

**CHANDLER**  
ENGINEERING®

# VISCOSITY

PERFORMANCE • QUALITY • SAFETY

**AMETEK®**



For over 70 years, Chandler Engineering has produced the highest quality measurement instruments for the Oil & Gas Industry. Today, Chandler Engineering, the Industry's largest instrument supplier, continues its efforts to help their customers improve the efficiency and productivity of their drilling and production operations.



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# PIPE FLOW AND IN-LINE VISCOMETERS

These instruments are designed for testing under complex flow conditions and can be customized to unique flow requirements.

**MODEL 5400 DYNAMIC SCALE LOOP** provides outstanding measurement of the performance of scale inhibitors under high pressure and high temperature. The system operates by injecting fluids into the test loop, and measuring the differential pressure within the loop as scale is formed during the test. This fully automated system includes pH measurement and data acquisition and control software.



**MODEL 6500 & 6500-M FRICTION FLOW LOOPS** are fully automated systems which accurately determine the effectiveness of friction reducer polymers for optimizing slick water fluid designs. The Model 6500 full size loop is available in multiple pressure and temperature options as well as custom configurations to meet your lab testing and space requirements. The 6500-M Mini-Loop™ is a benchtop unit designed for quick turnaround and lower sample volume testing making it ideal for QC/QA or field use.



**MODEL 8500 FOAM RHEOMETER** measures the rheological properties of foamed fluids under high pressure and high temperature conditions. The automated software includes features that allow the operator control over foam quality, shear rate, shear stress, test time and operating temperature.



**MODEL 3330 IN-LINE VISCOMETER** provides real-time viscosity measurements of fracturing fluids viscosity. The instrument is designed to be used at the well site and made to withstand the rigors encountered within field operations.



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# ROTATIONAL VISCOMETERS

Chandler Engineering manufactures atmospheric and high pressure, high temperature (HPHT) viscometers. The HPHT viscometers can provide measurements at elevated pressures and temperatures in accordance with API standards.

**MODEL 5550 HPHT VISCOMETER** offers a computer controlled unique design with a sliding carbon dry-block heater and a high-precision digital torque sensor that is external to the sample cell.

- *Max. pressure 2,000 psi/14 MPa*
- *Max. temperature 500°F/260°C*



**MODEL 5550**

**MODEL 5600 SHEAR HISTORY SIMULATOR** is used to simulate shearing conditions on fracturing fluids. The instrument allows the fluid to be dynamically loaded into the Model 5550 Viscometer per API procedures.

- *Max. pressure 2,000 psi/14 MPa*



**MODEL 5600**

**MODEL 7550 HPHT VISCOMETER** offers the smallest footprint for a drilling fluids instrument. The small size and unique design allows for an ergonomically friendly operation. These fully automated viscometers are provided with data acquisition and control software.

- *Max. pressure 30,000 psi/205 MPa*
- *Max. temperature 500°F/260°C*



**MODEL 7550**

**MODEL 7600 ULTRA HPHT VISCOMETER** offers the highest pressure and temperature ranges available. These fully automated viscometers are able to simulate the most severe downhole conditions. They are provided with data acquisition and control software.

- *Max. pressure 40,000 psi/275 MPa*
- *Max. temperature 600°F/310°C*



**MODEL 7600**

**MODEL 3530 VISCOMETER** offers manual or fully automated control for field or laboratory use. Computer control permits ease of operation and automatic data acquisition at any speed from 0.01 rpm to 600 rpm.

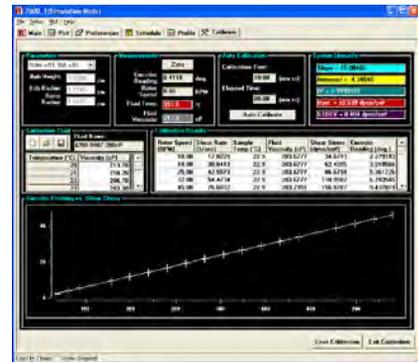
- *Shear rates 0.17 to 1021 sec<sup>-1</sup>*



**MODEL 3530**

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RHEO™ DATA ACQUISITION & CONTROL SOFTWARE is fully automated and enables users to make the most of their viscometers. This software makes it simple to set-up for any test protocol. Test data is in a standard CSV format for sharing and transfer to spreadsheets and other programs. The software includes automatic calibration routines.



The Oil & Gas Industry is truly a global endeavor with operations on every populated continent. As a global industry needs global support, AMETEK strives to continuously grow and develop its sales and support network. In addition to a global network of factory trained personnel, AMETEK maintains factory-direct customer support capabilities at its manufacturing sites and a growing number of regional offices.

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