HOW AIR SENTRY® BREATHERS WORK

Detailed Overview to explain how Air Sentry® Desiccant Breathers Work

Air Sentry® Breathers replace existing breather caps or air vents on fluid holding storage tanks, hydraulics reservoirs and gearboxes. Most older style air venting methods provide minimal if any contamination control.

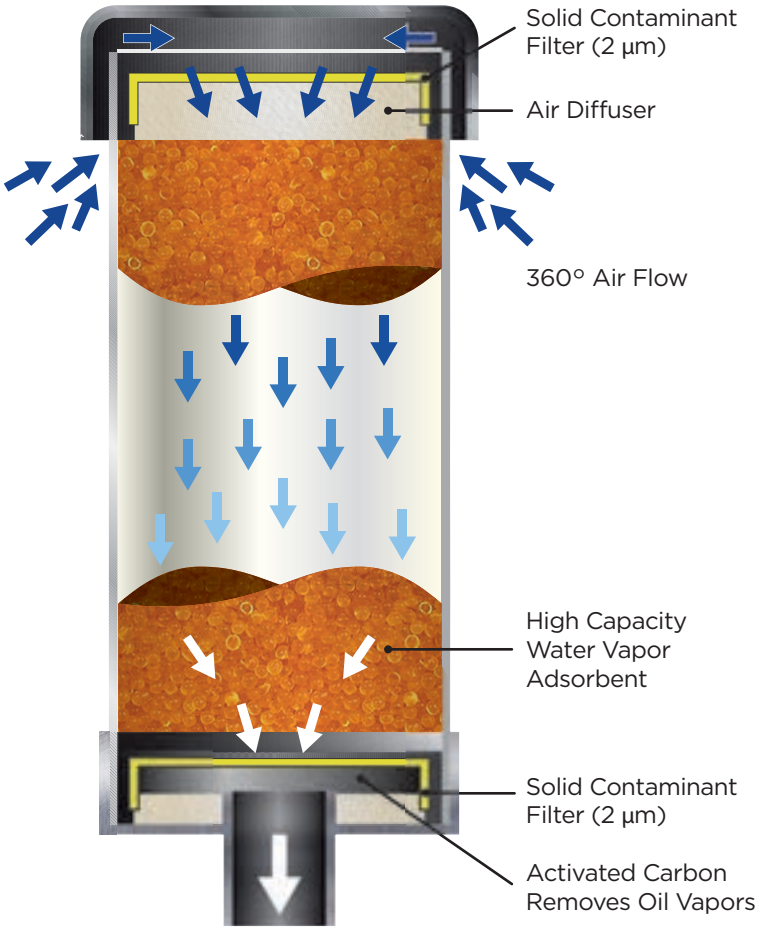
Air Sentry® Breathers provide the first line of defense in contamination control methodology utilizing patented designs and featuring color indicating silica gel and self cleaning 2-micron filtration.

DIAGRAM 1 Indicates how our patented design allows outside air to enter through the 360° opening in the breather's top cap. The top cap design overhangs the body of the breather protecting it from rain, sleet, snow, as well as most equipment wash-down procedures.

When contaminated air enters the top of the breather, it passes through a self-cleaning solid particle filter. This filter traps solid particles greater than 2 micron and keeps them from entering the breather which ultimately which wear on your equipment. The filtered air then passes through a bed of silica gel that adsorbs moisture in the air. During this step, up to 95% of the water vapor in the air is filtered out.

Finally, the filtered air passes through an additional 2 micron filter in the bottom of the breather to ensure that no harmful particles will enter the tank or reservoir. This three stage filtration design ensures your equipment gets CLEAN, DRY AIR!

As the color indicating silica gel adsorbs moisture it changes from gold to dark green. When the silica gel is adsorbed to its capacity (approximately 40% of its original weight), the breather has fully turns dark green. This color change is easily seen and serves as the visual indication that it is time to remove and replace the disposable breather.



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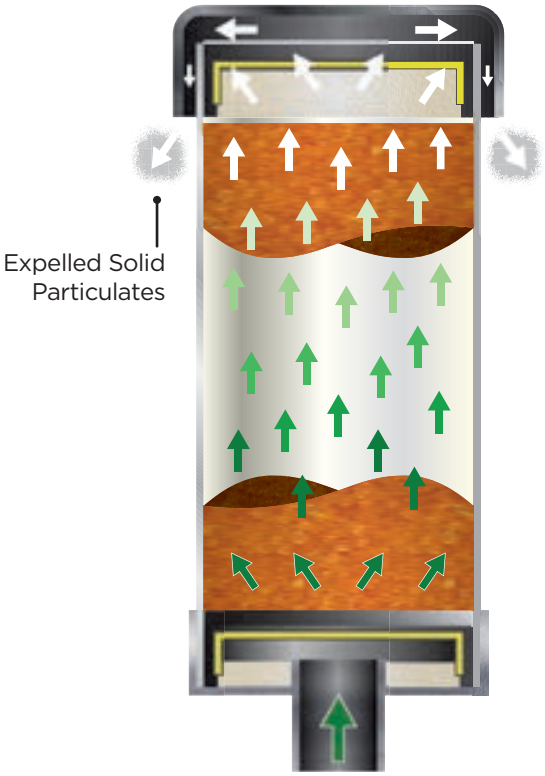

DIAGRAM 2 Indicates air being expelled back through the desiccant breather from the equipmentit is mounted on. As contaminated air travels this reverse path, expelled water vapors are adsorbed by the silica gel. During this reverse air flow process, the silica gel indicates the presence of excessive moisture inside the reservoir as the gold silica gel turns to dark green from the bottom of the breather rather than from the top of the breather.

An additional feature located in the bottom of most Air Sentry® models is a layer of carbon impregnated foam. This carbon pad absorbs small amounts of oil vapor exhaled from the tank and protects the silica gel from minor oil mist contamination. Excessive oil mist control may be required. Adapters are available for applications with excessive oil mist problems.

As the exhausted air passes back through the self cleaning 2-micron filter, located in the top cap of the breather, any particles that were trapped as air entered the system are now back flushed from the filter.

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