## Integrated Laboratory Services Innovations in Reservoir Characterization

## **Unsteady State Relative Permeameter**

Determination of water-oil relative permeability of a plug Unsteady State Method

Relative permeability is the ratio of the effective permeability of a fluid to the absolute permeability of the rock that is an indication of motion ability of the fluid in the presence of another fluid in a porous medium. It is totally affiliated to saturation level.

## **Experiment Description**

Petro

Water (or oil) is injected at a suitable pressure to the plug, which is saturated with oil (or water). By measuring the volume of the produced oil and water at the outlet, water-oil relative permeability curves can be obtained for imbibition or drainage utilizing Jones & Roszelle Method.



Specification	URP-PR01	URP-PR05
Pressure Accuracy	0.1% F.S.	0.1% F.S.
Core Length	2" to 3"	2" to 3"
Working Temperature	120 °C	120 °C
Max. Pore Pressure	6,000 Psi	6,000 Psi
Max. Confining Pressure	6,500 Psi	6,500 Psi
Core Diameter	1.5″	1.5″
Core Holder Orientation	Horizontal	Horizontal
Number of Accumulators	4	4
Input Power Supply	220 VAC,	220 VAC,
	50/60Hz	50/60Hz
Pressure Taps: Inlet and Outlet of Core Holder	$\checkmark$	$\checkmark$
Stainless Steel Material	$\checkmark$	$\checkmark$
Downstream Pressure Controller	$\checkmark$	$\checkmark$
Hydraulic Hand Pump	$\checkmark$	$\checkmark$
Digital Upstream and Downstream pressure	1	1
(Indicator)	•	•
Digital Confining and Back Pressure (Indicator)	$\checkmark$	$\checkmark$
Digital Cell Pressure (Indicator)	$\checkmark$	$\checkmark$
Special Designed Hassler Type Core Holder for	1	1
Relative Permeability	•	•
High Pressure HPLC Pump is included	×	$\checkmark$
Computer System	$\checkmark$	$\checkmark$
Automatic Data Acquisition and Monitoring System	$\checkmark$	$\checkmark$

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