TMRN2 Benefits

Reduce & Maintain H2O to < 200 ppm

Nitrogen barrier at oil - air interface

Prevents airborne water, particulate & metal ions from entering the reservoir

Removes combustible dissolved gases

Reduces oxidation & fluid breakdown catalysts yielding extended fluid life

Equilibrium (Oil and Headspace Air)

TMRN2 is an active breather system that maintains the air in the headspace that continuously introduces clean dry Nitrogen. As the dry N2 transfers through the headspace at RH < 1% the oil gives up its water striving to achieve equilibrium with the dry Nitrogen in the headspace.

Nitrogen is an inert gas so it will also remove combustible gases (ie CO2, C2H2, CO, C2H4, C2H6, CH4, H2) from the oil to reduce oxidation and fluid breakdown.

How TMRN2 Works (see illustration below)

Compressed air (100psi - 220psi) is connected to the TMRN2 regulator inlet. The air passes through particulate and water removal filters then through a membrane that separates the N2 from the air. TMRN2 under normal operating conditions will generate 98% N2 on the outlet.

A precision orifice on the TMRN2 outlet controls the N2 flow into the reservoir headspace. The connection is made to the reservoir headspace above the maximum fluid level opposite the breather location. N2 is introduced into the headspace at 1~2 psi and sweeps across the oil air interface.

The extremely clean and dry N2 (-90°F to -150°F dew point) fills the reservoir headspace with a continuous supply of N2. The N2 slowly passes through headspace exiting through the breather removing water and dissolved gases that are released by the oil into the N2.

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