HPHT CEMENT CONSISTOMETER
Model 290

The High-Pressure, High-Temperature (HPHT) Cement Consistometer is a device used to measure cement slurry viscosity or consistency under elevated pressure and temperature conditions. Its primary function is to determine the maximum available pumping time of a cement slurry before the slurry reaches an un-pumpable consistency before setting. While designed for cement slurries, the effects of pressure, time and temperature can also be observed for other fluids, emulsions, dispersions, or slurries under static or dynamic conditions.

Model 290 HPHT Consistometer

OPERATION

The ***Model 290*** HPHT Consistometer exposes a cement slurry sample to a controlled set of parameters of temperature, agitation and pressure that simulate the down-hole conditions. During a test, these parameters are carefully monitored and precisely controlled by Fann's proprietary *Control System Software*. A flat panel, High-Resolution, LCD ***touch-screen*** provides the interface between the user and the software. The LCD screen provides ***real-time*** viewing of temperature, pressure, and consistency data in graphic and text formats. This data is automatically recorded to a database for future analysis to help predict the cement slurry's down-hole performance.

Maximum Temperature: 400°F (204°C)
Maximum Pressure: 30,000 psig (206.8 MPa)

Hardware: *The Model 290 HPHT Consistometer is composed of several subsystems controlled and coordinated by System Control software.*

Software: *Consistometer Control Software is the next generation of complete and powerful system control software with a simple and friendly, flexible user interface.*

Features

- Distributed Hardware
  - ✓ If computer breaks down, the test still runs and completes.
  - ✓ Separation of mission critical Hardware.
- Software Wizards
  - ✓ Ease of operation – minimal user interface with dashboard.
  - ✓ User guidance ensures all tasks are completed before test can be started.
- Calibration Routines
  - ✓ Pressure, Temperature and B_c*
- Cooling Capability
  - ✓ Allows for low temperature test. (external chiller required)
  - ✓ Cooling can be made part of test sequence.
- Customizable Hesitation Squeeze
  - ✓ Separate User settable Motor ON/OFF times.
- Fast Update Rate & Event Recording
  - ✓ Triggered by B_c values or elapsed time.
  - ✓ 6 readings per minute.
- User friendly graphs
  - ✓ Simultaneous charting of Oil & Slurry temperatures
  - ✓ Selectively view or hide charts
  - ✓ Marker to read any value on the graph
- Touch Screen
  - ✓ User can turn it ON or OFF.
- Improved Pressure Control
  - ✓ Improved life of Pressure control valve with addition of hardware.
  - ✓ Better pressure control of the target pressure.
  - ✓ Additional filtering improves reliability of hydraulics.

B_c - Bearden units of Consistency – units used to express the consistency of a cement slurry when determined on a pressurized Consistometer.

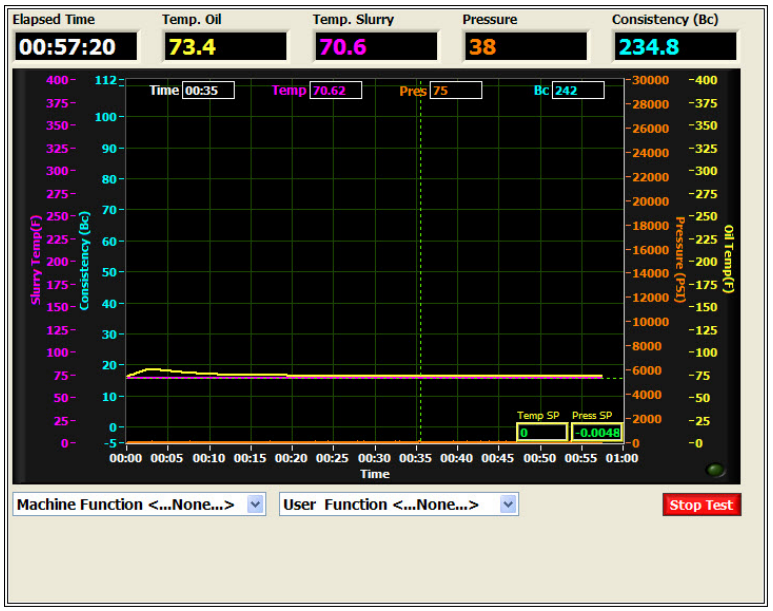
SAFETY FEATURES

Rupture disc for accidental chamber overpressure

Hardware indicator lights warn of temperature/pressure conditions

Automatic power shutdown if test temperature exceeds safe operating limits or if a break occurs in the temperature controlling thermocouple

SOFTWARE FEATURES



- *Distributed Software; machine control code is run from embedded controller independent of front panel I/F computer*
- *Web enabled user Interface*
- *Software Wizard for test setup*
- *Remote test control & monitor via LAN, Intranet, and Internet*
- *File Transfer Utility will not allow tests to proceed when embedded controller flash memory is full unless files have been moved or backed up to a network drive, thumb drive or other media*
- *Calibration Data is also protected by the File Transfer Utility*
- *Data Manager software allows viewing of test results locally or from remote computer with PDF printing capability*
- *Instrument calibration results are reviewable/printable with Data Manager*
- *Email test results from within software*

Maximum Temperature: 400°F (204°C)
Maximum Pressure: 30,000 psig (206.8 MPa)

REQUIREMENTS

- **Electrical Power Supply…… 230 Volts**
- **Current…….. 30A**
- **Frequency…….. 60 Hz or 50 Hz (specify)**
- **Cooling Water Supply ……30 psig min. (0.207 mPa)**
- **Compressed Air Supply ……90 psig min. (0.621 mPa)**
- **Drain for Cooling Water**

Order or Inquire:

PART NO. *101443590* - HPHT CEMENT CONSISTOMETER *MODEL 290*

Fann Instrument Company offers a complete line of equipment, materials and supplies for use in testing Oil Well Cements in accordance with:

API Specification 10A, ANSI/API 10A/ISO 10426-1-2001

Fann Instrument Company
P O Box 4350
Houston, Texas USA 77210

Phone: 281-871-4482
Fax: 281-871-4358
Email: Fannmail@fann.com

© 2009 Fann Instrument Company. All Rights Reserved.