ZEOZORB Breathers

Ultimate protection against moisture and particulate contamination

DRYTECH Inc.

July 13, 2021-Rev.C. H.F

LET MOISTURE BE OUR PROBLEM

ZEOZORB Breathers

Applications

- Reservoirs
- Mobile Equipment
- Small Gearboxes
- Transformers
- Storage Tanks
- Totes
- 55 Gallon Drums

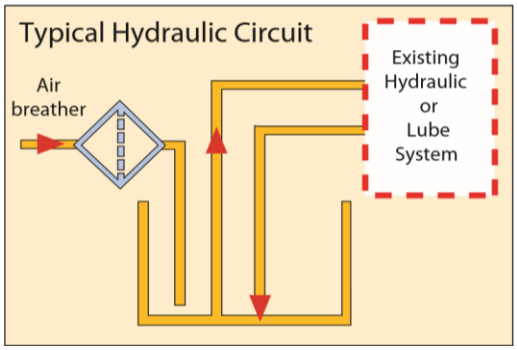
How They Work:

The first line of defense from moisture and particulate contamination in lubricants, fluids, and equipment. Our breathers are designed to replace the standard OEM breather caps on equipment.

As pressure, temperature or fluid level changes occur, air will enter equipment through the breather, which uses layered filter element to remove particulate while the ZEOZORB desiccant absorbs harmful moisture, from entering the atmosphere.

The color changing desiccant will change from blue to tan, indicating its fully saturated and should be replaced.

Active **Replace**



Features

- ZEOLITE adsorbent capacity, less than 100 ppm H2O
- Optimal flow via non-mechanical air-flow control plenum
- Multi-layer filtration – (2) diffusion filters, activated carbon, 0.3µ PTFE filter, 100µ stainless steel filter
- UV resistant to prevent discoloring
- Easy visible color indication of spent adsorbent
- ZEOLITE thermal efficiency with broad temperature range (efficient at all temperatures)
- Diffusion cap - replaces use of valves to control air flow, allows for long term storage

Bi-Directional Air Flow
Air entering the breather is filtered and dried. Air expelled through the breather is filtered through an activated carbon filter, prolonging the life of the breather.

Rugged Construction
ZEOZORB breathers are made of hard PVC plastic and UV resistant polycarbonate tube.

ZEOLITE Adsorbent
ZEOLITE adsorbent provides up to 20% by weight adsorption and provides clean dry air less than 100 PPM. ZEOLITE also maintains performance in high temperature environments, unlike Silica Gel.

Multi-Layer Filtration
All ZEOZORB breathers features (2) diffusion filters, an activated carbon filter, 0.3µ filter, 3µ PTFE filter, and 100µ stainless steel filter Diffusion technology
The diffusion cap replaces the mechanical valves to control air flow. The breathers will only allow air flow when a pressure differential occurs.

Application Flexibility
ZEOZORB breathers feature a standard 1” multi-thread which easily adapt to many applicants.

Color Indication
When maximum adsorption is reached, the blue indicating ZEOLITE beads will turn from blue to beige, to indicate that a replacement is required.

Drawings are for reference only.
Contact factory for current version.

Reservoir Accessories

Specifications

General Data

Model #	ZZ- 125	ZZ- 175	ZZ- 225	Rugged HD
Amount of ZEOLITE	470 g.	755 g.	1027 g.	785 g.
	1.03 lbs.	1.66 Ibs.	2.26 lbs.	1.73 lbs.
Adsorption Capacity @ 20%	94 g.	151 g.	205.4 g.	157 g.
	3.3 oz.	5.3 oz.	7.2 oz.	5.5 oz.
Net Weight of Unit	700 g	980 g	1255 g	1294 g
	1.5 lbs.	2.2 lbs.	2.7 lbs.	2.85 lbs.
Filtration Area	8.4 in^2 / 54.2 cm^2	8.4 in^2 / 54.2 cm^2	8.4 in^2 / 54.2 cm^2	8.4 in^2 / 54.2 cm^2
Direction of Flow	Bidirectional	Bidirectional	Bidirectional	Bidirectional
Operating Temperature Range	-40 °F to 248 °F /- 40 °C to 120 °C	-40 °F to 248 °F /- 40 °C to 120 °C	-40 °F to 248 °F - 40 °C to 120 °C	-40 °F to 248 °F - 40 °C to 10 °C

Hygroscopic Agent (Zeolite)

Apparent Bulk Density	700 - 800 kg/m3
Average Particle Diameter	0.145” / 3.68 mm
Specific Heat	0.25 BTU/lb. F
Nominal Mesh Range	8 x 12
Average Crush Strength	35 lbs. / 15.9 kg

Unit Material Data

Material	UV Resistant Polycarbonate
Maximum Operating Temperature	248°F / 120°C
Melting Point	320°F / 160 °C
Check Valve Adapter	Zinc Plated Steel

Filter Media

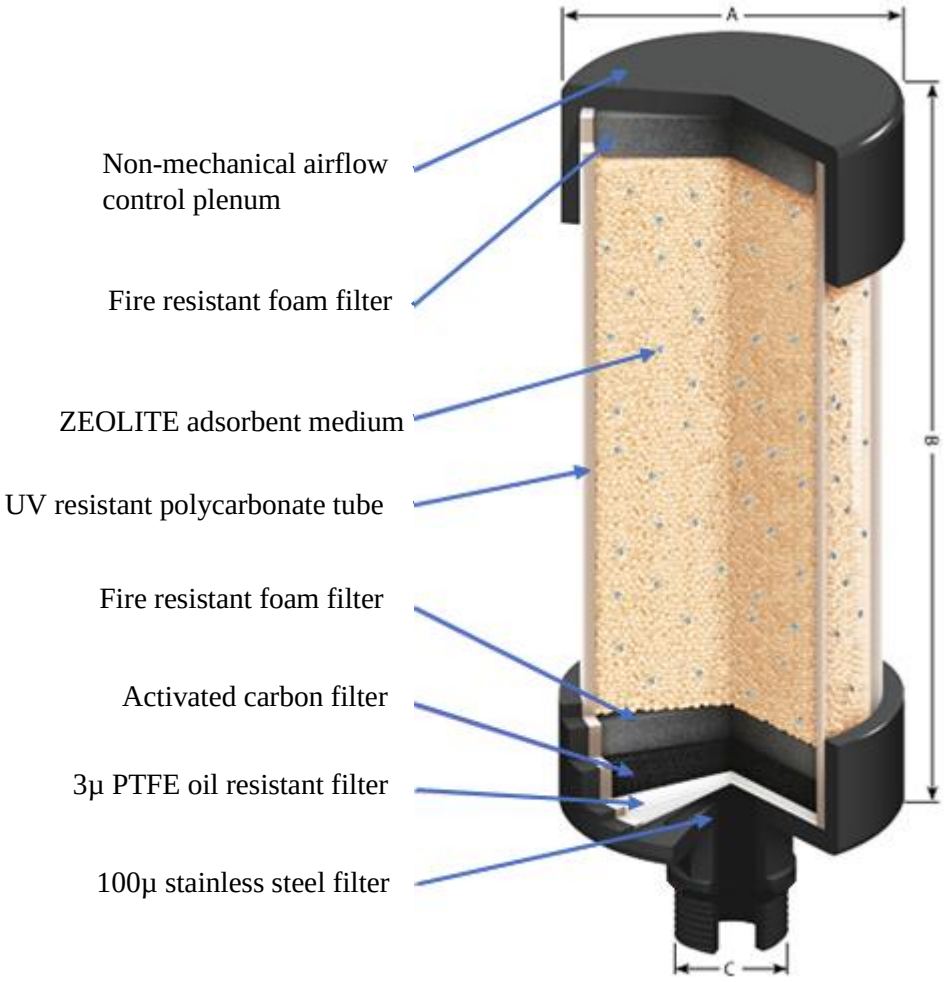
Material	EPTFE
Porosity	3.5 - 7.5 Ft./min. @ 0.5 in. - H2O (ASTM D 737)
Air Filtration Efficiency	934XXX: 99.97% @ 3µ 941655: 99.97% @ 0.3µ (IES-RP-CC021.1)

ZEOZORB Breathers

Desiccant Type

Specifications

Materials:
Tube: Clear UV Resistant Polycarbonate
End Caps: PVC Plastic
Multi-layer Filtration: 2 diffusion filters, activated carbon filter, 3µ PTFE filter, 100µ stainless steel filter
Operation Temperature: -40°F (-40°C) to 248°F (120°C)
Seals: Oil Resistant Viton O-Ring



Part Number	A (in/mm)	B (in/mm)	C	Qty
ZZ- 125	3.87 / 98.3	5 / 127	1” NPT thread	6 pcs
ZZ- 175	3.87 / 98.3	7 / 177.8	1” NPT thread	6 pcs
ZZ- 225	3.87 / 98.3	9 / 228.6	1” NPT thread	6 pcs

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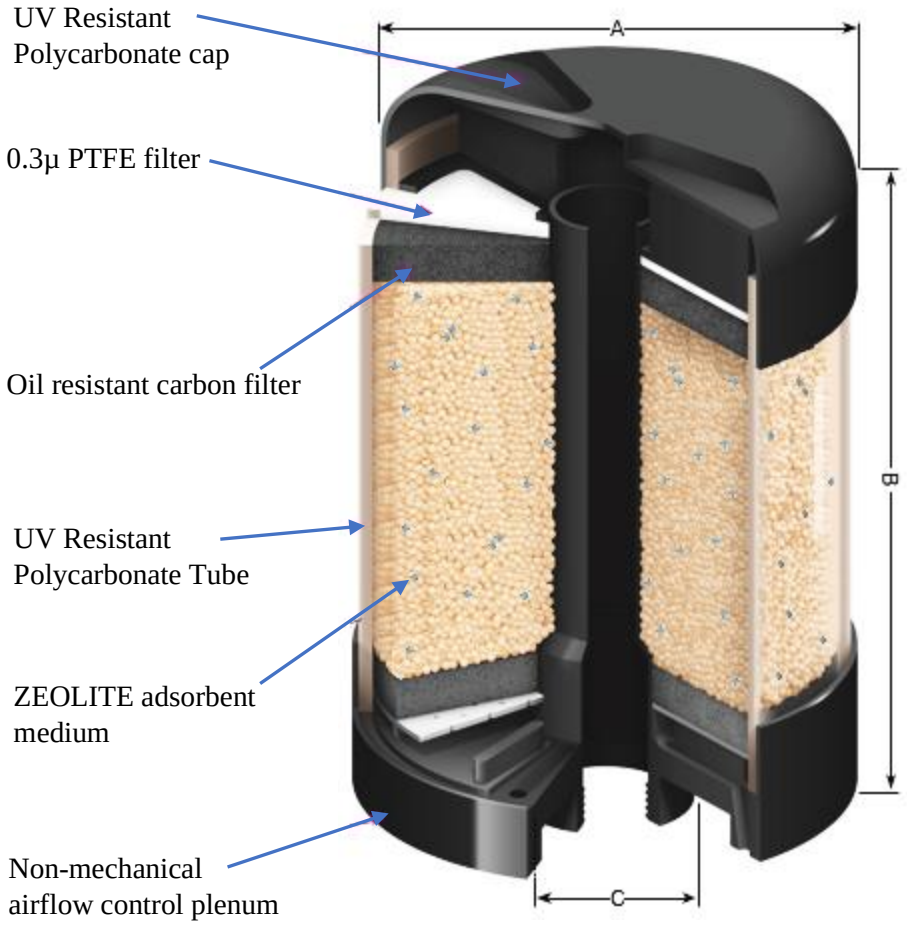
Contact factory for current version.

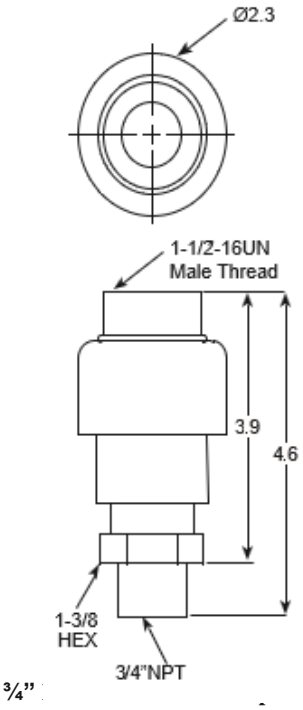
Reservoir Accessories

Mobile Version

Specifications

Materials:
Tube: Clear UV Resistant Polycarbonate
End Caps: PVC Plastic
Multi-layer Filtration: 2 diffusion filters, activated carbon filter, 3µ PTFE filter, 100µ stainless steel filter
Operation Temperature: -40°F (-40°C) to 248°F (120°C)
Seals: None.





Prolongs breather life by diverting air exhausting from reservoir away from desiccant bed.

For mobile applications where oil sloshing can occur, it prevents oil coating desiccant bed. Resulting in diminished performance of the breather's water absorption efficiency.

Part Number	A (in/mm)	B (in/mm)	C	Qty
Rugged HD	5.25 / 133.4	6.17 / 156.7	1-1/2”- 16 UN	1 pc*

Part Number	Description	Qty
1DT90300	Vent Valve Adapter	1 pc

Drawings are for reference only.
Contact factory for current version.

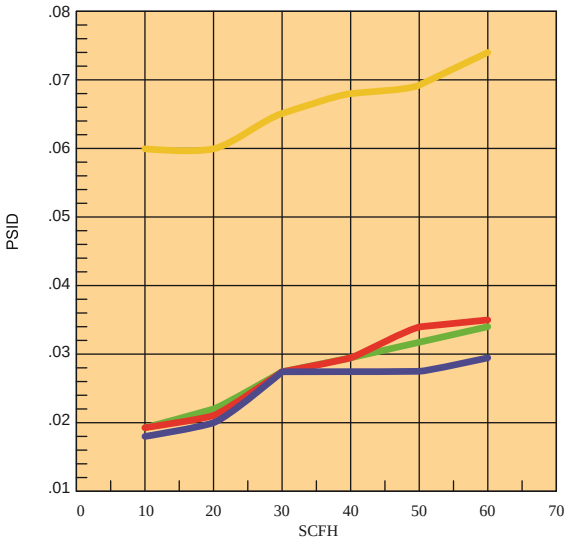
Reservoir Accessories

Performance

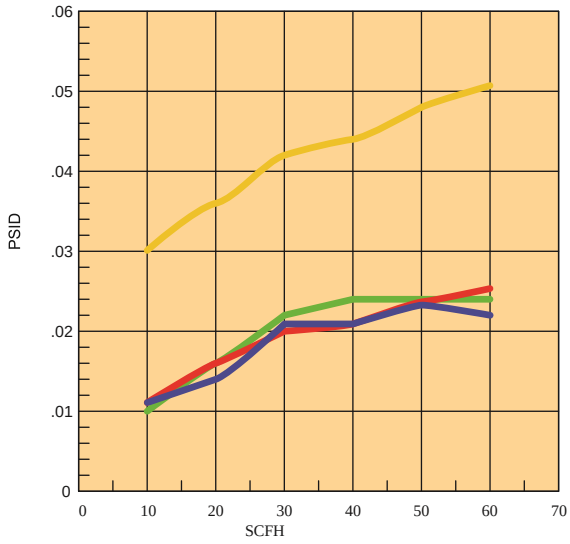
Air Flow Performance

The curves below show the air flow performance of the ZEOZORB breathers. To ensure the longest life possible, the initial clean pressure drop should not exceed 1.5 psid (.103 Bar)

ZEOZORB Pressure Drop



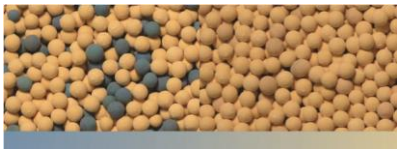
ZEOZORB Pressure Drop (vacuum)



ZZ-125 ZZ-175 ZZ-225 RUGGED HD

Maintenance

ZEOZORB breathers are designed for simple installation on most equipment, regardless of mounting connection. Since ZEOZORB breathers are disposable, the threaded connection allows for quick and easy maintenance. Several mounting adapters (see page 4) are available to provide the desired mounting.



Active Replace

The installation/replacement process consists of three easy steps:

Installation:

1. Remove safety cap at the bottom of the breather
2. Mount the breather to the tank or reservoir using the adapter best suited for the application

Disposal:

1. Verify that the breather is fully saturated – *all blue beads will be beige in color
2. Remove breather from gearbox, tank, reservoir, or other application
3. Remove and save the adapter fitting to be used with a new breather
4. Verify and dispose of breather in accordance with your state and local environmental control regulations

Recommendations:

1. Replace spin on air filter vents, turn down pipes, or vent caps with ZEOZORB disposable desiccant breathers for additional protection against contaminants.
2. Inspect your breather at the time interval recommended based on the environment and flow rate.
3. Add breather replacements to plant operations & maintenance schedule