

DYNAMIC HPHT® Filtration System - Model 90

The industry's only true dynamic filtration system for conducting filter cake formation and permeability analysis for drilling fluids optimization

Utilizing a wide range of available filter mediums, the DYNAMIC HPHT filtration system can be heated and pressurized to provide the closest possible simulation of down-hole conditions. Several safety features have been designed into the system to protect the user and help ensure reliable test results.



The filter medium is a thick-walled cylinder with rock-like characteristics to simulate the build-up of filter cake on the formation. The filter medium is available in varying porosities and permeabilities to simulate down hole formations.

Filtration occurs radially from the inside of the filter core to the outside. At the same time, the filter cake is formed on the inside of the filter core to simulate filter cake formation on the wall of a borehole. Following completion of a test, the filter cake can be inspected visually. A polished stainless steel shear bob runs through the central axis of the filter core. The shear bob is rotated to produce a concentric cylinder-type shear across the filtration surface.

The LCD display allows monitoring of real-time test results, which are printed for further analysis and filing of test results. The DYNAMIC HPHT filtration system also features an interface port, which allows downloading of ASCII-formatted data to a personal computer. The system is fully automatic with a built-in computer controller.

Through menu-driven software, the user can establish up to 20 sequence steps to program the following testing parameters:

- Temperature
- Pressure
- Differential pressure
- Shear rate

For Operational and Safety features, see the [Product Brochure](#).

Ordering Information

Part No. 209113 - Dynamic HPHT Filtration System Model 90

Ceramic Filter Cores

Part Number	Porosity - Mean Pore Diameter	Permeability - Air
210545	5 micron	750 milli-darcy
210546	10 micron	950 milli-darcy
210547	20 micron	2.8 darcy
213483	35 micron	5.5 darcy
210548	60 micron	6.7 darcy

210549	90 micron	13.5 darcy
210550	150 micron	26.5 darcy
210551	190 micron	75 darcy

Specifications

Working pressure	2500 psig
Maximum temperature	500°F
Maximum differential pressure	500+ psig (actual maximum limited by core strength)
Maximum power requirements	1500 watts
Heater power	1200 watts
Power supply	120/240V, 50/60 Hz
Sample volume	250 cc
Filtrate volume	50 cc
Shear bob drive	¼ hp motor with belted magnetic drive; no dynamic seals to wear out
Shear rate constant	2693 1/s per rpm (no filter cake)
Initial shear rate range (with standard bob)	9, to 269 1/s
Dimensions	12.5 x 17.75 x 28 in (305 x 455 x 711 mm)
Weight	170 pounds (77 kg)