



# Air Sentry®

## Desiccant Breathers

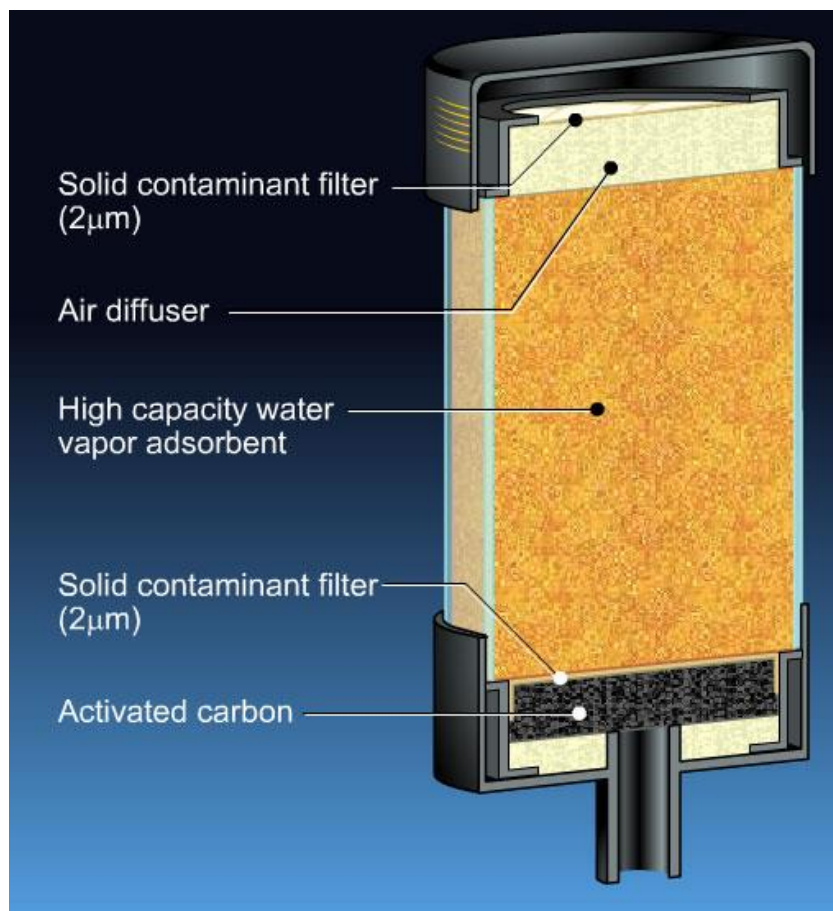
Extending fluid life saves money and downtime



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## How do Air Breathers work:



### Four Layers of Protection

- Upper 2 micron air filter
- High capacity water vapour adsorption media
- Lower 2 micron air filter
- Activated carbon filter

### Removes Incoming Dirt and Moisture

- Solid Particulate > 2 microns removed
- 90% of water vapour removed
- Prevents oil vapours, fumes and odour

### A 2-Way System

- Expelled air partially regenerates silica gel
- Expelled air back-flushes to extend breather life
- Removes expelled oil vapours, fumes and odours

### Delivers cost savings and environmental benefits

- By reducing the chain reaction of wear
- By extending oil service life
- By reducing repairs due to abrasion and fatigue
- By eliminating oil vapours and fumes

•Bi-Directional Airflow  
•Durable Construction  
•Triple Filter System  
•Safety Sealed  
•Color Indicator

# The benefits of Air Sentry Desiccant Air Breathers:

## **Reduce Contamination**

In any reservoir containing fluids or semi-solids, air is breathed in and out as the fluid level changes or as thermal expansion and contraction occurs. Fluid contamination is the primary cause of component wear and lubricant failure in industrial equipment.

## **Easy to Install**

Air Sentry breathers replace the standard breather cap or vent tube on a tank of reservoir. They are easy to install using one of several adapters designed for different applications.

## **Air Filtration**

When the fluid in the system is lowered, or pressure changes occur, air is drawn in through openings under the breather cap. First, air passes through a fine, 2 micron solid particle filter. The air then passes through a diffuser to ensure maximum effectiveness within the silica gel chamber.

## **Water Removal**

Next, water vapor is removed as the air travels through a bed of silica gel - the highest capacity adsorbent available. After being dried, the air passes through a second 2 micron solid particle filter and enters the reservoir clean and dry.

## **High Efficiency**

Air Sentry breathers use a three-stage design to ensure optimum protection by removing water contaminants before they enter the fluid system.

## Air Sentry D-Series Breathers:

The models in this group satisfy most applications involving hydraulic reservoirs, lubrication and fuel storage tanks, transformers, pumps and gearboxes. Models D-100, D-101 and D 102 are rated for airflow of 35 cfm. Model D-108 is rated for 100 cfm.

Type of medium: 100% silica gel.

Max. air flow/fluid flow: 20 cfm / 150 gpm.

Model	Height x Diameter Inch	Mounting Connection	Silica Gel	Adsorption	Repl. Cartridges
D-100	3,5 x 5,0	1"slip fit	0,8 lbs	4,91 fl oz	N
D-101	5,0 x 5,0	1"slip fit	1,4 lbs	8,60 fl oz	N
D-102	8,0 x 5,0	1"slip fit	2,7 lbs	16,56 fl oz	N
D-103	8,0 x 5,0	1" MNPT	2,7 lbs	16,56 fl oz	N
D-104	8,0 x 5,0	2" MNPT	2,7 lbs	16,56 fl oz	N
D-108	10,0 x 5,0	2" MNPT	3.5 lbs	21,47 fl oz	N
D-109	14,0 x 6,0	3" MNPT	3,5 lbs	21,47 fl oz	A-117
D-2	10,0 x 5,0	2"FNPT	3.5 lbs	21,47 fl oz	N



## Air Sentry M-Series Breathers:

The five models in this group of “Steel Breathers” were designed for the most severe environments, such as high temperature situations.

The units are constructed of powder coated heavy gauge steel.

They incorporate an easily replaceable bag of desiccant and a reusable 20 micron pleated filter.

The breathers are rechargeable – the silica gel bag filter is replaced by removing the hood.

The 2-micron particle filter can be washed and reused.

Airflow ratings are up to 300 cfm (2250 gpm).

All M-Series breathers have built-in M-NPT adapters

Model	Height x Diameter Inch	Mounting Connection	Silica Gel	Adsorption
M-103	6.6 x 10.0	1" MNPT	2.1 lbs	12.88 fl oz
M-104	6.6 x 10.0	2" MNPT	2.1 lbs	12.88 fl oz
M-105	12.0 x 10.0	1" MNPT	4.5 lbs	27.6 fl oz
M-106	12.0 x 10.0	2" MNPT	4.5 lbs	27.6 fl oz
M-107	13.5 x 16.0	3" MNPT	22.0 lbs	134.96 fl oz



## Air Sentry X-Series Breathers:

The X-Series Breather line was designed for extreme humidity. Ideal environments include paper mills, or anywhere that humid air is a problem.. The X-Series models incorporate check valves that allow air to enter through the breather only when required, thereby extending the life of the desiccant and the useful life of the breather.

Type of medium: 100% silica gel.

Max. air flow/fluid flow: 20 cfm / 150 gpm; except X-100 is: 10 cfm/75 gpm.

Model	Height x Diameter Inch	Mounting Connection	Silica Gel	Check Valve PSI In/Out	Adsorption	Repl. Cartridges
X-100	6,25x3,25	1/2" FNPT	0,8 lbs	0,3/0,3	4,91 fl oz	L-143
X-101	7,00 x 5,00	1" slip fit	1,4 lbs	0,1/2,0	8,60 fl oz	A-341
X-102	10,00 x 5,00	1" slip fit	2,7 lbs	0,1/2,0	16,56 fl oz	A-342
X-103	7,00 x 5,00	1" MNPT	1,4 lbs	0,1/2,0	8,60 fl oz	A-345
X-105	10,00 x 5,00	1" MNPT	2,7 lbs	0,1/2,0	16,56 fl oz	A-346
X-121	7,00 x 5,00	2" MNPT	1,4 lbs	0,1/2,0	8,60 fl oz	A-343
X-122	10,00 x 5,00	2" MNPT	2,7 lbs	0,1/2,0	16,56 fl oz	A-344
X-501	7,00 x 5,00	1" slip fit	1,4 lbs	0,1/0,1	8,60 fl oz	A-341
X-502	10,00 x 5,00	1" slip fit	2,7 lbs	0,1/0,1	16,56 fl oz	A-342
X-503	7,00 x 5,00	1" MNPT	1,4 lbs	0,1/0,1	8,60 fl oz	A-345
X-505	10,00 x 5,00	1" MNPT	2,7 lbs	0,1/0,1	16,56 fl oz	A-346
X-521	7,00 x 5,00	2" MNPT	1,4 lbs	0,1/0,1	8,60 fl oz	A-343
X-522	10,00 x 5,00	2" MNPT	2,7 lbs	0,1/0,1	16,56 fl oz	A-344





## Air Sentry Z-Series Breathers:

These are the “Mini Breathers”.

They are designed for applications where space is limited or airflow is minimal (10 cfm or less).

They are often used for gearboxes , drums, totes and small reservoirs.

Type of medium: 100% silica gel.

Max. air flow/fluid flow: 5 cfm / 37 gpm.



Model	Height x Diameter Inch	Mounting Connection	Silica Gel	Adsorption
Z-131	2,00 x 2,00	1/2" FNPT	0,08 lbs	0,49 fl oz
Z-132	3,25 x 2,00	1/2" FNPT	0,10 lbs	0,92 fl oz
Z-133	2,00 x 3,25	1/2" FNPT	0,30 lbs	1,84 fl oz
Z-134	3,25 x 3,25	1/2" FNPT	0,50 lbs	3,06 fl oz
Z-135	5,50 x 3,25	1/2" FNPT	0,80 lbs	4,91 fl oz

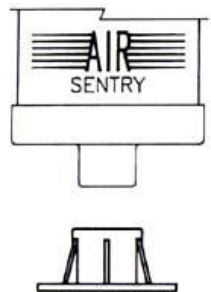




## Air Sentry D-Series Breather Adapters:

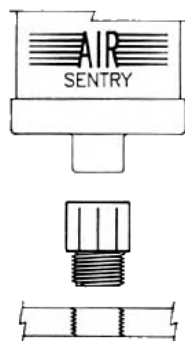
D-101, D-102 and D-103 breathers have a slip fitting when combined with the available adapters can provide a connection to nearly all existing fittings. The D-108 and D-109 breathers have built-in M-NPT adapters. The X-101 and X-102 breathers use the same adapters as the D-Series breathers.

### Flange Adapters (A-114, A-101)



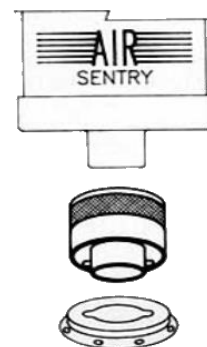
Two Flange Adapters are available for tanks where the tank wall is not thick enough for tapping threads. They are made of rugged ABS molded plastic. Model A-114 has a standard ANSI 6-hole mounting pattern, 3/16" diameter holes in a 2-7/8" diameter bolt circle. Model A-101, without mounting holes, can be drilled to match any required pattern.

### Threaded Adapters (A-102, A-103)



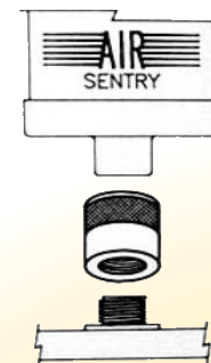
Two Threaded Adapters are intended for tanks or gearboxes with a wall thickness sufficient for a tapped hole. The thread size on the Model A-102 is 1" NPT (male) and on the Model A-103 is 3/4" NPT (male).

### Bayonet Adapter (A-104)



The Bayonet Adapter, Model A-104, is used to replace a standard breather cap on a hydraulic reservoir. The breather cap is removed from the breather flange on the reservoir and discarded. The adapter mounts to the flange on the tank by means of a quarter turn bayonet lug. No modification to the tank or existing breather cap flange is required.

### Spin-on Adapters (A-105, A-106)



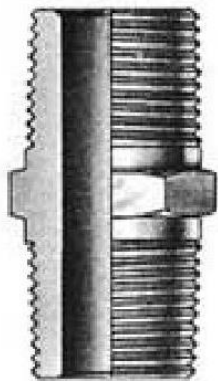
2 spin-on adapters are designed to replace the standard spin-on particle filters. These particle filters do not remove water vapor, and therefore do not protect the tank or reservoir from the worst contaminant. The adapters mount onto a male threaded pipe welded to the tank or reservoir. Model A-105 has a 1"-12 UNF straight thread and Model A-106 has a 1-1/2"-16 UNF straight thread (the 2 most common threads used in these particle filters). No modification to the tank or reservoir is required.

## Air Sentry Z-Series Breather Adapters:

All Z-series breathers have a  $\frac{1}{2}$ " F-NPT fitting so the following adapters convert from  $\frac{1}{2}$ " F-NPT to various thread sizes (male and female). The X-100 breathers use the same adapters as the Z-series breathers.

### Male Adapters

(A-401, A-403, A-405, A-406)



Four male-male adapters are available for Z-series breathers and convert the breathers  $\frac{1}{2}$ " F-NPT thread size to;

A-401:  $\frac{1}{4}$ " M-NPT

A-403:  $\frac{3}{8}$ " M-NPT

A-405:  $\frac{1}{2}$ " M-NPT

A-406:  $\frac{3}{4}$ " M-NPT

### Male-Female Adapters

(A-402, A-404, A-407)



Three male-female adapters are available for Z-series breathers and convert the breathers  $\frac{1}{2}$ " F-NPT thread size to;

A-402:  $\frac{1}{4}$ " F-NPT

A-404:  $\frac{3}{8}$ " F-NPT

A-407:  $\frac{3}{4}$ " F-NPT

### Mini Breather Adapter

(A-409)



The Model A-409 adapter has a  $\frac{1}{2}$ " male NPT thread on one end and a slip fit design on the other end.

This adapter is designed to allow an Air Sentry® Mini Breather to be used with any of the other adapters described above.

## Typical Industries & Applications:

### **Aluminum Extrusion, Forging & Rolling Mills**

- Hydraulic Systems
- Gear Reducers
- Storage tanks

### **Appliance Manufacturing**

- Hydraulic Presses
- Gear Reducers
- Air Systems
- Robotics

### **Pulp & Paper**

- Gear reducers
- Hydraulic systems
- Turbine Oil systems
- Calander stack bearing oil systems

### **Steel Mills & Foundries**

- Hydraulic systems
- Gear Reducers
- Rolling Oil systems
- Storage tanks

### **Aerospace**

- Vacuum Systems
- Air exchange and control systems

### **Chemical & Petrochemical**

- Process systems
- Lube Oil degassing and conditioning
- Turbines
- Storage Tanks
- Gear Reducers
- Transport Tanks

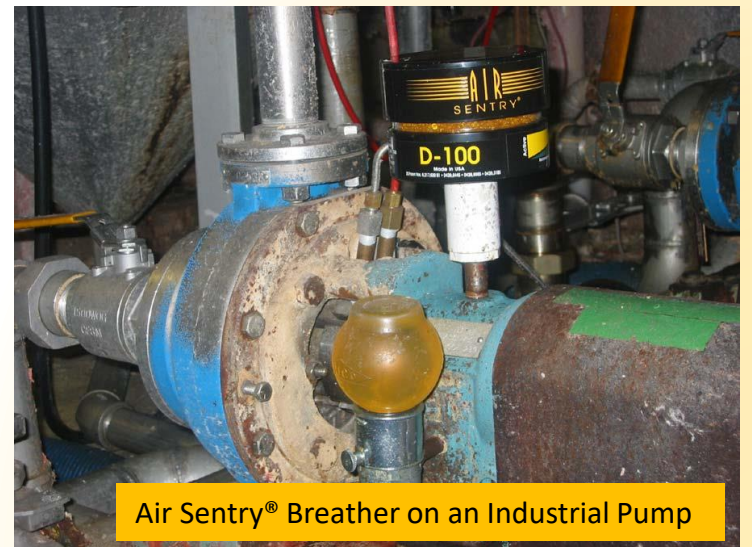
## Air Sentry Applications:



Air Sentry® Breather on compressor intake



Air Sentry® Breather on lubricant drum



Air Sentry® Breather on an Industrial Pump



## Air Sentry Applications:



Air Sentry® Breather on distribtion transformers

## Contact Information:

### **Enluse B.V.**

Dijnselburgerlaan 7  
3705 LP ZEIST - Netherlands

Office :

+31 (0) 765 781 280

[info@enluse.com](mailto:info@enluse.com)

[www.enluse.com](http://www.enluse.com)

Direct :

Toon van Grunderbeeck

+32 (0) 476 23 83 78

[toonvg@enluse.com](mailto:toonvg@enluse.com)

UK:

Andrew Laing

UK Contact Tel: +44 7393 429957

[andrew.laing@enluse.co.uk](mailto:andrew.laing@enluse.co.uk)