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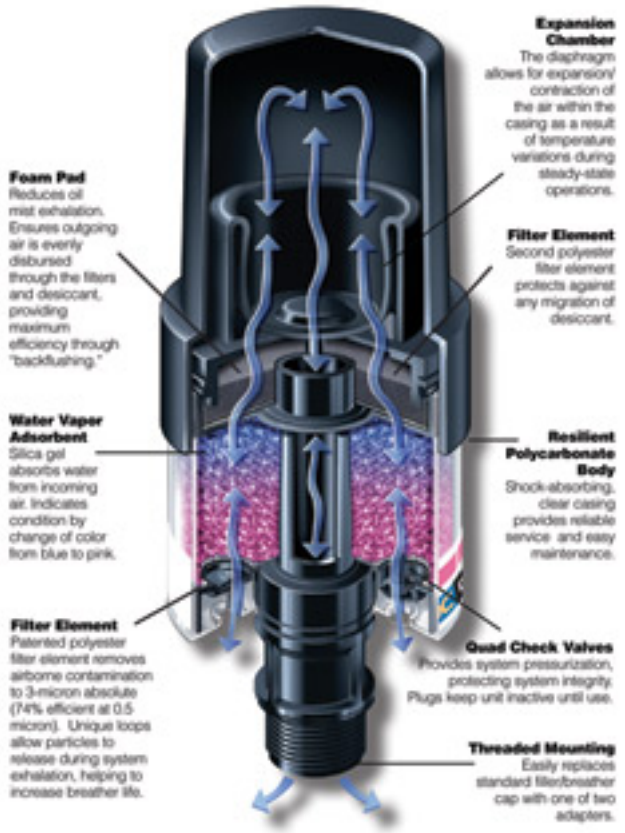
**A "one-size-fits-all" approach to contamination solutions won't take your program where it needs to go.**




***Click to enlarge*** To achieve a world-class lubrication program, standards must be developed for how to modify each common type of machine for lubrication, contamination control, inspections and oil sampling. While traditional desiccant breathers work quite well for most applications, they may not always be the best choice.

Bath-lubricated systems don't normally breathe very much—*thus, they put only a moderate demand on the breather with respect to dehumidification*
. The problem with using a trad-
itional disposable desiccant breather for such an application is that the breather is always exposed to the ambient environment and always stripping moisture, whether the system is breathing or not. As a result, the life of the breather is unnecessarily curtailed, potentially requiring frequent replacement. Many users choose to continue with the use of standard breathers in these circumstances as the value is still there, BUT there is a better way: Seal the breather when the system isn't breathing. That's the idea behind hybrid breather technology.

**The Better Way/The Best Fit**

Hybrid breathers combine the features of traditional desiccant breathers with expansion chambers and low-pressure check valves so that the system is effectively sealed until it needs to breathe as a result of expansion or contraction in the headspace. With the desiccant stage protected from the ambient environment, the breather only dehumidifies the incoming air, thereby increasing the life of the breather significantly. In humid environments, it is common for hybrid breathers to last five or more times longer than traditional desiccant breathers.

When volumetric changes are relatively small, the bladder system in a hybrid breather—*such as Des-Case's Hydroguard™*
—inflates or deflates. When this volume is exceeded, the low-pressure check valves on the bottom of the breather open to allow the exchange of air with the environment, wherein the air is filtered and dehumidified as with a typical desiccant breather.

For any system that breathes intermittently and has an air-flow rate requirement below 2.5 cfm, the hybrid breather is by far the best option. The use of these breathers, combined with good seals and good oil-handling practices, will often reduce the frequency of need for periodic offline filtration—allowing cleanliness targets to be met with minimum effort.

For those applications that are exposed to very humid environments or washdown activities, but also require large air-flow capacity, there are breathers equipped with large check valves, like Des-Case's Extreme Duty breather: It can accommodate flow rates of up to 16 cfm while still protecting the desiccant from unnecessary exposure to moisture. The Extreme Duty breather doesn't have an expansion bladder, but does offer a rugged, automotive-grade housing for applications exposed to high vibration levels.

When it comes to selecting breathers, the "one-size-fits-all" approach is not really ideal. Today, there are many different designs available and there is definitely a best fit for each particular application. Breather selection is an important part of the process of developing a world-class lubrication program and should not be oversimplified. **LMT**

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