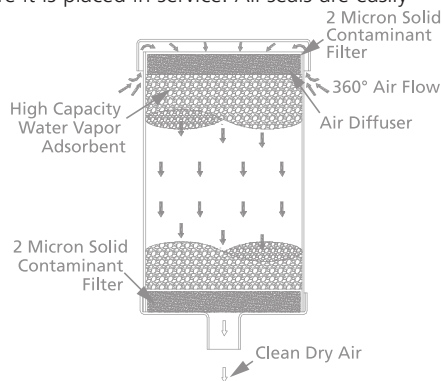
Applications

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

D-AB Desiccant Filter Breather

Suction Separators and Strainers

Oil Sight Glasses

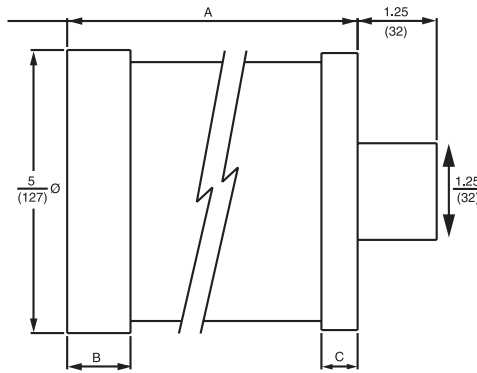


	D-AB-2	D-AB-2-F	D-AB-8			
Model Number	Connection	Normal Capacity	Air Flow/psi Drop	A	B	C
D-AB-2	.75" NPT Male	20 SCFM	2 psi at 20 SCFM	3.16 (80)	0.95 (24)	3.25 (83)
D-AB-2-F	2.25" SAE J829 Flange	20 SCFM	2 psi at 20 SCFM	3.16 (80)	Contact factory	3.25 (83)
D-AB-8	2" NPT Male	20 SCFM	0.5 psi at 20 SCFM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

Desiccant Air Breathers



D-AB-4 R-AB-4



Specifications

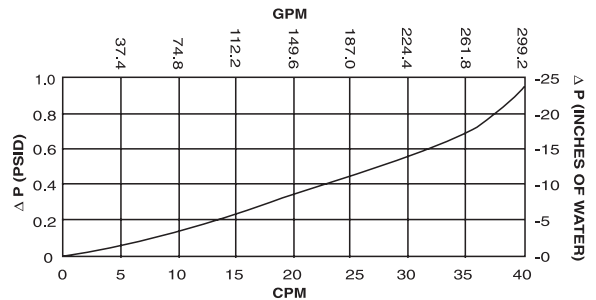
Model Number	Max. Air Flow	Air Flow/ psi Drop	A	B	C
D-AB-4	35 SCFM	0.70 psi at 35 SCFM	8 (203)	1.75 (44)	0.75 (19)
R-AB-4	35 SCFM	0.70 psi at 35 SCFM	10 (254)	3.00 (76)	1.50 (38)

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.

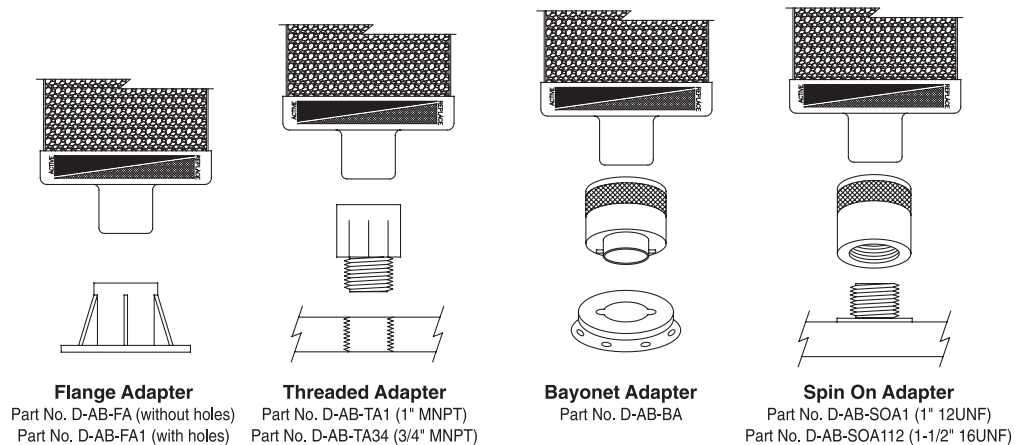
The R-AB-4 also includes a reusable top cap which allows for the economic replacement of the desiccant cartridge.

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.



Adapter Selection Guide

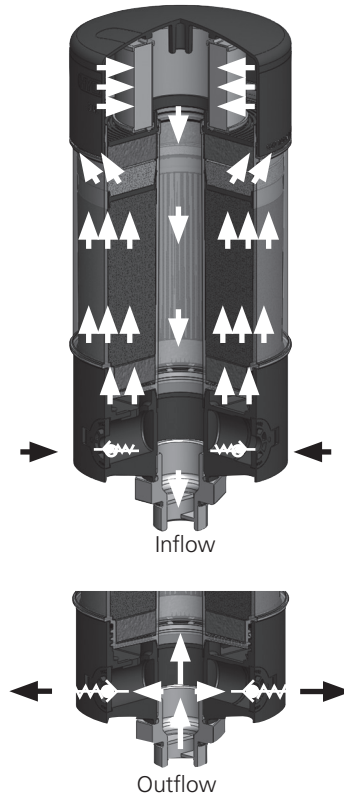


Desiccant Air Breathers

Air Breathers

Features and Benefits

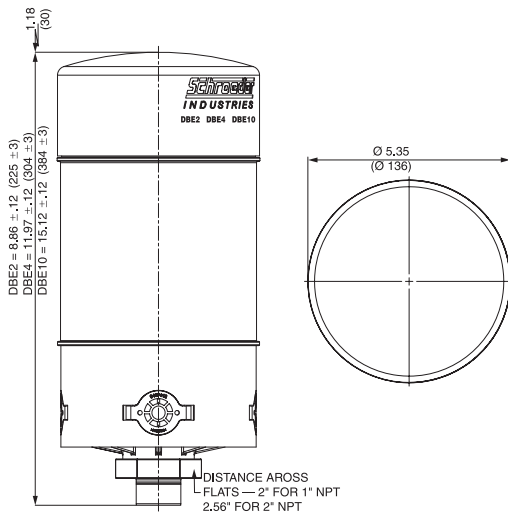
- Unique air flow design with suction tube as splash protection and protection against absorbent getting into the tank
- 2 stages of absorbent provide optimal combination of drying efficiency and water retention
- Pleated air filter with 2 µm filtration rating
- Reusable base with check (intake) and 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



DBE-4

Suction Separators and Strainers

Oil Sight Glasses



Dimensions

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

Applications

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)

Specifications

Size	Water Retention Capacity (gallon)		Optimal Air Flow Rate (SCFM)	Max. Drying Capacity at Medium Humidity (SCF)	Max. Drying Capacity at High Humidity (SCF)
	Max.	Actual			
DBE-2	.06	.05	21	350	210
DBE-4	.13	.08	28	880	530
DBE-10	.20	.13	35	1450	880

Filter Model Number Selection

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

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
DBE							

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
DBE	4	R	P	2	N	1	R.04

= DBE4RP2N1R.04

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
Model Number	Size	Replacement *Element	Connection Type	Filtration *Rating
DBE	2 4 10	R = Replaceable	P = NPT B = BSPT F = Flanged	2 μ

BOX 6	BOX 7	BOX 8
Gauge Options	Connection Size	Check Valve Options
N = None	Omit = Flange 1 = 1" 2 = 2" (NPT only)	Omit = None R.04 = 0.04 psi

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

BOX 1	BOX 2	BOX 3	BOX 4
DBE			

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4
DBE	P	1	R.04

= DBEP1R.04

BOX 1	BOX 2	BOX 3	BOX 4
Model Number	Connection Type	Connection Size	Check Valve Options
DBE	P = NPT B = BSPT F = Flanged	Omit = Flange 1 = 1" 2 = 2" (NPT only)	Omit = None R.04 = 0.04 psi

Replacement Cartridge Only:

BOX 1	BOX 2	BOX 3
Replacement Element	Model Number	Size
R = Replaceable	DBE	2 4 10

Desiccant "Low-Profile" Breather

DLP

Air Breathers

Benefits

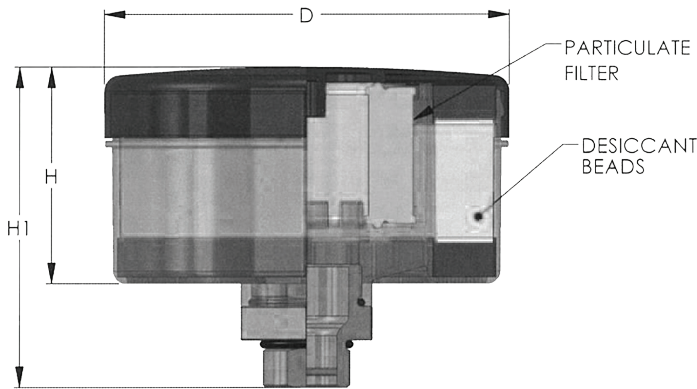
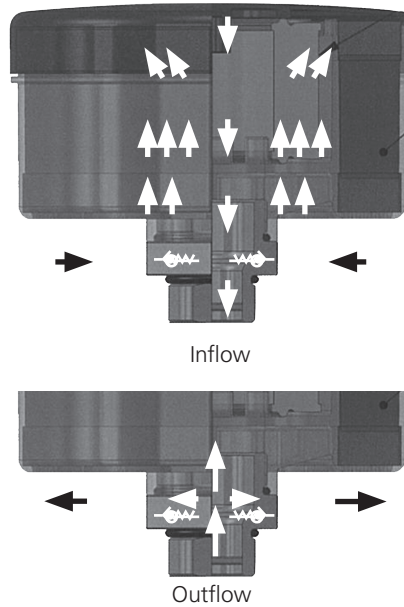
- Low-profile, high capacity design with low machine clearance dimensions in mind
- Prevents dirt and water vapor from entering gearboxes and/or hydraulic systems
- Improves the overall life of the equipment they're mounted on
- High water absorption capacity (4 oz)
- Environmentally safe disposable silica gel
- Prevents rust and oxidation

Applications

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

DLP-2P

DLP-2B



DLP
Desiccant
"Low-Profile"
Breather

Suction
Separators
and
Strainers

Oil Sight
Glasses



Dimensions

Specifications

Model Number	Connection	Normal Capacity	Air Flow/ psi Drop	H1	H	D
DLP-2P	1" NPT Male	20 SCFM	1 psid at 20 SCFM	4.75	3.25	6.00
DLP-2B	BSP 1" Male	20 SCFM	1 psid at 20 SCFM	4.75	3.25	6.00

Reservoir Breather Adapter Kit

The reservoir breather adapter kit offer constant protection during the transition phase of fluid storage. Whether it is draining or filling, the action can be performed through the air tight seal provided by the adapter kit. This ensures airborne contamination is minimized and the breather protection is upheld consistently. Current adapters are designed to be used for either drum or tote storage, and equipped with high performing desiccant breathers.

DK-DAB

Drum Adaptor Kit



Specifications

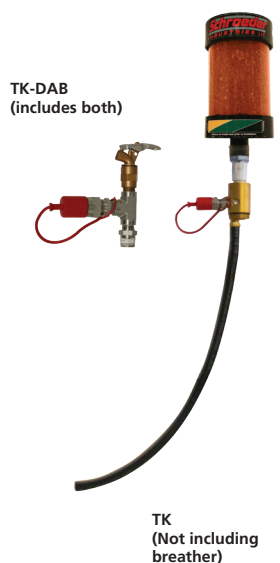
Breather:	D-AB-4
Suction:	Gold 2" drum bung adapter with 1" threaded breather port 33" stainless steel 3/4" downtube cut at 45 degree angle 1" male ISO-B quick disconnect with dust cap
Discharge:	24" stainless steel 1/2" down tube for return to drum 3/4" drum bung adapter 3/4" male ISO-B quick disconnect with dust cap

Features and Benefits

- Easy integration to your equipment for a seamless connection to Schroeder filtration systems
- Prevents the ingress of dirt and moisture by utilizing a Schroeder D-AB-4 desiccant breather
- Customizable to fit all your needs

TK-DAB

Tote Adaptor Kit



Specifications

Breather:	D-AB-4
Discharge:	Gold 2" Tote Adapter with 1" threaded breather port 3/4" male ISO-B quick disconnect with dust cap 24" flexible return hose
Suction:	3/4" tee with 1" MNPT for tote bottom suction port connection Self closing gravity feed dispenser valve 1" Male ISO-B quick disconnect with dust cap

With quick connects via the 1" NPT threaded adapter, this allows your system to remain completely sealed to atmospheric ingress, while allowing for easy access during offline filtration or topping off reservoirs.

Features and Benefits

- Easy integration to your equipment for a seamless connection to Schroeder filtration systems
- Prevents the ingress of dirt and moisture by utilizing a Schroeder D-AB-4 desiccant breather
- Customizable to fit all your needs
- Offered in 1" NPT connection for easy connection on most poly totes
- Spring loaded faucet for easy dispensing