



CHANDLER
ENGINEERING®
AMETEK®

**ENHANCED
FLOW LOOP
SOLUTIONS**

Enhanced Flow Loop Systems are ideal for testing the effectiveness of friction reducers and scale inhibitors at controlled shear rates, temperatures and pressures. Flow rates, pipe diameters and base fluids may be varied to match your well conditions. Chandler Engineering welcomes the opportunity to review your application and match our state of the art instruments to your specific testing requirements.

6700 Friction Flow Loop System



The 6700 Friction Flow Loop fully automated system includes hardware and software to measure the friction pressure of fluids. It determines the associated affects friction reducers have on fluids over a wide range of pressures and flow rate conditions and through different pipe diameters.

This system circulates fluid through two test sections of different diameters in order to generate differential pressure versus flow rate data. This data helps to determine the effectiveness and longevity of various friction reducing agents added to the aqueous base fluid.

Features:

- Open or Closed Loop Architecture
- Easy to Set-Up, Operate, Clean, Maintain and Calibrate
- Flush, Fill and Drain Automation, Optional Rapid Fill Module (add-on)
- Wall, Floor or Benchtop (for loop tubing) Mountable

6700-M Mini-Loop™ System

The 6700-M Mini-Loop™ system is a benchtop instrument designed to measure the friction pressure of fluids. It determines the relative effects of friction reducer chemistries and treatments. The instrument allows rapid test turn-around for the repeat testing of stimulation fluids.

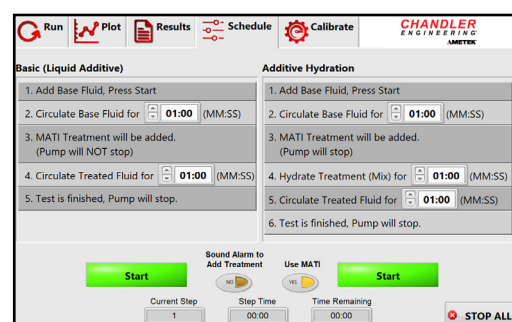
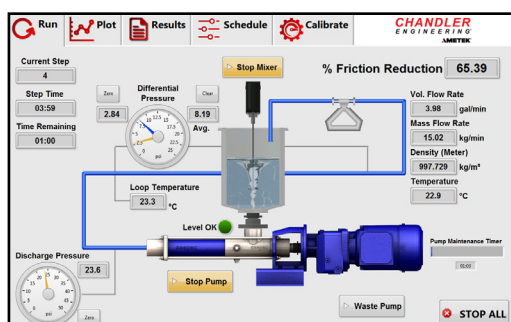
This system circulates fluid through a single test section and uses custom Chandler Engineering software to record and analyze test data. This enables reliable testing in a simple to operate, compact system. The unit is ideal for quality control testing of slick water frac fluids.

Features:

- Easy to Set-Up, Operate, Clean and Maintain
- Benchtop Unit
- Over Pressure Relief
- Progressive Cavity Style Pump
- 6700 Series Flow Loop Software



The Chandler Data Acquisition and Control software is designed to be user-friendly and collects all required data during the test cycle for use in friction reduction calculations. Data may be stored in a test-specific .CSV file for analysis.



5400 Dynamic Scale Deposition Loop

The 5400 Dynamic Scale Deposition Loop is a fully automated system that includes hardware and software to measure and evaluate the performance of scale inhibitors under high pressure and high temperature conditions.

The system consists of a test section of tubing placed within a convection oven providing exceptional temperature uniformity. Samples are pumped through the tubing at known rates while measuring the differential pressure across the test section. Scale formation inside the test section is indicated by an increase in differential pressure. Once the pressure reaches a user-settable threshold value, the test is complete and an automated clean-up phase begins.

Features:

- Forced Air Convection Oven
- Removable Sample and Preheat Tube Assembly
- Hastelloy C276 Sample Tubing and Fittings Inside Oven
- Microsoft Windows Based Control Data and Acquisition



8500 Pressurized Foam Rheometer



The 8500 Pressurized Foam Rheometer is designed specifically to measure the rheological properties of foamed systems under extended pressure and temperature conditions. The 8500 is a fully automated closed loop system that includes both hardware and software for the study of foam rheology over a wide range of foam qualities, shear rates and shear stresses.

An integrated high pressure view window allows visual determination of foam quality, stability and bubble distribution. An optional CCD camera and image acquisition system is available for video capture and image analysis of the foam through the view cell. The system incorporates a pulse free positive displacement Quizix pump for injection of the base fluid and volume determination. Differential pressure transducers are provided to cover a wide range of shear stress measurements.

Features:

- Coriolis Mass Flow Meter
- Foam Generator
- High Pressure View Cell
- Ability to control Foam Quality

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



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