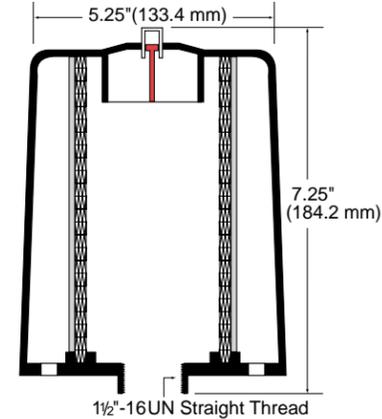
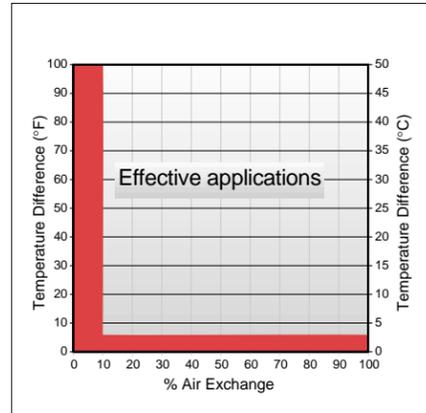
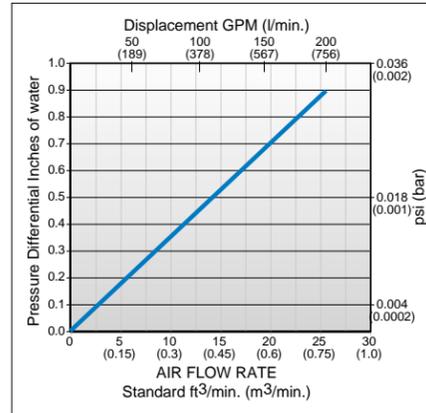


H₂O-GATE™ VENT BREATHER SPECIFICATIONS



LOW PRESSURE DROP ACROSS MEDIA.

The ΔP indicator triggers at 1 PSID (during exhalation).

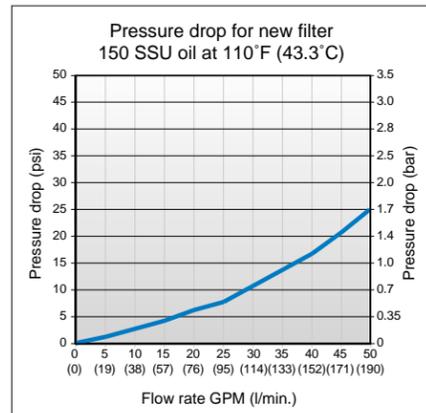
HIGHLY EFFECTIVE.

In an operating system, the H₂O-Gate Vent Breather creates a moisture barrier when there is a 5°F (2°C) difference between reservoir and ambient temperature AND when there is a 10% per minute exchange of air volume above the fluid. These temperature and air flow conditions are present in most hydraulic systems which employ a cylinder.

Model Code and part numbers:

H ₂ O-Gate	BR110
Bayonet Adapter	924710
Screw-in Adapter	P-077002

H₂O-PRO™ SPECIFICATIONS



Model Code and Dimensions:

H₂O-Pro Part number	W0211B2W10 927081
Length:	11" (280 mm)
Width:	5" (127 mm)
Water holding capacity:	32 oz. (930 m/l)
Flow rate:	50 gpm (190 l/min)
Maximum operating pressure:	200 psi (13.7bar)
Collapse pressure differential:	75 psi (5.1 bar)
Maximum operating temperature:	250°F (120°C)
Fits onto the following filter heads:	OFRS 60, O22 or O21/23 series

H₂O-PRO WATER REMOVAL ELEMENT.

Note: When saturated with water, filter will restrict flow. Use only filter heads with bypass valves suitable for preventing back pressure damage to the system.

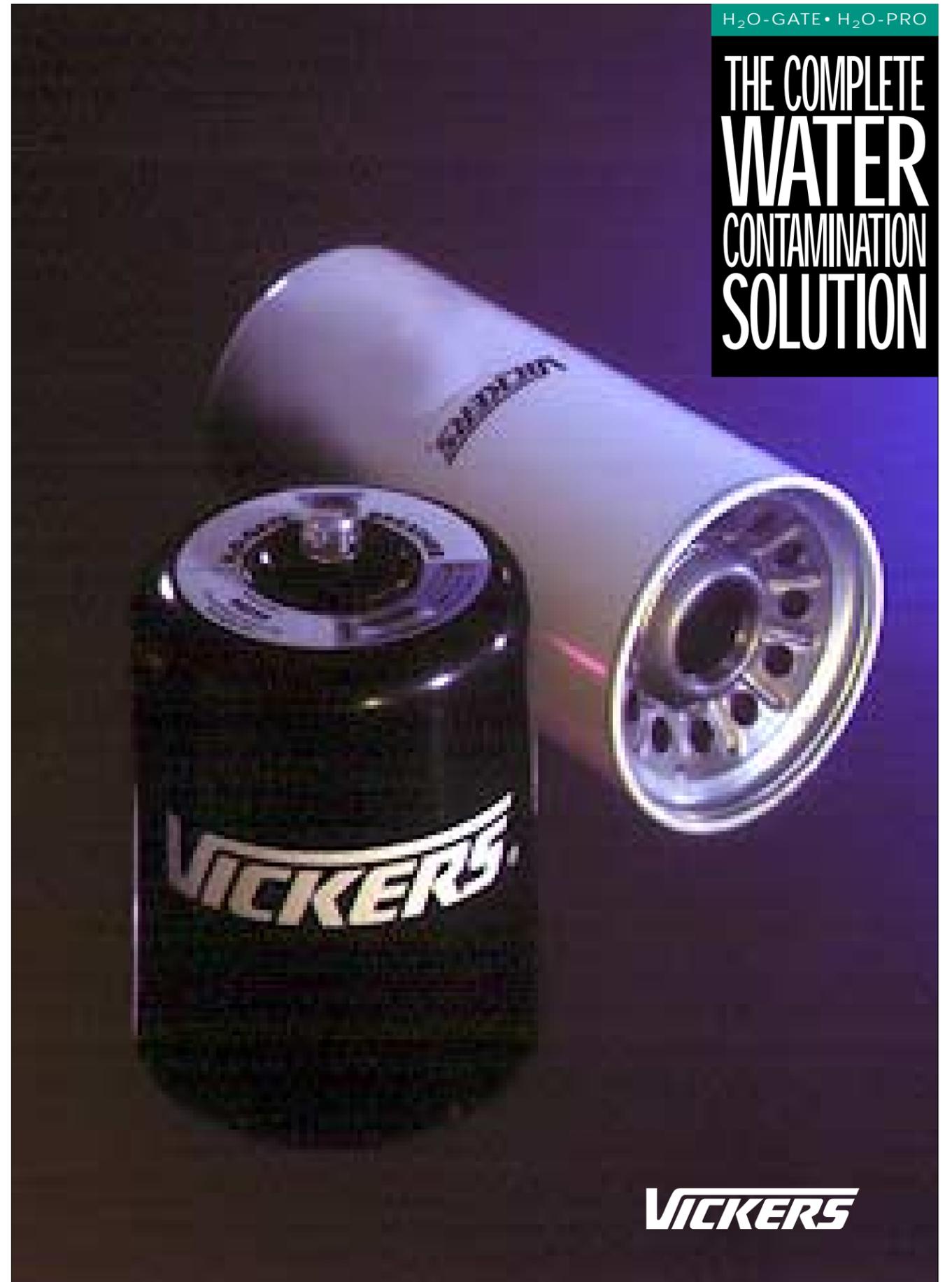
Vickers Systems Division
Aeroquip-Vickers, Ltd.
P. O. Box 4
46 New Lane
Havant PO9 2NB
UK
+44 1705 487 612

Aeroquip-Vickers do Brasil S.A.
Av. Julia Gaioli No. 450
Bonsucesso-Guarulhos
Sao Paulo 07
Brazil
+55 11 6465-8822

Vickers Asia Pacific, Ltd.
Tennozu Parkside Building
2-5-8 Higashi Shinagawa
Shinagawa Ku
Tokyo 140
Japan
+81 3 5462 0647

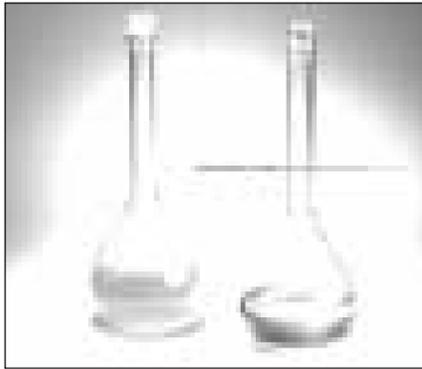
Vickers, Incorporated
5445 Corporate Drive
P.O. Box 302
Troy, Michigan 48007-0302
U.S.A.
248 641 4500

THE COMPLETE
WATER
CONTAMINATION
SOLUTION



H₂O-GATE™ WATER VAPOR BLOCKING VENT BREATHER

THE PROACTIVE APPROACH TO PREVENTING WATER CONTAMINATION



More than 25% of the samples sent to the Vickers Fluid Analysis Laboratory for analysis have significant water contamination (see left sample above). According to the Vickers laboratory, the level of water present in a hydrocarbon hydraulic or lubrication fluid should not exceed 0.07%.

Hydraulic reservoir vents are a common source for water and particulate contamination which can cause:

- Corrosion
- Increased equipment wear
- Reduced fluid performance and fluid life

That's why Vickers has developed the "Water Contamination Solutions" program — a complete package of water barrier technology. At the heart of this system is the H₂O-Gate Vent Breather. This innovative product prevents water ingress by lowering humidity inside the reservoir.

H₂O-Gate Prevents Water Ingression.

In operating systems where the hydraulic fluid is warmer than it is outside (which is most of the time), the temperature difference will cause water vapor (humidity) to draw in through the reservoir vent. In addition, when a reservoir breathes due to cylinder actuation, it brings in humid air containing water vapor.

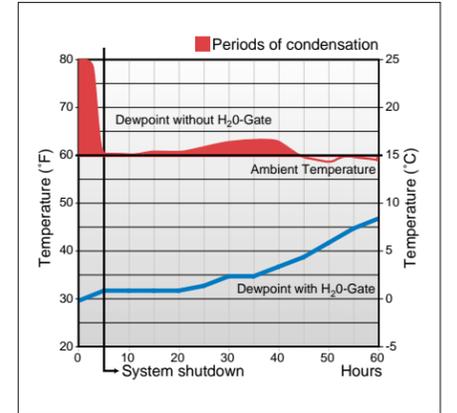
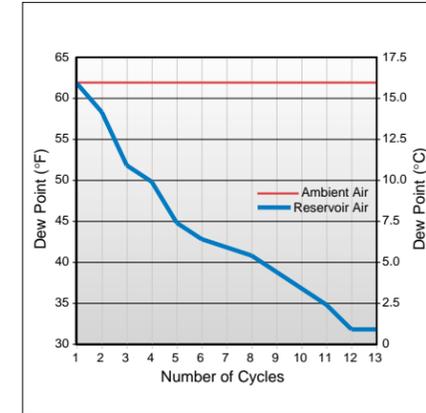
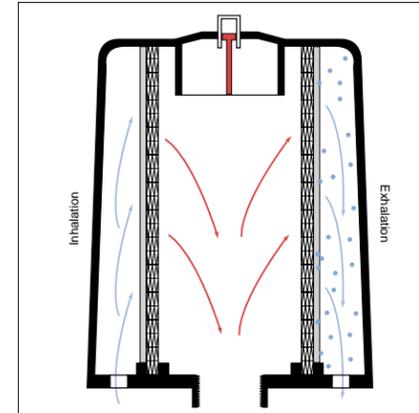
In both situations, the water vapor that enters the reservoir can condense and

become water droplets on the cooler, inner reservoir walls.

That's where the H₂O-Gate can help. It prevents water vapor from entering the reservoir while also letting water vapor escape. The H₂O-Gate lowers and stabilizes the relative humidity inside the reservoir leading to a lower dew point. Lower dew point means no condensation, even when the machine/vehicle is shut down.

A Rugged Performer.

The H₂O-Gate Vent Breather is designed to withstand even the most rugged hydraulic environments and is effective down to -40°F (-40°C). The filter housing and media are designed to protect the proprietary media from external splashing from the outside environment. In addition, the internal media surface incorporates a layer of oil attractant to coalesce any droplets from oil splashes and drain them back to the reservoir.



PERFORMS AS A GATE.

During the "inhalation" cycle, the H₂O-Gate proprietary media blocks the water vapor 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.

REDUCES HUMIDITY INSIDE RESERVOIR.

The H₂O-Gate Vent Breather lowers and stabilizes the relative humidity of air inside the reservoir, leading to a lower dewpoint ($T_{\text{dewpoint}} < T_{\text{ambient}} = \text{NO CONDENSATION}$) 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.

WORKS EVEN WHEN THE SYSTEM IS SHUT DOWN.

The H₂O-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.



FEATURES AND BENEFITS:

Visual Mechanical Indicator:

The indicator actuates when particles have blocked the media, before the pump cavitates.

Proprietary Media:

Reduces dew point temperature to prevent condensation and is 99.7% efficient in blocking particles 3μ and larger.

Reversible Flow Through Media:

Allows for moisture to exit the reservoir.

Easy Installation:

Lightweight design; only needs to be hand tightened onto adapter.

Rugged Housing:

Protects the media from external splashing.

H₂O-PRO™ WATER REMOVAL ELEMENT

A C O R R E C T I V E A P P R O A C H



The H₂O-Pro water removal element is designed to remove free and emulsified water from petroleum-based hydraulic fluids and lubricants.

Crosslinked polymer key to performance.

The H₂O-Pro water removal media is a crosslinked polymer which does not

release water once it is absorbed. This special media is also inorganic, so it will not act as a "food source" for bacteria and algae. The crosslinked media will not release water downstream, even under high pressure. It is designed with a media migration barrier to prevent downstream release of contamination.

Spins on for easy application.

The H₂O-Pro will fit on the Vickers OFRS 60, H/MO22 or H/MO21/23 filter heads. When using the H₂O-Pro, be sure the filter head has a bypass valve set at 25 psi (1.7 bar). The H₂O-Pro should be removed when the pressure differential reaches 25 psi (1.7 bar).

Note: The H₂O-Pro has the capability of removing particles 10μ or larger, but it should be used to remove water. More efficient Vickers particle filtration is recommended for continuous particle removal.

FEATURES AND BENEFITS:

- H₂O-Pro filters have a unique pleat design consisting of a spun media impregnated with a specially designed hygroscopic polymer which reacts with the water molecules that can contaminate hydrocarbon fluids.
- H₂O-Pro filter's super absorbent media traps the water and prevents it from passing through your hydraulic system.
- H₂O-Pro filter's accordion pleats expand as water holding capacity is reached, causing an increased pressure drop, which alerts the equipment operator to replace the filter.