

The **Grace Instrument M4600 HPHT Linear Swell Meter** is an automated, dual core, high pressure and high temperature linear swell meter (up to 2,000 psi and 500 °F). It is engineered to measure the volumetric expansion (or contraction) of a core/wafer sample under simulated downhole conditions while saturating it with a drilling fluid sample.

The **M4600** is also available with a dual core/wafer compactor so that drill cuttings, or other solids, can be compressed into a self-adhering core/wafer and tested in the **M4600 HPHT Linear Swell Meter**. Measuring the expansion (or contraction) of actual down-hole cuttings under HPHT conditions will yield data that is far more representative of downhole engineering applications than atmospheric testing alone. This allows researchers to design better fluids, project managers and technicians to make better fluid selection decisions, and QA personnel to identify potential problems with fluid and downhole solids interactions.

The **M4600** uses Grace **M4600daq™** software for data acquisition. Test data collection can be customized in order to evaluate various volumetric sample changes over various time quantities, and real-time data is displayed along with customized charts during the course of a test. Test data is easily exported into Microsoft® Excel™ for report generating either during or after a test is completed.



The **M4600** is engineered for laboratory HPHT testing of solids and fluids interactions:

- PC interface
- digital data
- easy to operate
- safe operation
- test flexibility
- repeatable results
- low maintenance
- automatic data collection

#### Measurement Range:

Sample size:	75 mL
Pressure Range:	Atm to 2,000 psi
Core/Wafer Diameter:	1.00 inch
Core/Wafer Length:	0.4 to 1.00 inch
Maximum Linear Displacement:	±0.6 inches
Linear Resolution:	0.1% of full scale range
Temperature:	Ambient to 500 °F

#### Mechanical Specifications:

Dimensions / Footprint: 21" tall x 20" wide x 14" deep  
 Weight: 55 lbs  
 Construction: 304/316 Stainless steel wetted material

### Core/Wafer Compactor



18" tall x 14" wide x 8" deep

#### Utility Requirements:

Electrical Supply Voltage: 120 VAC to 240 VAC  
 Line Frequency: 50 to 60 Hz  
 Power Consumption: 500 VA  
 Pressure Supply: Nitrogen: Atm - 1,000 psi