Filtration Products

BR Series Vent Breathers

EATON

Powering Business Worldwide

BR210

Dirt-Gate™ vent breather

Protection for hydraulic reservoirs

Hydraulic reservoirs "breathe" air in and out as the oil level rises and falls. This circulating air contains particles and moisture that can cause corrosion, increase equipment wear and reduce fluid performance.

The Eaton BR series of vent breathers are designed to protect the hydraulic reservoirs from these airborne contaminants. The BR210 Dirt-Gate vent breather is developed to protect systems from particulates in the air. The BR110 H_2O-Gate vent breather protects systems from both particulate and moisture in the air.

In typical systems, the internal hydraulic fluid is warmer than the external environment. This difference in temperatures causes moisture to form inside the reservoir. By using the BR110 vent breather it lowers the dew point temperature below the ambient temperature and condensation does not form.

Markets

- Hydraulic power units
- Metal forming
- Marine
- Material handling
- Gearboxes

Protection in dry environments

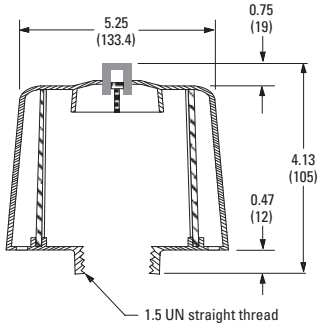
The BR210 vent breather is designed to filter out airborne solid particles before it enters the hydraulic reservoir and contaminates the hydraulic system.

As the oil level drops in the oil reservoir, airborne solid particles get drawn in. These solid particles are typically very abrasive and can have a "sand blasting" effect to the hydraulic systems internal components. Depending on the selected filtering level of the hydraulic oil filters, they may not be able to effectively capture and remove all the particles after they have been drawn in. The most effective and cost efficient way to protect the system from the airborne solid particles is to block them from entering in the first place by installing the BR210 vent breather.

Features:

- Filters out particles
- Durable plastic housing: Protects the filtration media from external splashing
- High efficiency: (99% at 2 µm)
- Very low pressure drop
- Temperature resistant up to 250˚F (121˚C)
- Rated up to 25 SCFM[1] (708 l/min)
- Visual mechanical indicator: The indicator actuates when particles have blocked the media, before the pump cavitates
- Easy installation: Lightweight design can be hand tightened onto adapter.

Dirt-Gate specifications [in (mm)]



[1] SCFM: cubic feet per minute of air measured at standard conditions of 0 psi and 60°F

BR110

H_2O-Gate™ vent breather

Blocking moisture and preventing condensation

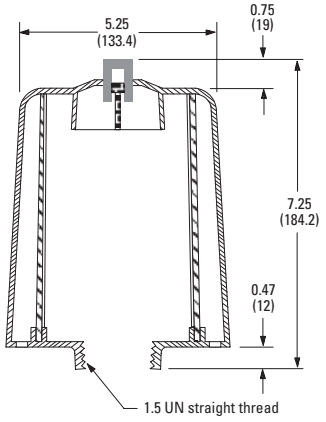
In addition to blocking solid particles the BR110 vent breather prevents moisture from entering reservoirs.

Apart from solid particles, water is one of the most prevalent destructive contaminants in oil. Using the BR110 vent breather not only blocks moisture from entering through the breather but can lower the moisture level within the reservoir. This style of breather is best suited on systems with cylinders that cause regular changes in the oil reservoir levels and operate in high humidity or high temperature change environments.

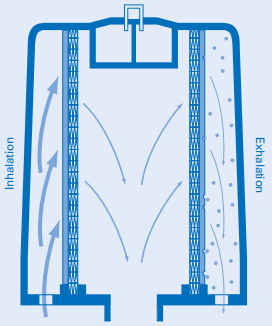
In addition to the BR210 benefits, the BR110 also features:

- Proprietary media: Reduces dew point temperature to prevent condensation and is 99.7% efficient in blocking particles 3 µm and larger.
- Continuous air exchange: The media used prevents moisture from entering the tank as well as allowing moisture to escape the tank.

H_2O-Gate specifications [in (mm)]

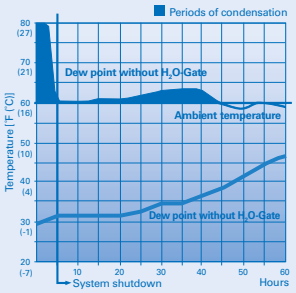


Reduce reservoir moisture



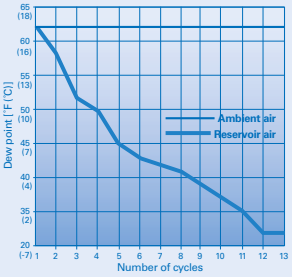
Performs as a gate

During the "inhalation" cycle, the H_2O-Gate proprietary media blocks moisture from entering the reservoir. During the "exhalation" cycle, the media allows the moisture in the reservoir air to exit. The moisture is carried off the media by the exiting air, restoring the media's water barrier capacity, and the moisture barrier mechanism is not affected by the amount of exposure to moisture. The reservoir air is maintained at a low relative humidity, and more importantly, at a lower dew point temperature than the ambient temperature.



Works even when the system is shut down.

The H_2O-Gate vent breather retards the vapor equilibrium process and works to prevent condensation even after the system is shut and cooled down, such as overnight. As this chart illustrates, the dewpoint is slow to climb, even after the system temperature has dropped to the ambient temperature. Once the system has reached ambient temperature, condensation does not occur.



Reduces humidity inside reservoir.

The H_2O-Gate vent breather lowers and stabilizes the relative humidity of air inside the reservoir, leading to a lower dew point (dew point < ambient temperature = NO CONDENSATION) at a rate and amount that will be dependent upon several conditions: the ambient conditions, the internal reservoir heat, amount and frequency of reservoir air flow through the vent, and the temperature of the reservoir surfaces.

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US
12-2023

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QUALITY SYSTEM CERTIFICATION
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