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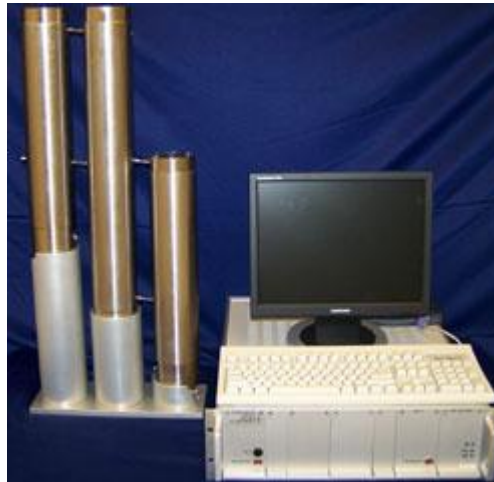
Core Lab

Two or Three Phase Separator Datasheet

Accessories



Two or Three Phase Separator



We offer either two or three phase separators for use in the laboratory to measure the produced liquids and gases from core flooding experiments. The separators offer acoustic level detection of the phases. The acoustic transducers are provided by New England Research.

An acoustic signal is sent from the bottom of the separator, through the cell. The signal will reflect off the liquid/liquid or liquid/gas interface. The transit time for the signal to return to the sensor is measured and from this measurement the height of the interface is determined.

The separators are designed with a measurement cell and a production cell. The produced phases are injected into the measurement cell, where the phases are allowed to separate. This cell may also contain the emulsions that could be present in the production stream.

The measurement cell is connected to the production cell. The liquid interface level in the measurement cell is then measured with the acoustic device. For the three phase separator, one measurement cell is used to measure the liquid/liquid interface and a second measurement cell is used to measure the liquid/gas interface. These separators are available in 316 Stainless Steel, Hastelloy C, or Titanium Alloy material.

A typical two-phase separator vessel is shown. Notice how the measurement bore is isolated from the separation bore, preserving a high quality liquid interface. The ultrasonic transducer, reference target and electrical connections supplied can be seen near the bottom of the measurement bore. The bore diameters are user specified and may be unequal diameters. The bore length is also user specified and is limited only by signal quality.



A staggered three-phase separator vessel is shown. In this configuration, the separation bore is in the center and the measurement bores are isolated on either side, still preserving the high quality liquid interfaces.

The three-phase separator communication interface allows the implementation of a volume offset to the measurements. This coupled with user specified bore diameters, allows the separator to be configured for nearly any conceivable hardware setup.