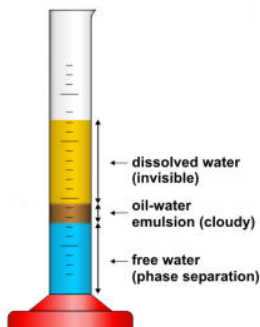




Water and Moisture is the second most destructive contaminant in lubricating oils , resulting in degradation of system component and fluid. Water and moisture can be problematic and it can be primary root cause.

Water and moisture can be present or coexisted in lubricating oils as either dissolved state ,emulsified state or free water state .



**Dissolved Water** :: Water molecules are dispersed one-by-one through out the oil . Like humidity

**Emulsified Water** :: Microscopic globules of water are dispersed in stable suspension in the oil . Like fog.

**Free Water** :: Water , when mixed with oil , ready settles to tank/sump bottom . Like rain .

Too often , applying improper measurement method or inefficient measurement method can lead to undetected water & moisture and/or inaccurate quantity.

Water& Moisture contamination in used (In-service) lubricating oils will be vary largely in quantity level. Today ,there is no one single analytical method to measure precise water quantity in every amount level .



**T-H<sub>2</sub>O Check** Method or Total Water Check Method or absolute water content in lubricating oils.

**T-H<sub>2</sub>O Check** is our in-house sequence of method for determining precise water quantity in used (in-service) lubricating oils .

Firstly ,Every oil Samples will be going through screening method by crackle test to justify for next accurate quantity analytical testing method .

There are 4 accurate quantity analytical methods :

- Co-distillation Volumetric Karl Fisher ( D-1704)
- Co-distillation Coulometric Karl Fisher (D-6304)
- FTIR ( Fourier Transform Infrared )
- Distillation (D-95)



Result of water quantity will be displayed in report in % weight

**T-H<sub>2</sub>O Check** Method have been proven and recognized in the industry .

# Oil Analysis for Predictive Maintenance

## Oil Analysis Report

Contamination										New Oil	U-Caution	U-Action	
Water	T-H2O Check™	%(Wt.)	0.009		0.006		0.009			0.002			
Sodium	D-6595	PPM	9		9		9				>0.018	>0.033	
Silicon	D-6595	PPM	0.3	0.0	0.5	0.0	0.3	1.2			RDE fine	RFS coarse	
										>3	>5	>3	>6