

### **HPHT Lubricity Testing**

The M2170 HPHT Dynamic Lubricity Tester offers a computer-controlled test environment which can realistically simulate downhole conditions of temperature and pressure while allowing the user to HPHT lubricity testing on solid to solid surfaces with liquid or particulate lubricants.

### **Fully customizable, completely user controlled**

The M2170 HPHT Lubricity Tester tests the lubricity of a sample fluid by axially rotating a rubbing shoe while a metal or core sample is pressed against it. As the rubbing shoe wears away the surface of the sample, the rotating torque and upward force yield the friction factor and lubricity.

The M2170 is the only lubricity tester currently available in the USA that is designed to test lubricity performance on different types of drilling fluids such as oil-based, water-based, and synthetic-based drilling fluids at high-pressure and high-temperature conditions.

Under dynamic testing operations, the instrument is capable of producing dependable test results that simulate highly realistic conditions, which can be used to evaluate proper mud systems, drill string design techniques, or determine optimal lubricant additives. The data is collected through custom PC software and is completely user-controlled. Analysis from this data helps the operator predict, improve, or minimize the role of drill fluid techniques within oilfield operations.

### **Operational Features:**

- Fully customizable test parameters
- Automatic pressure & temperature control
- Automatic data collection
- Paddle assembly is durable for extensive testing
- Measures fluid resistivity of various lubricants
- In accordance with API Recommended Practice 10B-2
- Maximum Speed up to 2,000 rpm
- Design of cooling jacket allows rapid cooling of test cells, lessening setup time between finishing one test & beginning a new one

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### **Lubricity Tester Specifications:**

Temperature Range:	Amb. to 500 °F
Working Pressure:	2,000 psi
Max Torque:	42.5 pound per inch (4.8 N.m)
Max Power Requirement:	1,800 watts
Heater Power:	1,200 watts
Power Supply:	120/240 V, 50/60 Hz
Sample Volume:	400 mL
Filtrate Volume:	50 mL
Shear Bob Speed:	0 to 2,000 rpm