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Core Lab

AMSTM-900, Acoustically Monitored Separator Datasheet

Accessories



AMS™-900, Acoustically Monitored Separator

Acoustically Monitored Separator, a Dual-bore mechanical separator equipped with an ultrasonic transducer for detection of liquid-liquid/gas-liquid interfaces. The relative proportion of effluent is sensed by a sound reflection technique that utilizes an acoustic pulse triggered at the bottom of the measurement bore. The pulse travels upward through the denser fluid occupying the lower section and is reflected by the fluid interface.

The fluid volume is determined by the comparison of the travel time of the reflected pulse from the fluid interface and the simultaneous reflected pulse from a target at a known height thus performing a continuous calibration allowing the system to determine precise volumes even in varying density situations such as temperature and pressure variation. The AMS™-900 can also be used for the measurement of the acoustic velocity of various fluids such as brines and crude oils at reservoir condition.

The AMS™-900 design allows fluid collection and separation to occur in one bore while measuring the interface height in a second bore in constant communication, at top and bottom, with the first. Measurement accuracy is dependent upon the separator tube being maintained in a true vertical position. System includes a PC based pulsar/receiver board with oscilloscope capability coupled with a Windows based operating software allowing ease of use, troubleshooting capability and error checking. When integrated into a Core Flood system, the board can be connected via a USB port on the control PC and data integrated with the control program.

Standard Model Specifications:

- Separator: Bore: 0.500" (1.27 cm) Tube Inside Length: 21.75" (55.24 cm)
- Measurement Bore: 0.500" (1.27 cm)
- Overall Height: approx. 35.4" (90 cm)
- Material: 316 Stainless Steel. Titanium Transducer assembly, Hastelloy C276
- Transducer, Natural Frequency: approx. 2MHz
- Usable Volume: 120cc
- Maximum Volume Change: 150cc
- Maximum Operating Pressure: 10,000 psig (Approx. 700Bar)
- Maximum Operating Temperature: 300 °F (150 °C)
- Resolution, 0.01cc
- Accuracy, +/- 0.1cc



Options Available on Request:

- Computer
- O-ring, 1.489 I.D. x .073, 90 Duro, Viton
- O-ring, 1.239 I.D. x .070, 90 Duro, Viton
- O-ring, 0.739 I.D. x .070, 90 Duro, Viton
- Ferrule, 1/8" tube, male, ss
- Nut, 1/8" tube, speedbite, male, ss

Scope of Supply:

- Operations Manual
- Tool and Accessory Kit for AMS™-900
- Separator, twin column, with base
- Pulsar/Receiver board w/software