ZELENTECH

ZT-100

Water In Oil Monitor

Energy

Why measure water?

Water is by far the most common contaminant in hydrocarbon. Water contamination over a prolonged period of time will lead to high maintenance costs and equipment failure from some the following problems:

- Sludge formation
- Possible oil line plugging
- Degradation of lubricant additives.
- High wear due to rust and corrosion
- Increased wear on bearings due to impaired lubrication film or pitting due to free water.
- Emulsification making separation less effective
- Changes in oil characteristic due to bacterial growth in water/ oil interfaces.

WATER INGRESSION IN HYDROCARBONS IS COMMON WHICH LEADS TO IMPROPER ACCOUNTABILITY CAUSING UNNECESSARY LOSS OF REVENUE AND HIGH COST IN TREATMENT.

FROM TRANSPORTATION TO STORAGES
TO DISTRIBUTION AND EVERYTHING
IN BETWEEN

Possible Applications:

- Lubrication Oil System
- Oil Storage Dewatering
- Lease Automatic Custody Transfer (LACT) Application
- Loading/Unloading of Hydrocabon
- Hydrocarbon Transportation Pipelines
- And Many More...

Warning Limits For Water (%)

Equipment	Attention	Urgent
Medium-speed Diesel Engines	0.3	0.5
Slow-speed Engine System Oil	0.3	0.5
Turbo Chargers	0.05	5.0
Turbo Generators	0.05	5.0
Steam Turbines	0.05	5.0
Gear Boxes	0.05	5.0
Hydraulic Systems	0.05	5.0
Air Compressors	0.05	5.0
Refrigeration	0.05	5.0
Compressors	0.05	5.0
Stern Tubes	0.3	5.0

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ACCURACY

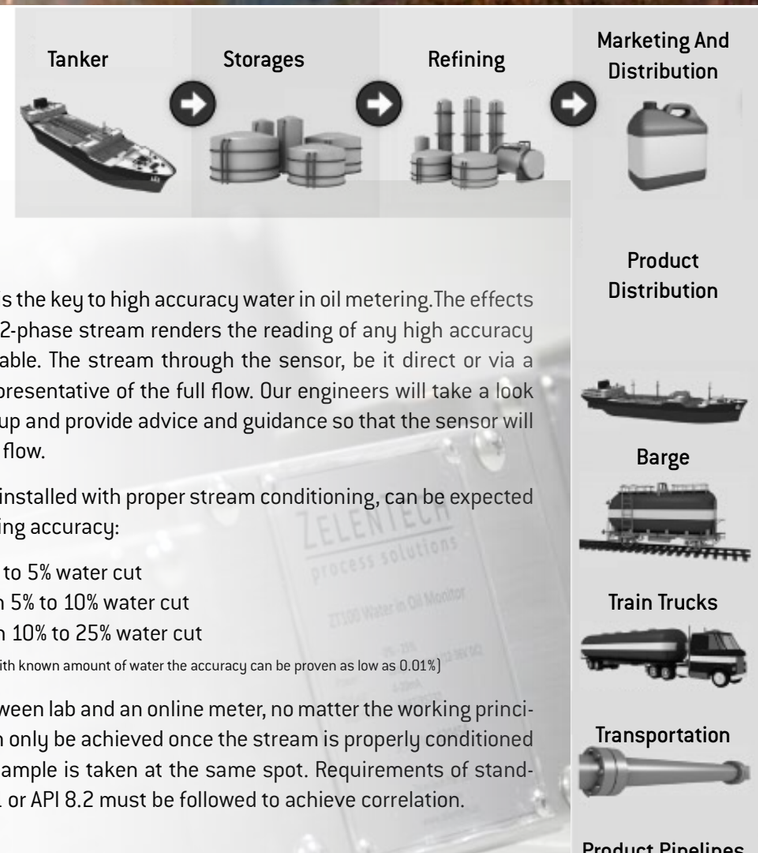
Stream conditioning is the key to high accuracy water in oil metering.The effects of an unconditioned 2-phase stream renders the reading of any high accuracy meter very questionable. The stream through the sensor, be it direct or via a by-pass, must be representative of the full flow. Our engineers will take a look at your complete setup and provide advice and guidance so that the sensor will get a representative flow.

The ZT100, correctly installed with proper stream conditioning, can be expected to achieve the following accuracy:

+/- 0.05% up to 5% water cut
+/- 0.1% from 5% to 10% water cut
+/- 0.2% from 10% to 25% water cut

(Note: In controlled lab setup with known amount of water the accuracy can be proven as low as 0.01%)

Close correlation between lab and an online meter, no matter the working principles of the meter, can only be achieved once the stream is properly conditioned and the comparing sample is taken at the same spot. Requirements of standards such as ISO3171 or API 8.2 must be followed to achieve correlation.



SPECIFICATION		
Response Time: 1 sec	**Sensitivity:** 30ppm (Low Range model)	**Repeatability:** 0.01%
Output: 4-20mA with HART Protocol	**Power Supply:** 24VDC (Loop Powered)	**Power Consumption:** 0.66W
Temperature (Media): +150°C (+300°F)	**Temperature (Ambient):** +60°C	**Ingress Protection:** IP66
Range: 0-25% or 0-100%	**Pressure:** Up to Class 1500#	**Sizes:** From 1" to 48"
Protection: Flame Proof / Explosion Proof EXD:		
Class 1, Div 1 Dual Chamber Exd Housing		ATEX Ex d IIC T6÷T4 - Ex tD A21 IP 66/67 T85°C ÷ T135°C

Why ZelenTech?

The ZelenTech ZT100 Water in Oil Monitor is designed with the energy industry in mind.
It can be supplied with any type of screwed or flanged connection, it can be used in new processes as well as retrofitted in existing pipelines. The electronics is housed in an IP65 enclosure and able to withstand harsh environments. The probe is made of 316L Stainless steel as standard to meet most process challenges. The ZT100 is able to measure far above saturation levels enabling you to see what is actually happening even at high water content.

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