



PERM Inc
INSTRUMENTS

Bay 3, 2221 41 Ave NE

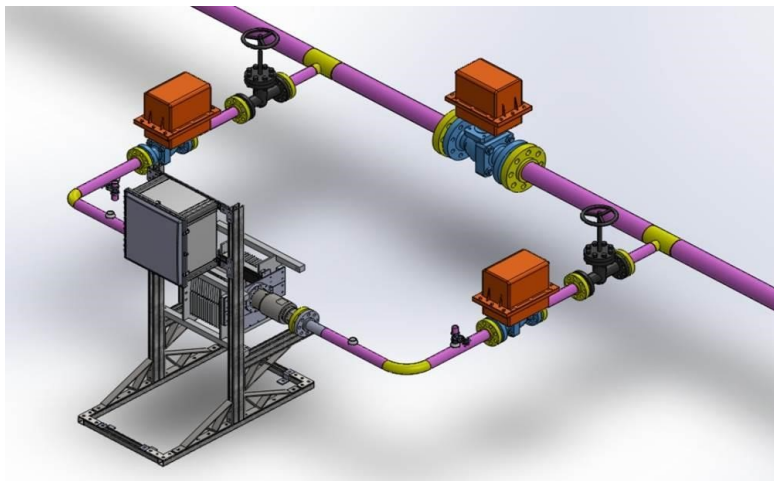
Calgary, AB T2E 6P2

Phone: (587) 794-3364

Email: info@PERMinstruments.com

Multiphase & Water Cut Meters

Using Magnetic Resonance Technology



Built for Accuracy with Heavy Oil & Bitumen

KEY BENEFITS

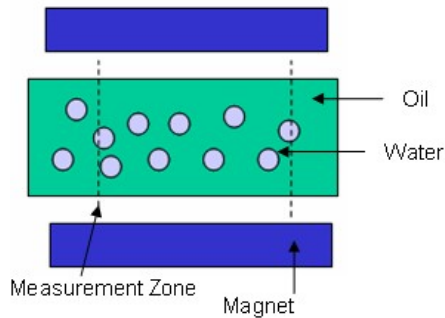
- ◆ Non-intrusive and accurate.
- ◆ Recalibration of instrument not required with emulsion phase changes.
- ◆ Can detect the presence of solvents.
- ◆ Simultaneous viscosity prediction for the produced oil.
- ◆ Measurements not affected by:
 - ◆ Salinity,
 - ◆ Density,
 - ◆ Electrical conductivity,
 - ◆ Emulsion consistency,
 - ◆ Gas or vapour components



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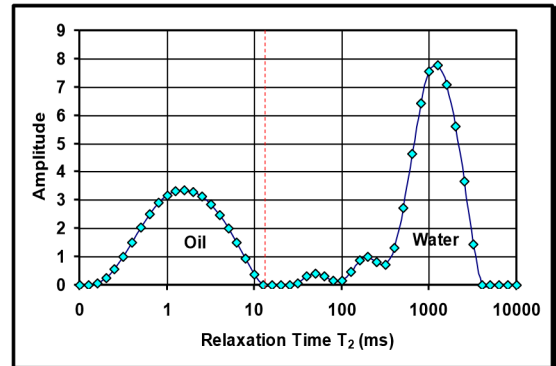
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WHY MAGNETIC RESONANCE TECHNOLOGY?



Other technologies fail when there are changing conditions such as: salinity changes, emulsion phase changes (oil-in water to water-in-oil, or vice versa), temperature or the oil quality changes. Unlike other sensors, Magnetic Resonance is measuring the

hydrogen bearing protons and their relaxation times, and as such is blind to many of the fundamental issues that other meters encounter.



OUR PRODUCTS

- ◆ Water cut meter (MR-WCM)
- ◆ Multiphase cut meter (MR-MCM)
- ◆ Integrated multiphase meter (MR-IS & MR-IS+)
- ◆ Bench-top laboratory meter (MR-LAB)

SPECIFICATIONS

Power Requirement:	AC115V 10A @ 60 Hz
ABSA Certified	CRN OH12881.2 & OH15536.2
CSA Certified	Class 1 Division II Group D
Communication	Ethernet Modbus
Measurement Period	3 minutes
Water Cut Accuracy	+/- ~1%
Maximum Temperature	260°C
Maximum Pressure	600 psi or 1,600 psi

WANT MORE INFO?

Contact us at info@perminstruments.com or 1-587-794-3364 and arrange for a meeting.