A1000G Tri-Axial Core Holder

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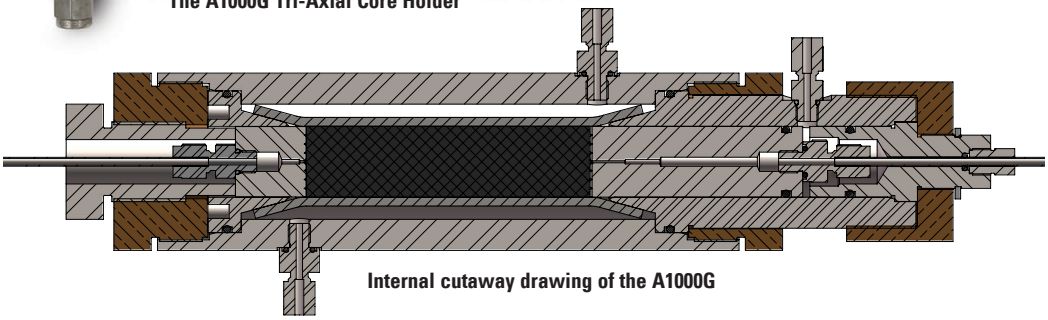

Internal cutaway drawing of the A1000G

In the oil and gas industry it is common practice to take one or more cylindrical core samples of hydrocarbon containing or other formation and to subsequently perform one or more tests with this core sample in a laboratory. During these tests the core sample is contained within a polymeric sleeve inside a pressurized sample holder assembly known as a core holder.

The operating temperature and pressure conditions are substantially similar to the hydrocarbon containing or other formation from which the sample has been taken. A treating, completion and/or stimulation fluid is injected into the sample to determine an optimum composition of the treating, completion and/or stimulation fluid and/or an optimum injection regime.

Core holders are used to facilitate a variety of studies, including gas and liquid permeability, formation damage, porosity, carbon dioxide capture and storage (CCS), relative permeability, secondary water flooding, enhanced oil recovery and steam flooding.

A tri-axial type core holder is one where the axial force on the core sample and radial pressure on the sleeve are independent of each other and can be varied during the test. This arrangement is useful in studying the physical characteristics of the core under various conditions. Radial confining pressure is applied through the body wall, along the outer diameter of the sleeved core sample. The axial ram floats against the rock as axial pressure is applied through the end piece and the rock compresses. A specially designed spider web type groove pattern is utilized on the end faces of the core holder's distribution plugs which come in contact with end faces of the core sample. This is to ensure that the fluids, before entering or on exiting the core-sample, are evenly distributed on the whole face of the core-sample.

With this design, the core holder does not need to be completely disassembled in order to interchange core test samples. After the confining pressure has been released the retainer and distribution plugs are removed and the core sample is easily removed from the sleeve. The sleeve and end caps remain in place in the core holder. Spacers are provided to accommodate shorter cores. The distribution plugs on either end of the core holder are provided with a single inlet / outlet.

Parr can provide a complete hydrothermal core flooding system which typically includes the following components:

- The core holder
- One or more high pressure, low flow rate pumps
- A means to maintain the sample at elevated temperature and pressure
- Subsystems to maintain radial and axial pressure on the core sample within the core holder
- Means to monitor and record the differential pressure across the core sample
- A control system to coordinate these functional elements

A1000G Tri-Axial Core Holder Specifications	
Maximum Operating Overburden Pressure	7500 psi (517 bar)
Maximum Operating Temperature	200 °C
Core Diameter	1-in. Nominal
Core Lengths	Up to 4-in.
Wetted Materials	316SS or other corrosion resistant materials

Variations of this product are not limited to these typical specifications. If a special material or design characteristic is needed, please contact a technical representative at Parr for further information.