



EHC Water Removal

Reservoir headspace dehydrator for EHC systems using phosphate ester.

Eliminate the primary catalyst of Acid production in EHC fluids (Hydrolysis) & optimize phosphate ester performance.

TMR controls the moisture equilibrium in the reservoir. Dry air mass transfer extracts dissolved water from the fluid.

Minimize fluid degradation with TMR maintaining water levels < 200 ppm.

Equilibrium (Oil and Headspace Air)

With passive breather devices and no continuous exchange of air through the reservoir headspace the air above the oil will achieve thermal and moisture equilibrium with the oil. At the top of the reservoir headspace the air cools yielding condensation and recontamination of the water into the oil.

TMR is an active breather system that maintains the air in the headspace at a dry enough level to ensure that condensation cannot take place. As the dry air transfers through the headspace at RH < 5% the oil gives up its water striving to achieve equilibrium with the dry air in the headspace.

The TMR also promotes air release in the EHC reservoir providing an additional degassing function.

Installation

If there is a headspace evacuation system on the reservoir to which the TMR is being added this system should be disabled and any reservoir holes should be sealed with the exception of the breather.

How TMR Works (see illustration page 2)

A slight positive pressure is created to prevent water and debris from migrating into the reservoir (leak points). TMR introduces extremely cleaned and dried air free of oil, water aerosols or particles with 150°F dew point suppression. The dew point suppression enables the TMR to take normal compressed air at +80°F dew point and reduce it to -70°F dew point.

The TMR inlet is located as far from the reservoir breather or vent as possible. The clean, dry air enters the reservoir above the oil surface and flows toward the breather. As the air sweeps through the reservoir, moisture from the headspace and oil is adsorbed into the air. The air is then exhausted through the breather or vent. If there is no breather a Hy-Dry desiccant breather should be installed to dry and filter any necessary make-up air.

Total EHC Fluid Solution

The total EHC solution of TMR, ICB (Ion Charge Bonding) acid scavenging elements, DFE rated glass media filter elements for particulate control, and ECR electrostatic oil cleaner will provide years of trouble free EHC system operation when installed together.