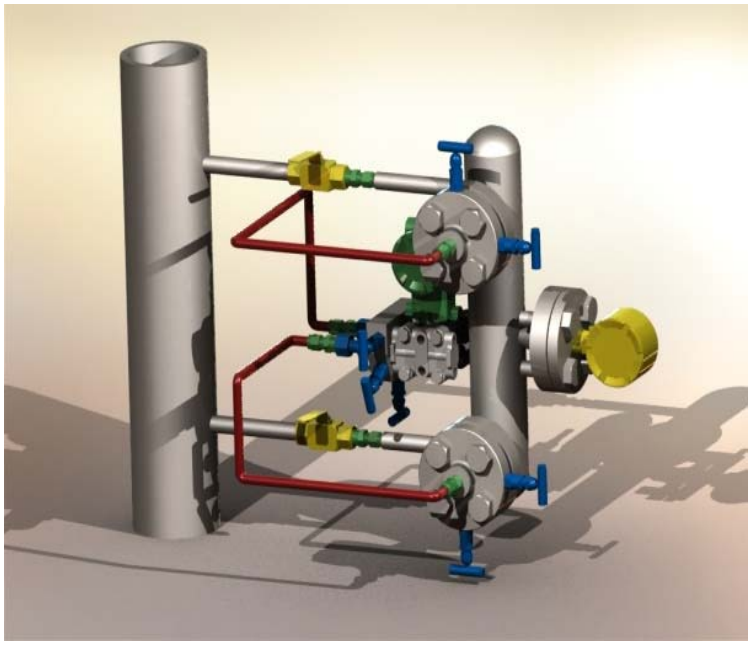
MDseries Multiphase Densitometer

The **MDseries Multiphase Densitometers** are the first to handle multiphase fluids (oil, water and gas). The instrument performs a density analysis through readings by a pressure differential and an ultrasound Doppler sensor. It is capable of providing several measurements, from total fluid mixture density, including gas if present, to ratios of phase components, such as water cut and gas volume fraction (GVF). Measurements are completely independent of flow regime. The accuracy is laboratory grade, with high repeatability. It is easy to install, to operate and low in maintenance.



How it works...

The densitometer is easily mounted onto any pipe, vertical or horizontal, and connected through an inlet and outlet using a standard flange connection. The ultrasonic Doppler sensor and pressure differential transducer give out readings to a microprocessor; punctual measurements are computed every 2 minutes. This frequency of measurement may depend on fluids characteristics. The updated measurements are displayed on an LCD screen and can be transferred via optional communication protocols to a flow computer or SCADA.

Applications

- Water cut measurement
- GVF measurement
- Solution gas measurement
- Mixture density measurement
- Density analysis in downstream pipelines and processes
- Replacement of conventional watercut meters and liquid density meters
- Flow meter calibration

Benefits

- Eliminates the need for sampling and laboratory testing
- Simple operation
- Cost effective
- Improved fluid diagnostic and early detection of water entry and gas coning

Features

- Highly repeatable in-line measurements
- Lab-grade precision
- Salinity tolerant
- Suitable for emulsified liquids
- Handles separated and uneven oil-water mixtures
- Independent of flow regime

SPECIFICATIONS	
Power	made to order
Wetted Areas	316 L SS / Duplex / Incoloy
Operating Temperature °F (°C)	
Standard process fluid	32 to 302 (0 to 150)
Standard ambient temp	-40 to 149 (-40 to 65)
Operating Pressure	Equal to carbon steel ANSI pressure rating
Connections in. (cm)	
for pipe sizes 2 to 24 (5.08 to 60.96)	1.5 (3.81) RF flange ANSI 600
for pipe sizes 2 to 24 (5.08 to 60.96)	1.5 (3.81) RF flange ANSI 900/1500
for pipe sizes 3 to 8 (7.62 to 20.32):	2 (5.08) RTJ flange ANSI 900/1500
Size in. (mm)	
Diameter	3.15 (80)
Height	23.62 (600)
Measurements	mix density, watercut, GVF
Accuracy	±1% density and water cut ±5% GVF
Communication Ports	RS485 optional
Display	LCD