Mud Balance, 4 Scale, Plastic

The plastic mud balance is engineered so that the mud cup at one end of the beam is balanced by a fixed counterweight at the other end, with a sliding-weight rider that moves along a graduated scale. A level bubble is mounted on the beam to ensure accurate balancing.

Features

- Plastic will not corrode when using corrosive fluids
- Full size, full scale mud balance
- Two most popular scales are on top for easy reading
- Can be easily cleaned
- Accurate density analysis

Technical Specifications and Requirements

- 100-00 - Mud Balance, 4 Scale, Plastic

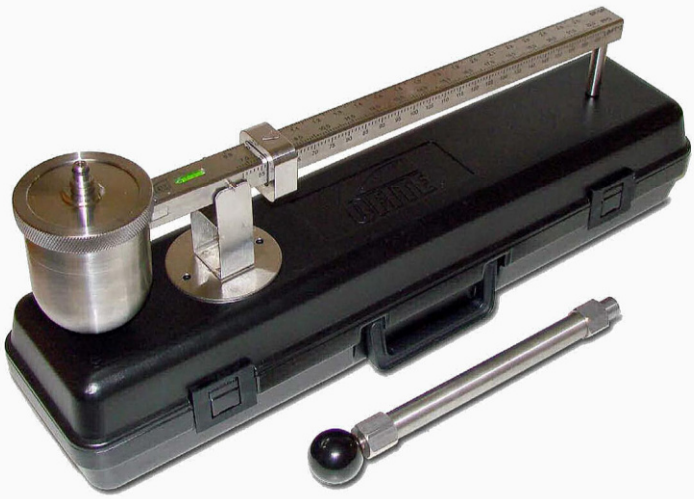
Specifications

- Density Ranges
  8.0 - 25.0 lb / gal
  960 - 3000 Specific Gravity, kg/meter^3
  60 - 189 lb / ft^3
  420 - 1300 pounds per inch^2 / 1000 ft
- Size: 21.5" × 5" × 4.5" (55 × 13 × 11 cm)
- Weight: 3 lb (1.4 kg)

Pressurized Fluid Density Scale

Drilling fluids and cement slurries often have a considerable amount of entrained or trapped air that may give erroneous results when determining fluid density using conventional equipment. This air volume may be reduced or eliminated by pressurizing the sample cup, which will then give more accurate density readings of the fluid itself.

The Pressurized Fluid Density Scale is similar to a standard mud balance. A sample cup of known volume is balanced by a fixed counterweight at the opposite end of a balance beam. A sliding weight rider moves along the graduated scale and a level bubble on the beam indicates when the system is in balance. The position of the rider on the graduated scale indicates the density of the sample.



Features

- Durability: The machined stainless steel construction is stronger, less susceptible to corrosion, and more consistent from unit to unit.
- Ease of Use: The smooth finish is easy to clean and the laser-etched scales are clear and easy to read. The more consistent construction makes calibration easier.

Technical Specifications and Requirements

- #100-70 Pressurized Fluid Density Scale

Density Measurement Ranges:

- 52 - 164 lb / ft^3
- 6.9 - 21.9 ppg
- .83 - 2.63 specific gravity
- 360 - 1130 PSI / 1000 ft

EP (Extreme Pressure) and Lubricity Tester

The EP and Lubricity tester is a high-quality instrument used to measure the lubricating quality of drilling fluids, provide data to evaluate the type and quantity of lubricating additives that may be required, and predict wear rates of mechanical parts in known fluid systems.

EP (Extreme Pressure) Test
This test produces an indication of the film strength of the fluid being tested by applying a measured force to a torque-sensitive bearing cup with the torque arm. The EP test is typically run at a high shear rate, 1,000 RPM, with fluid pressures ranging from 5,000 to 100,000 PSI between the steel surfaces.

Lubricity (Surface to Surface Drag) Test
The more common lubricity test measures fluid resistance of various lubricating additives. For the standard lubricity coefficient test, 150 in-pounds of force (the equivalent of 5,000 to 10,000 PSI pressure on the intermediate fluid) is applied between two hardened steel surfaces, a block, and a ring rotating at 60 RPM.

Features

- Digital Control - The digital control board provides more accurate data than older, analog methods.
- Automatic Speed Control - The motor automatically increases torque to maintain a constant speed when force is applied to the ring and block. Manual speed adjustments are unnecessary.
- User-Friendly Interface - The simple, intuitive interface makes testing quick and easy. Functions include preset speeds (60, 200, 600, and 1000 RPM), manual speed control, and torque zeroing.
- Optional software* records torque reading and temperature with respect to time.
- Maximum Speed - 1,000 RPM
- Maximum Torque - 600 inch-pounds

**Software available on #112-00-T, #112-00-1-T, #112-00-C, and #112-00-1-C only.*

Technical Specifications and Requirements

- #112-00 115 Volt
- #112-00-1 230 Volt
- #112-00-T With Data Acquisition, 115 Volt
- #112-00-1-T With Data Acquisition, 230 Volt
- #112-00-C With Heat Cup, Ultrasonic Cleaner, Data Acquisition, and Carrying Case, 115 Volt
- #112-00-1-C With Heat Cup, Ultrasonic Cleaner, Data Acquisition, and Carrying Case, 230 Volt

Specifications

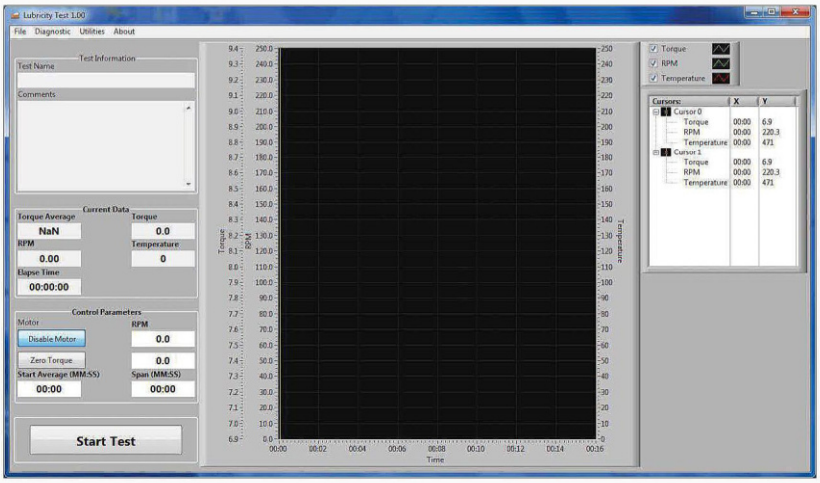
- Belt-Driven Motor: ½ horsepower, 90 Volt DC, 5.5 Amps
- Maximum 600 inch-pounds of torque
- Shear rate: 1,000 RPM Maximum
- Fluid Pressure Range: 5,000 to 10,000 PSI (34,500-69,000 kPa)
- Size: 19" × 15" × 14" (48.3 × 38.1 × 35.6 cm)
- Weight: 56 lb (25.4 kg)
- Crated Size: 22" × 20" × 21" (56 × 51 × 53 cm)
- Crated Weight: 95 lb (43 kg)
- Power Requirement: 115 / 230 VAC, 50/60 Hz

Optional Items

- #111-01 Padded Transport Case
- #111-13 Grinding Compound, Fine, 16 oz can
- #111-14 Grinding Compound, Coarse, 16 oz can
- #206-06 Deionized Water 1 gal (3.785 L)
- #280-31 Acetone (UN1090), 16 oz (500 ml)

Data Acquisition Features*

- Records torque reading and temperature with respect to time



Software available on #112-00-T, #112-00-1-T, #112-00-C, and #112-00-1-C only.

Lubricity Evaluation Monitor

The Lubricity Evaluation Monitor (LEM) is a laboratory device designed to evaluate lubricants by direct comparison. It determines the coefficient of friction between an interchangeable wellbore sample (casing, formation, sandstone, etc.) pressed against a rotating steel bob while immersed in a circulating cup of test fluid.

Features

- Pneumatic ram applies side load pushing the bob against the sample
- Periodic refresh of test fluid by pulling bob away from sample at definable intervals
- Clamp allows samples of casing, formation, sandstone, etc. to be tested in the same fixture
- Computerized data acquisition and control
- Software
  - Operator inputs rotational speed, side load, and refresh period
  - Test archive provides access to historical data
  - Graphs rotational speed (RPM), torque (in-lb), side load (lb), and coefficient of friction with respect to time

Technical Specifications and Requirements

- #113-00 Lubricity Evaluation Monitor

Specifications

- Sample cup capacity: 350 mL
- Range of Mud Weights: 0.83 - 18.0 lb
- Torque Transducer Maximum Range: 100 lbf-in
- Torque Resolution: +/- 0.1% of full scale combined
- Maximum Side Load: 60 lbf
- Maximum Rotational Speed: 200 RPM
- Speed of Circulating Pump: 20 - 500 RPM
- Calibration: Coefficient of Friction of Water = .32 - .36
- Test Cell Material: Acrylic
- Bob Material: 4140 Steel - Rockwell Hardness of 37
- Crated Size: 41" × 31" × 42" (104 × 79 × 107 cm)
- Crated Weight: 380 lb (172.4 kg)

Requirements

- Electrical Supply: 220 Volts
- Air Supply: 60 - 100 PSI

Mud Balance, 4 Scale, Metal

The metal mud balance is engineered so that the mud cup at one end of the beam is balanced by a fixed counterweight at the other end, with a sliding-weight rider that moves along a graduated scale. A level bubble is mounted on the beam to ensure accurate balancing.

Features

- Material: Composed of heavy-duty zinc/aluminum alloy
- Machined: Allows for more consistency among units and makes calibration easier
- Corrosion Resistant: Has a hard-anodized, smooth aluminum beam that is easy to clean
- Easy-to-Read: Laser-etched measurements allows for clear, accurate reading

Technical Specifications and Requirements

- #115-00 Mud Balance, 4 Scale, Metal

Density Measurement Ranges

- 6.5 - 23.0 lbs/gal
- 0.79 - 2.72 specific gravity
- 49 - 172 lbs/ft^3
- 340 - 1190 psi/1000 ft

Model 200 HTHP Curing Chamber

The Model 200 HTHP Curing Chamber is utilized to prepare well cement specimens for compressive strength tests. It is necessary to determine the amount of time required for a cement to develop compressive strength so that drilling/production operations can be resumed as quickly as possible. The goal is to design a slurry that can quickly develop compressive strength so that the "waiting on cement" time may be minimized. The HTHP Curing Chambers provide a means of curing cement specimens under typical down-hole temperatures and pressures.

Features

- Unit may be utilized to test well cements in accordance to API Specification 10
- Electronic timer measures elapsed time and may be programmed to terminate test
- For safety, a pressure relief valve, as well as a safety head with rupture disk are provided
- Test cell accommodates 8-16 specimens
- Digital programmable temperature controller
- Digitally displays temperatures
- Coolant system quickly cools the test cell
- Dual compression molds meet ASTM standard C-1O9

Technical Specifications and Requirements

- #120-20 HTHP Curing Chamber, Single Cell, Single Deep
- #120-25 HTHP Curing Chamber, Single Cell, Double Deep
- #120-30 HTHP Curing Chamber, Dual Cell, Single Deep

Specifications

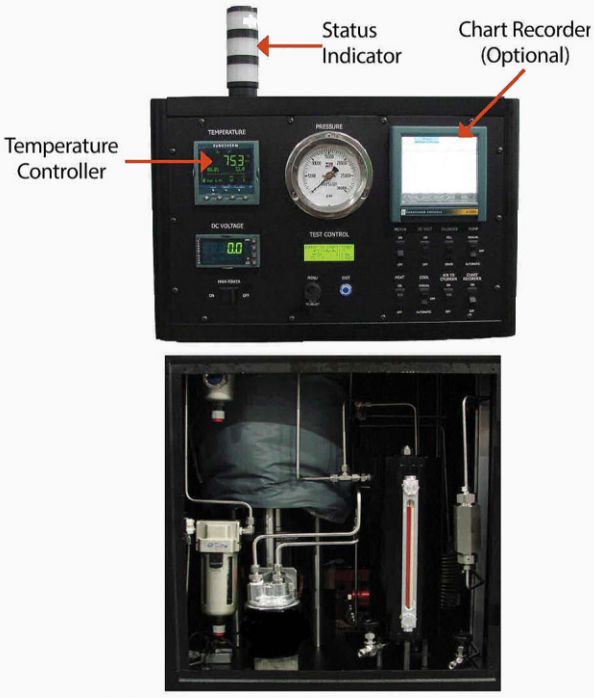
- Maximum operating temperature: 600°F (316°C)
- Maximum operating pressure: 5000 PSI (35.1 MPa) at 600 °F (316°C)
- #120-20: test cell accommodates 8 cubes
- #120-25: test cell accommodates16 cubes
- #120-30: test cell accommodates 16 cubes
- #120-20:
  Weight: 499 lb (226 kg)
  Size: 33" × 30" × 60" (83 × 76 × 152 cm)
- #120-25:
  Weight: 499 lb (226 kg)
  Size: 33" × 30" × 60" (83 × 76 × 152 cm)
- #120-30:
  Weight: 1100 lb (226 kg)
  Size: 33" × 46" × 60" (83 × 116 × 152 cm)

Requirements

- Air supply of 100 PSI
- Cooling water at 40 PSI
- 230 Volt, 50/60 Hz, electrical power supply
- 120-20 and 120-25: 40 amp rating
- 120-30: 80 amp rating

Model 2025 Automated HTHP Consistometer

The Model 2025 Automated HTHP Consistometer was specifically engineered to determine the thickening time of well cements under simulated down-hole pressures and temperatures. The HTHP Consistometer offers a computerized Data Acquisition and Control system, automatic temperature and pressure control, and a variable speed motor all standard in one easy-to-use unit.



All filters accessible in front for **Easy Maintenance**

Features

- Computerized Data Acquisition and Control system provides detailed test information in convenient formats and can control multiple units from one computer. RS-232 and Ethernet connections available.
- Automatic temperature and pressure control
- Automatic, programmable variable speed motor (0 - 150 RPM) powered by a magnetic drive
- Convenient oil reservoir features a cap with built-in funnel to help prevent spills, a removable top and bottom that make cleaning easy, and a sloping bottom that collects sediment for easy removal
- Visual indicator provides an at-a-glance status update during testing
- Smaller cell and more efficient cooling system provide quicker cool-down times
- Small footprint saves valuable lab space
- Conforms to API Specification 10A (ISO 10426-1) guidelines

Technical Specifications and Requirements

- #120-35 Model 2025 Automated HTHP Consistometer
- #120-35-DAS Model 2025 Automated HTHP Consistometer with Computer
- #120-35-R Model 2025 Automated HTHP Consistometer with Chart Recorder
- #120-35-RDAS Model 2025 Automated HTHP Consistometer with Computer and Chart Recorder

Specifications

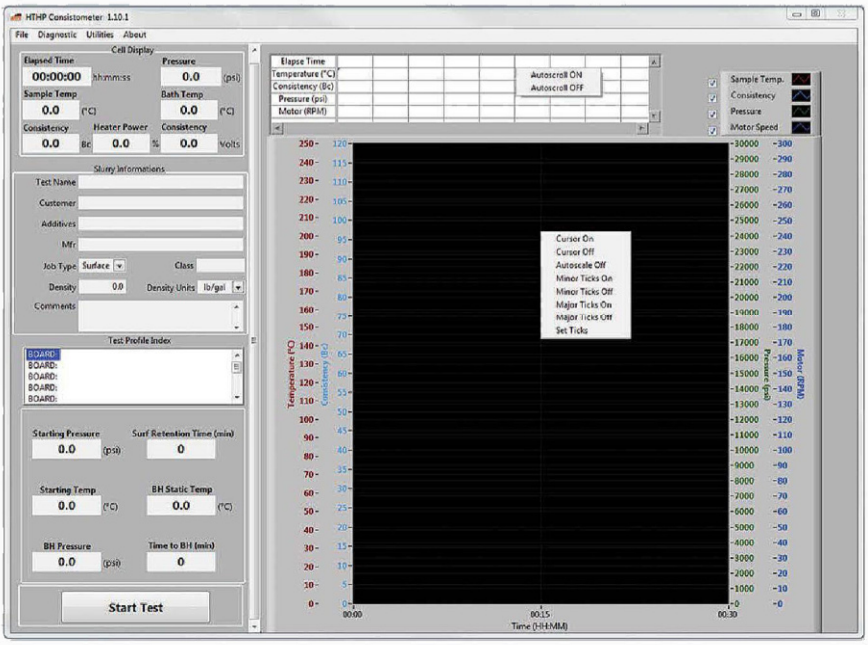
- Maximum Pressure: 25,000 PSI (172.4 MPa)
- Maximum Temperature: 400°F (204°C)
- Consistency Range: (0 - 125 Bc)
- Digital Temperature Controller with 0.1° resolution
- Pressure indicator resolution is 1 PSI and includes both high- and low-pressure alarms
- Slurry cup rotational speed is variable up to 150 RPM
- Size: 22.5" × 27.5" × 70" (57 × 70 × 178 cm)
- Weight: Approx. 450 lb (204 kg)
- Crated Size: Approx. 26" × 34" × 76" (66 × 86 × 193 cm)
- Crated Weight: Approx. 750 lb (340 kg)

Requirements

- Air / Nitrogen supply (100 - 120 PSI)
- Water supply for cooling (40 PSI)
- Water Drain
- 230-Volt, 50 / 60 Hz, 25-Amp electrical power supply

OFITE Data Acquisition Features

- Reports real-time data that can be exported to an Excel, Word, or similar file
- Enables you to program the temperature, pressure ramps, and motor speed
- Operates multiple units with one computer



Model 2040 Automated HTHP Consistometer

The Model 2040 Automated HTHP Consistometer was specifically engineered to determine the thickening time of well cements under simulated down-hole pressures and temperatures. The Model 2040 offers a computerized Data Acquisition and Control system, automatic temperature and pressure control, and a variable speed motor all standard in one easy-to-use unit.

All filters accessible in front for **Easy Maintenance**

Features

- **Small footprint,** our new and slim design saves valuable lab space
- **Automatic temperature and pressure control,** variable speed motor (0 - 150 RPM) powered by a magnetic drive
- **Oil Reservoir,** features a cap with built-in funnel to help prevent spills, a removable top and bottom that makes cleaning easy, and a sloping bottom that collects sediment for easy removal
- **Windows® based, Computerized Data Acquisition and Control system,** provides detailed test information in convenient formats, and can **control multiple units** from **one computer** via **RS-232 or Ethernet** connection
- **Safety Features,** temperature, pressure, and consistency alarms
- **Status indicator,** symbolizes (3) selectable ranges of consistency
- Conforms to **API Specification 10** guidelines

Ultrasonic Cement Analyzer, Single Cell

By measuring the change in velocity of an acoustic signal, the Ultrasonic Cement Analyzer provides a continuous non-destructive method of determining compressive strength as a function of time while at temperature and pressure.

Features

- Cement samples are not destroyed at time intervals
- Self-venting regulators provide accurate pressure control
- Temperature control (up to 400°F) and pressure control (up to 20,000 PSI) are available to simulate down-hole conditions
- Unique technology results in a cleaner signal, so transit times and data are more accurate
- Data is available instantly on-screen and is automatically downloaded to a Microsoft Excel spreadsheet for easy analysis

Optional Accessories

- #120-58 High Pressure SGSM, mechanically measures gel strength
- #120-54 Volumetric Cement Expansion Device (VCED), measures expansion or shrinkage of set cement

Technical Specifications and Requirements

- # 120-50 - Ultrasonic Cement Analyzer, Single Cell, 20 KSI

Specification

- Maximum Temperature: 400°F (204.4°C)
- Maximum Pressure: 20,000 PSI (137.9 MPa)
- Size: 15" × 24" × 18" (38 × 61 × 46 cm)
- Weight: Approx. 85 lb (39 kg)

Requirements

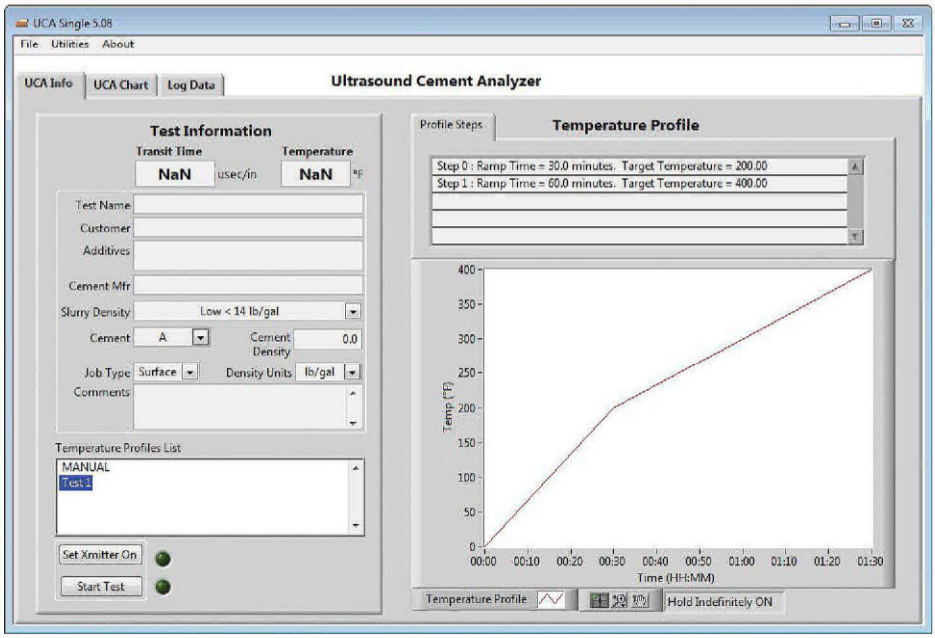
- Air Supply: 100 PSI (690 kPa) Recommended, 150 PSI (1,035 kPa) Maximum, ¼" NPT Connector
- Water Supply: 40 - 100 PSI, 40° - 100°F, ¼" NPT Connector
- Coolant Supply: ¼" NPT Connector
- Power Supply: 230 - 240 Volt, 50 - 60 Hz, 10 Amps
- Fuse: T 10A L 250V

Computer

- Windows XP or higher
- RS-232 Serial Port (or Serial to USB Adapter)
- Minimum Screen Resolution: 1280 × 680

OFITE Data Acquisition Features

- Reports real-time data that can be exported to an Excel, Word, or similar file
- Enables you to program multiple temperature ramps
- Operates multiple units with one computer



Ultrasonic Cement Analyzer, Twin Cell

By measuring the change in velocity of an acoustic signal, the Ultrasonic Cement Analyzer provides a continuous non-destructive method of determining compressive strength as a function of time while at temperature and pressure.

Features

- Cement samples are not destroyed at time intervals
- Self-venting regulators provide accurate pressure control
- Temperature control (up to 400°F) and pressure control (up to 5,000 PSI) are available to simulate down-hole conditions
- Unique technology results in a cleaner signal, so transit times and data are more accurate
- Data is available instantly on-screen and is automatically down-loaded to a Microsoft Excel spreadsheet for easy analysis

Optional Accessories

- #120-53 High Pressure SGSM, mechanically measures gel strength
- #120-54 Volumetric Cement Expansion Device (VCED), measures expansion or shrinkage of set cement.

Technical Specifications and Requirements

- #120-51 - Ultrasonic Cement Analyzer, Twin Cell

Specifications

- Maximum Temperature: 400°F (204.4°C)
- Maximum Pressure: 5,000 PSI (34.47 MPa)
- Size: 24" × 18" × 12" (61 × 46 × 30 cm)
- Weight: Approx. 70 lb (32 kg)

Requirements

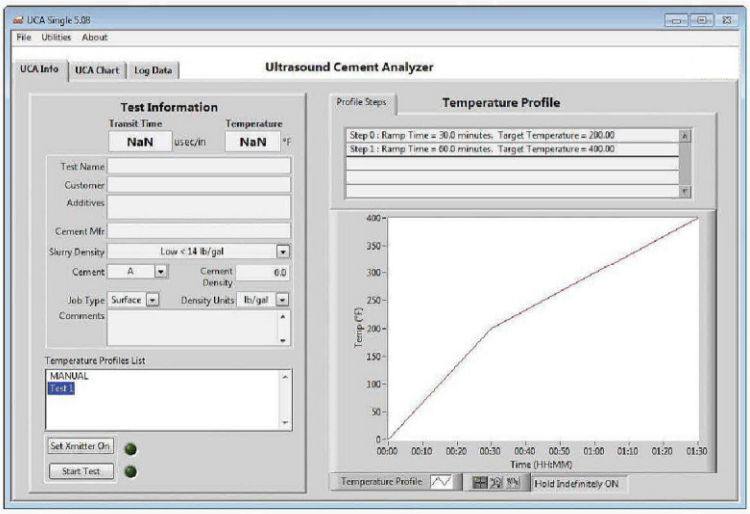
- Air Supply: 100 PSI (690 kPa) Recommended, 150 PSI (1,035 kPa) Maximum, ¼" NPT Connector
- Water Supply: 40 - 100 PSI, 40° - 100°F, ¼" NPT Connector
- Coolant Supply: ¼" NPT Connector
- Power Supply:
  - Electronics: 230 - 240 Volt, 50 - 60 Hz, 2 Amp
  - Heaters: 230 - 240 Volt, 50 - 60 Hz, 8 Amp

Computer

- Windows XP or higher
- RS-232 Serial Port (or Serial to USB Adapter)
- Minimum Screen Resolution: 1280 × 680

OFITE Data Acquisition Features

- Reports real-time data that can be exported to an Excel, Word, or similar file
- Enables you to program multiple temperature ramps
- Operates multiple units with one computer



Technical Specifications and Requirements

#120-52 Ultrasonic Cement Analyzer, Dual Cell, 20 KSI

Specification

- Maximum Temperature: 400°F (204.4°C)
- Maximum Pressure: 20,000 PSI (137.9 MPa)
- Size: 15" × 48" × 18" (38 × 122 × 45.8 cm)
- Weight: Approx. 170 lb (78 kg)

Requirements

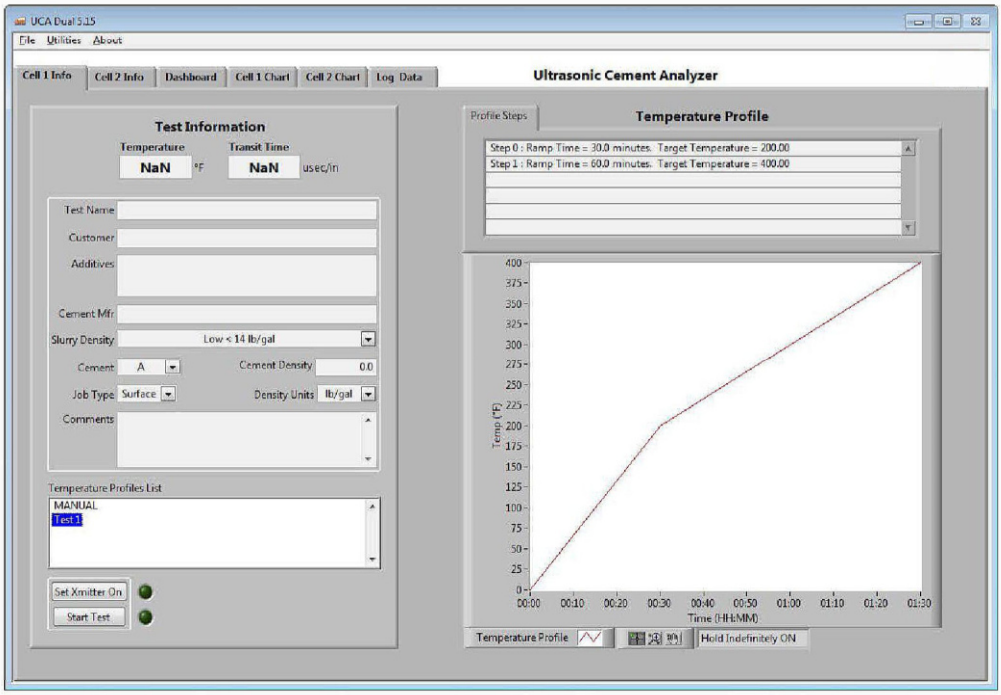
- Air Supply: 100 PSI (690 kPa) Recommended, 150 PSI (1,035 kPa) Maximum, ¼" NPT Connector
- Water Supply: 40 - 100 PSI, 40° - 100°F, ¼" NPT Connector
- Coolant Supply: ¼" NPT Connector
- Power Supply: 230 - 240 Volt, 50 - 60 Hz, 10 Amps
- Fuse: T 10A L 250V

Computer

- Windows XP or higher
- RS-232 Serial Port (or Serial to USB Adapter)
- Minimum Screen Resolution: 1280 × 680

Software Features

- Reports real-time data that can be exported to an Excel, Word, or similar file
- Enables you to program multiple temperature ramps
- Operates multiple units with one computer



Static Gel Strength Measurement Device

The Static Gel Strength Measurement (SGSM) device uses a vaned bob to condition a cement slurry inside a pressurized test cell and intermittently measure static gel strength at down-hole conditions. By directly measuring the forces required to initiate movement in the sample, the SGSM provides an accurate way of determining the static gel strength.

Two SGSM Units on a 20,000 PSI Dual Cell UCA

Features

- Automatically conditions the slurry in-place (1 - 150 RPM)
- Provides a direct mechanical measurement of static gel strength
- Simultaneously measures static gel strength and compressive strength (dual-cell units only)
- Intermittent or continuous measurement under high-temperature, high-pressure conditions
- Data acquisition system with automatic temperature control included
- Simple calibration and system check
- Quick clean up and turn around

A Single SGSM Unit on a 5,000 PSI Twin Cell UCA

Static Gel Strength Measurement Device

Technical Specifications and Requirements

The **High Pressure SGSM (#120-58)** fits in a high-pressure UCA test cell. This configuration is compatible with both the Single Cell UCA (#120-50) and the Dual Cell UCA (#120-52).

- Maximum Temperature: 400°F (204°C)
- Maximum Pressure: 20,000 PSI (138 MPa)
- Size (Including Cell): 20" Tall × 6" Diameter (51 × 15 cm)
- Weight: 50.6 lb (23 kg)

The **Low Pressure SGSM (#120-53)** fits in a low-pressure UCA test cell. This configuration is compatible with the Twin Cell UCA (#120-51).

- Maximum Temperature: 400°F (204°C)
- Max Operating Pressure: 5,000 PSI (138 MPa)
- Size (Including Cell): 18.25" Tall × 6" Diameter (46 × 15 cm)
- Weight: 47.2 lb (21.4 kg)

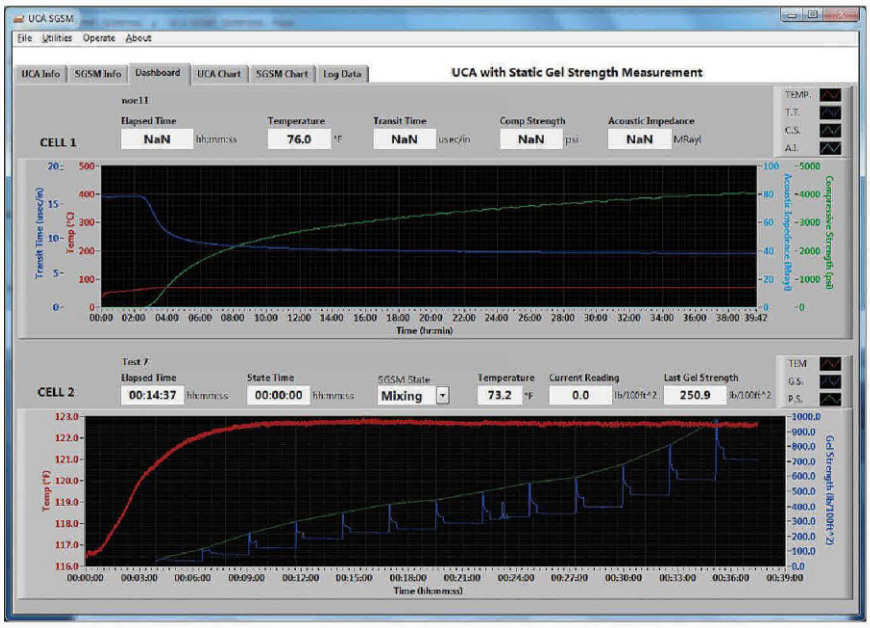
Requirements

- Power: 100 - 240 Volt, 50 - 60 Hz, 2 Amp
- Computer
  - Windows XP or higher
  - RS-232 Serial Port (or Serial to USB Adapter)
  - Minimum Screen Resolution: 1280 × 680

SGSM Cell Cap Assembly

OFITE Data Acquisition Features

- Data is available in real time on-screen and is also stored in an Excel® spreadsheet for easy graphical viewing and printing
- A computer running OFITE software graphs the data from both cells
- Windows®-based software



UCA/SGSM Software

Benchtop HTHP Curing Chamber

The Benchtop HTHP Curing Chamber is designed to prepare well cement specimens for compressive strength tests. It is necessary to determine the amount of time required for a cement to develop compressive strength so that drilling/production operations can be resumed as quickly as possible. The goal is to design a slurry that can quickly develop compressive strength so that the "waiting on cement" time may be minimized. The HTHP Curing Chambers provide a means of curing cement specimens under typical down-hole temperatures and pressures.

Features

- Unit may be utilized to test well cements in accordance to API Specification 10
- Electronic timer measures elapsed time and may be programmed to initiate cooling
- For safety, a pressure relief valve, as well as a safety head with rupture disk are provided
- Test cell cures 4 specimens
- Compact for bench top operation
- Digital programmable temperature controller
- Coolant system quickly cools the test cell
- Dual compression molds meet ASTM standard C-109

Technical Specifications and Requirements

- #120-55 - Benchtop HTHP Curing Chamber

Specifications

- Maximum Temperature: 400°F (204°C)
- Maximum Pressure: 5,000 PSI (34.47 MPa)
- Weight: Approx. 215 lb (94.6 kg)
- Dimensions: 25" × 16" × 20" (63.5 × 40.6 × 50.8 cm)
- Shipping Weight: 255 lb (115.8 kg)
- Shipping Dimensions: 30" × 20" × 24" (76.2 × 50.8 × 61 cm)

Requirements

- Power Requirements: 220 Volts, 50 / 60 Hz, 40 Amp
- Air Supply Maximum: 150 PSI (1035 kPa)
- Cooling Water Supply: 40 PSI (276 kPa)

Model 4005 Automated Twin Cell UCA

By measuring the change in velocity of an acoustic signal, the Ultrasonic Cement Analyzer provides a continuous non-destructive method of determining compressive strength of a well cement as a function of time while at temperature and pressure. The Model 4005 Automated Twin Cell UCA automatically controls the temperature and pressure during the test and features a touch-screen display as well as PC software.

An optional Static Gel Strength Measurement device can be added to measure the static gel strength of the cement sample over time.

Features

- Automatic temperature (up to 400°F) and pressure control (up to 5,000 PSI) simulate down-hole conditions
- Non-destructive testing
- Operates as standalone or with a computer
- Interactive display for each cell provides full test control
- Independent temperature and pressure control for each cell
- Indicator light makes machine status easy to see
- Pressure control for both SGSM and UCA to within ± 10 psi
- Test data saved on the instrument and exported via USB
- Total test recovery after a power failure
- Connectivity options: Serial, Ethernet, USB
- Calibration data is stored on the machine
- Meets criteria in API Spec 10A, RP 10B-2, and RP 10B-6

Technical Specifications and Requirements

- #120-56 Model 4005 Automated UCA, with Two UCA Cells
- #120-56-C Model 4005 Automated UCA/SGSM, with Two UCA Cells and One SGSM Cell

Specifications

- Maximum Temperature: 400°F (204.4°C)
- Maximum Pressure: 5,000 PSI (34.47 MPa)
- Size: 25" × 21" × 13" (64 × 53 × 33 cm)
- Weight: Approx. 100 lb (45 kg)

Requirements

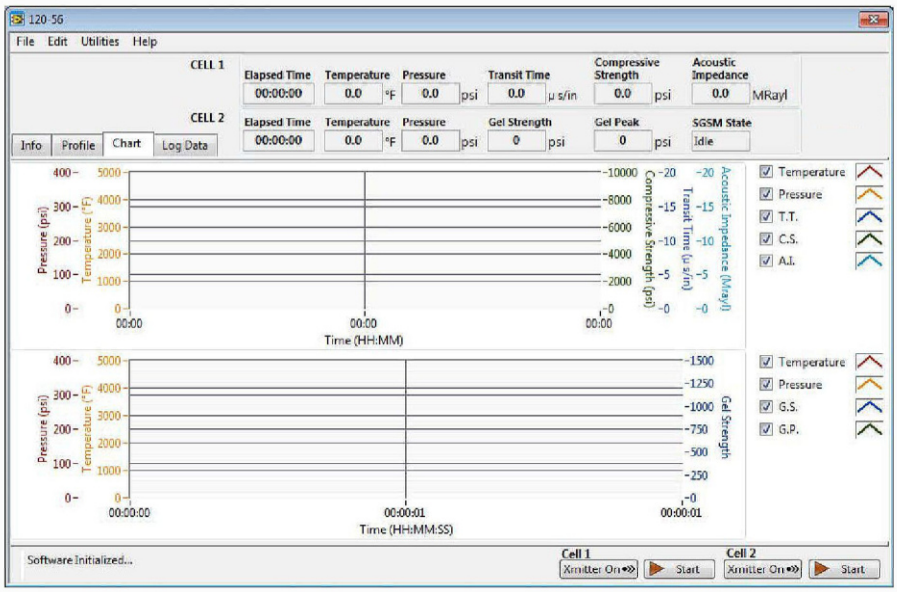
- Air Supply: 100 PSI (690 kPa) Recommended, 150 PSI (1,035 kPa) Maximum, ¼" NPT Connector
- Water Supply: 40 - 100 PSI, 40° - 100°F, ¼" NPT Connector
- Coolant Supply: ¼" NPT Connector
- Power Supply:
  - Electronics: 230 - 240 Volt, 50 - 60 Hz, 5 Amp
  - Heaters: 230 - 240 Volt, 50 - 60 Hz, 8 Amp

Computer

- Windows XP or higher
- RS-232 Serial Port, USB Port, or Ethernet Port
- Minimum Screen Resolution: 1280 × 680

Software Features

- Reports real-time data that can be exported as a spreadsheet
- Enables you to program multiple temperature and pressure ramps
- Operates multiple units with one computer



Gas Migration Tester

The Gas Migration Tester helps predict and overcome the potential for gas migration after cementing. This unit evaluates both the potential and severity of gas migration at downhole conditions with the recommended slurry. This allows for the design of the most economical and reliable cement slurry for a particular well.

Features

- Monitors and records both liquid and gas flows
- Multichannel DAQ and computer control
- DAQ registers all parameters in real time
- Test can be performed on real core samples or standard fluid loss screens
- Optional chiller enables sub-ambient testing

Technical Specifications and Requirements

- #120-57 Gas Migration Tester, 115 Volt
- #120-57-1 Gas Migration Tester, 230 Volt

Specifications

- Maximum Temperature: 400°F (204.4°C)
- Maximum Pressure: 2,000 PSI (13,790 kPa)
- Size: 29" × 31" × 36.5" (74 × 79 × 93 cm)
- Crated Size: 43" × 36" × 48" (109 × 91 × 122 cm)
- Crated Weight: 469 lb (212.7 kg)
- Voltage: 115 / 220 VAC

Mesh Specifications

- Material: Stainless Steel
- Size: 325 / 60 mesh
- Diameter: 1.5" (3.81cm)

Test Cell Specifications

- Material: 316 Stainless Steel
- Diameter: 2.125" (5.4 cm)
- Height: 10.25" (26 cm)
- Volume: 25.6 in^3 (419 cm^3)

Requirements

- Electrical Supply: 115 / 230 Volt, 10 Amp
- Nitrogen Supply: 1,000 PSI (6,895 kPa)

OFITE Data Acquisition Features

- Reports real-time data that can be exported to an Excel, Word, or similar file
- Enables you to program multiple temperature ramps
- Operates multiple units with one computer

Model 25 Constant Speed Blender

The Constant Speed Blender facilitates the preparation of oil well cements and fracturing fluids for testing according to API guidelines. It provides timed, constant speed rotation, even under load.

Features

- Stainless steel mixing container and blades
- Rotational speed is maintained at set point with microprocessor
- Automatically controls mixing times at required RPM
- Digital instrumentation provides excellent readability
- Two preset mixing speeds: 4,000 and 12,000 RPM
- Variable speed and programmable controls enable custom mixing speeds and times

Technical Specifications and Requirements

- #120-64 115 Volt
- #120-64-1 230 Volt

Specifications

- Speed: 500 - 25,000 rpm (no load)
- Size: 8.5″ × 8.5″ × 16″ (22 × 22 × 41 cm)
- Weight: 14 lb 5 oz (6.5 kg)
- Crated Size: 11.5″ × 10.25″ × 15.4″ (29 × 26 × 39 cm)
- Crated Weight: 16.9 lb (7.7 kg)

Model 20 Constant Speed Blender, 4 Liter

The Model 20 Constant Speed Blender, 4 Liter, facilitates the preparation of oil well cements and fracturing fluids for testing according to API guidelines. Constant speed blenders provide consistent mixing energy to cement slurries to prepare them for subsequent tests. The Model 20 also provides a means of consistently preparing fracturing fluids for testing. The optional Torque Monitoring Module evaluates the hydration and cross-link times of these fluids.

Features

- Two preset mixing speeds (4,000 and 10,000 RPM) and variable speed
- Rotational speed is maintained at set point with microprocessor
- Timing relays automatically control mixingtimes at required RPM
- Digital instrumentation provides excellent readability

Technical Specifications and Requirements

- #120-65 Model 20 Constant Speed Blender, 4 Liter, 115 Volt
- #120-65-1 Model 20 Constant Speed Blender, 4 Liter, 230 Volt

Specifications

- Maximum Speed: 23,000 RPM
- Stainless steel mixing blades
- Mixing Container: Stainless Steel, 4 Liter
- 115-Volt, 60 Hz, or 230-Volt, 50 Hz
- Each can be operated via a 1.25 KVA power supply
- Size: 26" × 12" × 30" (66 × 30 × 76 cm)

Model 40 Stirred Fluid Loss Tester

The Stirred Fluid Loss Tester provides a reliable means of determining the fluid loss characteristics of well cements. The ergonomic and easy-to-use design can condition and test cement slurries under HTHP conditions and in accordance with API Spec 10 guidelines. An innovative sealing system eases cleanup and extends the usable life of consumable parts.

Features

- Temperature is maintained by PID temperature controller
- Filtration portion of the cell is dimensionally equivalent to an API approved HTHP test cell
- Cell cooling integrated into heat jacket
- Conforms to API Specification 10 guidelines
- Cell Volume: 500 ml

Technical Specifications and Requirements

- #120-70 Stirred Fluid Loss Tester, 115 Volt
- #120-70-1 Stirred Fluid Loss Tester, 230 Volt

Specifications

- Maximum Temperature: 450°F (232.2°C)
- Maximum Pressure: 2,000 PSI (13.8 MPa)
- Digital Temperature Controller with 1.0° resolution
- Slurry cup rotational speed is variable up to 200 RPM
- Crated Size: Approx. 38" × 26" × 34" (97 × 66 × 86 cm)
- Crated Weight: Approx. 220 lb (99.8 kg)

Requirements

- Electrical: 120 Volt, 60 Hz,18 Amp or 220 Volt, 50 Hz, 10 Amp
- Nitrogen supply: 2000 - 2500 PSI (13.8 – 17.2 MPa)
- Water supply for cooling (40 PSI)
- Water Drain

Model 60 Atmospheric Consistometer

The Model 60 Atmospheric Consistometer is used for conditioning cement slurries as specified within API Specification 10. Determination of rheological properties, examination of free water content, and evaluation of the API fluid loss test all require that the cement slurry be pre-conditioned by an Atmospheric Consistometer.

Features

- Temperature is maintained via a PID controller, to increase accuracy and reproducibility
- Unit is operated at atmospheric pressure
- Process temperature is displayed digitally, for easy reading
- Heat transfer fluid (oil) is continuously circulated, ensuring a consistent temperature is maintained
- Slurry container rotational speed is 150 RPM to meet API specifications
- Dual container design so that two slurries can be conditioned at the same time
- Cooling system included to allow cooling the slurry below room temperature
- Stainless steel temperature bath resists corrosion, ensuring long life
- Dead-weight calibration unit helps keeps the unit in calibration, ensuring consistent performance

Technical Specifications and Requirements

- #120-75 Model 60 Atmospheric Consistometer, 115 Volt
- #120-75-1 Model 60 Atmospheric Consistometer, 230 Volt

Specifications

- Maximum Pressure: Atmospheric
- Maximum Temperature: 200°F (93.3°C)
- Heater: 1,500 watts
- Slurry Cup Rotational Speed: 150 rpm
- Temperature Control: PID controller
- Temperature Bath Material: Stainless Steel
- Display: Digital
- Size: 14.5" × 15.5" × 24.5" (37 × 39 × 62 cm)
- Weight: 98 lb (44 kg)
- Crated Size: 32" × 21" × 32" (81 × 53 × 81 cm)
- Crated Weight: 200 lb (91 kg)

Requirements

- Water supply and drain for cooling
- 120 Volt at 16 Amp or 230 Volt at 8 Amp, 50/60 Hz

Model 80 Recording Atmospheric Consistometer

The Model 80 Recording Atmospheric Consistometer is utilized to pre-condition cement slurries in accordance with API Specification 10. Determination of rheological properties, examination of free water content, and evaluation of the API fluid loss test all require that the cement slurry be conditioned by an atmospheric consistometer.

Features

- Three-channel strip chart recorder measures temperature and consistency of each container
- Temperature is maintained via a PID controller, to increase accuracy and reproducibility
- Unit is operated at atmospheric pressure
- Process temperature is displayed digitally, for easy reading
- Heat transfer fluid (oil) is continuously circulated, ensuring a consistent temperature is maintained
- Slurry container rotational speed is 150 RPM to meet API specifications
- Dual container design so that two slurries can be conditioned at one time
- Cooling system included to allow cooling the slurry below room temperature
- Stainless steel temperature bath resists corrosion, ensuring long life
- Dead-weight calibration unit helps keeps the unit in calibration, ensuring consistent performance

Technical Specifications and Requirements

- #120-80 Model 80 Recording Atmospheric Consistometer, 115 Volt
- #120-80-1 Model 80 Recording Atmospheric Consistometer, 230 Volt

Specifications

- Maximum Pressure: Atmospheric
- Maximum Temperature: 200°F (93.3°C)
- Heater: 1,500 watts
- Slurry Cup Rotational Speed: 150 rpm
- Temperature Control: PID controller
- Temperature Bath Material: Stainless Steel
- Display: Digital
- Size: 30" × 16" × 18" (76 × 41 × 46 cm)
- Weight: 105 lbs (47.7 kg)
- Crated Size: 23" × 20" × 22" (58 × 51 × 56 cm)
- Crated Weight: 170 lbs (77.2 kg)

Instrument Requirements

- Water supply for cooling and drain
- 120 Volt, 50 / 60 Hz, 20 Amp
- 220 Volt, 50 Hz, 10 Amp

Gas Permeameter

The Gas Permeameter is designed to measure the permeability of core specimens one inch in diameter and one inch in length. A core specimen is placed into a core sleeve, which is then inserted into the "Modified Hassler" style test cell. Nitrogen at a constant flow rate is forced through the core and the differential pressure across the core is measured. The flowrate is measured with calibrated flowmeters. Viscosity is easily determined by the use of nitrogen property tables. These variables are incorporated into Darcy's law to calculate sample permeability.

Features

- "Modified Hassler" cell accommodates cores of 1" length and 1" diameter
- Instrumentation gauge displays driving pressure
- All Hassler components are fabricated from 316 Stainless Steel
- Nitrogen test fluid

Technical Specifications and Requirements

- #120-85 Gas Permeameter

Specifications

- Permeability Range: 0.1 - 600 mD
- Crated Size: 27" × 24" × 32" (69 × 61 × 81 cm)
- Crated Weight: 160 lb (72.6 kg)

CGP-90 Cement Permeameter with DAQ

The Cement Permeameter is designed to measure the permeability of cement core specimens one inch in diameter and one inch in length. A core specimen is placed into a core sleeve, which is then inserted into the "Modified Hassler" style test cell. Nitrogen at a constant flow rate is forced through the core and the differential pressure across the core is measured. The flowrate is measured with calibrated flowmeters. Viscosity is easily determined by the use of nitrogen property tables. These variables are incorporated into Darcy's law to calculate cement sample permeability.

Features

- Data Acquisition and Control system with software included
- Modified Hassler cell accommodates cores of 1" length and 1" diameter
- Instrumentation gauge displays driving pressure
- All Hassler components are fabricated from 316 Stainless Steel
- Nitrogen test fluid
- Cement mold included (#120-85-003)

Technical Specifications and Requirements

- #120-87-DAS CGP-90 Cement Permeameter with DAQ

Specifications

- Permeability Range: 0.1 - 2000 mD

Requirements

- Compressed Air: 100 PSI (689.5 kPa)
- Gas Pressure: Standard Air, Carbon Dioxide, Nitrogen, or Oxygen up to 500 PSI (3.5 MPa)
- Electrical: 115 Volt or 230 Volt 50 or 60 Hz

Model 130 HTHP Benchtop Consistometer

The Model 130 Benchtop Consistometer was specifically engineered to determine the thickening time of well cements under simulated down-hole pressures and temperatures. Its compact, lightweight design makes the unit ideally suited for benchtop use.

Features Include:

- Pressure generated via an air-driven hydraulic pump
- Drive table is rotated with a magnetic drive
- External cooling jacket aids cooling of test cell
- Electronic timer with alarm, elapsed 0.1 minute resolution
- Deadweight calibration unit included
- Temperature and consistency alarms provide automatic shutdown
- Safety head with rupture disk are provided
- Unit is fully capable of testing cements in strict accordance to the guidelines as stated in API Specification 10
- Pressure displayed in PSI
- Compact size and light weight make the unit suitable for the benchtop

Technical Specifications and Requirements

#120-90-Model 130 HTHP Benchtop Consistometer

Specifications

- Maximum Pressure: 16,000 PSI (110.3 MPa)
- Maximum Temperature: 400°F (204.4°C)
- Temperature Controller: Digital PID 1° Resolution
- Internal Heater: 2,500 Watt (5,000 Watt Available)
- Slurry Cup: 150 RPM Rotational Speed; 316 Stainless Steel
- 220 Volt, 50/60 Hz, 25 Amp electrical power supply
- Size: 25 × 16 × 20 inches (63.5 × 40.6 × 50.8 cm)
- Weight: Approximately 215 lb (97.6 kg)

Requirements

- Air/Nitrogen Supply (100 - 150 PSI / 690 - 1,035 kPa)
- Water Supply for Cooling (40 PSI / 276 kPa)
- Water Drain

CLF-40 Automated Compressive Load Frame

The CLF-40 Automated Compressive Load Frame was designed to determine the compressive strength of a well cement. The most common means of determining the compressive strength of a cement involves applying a force to the sample at a constant rate until the sample fails. The maximum loading at which the cement fails is defined as the cement's compressive strength.

Features

- **Windows® based, Computerized Data Acquisition and Control system:** provides detailed test information, precise control, and allows cylindrical and cube-shaped samples
- **Small foot-print:** saves valuable lab space and increases efficiency with quick and easy clean up
- **Safety minded:** clamshell head design and safety switches protect people and equipment from possible debris during operation
- **Prevents over pressure:** a safety head, rupture disk, and high-pressure alarm assembly
- **Self-Aligning platens:** easier to load samples and allows for equal force to be applied
- **Communication:** operates in standalone or with computer control via RS-232 or Ethernet connections
- **Loading Rates:** variable load rate and constant load testing

Technical Specifications and Requirements

- #120-285 CLF-40 Automated Compressive Strength Tester, 115 Volt
- #120-285-230 CLF-40 Automated Compressive Strength Tester, 230 Volt

Specifications

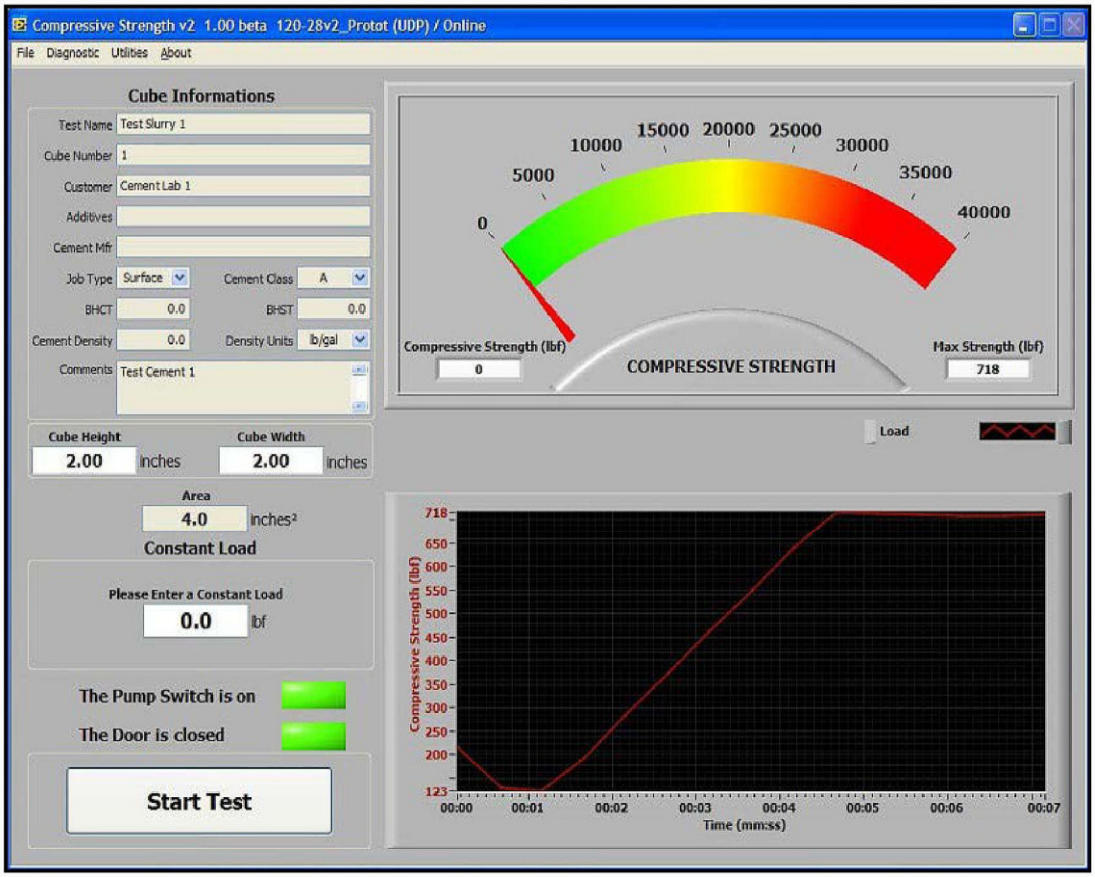
- Maximum press capacity: 40,000 lbf.
- Maximum Pressure: 10,000 PSI (based on a 2" cement cube with surface area of 4 in^2)
- Minimum press threshold: 1,000 lbf.
- Minimum Pressure: 250 PSI (based on a 2" cement cube with surface area of 4 in^2)
- Loading rates variable from 250 to 40,000 lbf/min (increments of 250)
- Size: 23" W × 23" D × 26.5" H (58 × 58 × 67 cm)
- Weight: 225 lb (102 kg)

Requirements

- Power Supply: 115 / 220 Volt, 50/60 Hz

Software Features

- Tailored interface so the most common actions are the easiest to locate
- Tab and drop-down based software, optimizing page screen areas, without sacrificing the amount of information presented at once
- Capable of testing varying samples and displaying results on a real-time chart
- Records historical data for easy analysis



TLF-112 Triaxial Mechanical Properties Testing System

The TLF-112 Triaxial Mechanical Properties Testing System is the first unit on the market specially designed to measure the mechanical properties of oilwell cement. It has the ability to measure compressive strength, Young's modulus, Poisson's ratio, and tensile strength of cement samples under in-situ conditions.

Features

- Physically measures the mechanical properties of set cement:
  - Compressive Strength (API Spec 10A and RP 10B2)
  - Young's modulus and Poisson's ratio
  - Brazilian Splitting Tensile Strength (ASTM C496/C496M -04)
- Temperature control up to 400°F (204.4°C) and confining pressure control up to 10,000 PSI (68.95 MPa) are available to simulate down-hole conditions with either oil or water as a pressure medium
- Accommodates cube samples up to 2.0" × 2.0" and cylindrical samples up to 2.0" in diameter and 5.0" in length
- Utilizes digital servo-controlled pressure and load for improved accuracy and stability
- Single, self-contained unit with a small footprint to save valuable floor space
- Windows®-based system control and data acquisition

Technical Specifications and Requirements

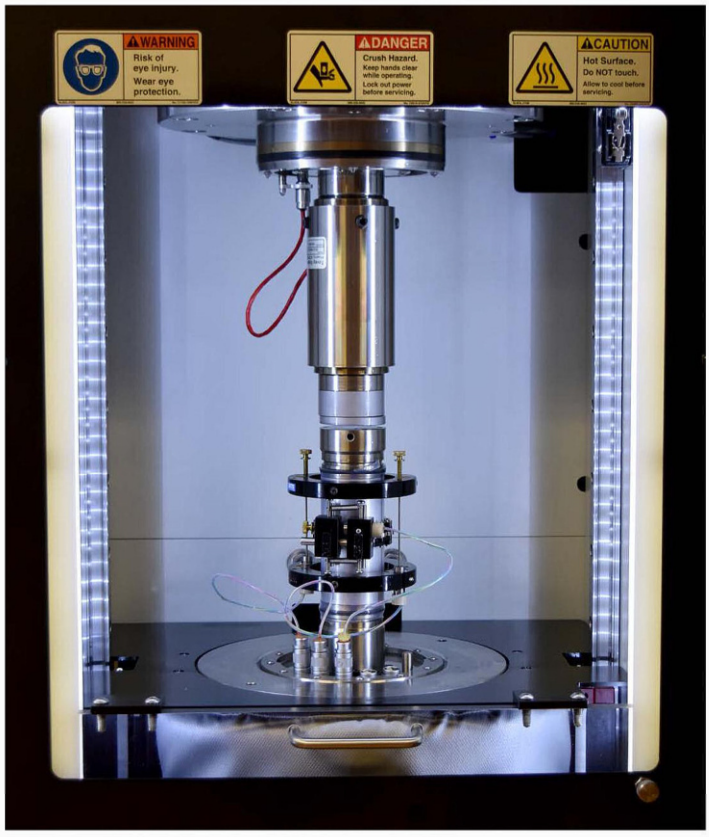
- #120-286

Specifications

- Load Frame Capacity: 112,400 lb (500 kN)
- Stroke: 4" (100 mm)
- Maximum Temperature: 400°F (204.4°C)
- Maximum Pressure: 10,000 PSI (69.0 MPa)
- Size: 52.5" × 35.5" × 84.5" (133 × 90 × 215 cm)
- Weight: 3,485 lb (1,580 kg)
- Crated Size: 82" × 48" × 94" (208 × 122 × 239 cm)
- Crated Weight: 4,050 lb (1,837 kg)

Requirements

- Air Supply: 100 PSI (690 kPa) Recommended, 150 PSI (1,035 kPa) Maximum, ¼" NPT Connector
- Power Supply: 230 - 240 Volt, 50/60 Hz, 10 Amps



HTHP Corrosion Tester

The HTHP Corrosion Tester is designed to perform corrosion tests under elevated temperature and pressure. The device is capable of heating the sample up to 400°F (204.4°C) and applying up to 5,000 PSI (34.5 MPa). Four samples can be tested simultaneously. All wetted components are made of corrosion-resistant Stainless Steel.

Four corrosion coupons are thoroughly cleaned and weighed before the test begins. The acid solution and corrosion inhibitor are mixed and poured into each of the four sample bottles. A corrosion coupon is added to each sample and all four bottles are placed into the test cell. Pressure and temperature are applied, and the motor agitates the samples throughout the test. After the test, the coupons are cleaned and weighed again. The mass loss during testing is used to calculate the corrosive properties of the acid.

Feature

- Microprocessor-based temperature controller with digital indicator display
- Water circulation system rapidly cools the test cell
- High-pressure relief valve protects people and equipment

Technical Specifications and Requirements

- #120-700 HTHP Corrosion Tester

Specifications

- Maximum Pressure: 5,000 PSI (34.5 MPa)
- Maximum Temperature: 400°F (200°C)
- Temperature Accuracy: ±0.5°C
- Capacity: 4 sample bottles of 150 mL each
- Agitator Speed Range: 0 - 100 RPM
- Size: 25" × 16" × 26" (64 × 41 × 66 cm)
- Weight: 215 lb (97.6 kg)
- Crated Size: 30" × 20" × 30" (76 × 51 × 76 cm)
- Crated Weight: 255 lb (115.8 kg)

Requirements

- Air / Nitrogen supply (100 - 120 PSI)
- Water supply for cooling (40 PSI)
- Water Drain
- 230-Volt, 50 / 60 Hz, 20 Amp electrical power supply

BP Cement Settling Tube

The BP Setting Tube (#122-086) is used to test the settling characteristics of a well cement. The cement slurry is poured into the tube and then cured in a Consistometer or water bath. After the cement has cured, the column is then cut into pieces and the density of each piece is measured using Archimedes Principle.

Features and Specifications

- Tests the settling characteristics of a well cement
- Includes brass tube, top and bottom cap, and two hose clamps
- Size: 8.5" Tall × 2" Diameter (23 × 5 cm)
- Weight: 1.5 lb (.68 kg)

Circular Cement Expansion Mold Kit

The Circular Cement Expansion Mold is designed to measure the expansion or shrinkage characteristics of well cement slurries. In a typical well cementing operation, a cement slurry is pumped into the annulus between the well casing and the bore hole. As the cement slurry hydrates, it undergoes a volume change which translates into bulk expansion or shrinkage. Knowing the amount of expansion or shrinkage allows users to design cement systems which can achieve optimal bonding with the borehole and well casing without sacrificing the integrity of the cement matrix.

The Circular Cement Expansion Mold's external ring has a vertical slit on one side to allow it to expand. Before testing begins, the width of the gap is measured with the included micrometer. The expansion mold is filled with a cement slurry and cured in a water bath or curing chamber. As the cement cures, the external ring will expand or contract with the cement slurry. At the end of the test, the gap is measured again to determine the expansion factor.

This device conforms to the guidelines in API Recommended Practice 10B-5 (ISO 10426-5:2004).

Included Items

- #122-90: Circular Cement Expansion Mold Kit
- #122-90-010: Circular Cement Expansion Mold
- #122-90-020: Micrometer Stand
- #122-90-030: Micrometer
- #122-90-040: Carrying Case with Custom Foam Insert

Foam Cement Stability Tube

The Foam Cement Stability Tube* (#122-186-101) is designed to cure foam cement samples at elevated temperatures while isolating the slurry from external pressure. The sealed mold prevents contamination from the pressure medium and maintains foam cement density by preventing the escape of air bubbles from the slurry. A brass tube insert creates a cylindrical cement plug which can then be tested for sedimentation, permeability, and more. The cell body interior and tube insert are both tapered for easy removal. The assembly is rated for 400°F (204°C) and 3,000 psi (20.7 MPa) and can be used with standard cement slurries as well.

U.S. Patent No. 10,203,318

Features and Specifications

- Prevents contamination from the pressure medium
- Maintains the designed density by preventing the release of air bubbles and volume expansion during curing
- Creates cylindrical cement plugs of uniform diameter
- Isolates slurry from external pressure
- Tapered cell body and tube insert for easy removal
- Compatible with foam cement and standard slurries
- Maximum Pressure: 3,000 psi (20.7 MPa)
- Maximum Temperature: 400°F (204.4°C)
- Size: 10" Tall × 2.75" Diameter (25 × 7 cm)
- Weight: 13.5 lb (6.3 kg)

Manual Reservoir Permeability Tester

The permeability of a petroleum reservoir is one of the most influential parameters in determining the production capabilities of a producing formation. Permeability is a measure of the ability of a fluid to flow through a porous media when subjected to a differential pressure and is mathematically equated by Darcy's law.

The Reservoir Permeability Tester was developed to evaluate how fluids affect the permeability of a core specimen. In addition, the unit may be used to evaluate acidizing techniques and to develop typical Acid Response Curves (ARCs).

*Not for use with heavy crudes. Fluids must be in a liquid state at ambient temperature.

Features

- Manual valves enable forward and reverse injection through core holder for 3 separate fluids and nitrogen gas
- Hassler-type core holder rotates for either horizontal or vertical testing orientation
- Wetted materials are 316 Stainless Steel (HC-276 is available on request)
- Two-piece cabinet construction, with storage area below and locking swivel castors for mobility
- Comes with PC and data acquisition software

Technical Specifications and Requirements

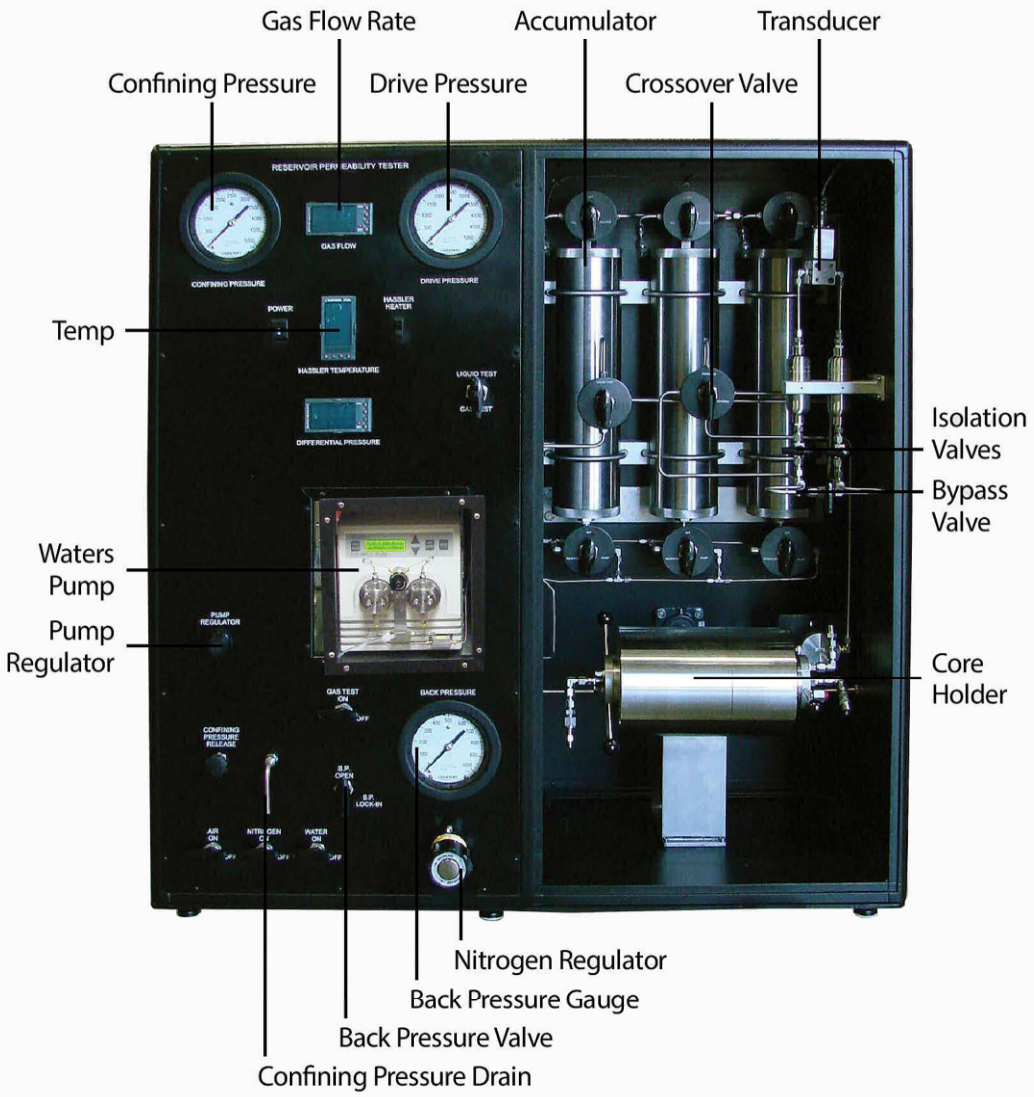
- 127-00 - Manual Reservoir Permeability Tester

Specifications

- Core holder can test cores 1" or 1½" diameter × 6" maximum length
- Accumulators: three separate piston accumulators, 1.5 liters each
- Drive Pressure: 3,000 PSI maximum
- Confining Pressure: 5,000 PSI maximum
- Back Pressure: 1,000 PSI maximum
- Core Holder Temperature: 400°F (204.4°C) maximum
- Fluid Injection Flow Rate: 0 to 10 mL/min
- Size: 44" wide × 20" deep × 60" tall (112 × 51 × 152 cm)
- Weight: 760 lb (344.7 kg)

Requirements

- Air: 100 PSI
- Nitrogen: 2,000 PSI
- Water: tap pressure (30 to 40 PSI is typical)
- Electrical: 230 VAC, 30 amps



BLP-530 Gas Porosimeter

The BLP 530 Gas Porosimeter was designed to rapidly and accurately measure the effective porosity of a core sample. Porosity is defined as the percentage of void space within a solid media. Effective porosity is the percentage of void space within a solid media in which the pore spaces are interconnected. It is imperative to accurately determine the effective porosity of a petroleum reservoir when estimating the total amount of recoverable hydrocarbons within a producing formation. The BLP 530 Gas Porosimeter was designed to precisely measure the effective porosity of a core sample.

Features

- Precision regulator for accurate pressure control
- Digital display of pressure
- Vacuum gauge and connection port for evacuation
- "Lock in" feature allows for rapid measurement of samples
- Unit is compact and virtually maintenance free
- Calibration sample included with unit
- Air relief valve prevents over pressurization

Technical Specifications and Requirements

- #127-20 BLP-530 Gas Porosimeter

Specifications

- Can test core samples up to 1.5" in diameter by 2" long (Larger core holders available upon request)
- Size: 24" × 22" × 20" (61 × 56 × 51 cm)
- Weight: 150 lb (68.1 kg)
- Crated Size: 29" × 28" × 30" (74 × 71 × 76 cm)
- Crated Weight: 200 lb (91 kg)

Required Utilities

- Helium or Nitrogen (200 PSI minimum)
- Vacuum: Vacuum pump and hose included with unit
- 220 VAC, 50 Hz, 2 Amp or 110 VAC, 60 Hz, 4 Amp

BLP-630 Automated Gas Porosimeter

The BLP 630 Automated Gas Porosimeter was designed to rapidly and accurately measure the effective porosity of a core sample. Porosity is defined as the percentage of void space within a solid media. Effective porosity is the percentage of void space within a solid media in which the pore spaces are interconnected. It is imperative to accurately determine the effective porosity of a petroleum reservoir when estimating the total amount of recoverable hydrocarbons within a producing formation. The BLP 630 Automated Gas Porosimeter was designed to precisely measure the effective porosity of a core sample.

Features

- Three separate volumetric gas reservoirs provide 7 possible gas volume combinations to improve effective pore space data for a broad range of core sizes and core porosities.
- Comes with an assortment of volumetric core holder inserts to minimize dead space for greater accuracy
- Core holder secured and released with ¼ turn by hand for quick and easy core loading
- Integrated vacuum pump allows evacuation of pore space and porosimeter gas circuits
- Various gases can be used, including helium, nitrogen and carbon dioxide
- Calibration is performed with the software to ensure accuracy
- Pressure relief valves are incorporated into the gas circuits to ensures safe operation
- Comes with PC and software for automatic or manual control and data acquisition

Method of Operation

A core sample is placed into the air-tight core holder and pressure is applied to a reservoir of known volume. After the pressure has stabilized, a valve is opened, which permits the gas within the reservoir to expand into the core holder. After equilibrium is reached, the new pressure of the system is measured and recorded. The effective porosity of the core specimen may be calculated by the use of Boyle's Law ($P_1V_1=P_2V_2$) in conjunction with the bulk volume of the sample. The variables V_1 and V_2 are constants that are dependent upon the geometry of the unit and the effective porosity of the core.

Technical Specifications and Requirements

- #127-25 BLP-630 Automated Gas Porosimeter, 115 Volt
- #127-25-1 BLP-630 Automated Gas Porosimeter, 230 Volt

Specifications

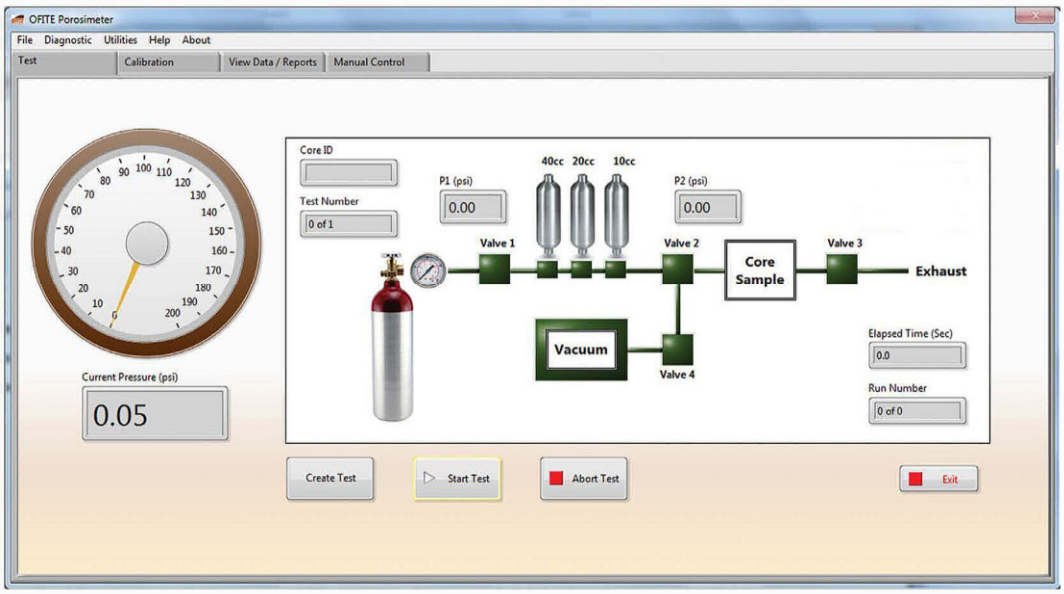
- Core holder can test cores up to 2" diameter and up to 3" long
- Comes with adapter kit for 1", 1½", and 30 mm diameter cores
- Gas pressure: 200 psi maximum testing pressure

Requirements

- Gas (helium, nitrogen, etc.): 200 PSI
- Power: 115 Volt, 7 Amp or 230 Volt, 3 Amp

Software Features

- Graphical operator interface, data collection, and control



Core Plug Drill

The Core Plug Drill is used to cut smaller core specimens from whole cores, blocks, or other media taken from the well bore. We provide a variety of core drill bits, which allows the user to prepare core specimens varying from 0.75" to 2" in diameter. The floor-mounted press is easy to operate and uses a water cooling system to permit rapid and efficient cutting. It is a simple and reliable method of preparing core specimens for permeability and other tests frequently conducted in petroleum reservoir research facilities.

Features

- Floor-mounted design
- Can be used to cut cores 1" in diameter and up to 6" in length (14" available)
- Splash guard for reducing spills
- Rotary union with shut-off valve connects drill bit to drill press and feeds coolant to the bit surface
- Includes drain pan, 6" jaw vise, and hoses for coolant

Optional

- #127-40-005 Corrosion resistant reservoir with submersible pump, flexible hoses, and fittings
- #127-40-006 Core holding tray, 40", stainless steel, with two 6⅛" clamping vises

Technical Specifications and Requirements

- #127-40 Core Plug Drill

Requirements

- 220 Volt, 50/60 Hz electrical power supply

BD7 Trim Saw

- Large 14" x 14" cutting surface
- Direct drive motor
- All cast aluminum tank, table and blade guard
- Table tilts up and out of the way for blade removal/ change, adding oil, or cleaning
- Easy to clean tank with oil drain hose and sludge removal plug
- Mounted on a ½" polypropylene base
- 7" Professional Lapidary Diamond Blade

Specifications

Horse Power	1/3
Voltage*	115V/60Hz
Amperage	4.4
Motor RPM	3,300
Blade Arbor	5/8"
Blade Capacity	7"
Depth of Cut	1-3/16"
Max. Vise Opening	2-3/4"
L x W x H (in) L x W x H (mm)	17" x 18" x 12" 432 x 457 x 305 mm
Saw Weight	28 lbs.
With vise & splash hood Part #	168765
Without vise & splash hood Part #	170789

*220Volt Part # 169780 (with vise & splash hood)

Built in splash guard

Optional:
PETG high-impact, copolymer splash hood

Optional:
Adjustable rock vise clamp system cross feed adjustment

BD10 Power Feed Trim Saw

The BD10 power feed trim saw with 1/3 HP motor is perfect for cutting facet material, opals and rock slabs of all types. Cuts slabs easily with the 15-3/8" x 19-1/2" work surface.

Features

- All cast aluminum tank, table, blade guard and power feed box
- Hinged table top for ease of sludge/oil and blade removal
- Vertical rock vise clamping system
- Vise rotates out of the way for manual trim saw use
- Sealed blade arbor-bearing assembly
- PETG high-impact, copolymer hood
- Brass clutch plate engage/disengagement system
- Single speed (3/16" per minute feed rate) power feed system
- Mounted on a 1/2" polypropylene base
- Professional Lapidary Diamond Blade (10" x .040 x 5/8)
- Shipping weight 80 lbs. crated

Specifications

Motor	Leason
Horse Power	1/3
Voltage*	110V/60Hz
Amperage	5.8
Motor RPM	1,725
Blade Arbor	5/8"
Blade Capacity	8" - 10"
Depth of Cut: Manual Cutting	3"
Depth of Cut: Power Feed Cutting	2 - 5/8"
Max. Vise Opening	3 - 1/4"
L x W x H (in) L x W x H (mm)	27" x 17" x 19" 686 x 432 x 483 mm
Saw Weight	70 lbs.
Part #	168787

*220Volt/50Hz Part # 169201

Model 800 8-Speed Viscometer

The Model 800 Viscometer determines the rheological characteristics of drilling fluids and cement at atmospheric pressure. It features a simple speed control knob and a lighted dial for easy reading. It operates on univeral voltage, making it ideal for both field and lab use.

130-10-C - Model 800 Viscometer
With Carrying Case

130-10-L - Model 800 Viscometer
With Retractable Legs (For Kits)

Features

- Speeds are easily changed with a control knob
- Shear stress values are displayed on a lighted, magnified dial for ease of reading
- Motor speed is continuously monitored and adjusted
- Suitable for both field and laboratory use
- Conventional oilfield rotor, bob, and torsion springs maintains rheology history and reproducibility between instruments and laboratories (wide variety of bob and torsion springs available for a variety of fluids test)
- Operates anywhere in the world without flipping switches or re-wiring
- Threaded rotor - mechanically attaches to the unit the same way every time
- Available with retractable legs for placement in kits

Technical Specifications and Requirements

- #130-10-C Model 800 Viscometer with Carrying Case
- #130-10-L Model 800 Viscometer with Retractable Legs

Specifications

- Instrument Geometry: True Couette Coaxial Cylinder
- Speed Accuracy (RPM): 0.1
- Motor Speeds (RPM): 8 Fixed Speeds (600, 300, 200, 100, 60, 30, 6, and 3)
- Readout: Direct Dial
- Power Requirement: 115 / 230 VAC, 50/60 Hz
- Power Requirements: 13 - 16 VDC
- Shipping Dimensions: 22" × 14" × 10" (56 × 36 × 25 cm)
- Shipping Weight: 25 lb (11kg)

Thermocup

The Thermocup is designed for controlling the temperature of a mud sample while taking readings with a viscometer. The holes in the stage of Viscometers have been positioned to hold the heated cups at a 45° angle to the line of the instrument for better accommodation of thermometers and power cables. A removable stainless steel cup (optional) makes cleaning safer and easier.

Without Removable Cup

With Removable Cup

Features

- Anodized finish provides better heat transfer than paint
- Strain relief on the power cable protects wiring from damage

Technical Specifications and Requirements

- #130-38-20 Without Removable Cup, 115 Volt
- #130-38-25 Without Removable Cup, 230 Volt
- #130-38-30 With Removable Stainless Steel Cup, 115 Volt
- #130-38-35 With Removable Stainless Steel Cup, 230 Volt

Specifications

- Maximum Temperature: 200°F (93.3°C)
- Size: 3" × 4" × 4.5" (8 × 10 × 11 cm)
- Weight: 2.6 lb (1.2 kg)

Optional

#130-76-10-10 Cup for Thermocups, Stainless Steel

Universal Heat Cup

The Universal Heat Cup is designed for controlling the temperature of a fluid sample while taking readings with a rheometer or viscometer. Normal heat-up time is 15 minutes and the pilot light turns on during heating.

Features

- Designed to work with the Model 900 Viscometer
- Can be plugged directly into the Model 900 Viscometer, eliminating the need for a second power outlet
- Allows the ORCADA® software to control the temperature of the fluid sample during a test
- Can be used with other viscometers like the Model 800 Viscometer and the Hand-Crank Rheometer. (An additional power cable is sold separately)
- Stainless steel cup is easier to clean up and promotes safety
- Improved heater design results in faster heating times

Technical Specifications and Requirements

- #130-76-10 115 Volt
- #130-76-10-1 230 Volt

Specifications

- Maximum Temperature: 200°F (93°C)
- Size: 4.5" × 4.5" × 4" (11 × 11 × 10 cm)
- Weight: 3 lb (1.36 kg)

Optional

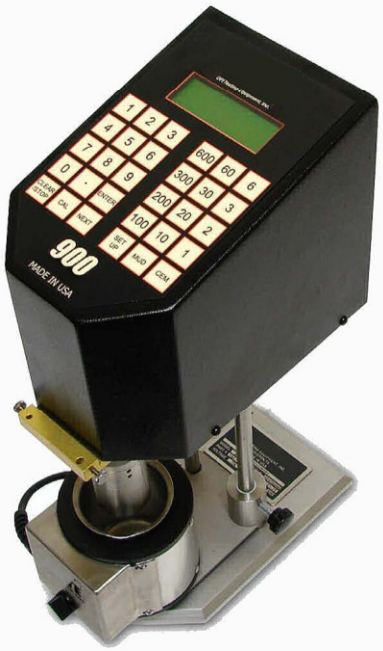
An additional power cord is necessary when using the Universal Heat Cup without a Model 900 Viscometer:

- #152-37 AC Power Cord, 115-Volt
- #152-38 AC Power Cord, 230-Volt

Model 900 Automated Viscometer

The Model 900 Viscometer is a true Couette coaxial cylinder rotational viscometer, which employs a transducer to measure the induced angle of rotation of the bob by a fluid sample. For a fully automated Control/Data Acquisition System suitable for research applications, the Model 900 Viscometer may be connected to a computer via a serial (RS-232) port using exclusive and field-proven Windows™- based ORCADA® software.

Patent Number 6,766,028



Features

- Model 900 Viscometer is a true Couette coaxial cylinder rotational viscometer
- Run multiple units on one computer
- Push button calibration history and graphs available for improved analysis (with ORCADA® software)
- Stepper motor technology insures accuracy of shear rates
- Single button operations on the keypad
- Routine repairs are easily performed
- Has the ability to operate accurately at extremely low shear rates (0.006 RPM)
- Not necessary to stop the motor between speed changes
- Optional KlikLock™ Bob (Patent Number 8,763,776) uses a magnetic coupling to make removal quick and easy.

Technical Specifications and Requirements

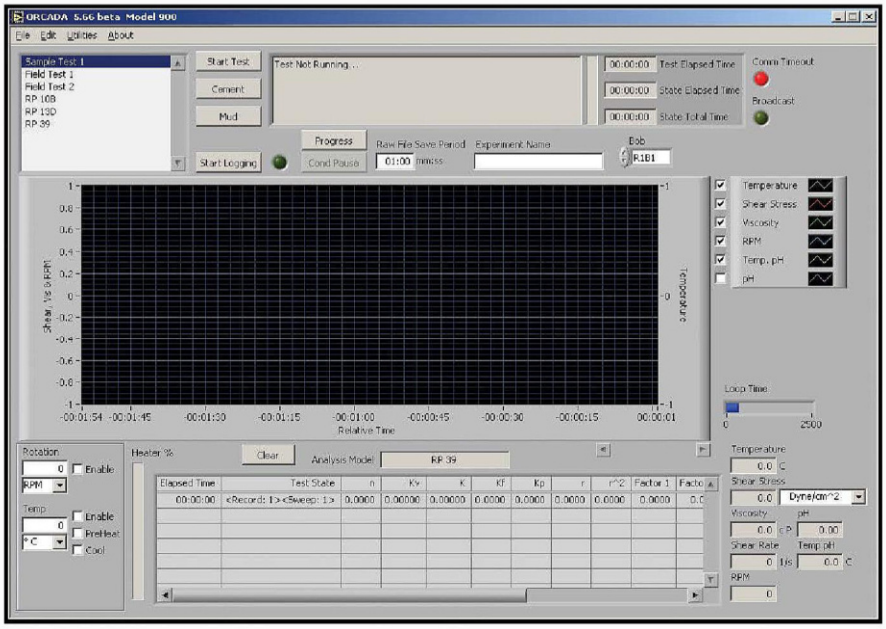
- #130-76-C Model 900 Viscometer, 115 Volt
- #130-76-1-C Model 900 Viscometer, 230 Volt

Specifications

- Instrument Geometry: True Couette Coaxial Cylinder
- Motor Speeds (RPM): 12 Fixed Speeds (600, 300, 200, 100, 60, 30, 20,10, 6, 3, 2, and 1); Variable speed range .006 - 1000
- Speed Accuracy (RPM): .001
- Shear Rate Range (sec^{-1}): .01 - 1,700
- Heat Cup: Stainless Steel, 150 Watts, Maximum Recommended Temp: 190°F (88°C)
- Power Requirements: 97 - 250 Volts AC, 200 Watts, 50/60 Hz
- Dimensions: 17.3" × 15" × 9.4" (44 × 38 × 24 cm)
- Weight: 18.9 lb (8.6 kg)
- Shipping Dimensions: 22" × 15" × 9.4" (56 × 38 × 24 cm)
- Shipping Weight: 35.3 lb (16 kg)
- Computer Requirements: DB-9 Serial Port, Windows 2000 or newer. Recommended screen resolution 1024 × 768 pixels

OFITE Data Acquisition Features

- Write programs based on time, temperature and shear rates
- Multiple calibration points: low and high shear rates
- Computer automatically stores data
- Multiple rheological programs available



HTHP Viscometer

For extremely high temperature and / or high pressure viscosity measurements, we offers the HTHP Viscometer. This fully-automated system accurately determines the rheological properties of completion fluids and drilling fluids in terms of shear stress, shear rate, time, and temperature at pressures up to 30,000 PSI and temperatures up to 500°F. An optional Chiller is available for cooling the fluid sample below ambient temperature, further increasing the flexibility of the system.

Using the exclusive ORCADA® software, a computer novice can operate the viscometer, and yet the system is versatile enough for advanced research and demanding test parameters.

Features

- **Low Shear Rates:** As low as .01 sec^{-1}
- **Real Oilfield Geometry** - uses traditional oil field Bob and Rotor for measurements that are easy-to-use.
- **Computer-Controlled** - uses exclusive ORCADA® software.
- **Versatile** - Available in 115 or 230 volt

Technical Specifications and Requirements

- #130-77 115 Volt
- #130-77-230 230 Volt

Specifications

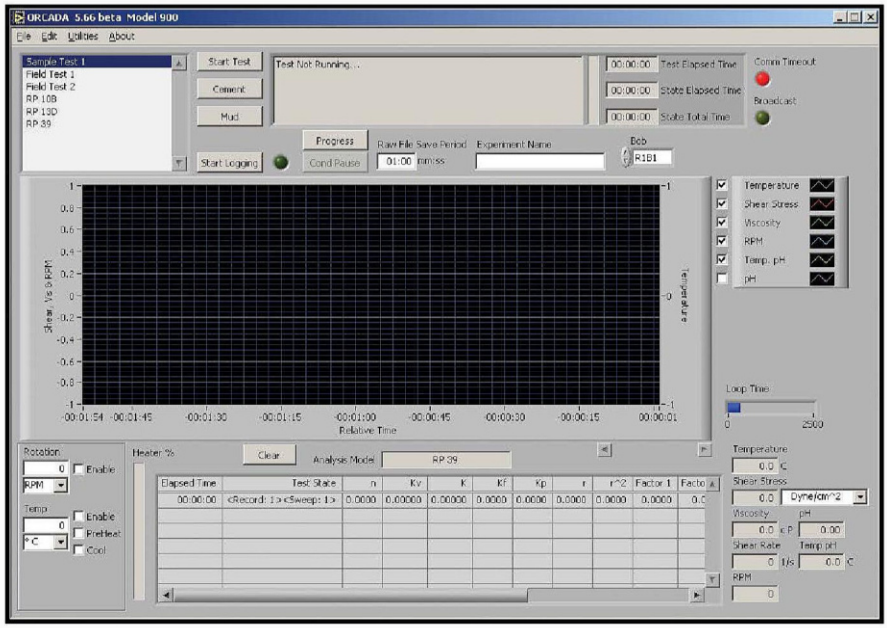
- Maximum Pressure: 30,000 PSI (206.9 MPa)
- Maximum Temperature: 500°F (260°C)
- Motor Speed: .01 - 1000 RPM
- Shear Rate Range: .01 - 1022 sec^{-1}
- Viscosity Range: 0 - 300 cP @ 300 RPM
- Crated Size: 39" × 35" × 47" (99 × 89 × 119 cm)
- Crated Weight: 365 lb (165.6 kg)

Requirements

- Electrical: 115 or 230 Volt, 50/60 Hz
- Air Supply: 100 - 150 PSI
- Water Source: standard tap water
- Water Drain

Software Features

- Write programs based on time, temperature and shear rates
- Multiple calibration points: low and high shear rates
- Computer automatically stores data
- Multiple rheological programs available



Model 1100 Pressurized Viscometer

For enhanced data collection, we pleased to introduce its new Pressurized Viscometer. This fully-automated system accurately determines the fluid characteristics of stimulation fluids, completion fluids, drilling fluids, and cement in terms of shear stress, shear rate, time, and temperature at pressure up to 2,500 PSI.

Using the exclusive ORCADA® software, a computer novice can operate the viscometer, and yet the system is versatile enough for advanced research and demanding test parameters. It is suitable for both field and laboratory use. A waterproof, compartmentalized case with wheels makes the unit completely portable.

Features

- **Low Shear Rates** - As low as 0.01 s-1
- **Portable** - Rugged case makes for easy transport
- **Rugged** - Designed for use in the field or laboratory
- **Corrosion Resistant** - Hastelloy-wetted parts provide extra corrosion control
- **Small Footprint** - Only 12" × 12" (30 × 30 cm). The all-in-one design includes the heating mechanism
- **Versatile** - Available in 115 or 230-volt models
- **Real Oilfield Geometry** - Uses traditional Bobs and Rotor for measurements that are easy to translate (shear stress range 0 - 4,000 dynes/cm^2)
- **Computer-Control and Data Acquisition** - Uses exclusive ORCADA® software connected via serial port or Ethernet
- **SAFEHEAT®** - Safe, Accurate, Fast, Environmentally friendly, High Efficiency Air Transfer system. More precise control over the sample temperature without the risks of hot oil, such as spilling, splashing or flashing. U.S. Patent Number 8,739,609.

Technical Specifications and Requirements

- #130-81-C Model 1100 Pressurized Viscometer, 115 Volt
- #130-81-1-C Model 1100 Pressurized Viscometer, 230 Volt

Specifications

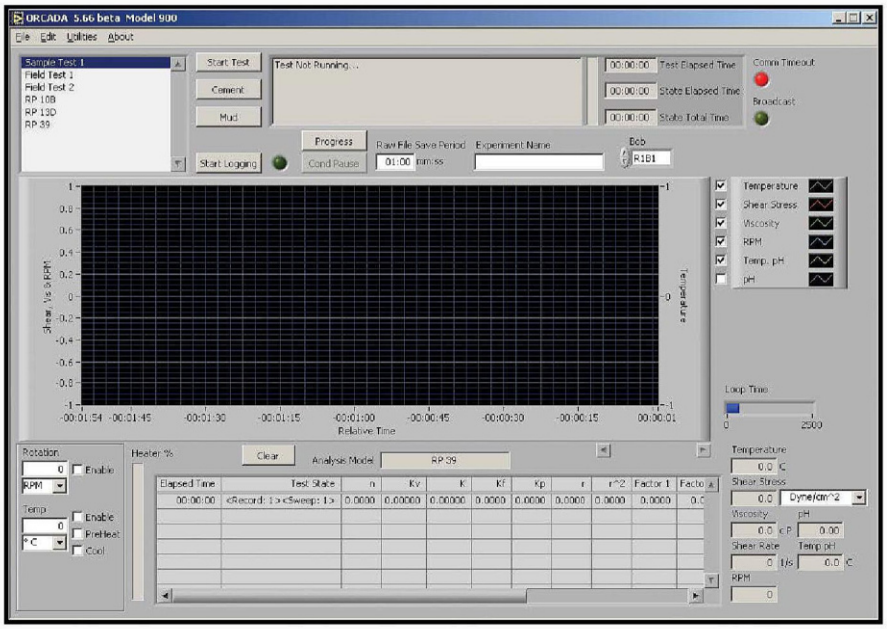
- Maximum Pressure: 2,500 PSI (17.2 MPa)
- Maximum Temperature: 500°F (260°C)
- Motor Speeds: Variable from .01 - 1,000 RPM
- Shear Rate Range: .01 - 1,002 sec^{-1}
- Size: 14" × 13" × 30" (36 × 33 × 76 cm)
- Weight: 85 lb (37.6 kg)

Requirements

- Power: 115 or 230 Volt AC, 50/60 Hz
- Nitrogen: Up to 2,500 PSI (17.2 MPa)

Software Features

- Write programs based on time, temperature and shear rates
- Multiple calibration points: low and high shear rates
- Computer automatically stores data
- Multiple rheological programs available



Digital Resistivity Meter

The Digital Resistivity Meter accurately measures the resistivity of fluids, slurries, and semisolids having resistivities from 0.01 to 400 ohm-meters. The digital display shows both resistivity (in ohm-meters) and concentration of NaCl (in ppm, kppm, and gr/gal), as well as temperature (in °C or °F).

Features

- Equipped with a digital readout for higher accuracy
- LCD display makes measurements easy to read
- Built-in calibration tests make calibrations simple
- Automatic NaCl Measurements - no longer have to manually use a nomograph
- Lucite® Cell - transparent and removable, making it easy to clean

Technical Specifications and Requirements

- #130-87 Digital Resistivity Meter

Specifications

- Resistivity Range - 0.01 to 400 Ohm-Meters
- Temperature Range - 14 to 140°F (-10 to 60°C)
- NaCl Measurements - ppm, kppm, gr/gal
- NaCl Range - 0.2 to 300 kppm
- Power Requirements - Two 9-Volt Batteries. Optional

Emulsion Stability Tester

The Electrical Stability (ES) of an oil-based drilling fluid is a property related to its emulsion stability and oil wetting ability. The Emulsion Stability Tester determines ES by applying a precision voltage-ramped sinusoidal signal across a pair of parallel flat plate electrodes that are immersed in the fluid.

Features

- API recommended sinewave circuitry
- Symmetry of the sinusoidal signal inhibits the buildup of solids on the electrode faces and enhances reproducibility.
- Push button automatic voltage ramping at a fixed ramp rate
- Includes meter, probe electrode, calibration standards, and four 9-volt alkaline batteries

Technical Specifications and Requirements

- #131-50 Emulsion Stability Tester

Meter Specifications

- Wave form: Sine, < 5% total harmonic distortion
- AC Frequency: 340 ± 10 Hz
- Output Units: Peak Volts
- Ramp Rate: 150 ± 10 Volts per second, automatic operation
- Minimum Output Range: 3 - 2,000 Volts (Peak)
- Trip Current: 61 ± 5 µA
- Size: 9.5" × 6.5" × 3.5" (24.1 × 16.5 × 8.9 cm)
- Weight: 2 lb 15 oz (1.3 kg)
- Shipping Size: 11" × 11" × 7" (28 × 28 × 18 cm)
- Shipping Weight: 10 lb (4.54 kg)

Electrode Specifications

- Housing: Material resistant to oil mud components up to 220°F (105°C)
- Material: Corrosion-resistant metal
- Diameter: 0.125" ± 0.001" (3.18 ± 0.03 mm)
- Spacing (gap): 0.061" ± 0.001" (1.55 ± 0.03 mm) at 72°F (22°C)

Optional

- 154-01 Thermometer, 5" Stem, Metal Dial, 0° - 220°F (-10° - 100°C)
- 154-22 Thermometer, Pocket, 5" Stem, 1" Dial, 0° - 220°F
- 131-50-SP Spare Parts Kit for Emulsion Stability Tester (#131-50)
- 131-01 Probe for ES Meter
- 147-02 Battery, 9 Volt, Alkaline

Hand Crank Rheometer

The Hand Crank Rheometer (#132-00) is a direct-indicating, manually operated, rotational viscometer. The instrument is powered by a hand crank, which drives the spindle through a precision gear train. The shift cam selects between fixed speeds of 300 and 600 RPM. A Knob on the hub of the shift cam determines gel strength.

Features

- Suitable for field and lab use
- Ultimate in portability
- Reliability
- Small footprint if used in laboratory

Technical Specifications and Requirements

Specifications

- Size: 9" × 4" × 6.5" (23 × 10 × 17 cm)
- Weight: 8 lb (3.6 kg)

API Filter Press, Wall Mount, Basic

The API Pressure Filter Press provides a quick, easy way to evaluate the filtration properties of a drilling fluid. This instrument consists of a pressure cell, frame, pressure source, filter medium, and a graduated cylinder. It conforms to API specifications, and is suitable for both field and lab use.

Features

- Stainless steel test cell
- Suitable for field and lab use
- Conforms to API specifications

Technical Specifications and Requirements

- Part Number: #140-00

Specifications

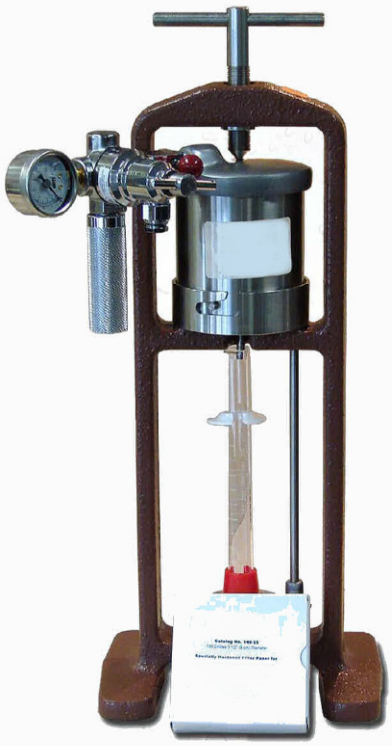
- Working Pressure: 100 PSI (689.5 kPa) - Pressure source sold seperately
- Working Temperature: Ambient
- Filtration Area 7.1 ± 0.1 in^2 (45.8 ± 0.6 cm^2)
- Working Volume: 400 mL
- Approximate Shipping Size: 8" × 8" × 8" (20 × 20 × 20 cm)
- Approximate Shipping Weight: 12 lb (6.8 kg)

Optional

- #155-20 Interval Timer
- #143-05 CO_2 Bulbs

API Filter Press, Benchmount, with CO_2 Pressure Assembly

The API Pressure Filter Press provides a quick, easy way to evaluate the filtration properties of a drilling fluid. This instrument consists of a pressure cell, frame, pressure source, filter medium, and a graduated cylinder. It conforms to API specifications, and is suitable for both field and lab use.



Features

- Stainless steel test cell
- Built-in pressure regulator
- Suitable for field and lab use
- Conforms to API specifications

Technical Specifications and Requirements

- #140-30

Specifications

- Working Pressure: 100 PSI (689.5 kPa) - CO_2 Bulbs Sold Separately
- Working Temperature: Ambient
- Filtration Area 7.1 ± 0.1 in^2 (45.8 ± 0.6 cm^2)
- Working Volume: 400 mL
- Shipping Size: 22" × 14" × 10" (56 × 36 × 25 cm)
- Approximate Shipping Weight: 25 lb (11.34 kg)

Optional

#155-20 - Interval Timer

#143-05 - CO_2 Bulbs

API Filter Press, Bench Mount, with Regulator and Hose

The API Pressure Filter Press provides a quick, easy way to evaluate the filtration properties of a drilling fluid. This instrument consists of a pressure cell, frame, filter medium, graduated cylinder, regulator, and hose. It conforms to API specifications, and is suitable for both field and lab use.

Features

- Stainless steel test cell
- Built-in pressure regulator
- Best suited for laboratory use
- Conforms to API specifications
- For Nitrogen and CO_2 Pressurization
- Nitrogen Tank not included

Technical Specifications and Requirements

- #140-31 API Filter Press, Bench Mount, with Regulator and Hose

Specifications

- Working Pressure: 100 PSI (689.5 kPa)
- Working Temperature: Ambient
- Filtration Area: 7.1 ± 0.1 in^2 (4,580 ± 60 mm^2)
- Working Volume: 400 mL

Optional

#155-20 - Interval Timer

#170-37 - Nitrogen Cylinder

Filter Press, Low Pressure, Bench Mount, with Nitrogen Regulator and Cylinder

The low pressure filter press helps determine filtration and wall cake-building properties of drilling fluids. The filter press design features a cell body to hold the mud sample, a pressure inlet, and a base cap with screen and filter paper

Features

- Stainless steel test cell
- Built-in pressure regulator
- Suitable for field and lab use
- Conforms to API specifications

Technical Specifications and Requirements

- #140-35 Filter Press, Low Pressure, Bench Mount, with Nitrogen Regulator and Cylinder

Specifications

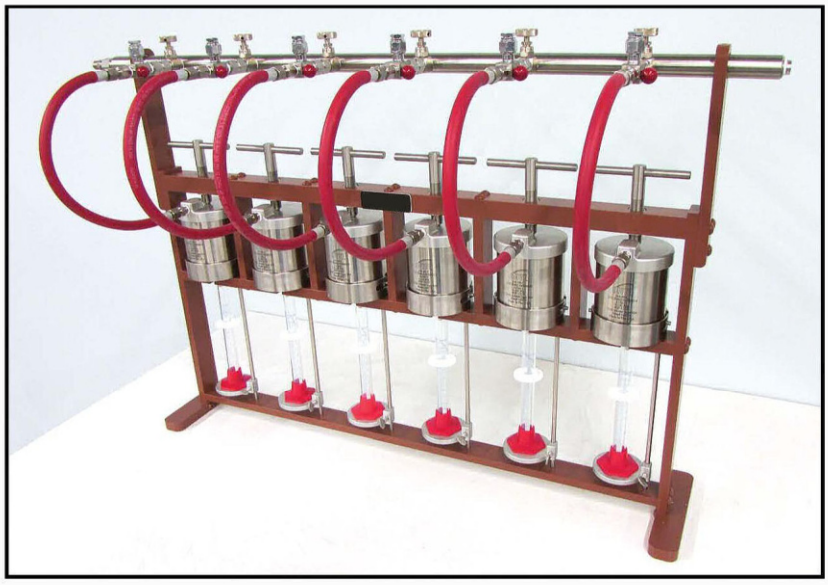
- Maximum Pressure: 100 psi (690 kPa)
- Pressure Source: Nitrogen Tank
- Filtration Area: 7.1 ± 0.1 in^2 (4,580 ± 60 mm^2)
- Filter Paper Size: 3.5" (9 cm)

Optional

#155-20 - Interval Timer

Filter Press, Low Pressure, Multi Unit

The Multi-Unit filter presses are perfect for lab environments when several tests must be run simultaneously. These units come complete with manifolds and all necessary air hoses and bleed-off valves. Suitable for laboratory use, Filter Presses have become the industry standard for low pressure/low temperature filtration testing.



Features

- Stainless steel test cell
- Suitable for lab use
- Conforms to API specifications

Technical Specifications and Requirements

- #140-40 4 Unit
- #140-50 6 Unit

Specifications

- Maximum Pressure: 100 PSI (690 kPa)
- Pressure Source: Any non-hazardous gas
- Filtration Area: 7.1 ± 0.1 in^2 (4,580 ± 60 mm^2)
- Filter Paper Size: 3.5" (9 cm)

Half Area Filter Press

The Half Area Filter Press (#140-60) consists of a modified low pressure regulator with a CO_2 bulb pressurizing assembly and a filtration cell body. A rubber diaphragm boot contains the fluid and separates it from the pressurizing gas. This enables the unit to be operated while inverted, which negates the effect of particles settling on the filter medium prior to pressurization. The top edge of the boot acts as a gasket to provide a seal to the filter paper and the end cap.

Features

- Extremely portable
- May be operated by filtering upwards, which negate cutting settling on the filter meduim prior to testing
- Easily obtainable CO_2 Bulbs provide pressure
- Proven design for over 50 years of successful usage
- Easy to service and obtain replacement parts

Differential Sticking Tester

The Differential Sticking Tester measures the "Stuck Pipe Tendency Coefficient" of drilling fluids, and also determines how effective lubricants or treatments might be with any given drilling fluid. By measuring the area of cake building during a test, the Bulk Sticking Coefficient is obtained and read directly at the conclusion of the test. This coefficient takes into account both the friction, or "stickiness" of the filter cake, as well as the amount of cake building that would occur to stick the pipe in the hole.

Features

- Pressurized with a standard CO_2 Pressure Assembly
- Torque plate with 12.5" radius to simulate casing
- Field portable

Technical Specifications and Requirements

- #150-50 Differential Sticking Tester

Specifications

- Standard Test Pressure: 477.5 PSI (3,291 kPa)
- Working Temperature: Ambient
- Working Volume: 200 mL
- Size: 6" × 6" × 18" (15 × 15 × 46 cm)
- Weight: 26 lb (11.8 kg)

Optional

#155-20 - Interval Timer

#143-05 - CO_2 Bulbs

Dynamic Linear Swell Meter

The Dynamic Linear Swell Meter is designed to simultaneously test up to four drilling fluids (expandable to eight) on a representative shale sample for extended periods of time at temperatures up to 180°F. The Linear Swell Meter is the only swell meter on the market capable of dynamically testing your fluids, so you obtain the most accurate data possible.

Features

- Dynamic - Drilling fluid constantly circulates around the sample.
- Efficient - Can measure up to four drilling fluids (expandable to eight) simultaneously.
- Durable - Manufactured from 316 Stainless Steel.
- Electronic Data - LVDT measures expansion of sample.
- Complete - Includes dies and hydraulic press for making shale sample wafers.
- Realistic - Fluid is in contact with the wafer from all sides.

Technical Specifications and Requirements

- #150-80 Dynamic Linear Swell Meter, 115 Volt
- #150-80-1 Dynamic Linear Swell Meter, 230 Volt

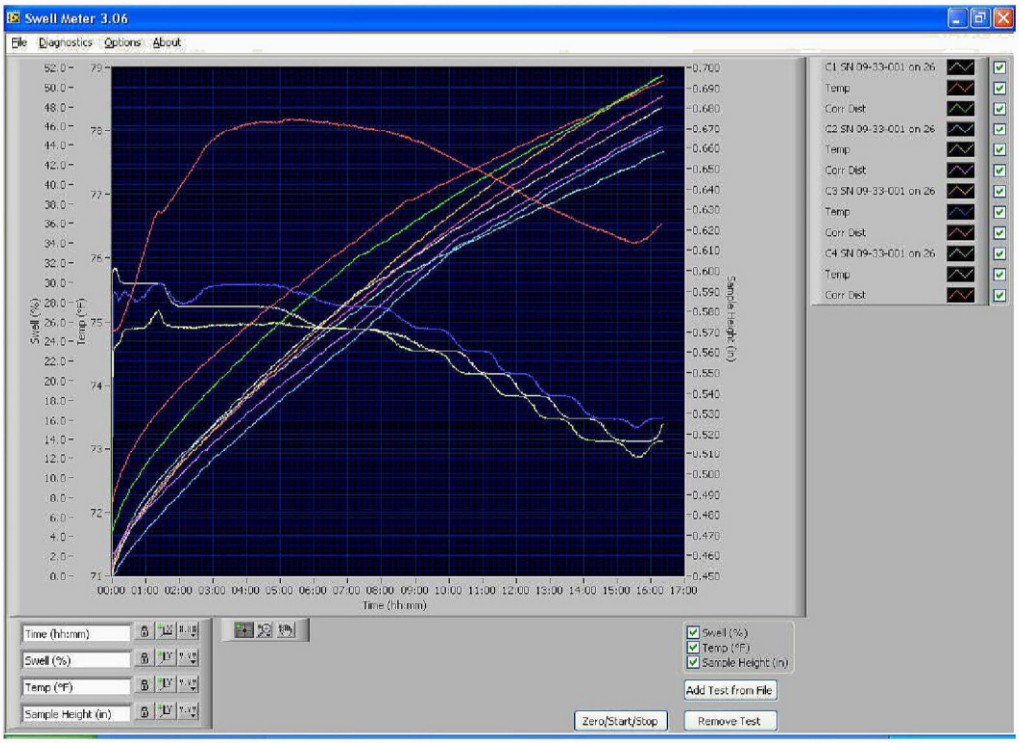
Weights and Dimensions
Size: 20.5" × 14.5" × 25" (52 × 37 × 64 cm)
Weight: 220 lb (100 kg)

Swell Meter and Compactor
Crated Size: 27" × 21" × 47" (65 × 53 × 120 cm)
Crated Weight: 312 lb (142 kg)

Instrument Control
Crated Size: 37" × 20" × 32" (94 × 51 × 81 cm)
Crated Weight: 235 lb (107 kg)

Software

- Computer-Controlled - Logs, analyzes, and updates data **real-time** so you don't have to!



Bulk Hardness Tester

The Bulk Hardness Tester (#150-87) is designed to evaluate the hardness of shale after exposure to fluids. The hardness of the shale can be related to the inhibitive properties of the fluid being evaluated. Shale that interacted with the fluids will become softer due to the adsorption of water, swelling, and dispersion of fine particles. This rock-fluid interaction can be linked to wellbore stability problems, including reduction in the compressive strength, spalling, or fracturing. In terms of integrity of drill cuttings, excessive softening and stickiness of the pieces of shale can produce mud rings in the annulus, sticking problems in the drilling assembly, and bit balling, among other problems.

Features

- Evaluates the hardness of shale samples after exposure to fluids
- Stainless steel construction
- Includes threaded piston, torque wrench, and Allen key

Recording Calcimeter with Data Acquisition

The Calcimeter is used to determine the amount of Calcium Carbonate ($CaCO_3$) and Magnesium Carbonate (Dolomite) in a sample of alkaline earth carbonates such as oil well cores or drilled cuttings. Calcite buildup in drilling fluids and in water treatment processes causes scaling problems. Data from the Recording Calcimeter can help determine the proper chemical treatment.

Features

- Comprehensive software includes calibration, test procedure, and all calculations
- Rugged, waterproof carrying case with rollers
- Complies with ASTM D 4373 - 84 (Reapproved 1990) Standard Test Method for Calcium Carbonate Content in Soils

Included Items

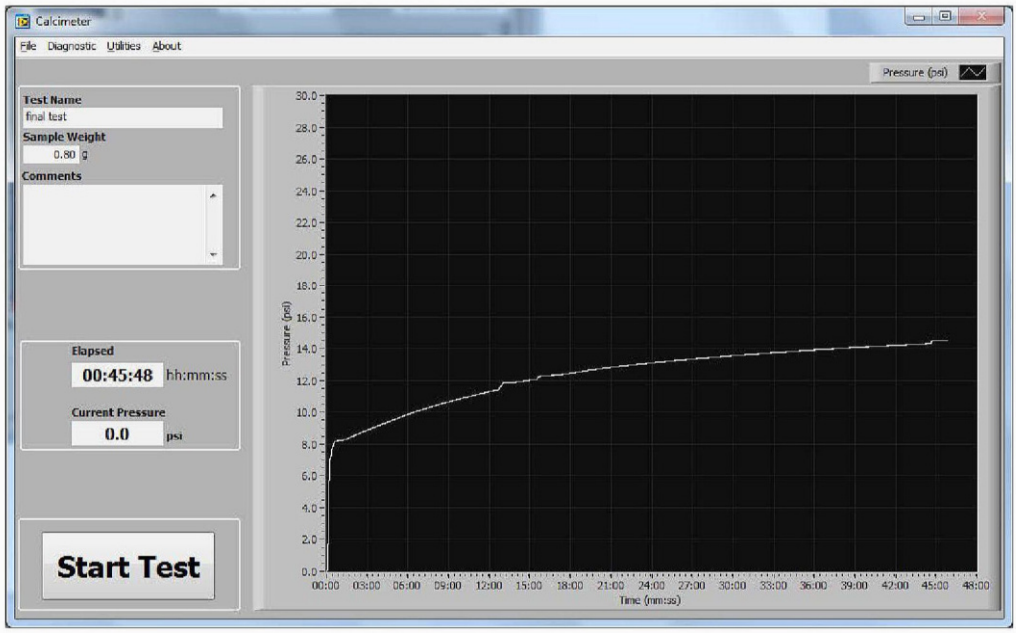
- Reaction Cell with Transducer
- Sample Cup
- Mortar and Pestle
- Graduated Cylinders
- Brush for Graduated Cylinder
- Spatula
- Handheld Balance
- Hydrochloric Acid
- Calcium Carbonate (for calibration)
- Carrying case

Part Numbers

- #152-97 Recording Calcimeter with Data Acquisition
- #152-97-C Recording Calcimeter with Data Acquisition and Laptop Computer

Software Features

- Built-in calibration
- Automatically calculates percentages of $CaCO_3$ and Dolomite in the sample



Frontier Kit

The Frontier Kit is a flexible and easy-to-use mud engineer's kit containing a modified Model 800 Viscometer with retractable legs, a Kit-Sized Full Area Filter Press, a Removable Retort, a Sand Content Kit, pH paper, and all reagents, glassware and supplies needed to run alkalinity, chloride, or hardness analysis.

Included Equipment

Model 800 Viscometer
Provides eight precisely regulated speeds for accurate shear rate and gel strength values. Modified with retractable legs, the viscometer fits easily within the case and is completely portable, operating from a 12 Volt battery or standard 115/230 Volt power.

Kit-Sized Full Area Filter Press
Used for easily measuring filtrate, cake, and conducting chemical analyses.

Removable Retort
For measuring the percentage by volume of water, fluids lighter than water, and total solids of a 10 ml sample.

Sand Content Kit
Consisting of a glass tube, funnel, and mesh sieve, this kit helps determine the volume percent of sand-sized particles in the drilling fluid.

pH Paper
Used to help determine the chemical characteristics of the drilling fluid.

Included Equipment

Reagents

#205-02	Versenate® Hardness Indicator Solution, 2 oz
#205-04	Versenate® Hardness Buffer Solution, 2 oz, UN2672
#205-06-M-I	Versenate® Hardness Titration Solution, 1 mL = 2 EPM, 8 oz
#205-10-M-I	Versenate® Hardness Titration Solution, 1 mL = 20 EPM, 8 oz
#220-00	Phenolphthalein Solution, 2 oz
#230-08-M-I	Sulfuric Acid, N/50, 8 oz UN2796
#230-10-M-I	Sulfuric Acid, N/10, 8 oz UN2796
#240-05	Bromocresol Green - Methyl Orange Indicator Solution, 2 oz
#265-00-M-I	Silver Nitrate Solution, .001 g, 0.0282 N, 8 oz
#265-06-M-I	Silver Nitrate Solution, .01 g, 0.282 N, 8 oz
#280-00	Wetting Agent, 1 oz

Technical Specifications and Requirements

- #161-25 Basic
- #161-25-C Complete, with Viscometer and Retort, 115 Volt
- #161-25-1-C Complete, with Viscometer and Retort, 230 Volt

Specifications

- Size: 20.25″ × 13.5″ × 8.5″ (51 × 34 × 22 cm)
- Weight: 48 lb (21.8 kg)

METEOR Kit

The Mud Engineer's Testing Equipment on Rollers (METEOR) Kit is everything you could have asked for to make your job more convenient and you more productive. This kit contains all the equipment you'll need to conduct tests on water and oil-based muds - all in one waterproof, portable case! In addition to the standard mud balance, marsh funnel, and cup, the METEOR Kit includes an 8 Speed Viscometer, an HTHP Filter Press, a Kit Size Full Area Filter Press, a pH meter, a retort, and a Methylene Blue Test (MBT) Kit, with ample room for regulators, supplies, and extra chemicals. The rugged, plastic case is built according to military specifications, enabling it to withstand the harshest of conditions, while protecting your equipment.

Included Equipment

Mud Balance/Marsh Funnel with Cup
Durable and rugged, both are ideal for routine density and funnel viscosity measurement.

8-Speed Viscometer with Thermocup
Provides eight precisely regulated speeds for accurate shear rate and gel strength values at temperatures up to 200°F.

Pocket pH Meter
Compact, waterproof, rugged, accurate, non-glass, and ATC.

Kit Size Full Area Filter Press
Used for measuring filtrate, cake, and conducting chemical analyses.

Included Equipment

HTHP Filter Press, 175 mL
Evaluate filtrate and cake characteristics at temperatures up to 500°F and 1,000 PSI.

Retort with Receiver Tube
For measuring the percentage by volume of oil, water, and solids in a 10 ml sample.

Reagent Kit
Contains reagents for chemical analysis of mud/filtrate. Inner packaging is compliant with U.S. and international regulations for transporting of dangerous goods in excepted quantities.

Supply Case
Neatly organizes CO_2 bulbs, thermometers, and other spares and components.

Flex Space
Available for additional items, such as an ES Meter or Handheld pH / mV / Temperature Meter.

Technical Specifications and Requirements

- #162-70 115 Volt
- #162-70-1 230 Volt

Specifications
- Size: 33.5" × 21" × 18" (85 × 53 × 46 cm)
- Weight: 114 lb (51.8 kg)

Retort, 10 mL, Removable

The Retort provides a method for measuring the percentage (%) of oil and water, and for estimating both suspended and dissolved solids contained in a sample of water-based or oil-based muds and cuttings. Knowledge of oil, water, and solid content is fundamental to proper control of mud properties when considering oil/water ratios, rheology, density, filtration, and salinity. Knowledge of solids in drilling fluids is essential to evaluation of viscosity control and solids control equipment.

Features

- Ultimate in portability
- Proven test procedures
- Reliability
- Small footprint if used in laboratory
- Accurate, tamper proof temperature controller
- Ideal for use in portable kits

Technical Specifications and Requirements

- #165-00 115 Volt
- #165-10 230 Volt

Specifications

- Size: 3.5" × 4" × 11.0" (9 × 10 × 28 cm)
- Weight: 7 lb 9 oz (3.4 kg)
- Maximum Temperature: 1000°F (537° C)
- Temperature Control: Fixed Thermostat
- Cell Capacity: 10 mL
- Heating Capacity: 350 Watts
- Power Requirement: 115 Volt at 3 Amp or 230 Volt at 1.5 Amp, 50/60 Hz

Accessories

- #122-074-1 Fuse, 5 Amp, 5 mm × 20 mm
- #153-03 Graduate Brush, ½" × 8"
- #153-18 Graduated Cylinder, 10 mL × 2/10 mL
- #165-33 Lid for Sample Cup
- #165-34 Spatula
- #165-41 Corkscrew
- #165-42 Steel Wool, Grade 000 Extra Fine, Package of 4 Pads
- #165-43 Pipe Cleaner
- #165-44-2 Anti Seize Compound, Silver, 7g Pouch
- #280-00 Wetting Agent

Optional Tools

- #165-05 10 mL Receiver Tube, 2-scales, 0 - 100% × 0.1, 0 - 10 mL × 0.1 mL, with Certificate
- #165-30 20 mL Retort Chamber with Lid (functional with 10 mL Retort Condenser)

Retort Kit, 10 mL

The Retort provides a method for measuring the percentage (%) of oil and water, and for estimating both suspended and dissolved solids contained in a sample of water-based or oil-based muds and cuttings. Knowledge of oil, water, and solid content is fundamental to proper control of mud properties when considering oil/water ratios, rheology, density, filtration, and salinity. Knowledge of solids in drilling fluids is essential to evaluation of viscosity control and solids control equipment.

Features

- Ultimate in portability
- Proven test procedures
- Reliability
- Small footprint if used in laboratory
- Accurate, tamper proof temperature controller

Technical Specifications and Requirements

#165-00-1 115 Volt
#165-10-1 230 Volt

Specifications

- Size: 7.5" × 6.5" × 11.5" (19 × 17 × 29 cm)
- Weight: 12 lb 5 oz (5.6 kg)
- Maximum Temperature: 1000°F (537° C)
- Temperature Control: Fixed Thermostat
- Cell Capacity: 10 mL
- Heating Capacity: 350 Watts
- Power Requirement: 115 Volt at 3 Amp or 230 Volt at 1.5 Amp, 50/60 Hz

Accessories

- #122-074-1 Fuse, 5 Amp, 5 mm × 20 mm
- #153-03 Graduate Brush, ½" × 8"
- #153-18 Graduated Cylinder, 10 mL × ⅖ mL
- #165-33 Lid for Sample Cup
- #165-34 Spatula
- #165-41 Corkscrew
- #165-42 Steel Wool, Grade 000 Extra Fine, Package of 4 Pads
- #165-43 Pipe Cleaner
- #165-44-2 Anti Seize Compound, Silver, 7g Pouch
- #280-00 Wetting Agent

Optional Tools

- #165-05 10 mL Receiver Tube, 2-scales, 0 - 100% × 0.1, 0 - 10 mL × 0.1 mL, with Certificate
- #165-30 20 mL Retort Chamber with Lid (functional with 10 mL Retort Condenser)

Retort Kit, 50 mL

The Retort provides a method for measuring the percentage (%) of oil and water, and for estimating both suspended and dissolved solids contained in a sample of water-based or oil-based muds and cuttings. Knowledge of oil, water, and solid content is fundamental to proper control of mud properties when considering oil/water ratios, rheology, density, filtration, and salinity. Knowledge of solids in drilling fluids is essential to evaluation of viscosity control and solids control equipment.

Electronic temperature control (available on 50 mL and 20 mL sizes) provides more accurate, reliable, and reproducible testing. The digital display shows the current working temperature, so you always know your test conditions.

Features

- Recommended for testing cuttings
- Rugged, stainless steel carrying case
- Ultimate in portability
- Small footprint if used in laboratory
- Includes all accessories necessary to run a test

Standard Retort Kit

- Accurate, tamper proof temperature controller

Retort Kit with Electronic Temperature Control

- Improves accuracy and readability
- Digital display
- Provides better reproducibility

Technical Specifications and Requirements

- #165-14 With Thermostat, 115 Volt
- #165-14-1 With Thermostat, 230 Volt
- #165-14-2 With Electronic Temperature Controller, 115 Volt
- #165-14-3 With Electronic Temperature Controller, 230 Volt

Specifications

- Maximum Temperature: 1,000°F (537°C)
- Cell Capacity: 50 mL
- Heating Capacity: 500 Watts
- Power Requirement: 115 Volt at 3 Amp or 230 Volt at 1.5 Amp, 50/60 Hz
- Size: 9" × 7" × 12" (23 × 18 × 30 cm)
- Weight: 20 lb (9.07 kg)

Multi Unit Retort, 50 mL

The Retort provides a method for measuring the percentage (%) of oil and water, and for estimating both suspended and dissolved solids contained in a sample of water-based or oil-based muds and cuttings. Knowledge of oil, water, and solid content is fundamental to proper control of mud properties when considering oil/water ratios, rheology, density, filtration, and salinity. Knowledge of solids in drilling fluids is essential to evaluation of viscosity control and solids control equipment.

The Multi Unit Retort incorporates five (5) 50 mL Retort units into a single instrument. Each Retort has a separate electronic temperature controller to provide accurate, reliable, and reproducible testing. The included software graphs the temperature over time for each of the five stations.

Features

- Five 50 mL Retorts in a single instrument
- Multi-unit design saves valuable bench space
- Individual electronic temperature control improves accuracy and reliability
- Digital temperature display
- Included software graphs temperature over time for each Retort

Technical Specifications and Requirements

- #165-14-5S

Specifications

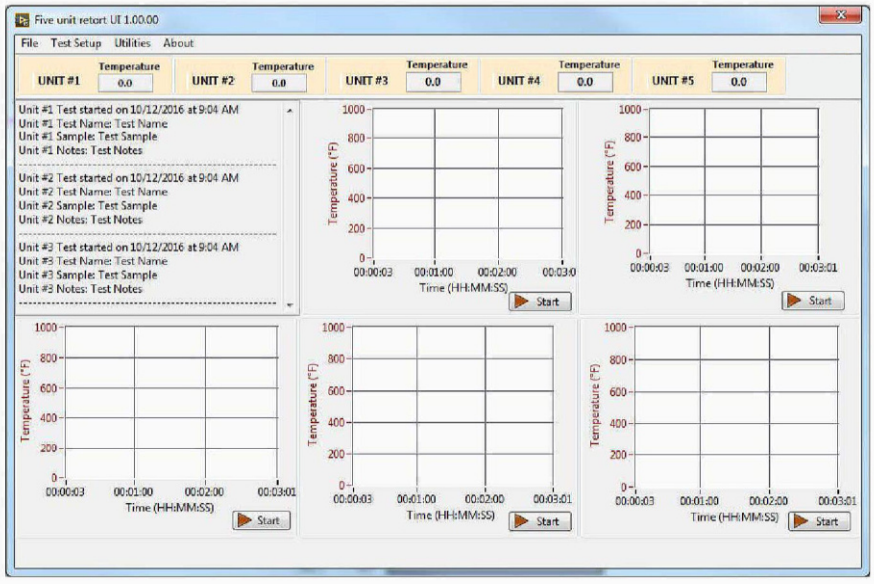
- Maximum Temperature: 1,000°F (537°C)
- Cell Capacity: 50 mL
- Heating Capacity: 500 Watts Per Station (2,500 Watts total)
- Size: 36" × 17" × 23" (91 × 43 × 58 cm)
- Weight: 165 lb (75 kg)

Requirements

- Power Requirement: 230 Volt at 15 Amp, 50/60 Hz

Data Acquisition Features

- Records temperature over time for each of the five stations



Retort Kit, 20 mL

The Retort provides a method for measuring the percentage (%) of oil and water, and for estimating both suspended and dissolved solids contained in a sample of water-based or oil-based muds. Knowledge of oil, water, and solid content is fundamental to proper control of mud properties when considering oil/water ratios, rheology, density, filtration, and salinity. Knowledge of solids in drilling fluids is essential to evaluation of viscosity control and solids control equipment.

Electronic temperature control (available on 50 mL and 20 mL sizes) provides more accurate, reliable, and reproducible testing. The digital display shows the current working temperature, so you always know your test conditions.

Standard 20 mL Retort Kit

20 mL Retort Kit with
Electronic Temperature Control

Features

- Rugged, stainless steel carrying case
- Ultimate in portability
- Small footprint if used in laboratory
- Includes all accessories necessary to run a test

Standard Retort Kit

- Accurate, tamper proof temperature controller

Retort Kit with Electronic Temperature Control

- Improves accuracy and readability
- Digital display
- Provides better reproducibility

Technical Specifications and Requirements

- #165-80 20 mL Retort Kit with Thermostat (115V)
- #165-80-1 20 mL Retort Kit with Thermostat (230V)
- #165-80-2 20 mL Retort Kit, with Electronic Temperature Controller (115V)
- #165-80-3 20 mL Retort Kit, with Electronic Temperature Controller (230V)

Specifications

- Maximum Temperature: 1000°F (537° C)
- Cell Capacity: 20 mL
- Heating Capacity: 500 Watts
- Power Requirement: 115 Volt at 3 Amp or 230 Volt at 1.5 Amp, 50/60 Hz
- Size: 9" × 7" × 12" (23 × 18 × 30 cm)
- Weight: 20 lb (9.07 kg)

Optional

#165-06 20 mL Receiver Tube for Retort, 2 Scales: 0 - 100% × 0.1, 0-20 mL × 0.1 mL, with certificate

HTHP Filter Press for Drilling Fluids

The High Temperature High Pressure (HTHP) Filter Press is designed to evaluate the filtration characteristics of drilling fluids, cement slurries, fracturing fluids, and completion fluids under elevated temperatures and pressures.

Features

- Field portable
- A controlled pressure source (CO_2)
- Primary pressure CO_2 manifold
- A high-pressure test cell
- A temperature controlled heating jacket for heating the test cell
- Back pressure receiver CO_2 assembly
- Safety retainer pins
- Safety valves protect against over pressurization
- Improved CO_2 puncturing mechanism
- Easily configured for other filter devices and pressurization

Technical Specifications and Requirements

- #170-00 115 Volt
- #170-01 230 Volt

Specifications

- Maximum Temperature: 350°F (176.7°C)
- Maximum Pressure (Cell): 2,000 psi (13.8 MPa)
- Maximum Pressure (Receiver): 750 psi (5.1 MPa)
- Pressure Source: CO_2 Bulbs
- Test Cell Capacity: 175 mL
- Receiver Volume: 15 mL
- Heater: 400 Watt
- Size: 7.5" × 11" × 23.5" (19.1 × 27.9 × 59.7 cm)
- Weight: 27 lb (12.3 kg)
- Shipping Size: 20" × 13" × 13" (51 × 33 × 33 cm)
- Shipping Weight: 33 lb (15 kg)
- Power Requirement: 115 / 230 VAC, 50/60 Hz

Optional

- #170-91 HTHP Pressure Relief Tool
- #170-92 Safety Clamp for HTHP Fluid Loss Cells
- #170-03 Carrying Case, Stainless Steel
- #170-33 HTHP Cell Cap Puller
- #170-40 Test Cell Carrying Tool

HTHP Filter Press for Drilling Fluid Testing

The HTHP (High Temperature, High Pressure) Filter Press is designed for testing drilling fluids and cement under elevated temperatures and pressures. It simulates various down-hole conditions and provides a reliable method for determining the effectiveness of the material being tested.

Features

- Field portable for easy mobility
- A nitrogen pressure manifold with two regulators (primary and back pressure)
- High performance hoses, connections and valves
- A temperature controlled heating jacket for heating the test cell
- Gauges monitor nitrogen tank, primary, and back pressures
- A high-pressure test cell
- Back pressure receiver
- Safety retainer pins
- Safety valves protect against over pressurization
- Easily configured for other filter media and pressurization

Technical Specifications and Requirements

#170-00-3: HTHP Filter Press for Drilling Fluids Testing with 175 mL, Single Capped Cell, N_2 Pressuring Manifold (115 Volt)

#170-01-3: HTHP Filter Press for Drilling Fluids Testing with 175 mL, Single Capped Cell, N_2 Pressuring Manifold (230 Volt)

Specifications

- Maximum Temperature: 400°F (204°C)
- Maximum Pressure: 2,000 PSI (10,343 kPa)
- Test Cell Capacity: 175 mL
- Pressure Source: Nitrogen (at least 1,500 PSI / 10,343 kPa) – Sold Separately
- Size: 7.5" × 11" × 23.5" (19 × 28 × 60 cm)
- Weight: 27 lb (12.3 kg)
- Shipping Size: 17" × 23.5" × 12.5" (43 × 60 × 32 cm)
- Shipping Weight: 38 lb (17.2 kg)
- Power Requirement: 115 Volt/230 Volt

Optional Items

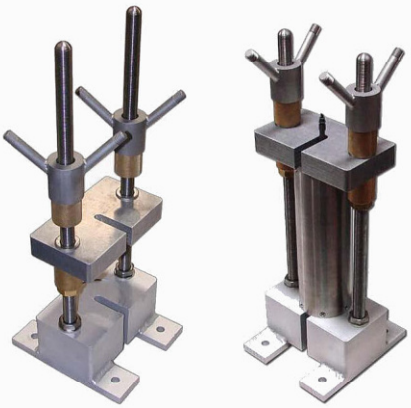
#170-37 Nitrogen Cylinder 21" × 7" (shipped empty)

#170-33 HTHP Cell Cap Puller

#170-40 Test Cell Removal and Carrying Tool

#170-91 HTHP Pressure Relief Tool

#170-92 Safety Clamp for HTHP Fluid Loss Cells



Filter Press, HTHP, 175 mL, 4 Unit, Basic

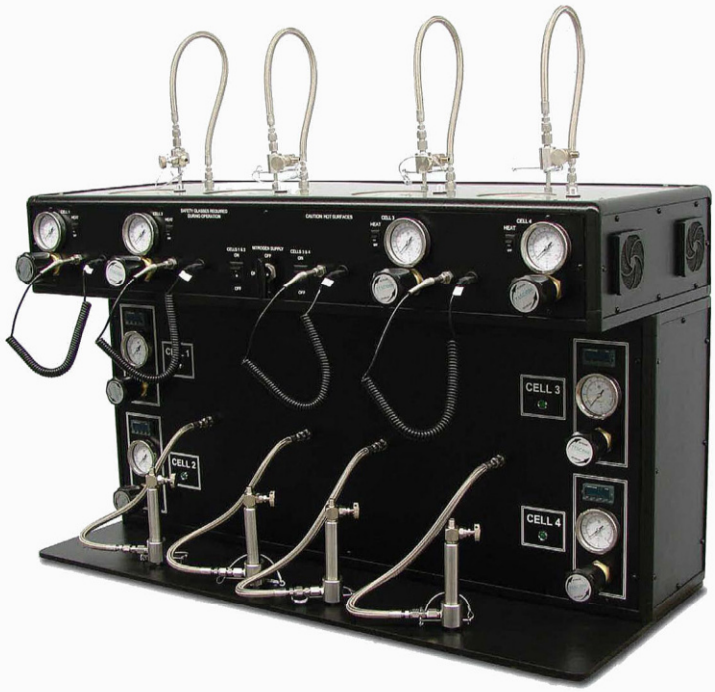
The unitized HTHP Filter Press is designed for testing drilling fluids and cement under elevated temperatures and pressures. This simulates various down-hole conditions and provides a reliable method for determining the effectiveness of the material being tested. All filter press units are complete and ready for use after the assembly has been connected to a source (bottle) of compressed nitrogen.

Features

- Four standard 175 ml filter press mounted in a convenient installation for regular laboratory or drilling rig usage
- Includes a dual nitrogen manifold for supplying up to 1250 PSI pressure to the cell and up to 750 PSI to the back pressure assemblies
- All four (4) units are supplied nitrogen at the same pressures
- Both the high pressure to the cell and the back pressure can be controlled ON/OFF individually by valves mounted at the front of the work table base
- High performance hoses, connections and valves
- Dual manifold back connection assembly has a standard ¼" pipe thread (NPT) with a ¼" tubing fitting
- Easily configured for other filter devices and pressurization

Filter Press, HTHP, 175 mL, 4 Unit, with Regulators and Temperature Controllers

The new 4-Unit HTHP Filter Press from OFITE is ideal for high-volume laboratory testing. It accommodates four 175-mL HTHP filter press cells. Each cell has a separate electronic temperature controller and two separate pressure regulators (drive pressure and back pressure). This allows each cell to be heated and pressurized independently, while still sharing a single pressure source.



Features

- Four independent test stations
- Electronic temperature control
- Drive pressure and back pressure regulators for each cell
- Single pressure source
- Complete with all accessories necessary to run four simultaneous tests

Technical Specifications and Requirements

- 170-00-4S Filter Press, HTHP, 175 mL, 4 Unit, 115 Volt
- 170-00-4S-230 Filter Press, HTHP, 175 mL, 4 Unit, 230 Volt

Specifications

- Maximum Temperature: 425°F (218.3°C)
- Maximum Drive Pressure: 1,350 PSI (9.3 MPa)
- Maximum Back Pressure: 750 PSI (5.2 MPa)
- Cell Size: 175 mL (test cells sold separately)
- Pressure Requirements: 3,000 PSI (20.7 MPa)
- Power Requirements: Two 115-Volt or 230-Volt AC Power Sources
- Size: 42.5" × 27" × 19" (108 × 69 × 48 cm)
- Weight: 172 lb (78 kg)
- Shipping Size: 48" × 27" × 38" (122 × 69 × 97 cm)
- Shipping Weight: 350 lb (158.8 kg)

Optional Items

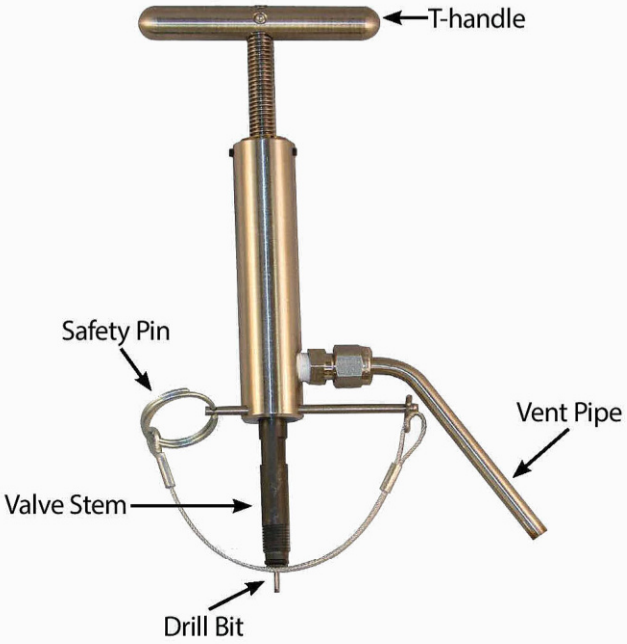
- 170-12-1 Test Cell, Single Capped, for Filter Paper
- 170-45 Test Cell, Double Capped, for Cement Screens
- 170-46 Test Cell, Double Capped, for Ceramic Disks
- 170-181-S Test Cell with Threaded Caps, 175 mL, for Drilling Fluids
- 170-182-S Test Cell with Threaded Caps, 175 mL, for Cement

HTHP Pressure Relief Tool

The HTHP Pressure Relief Tool* (#170-91) provides a safe way to release the pressure in a clogged cell. It screws onto the cell cap using the existing valve stem port. Then, using a T-handle, the operator can drive a pin into the cell to puncture through any obstruction. The pressure will then vent safely through the vent pipe, away from people and equipment.

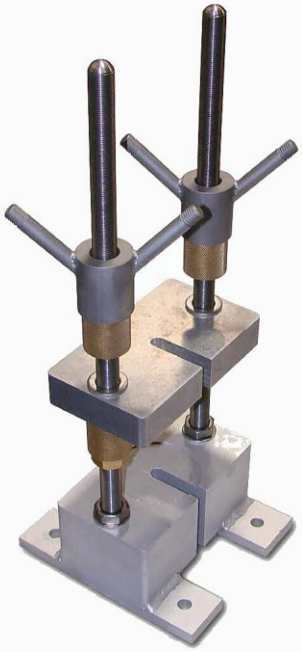
Features

- Easily punctures filter paper, cement screens, and ceramic disks
- Safely directs vented pressure away from people and equipment
- Conveniently fits the valve stem port on all 175 and 500 mL HTHP Filter Presses that accepts standard valve stem pressurization



Safety Clamp for HTHP Fluid Loss Cells

The Test Cell Safety Clamp (170-92) is designed to hold an HTHP test cell securely in place and prevent an uncontrolled pressure release. The two plates clamp the cell in place while the locking screws are removed. Pressure can then be released gradually and safely.



*Test cell sold separately

Features

- Eliminates worrying about explosive decompression of test cells
- Robust design durable enough to contain a full-pressurized HTHP test cell
- Versatile enough to accommodate 175 mL and 500 mL HTHP test cells
- Scribed ring in the bottom plate centers the test cell in the device

Dynamic HTHP Filter Press

The Dynamic High Temperature High Pressure (HTHP) filter press measures filtration volume and cake building properties under varying downhole conditions. A motor-driven shaft fitted with propellers turns at varying speeds inside a standard 500 mL HTHP cell. RPM settings from 1 to 3600 RPM impart laminar or turbulent flow to the fluid inside the cell. By varying the shaft length, the shear stress may be increased or decreased.

Features

- The only **truly** dynamic filter press on the market
- Built-in cooling system allows the cell to be cooled before it is de-pressurized and removed from the jacket
- Auxiliary pipe connection for the cell top cap. Plug may be removed to add additional fluid additives.
- Safety calibrated rupture disk guards against overpressure
- Electronic temperature control (up to 500°F)
- Built-in pressure regulators
- Optional filter permeabilities available
- Radial/axial flow propeller
- Adjustable propeller to change distance above filter media

Technical Specifications and Requirements

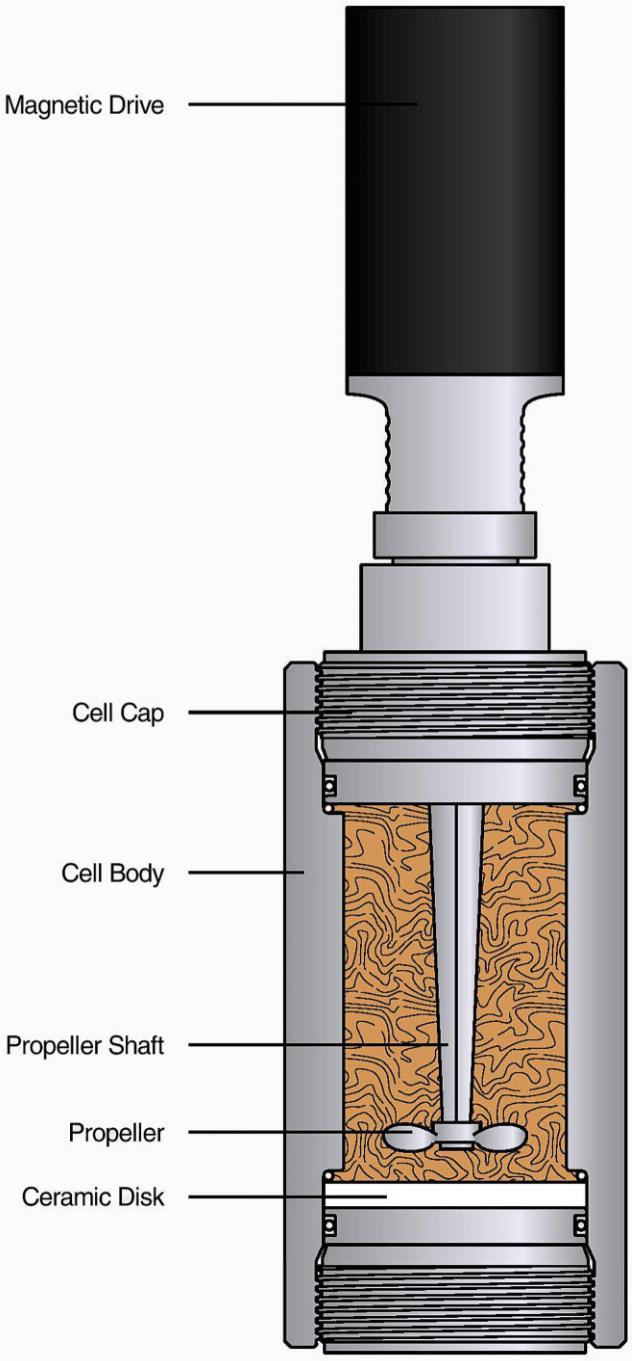
- #170-95 Dynamic HTHP Filter Press, 115 Volt
- #170-95-1 Dynamic HTHP Filter Press, 230 Volt

Specifications

- Maximum Cell Pressure: 5,000 psi (34.5 MPa)
- Maximum Temperature 500°F (260°C)
- Variable Speed Motor: up to 3,600 RPM
- Digital Temperature Controller

Requirements

- Nitrogen source: 2,500 psi Maximum
- Water Source (for cooling): standard tap water
- Electrical: 115 Volt at 20 Amp or 230 Volt at 10 Amp, 50/60 Hz



HTHP Filter Press, 175 mL, Threaded Cell, Mud

We has designed a new cell with safety in mind. This modular design is much safer and more convenient. The two-piece cap is threaded, and cannot be opened while the cell is pressurized. And interchangeable caps make it easy to reconfigure the cell for testing with different filter media (filter paper, ceramic disks, or cement screens) with a single cell body. All cells are provided with pressure certification, unique serialization, and material certification which provides true traceability.

Features

- **Safety:** Cell cap cannot be removed if pressure is trapped inside the cell
- **Versatility:** Interchangeable cell caps enable testing with filter paper, ceramic disks, and cement screens with the same cell body. Fits all standard heating jackets.
- **Pressure:** Ability to add a piston allows for testing above 3,000 PSI

Technical Specifications and Requirements

- #170-181 115 Volt
- #171-181-1 230 Volt

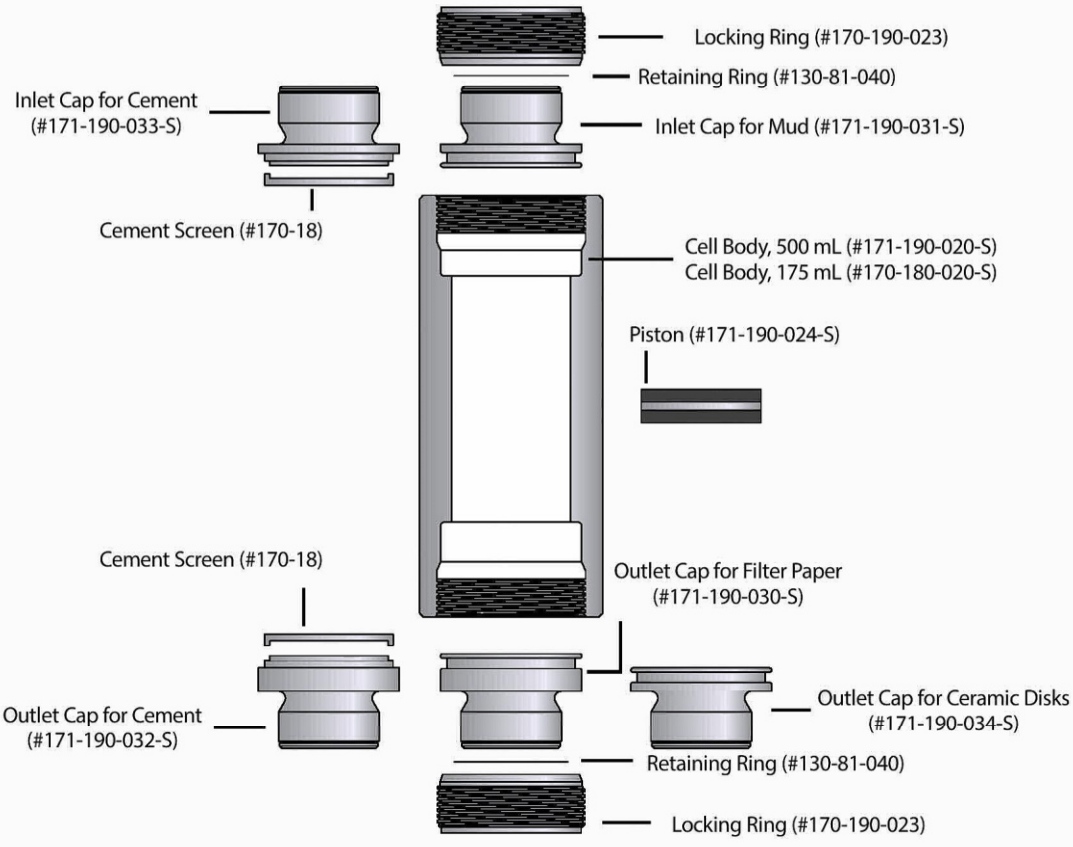
Specifications

- Maximum Temperature: 350°F (176.7°C)
- Maximum Pressure (Cell): 5,000 PSI (34.5 MPa)
- Cell Caps:
  - Inlet: 60 Mesh Screen
  - Outlet: 60 Mesh Screen (for filter paper)
  - Outlet: Scribed (for ceramic disks)

	171-191-S HTHP Filter Press Cell with Threaded Cap, 500 mL, Mud	171-192-S HTHP Filter Press Cell with Threaded Cap, 500 mL, Cement	171-193-S HTHP Filter Press Cell with Threaded Cap and Piston, PPT	170-181-S HTHP Filter Press Cell with Threaded Cap, 175 mL, Mud	170-182-S HTHP Filter Press Cell with Threaded Cap, 175 mL, Cement
171-190-020-S Cell Body, 500 mL	✓	✓	✓		
170-180-020-S Cell Body, 175 mL				✓	✓
171-190-031-S Inlet Cap for Mud	✓		✓	✓	
171-190-030-S Outlet Cap for Filter Paper	✓		✓	✓	
171-190-024-S Piston			✓		
171-190-034-S Outlet Cap for Ceramic Disks	✓		✓	✓	
171-190-033-S Inlet Cap for Cement		✓			✓
171-190-032-S Outlet Cap of Cement		✓			✓
170-18 (2) Cement Screen		✓			✓
171-190-023 Locking Ring	✓	✓	✓	✓	✓
130-81-040 Retaining Ring	✓	✓	✓	✓	✓
171-190-027 Rupture Disks	✓	✓	✓	✓	✓

- All cells come with two complete sets of o-rings:
  - Viton 75D (Black) - For tests up to 400°F (204°C)
  - Viton 90D (Green) - For tests up to 500°F (260°C)

HTHP Filter Press Cell with Threaded Caps



HTHP Filter Press for Drilling Fluids, 500 mL

The HTHP (High Temperature, High Pressure) Filter Press is designed for testing drilling fluids and cement under elevated temperatures and pressures. This simulates various down-hole conditions and provides a reliable method for determining the effectiveness of the material being tested.

Features

- A controlled Nitrogen pressure source (sold separately)
- A pressure manifold with two regulators (primary and back pressure)
- A high-pressure test cell
- Components are fully interchangeable with those marketed by other manufacturers
- Ideal for laboratory use
- Safety valves protect against over pressurization
- High performance hoses, connections, and valves
- A temperature controlled heating jacket for heating the test cell
- Gauges monitor nitrogen tank, primary, and back pressures

HTHP Filter Press, 500 mL, for Cement

The HTHP (High Temperature, High Pressure) Filter Press is designed for testing drilling fluids and cement under elevated temperatures and pressures. This simulates various down-hole conditions and provides a reliable method for determining the effectiveness of the material being tested.

Features

- A controlled Nitrogen pressure source (sold separately)
- A pressure manifold with two regulators (primary and back pressure)
- A high-pressure test cell
- Components are fully interchangeable with those marketed by other manufacturers
- Ideal for laboratory use
- Safety valves protect against over pressurization
- High performance hoses, connections, and valves
- A temperature controlled heating jacket for heating the test cell
- Gauges monitor nitrogen tank, primary, and back pressures

Technical Specifications and Requirements

- #171-03 HTHP Filter Press 500 mL, for Cement, 115 Volt
- #171-04 HTHP Filter Press 500 mL, for Cement, 230 Volt

Specifications

- Maximum Temperature: 400°F (260°C)
- Maximum Pressure: 2,000 PSI (13,880 kPa)
- Pressure Source: Nitrogen (at least 1500 PSI / 10,343 kPa) - **Sold Separately**
- Test Cell Capacity: 500 mL
- Heater: 800 Watt
- Size: 10" × 18" × 42" (25.4 × 45.7 × 106.7 cm)
- Weight: 53 lb (24.1 kg)
- Shipping Size: 29" × 12" × 16" (74 × 30.5 × 41 cm)
- Shipping Weight: 65 lb (29.5 kg)
- Power Requirement: 115 Volt/230 Volt

Optional Items

- #170-37 Nitrogen Cylinder, 21" × 7", Right-hand Thread (shipped empty)
- #171-06 Safety Shield

#170-33 HTHP Cell Cap Puller

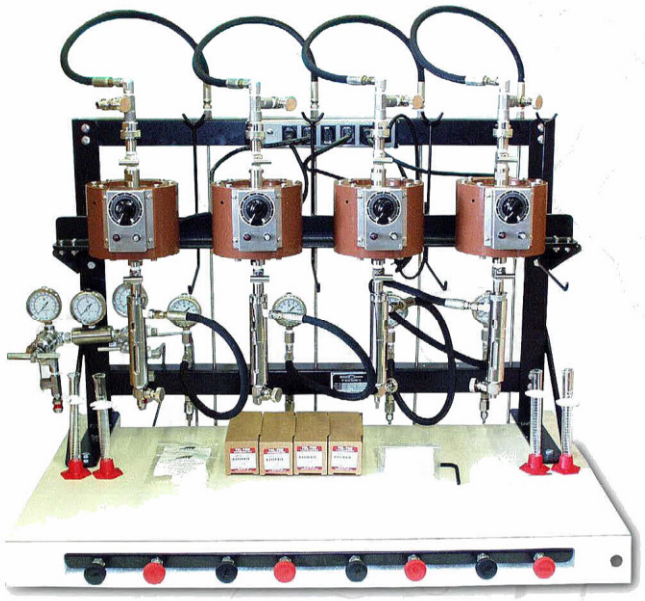
#170-40 Test Cell Removal and Carrying Tool

#170-91 HTHP Pressure Relief Tool

#170-92 Safety Clamp for HTHP Fluid Loss Cells

Filter Press, HTHP, Model MB, 4 Unit

The 4 Unit Model MB HTHP Filter Press is designed for testing drilling fluids and cement under elevated temperatures and pressures. This simulates various downhole conditions and provides a reliable method for determining the effectiveness of the material being tested. The complete assembly consists of four standard 250 mL filter presses mounted in a convenient frame for regular laboratory or drilling rig usage. All filter press units are complete and ready for use after the assembly has been connected to a source of compressed nitrogen.



Features

- Four Model MB filter presses mounted in a convenient installation for regular laboratory or drilling rig usage
- Includes a dual nitrogen manifold for supplying up to 1250 PSI pressure to the cell and up to 750 PSI to the back pressure assemblies
- All four (4) units are supplied nitrogen at the same pressures
- Both the high pressure to the cell and the back pressure can be controlled ON/OFF individually by valves mounted at the front of the work table base
- High performance hoses, connections, and valves
- Dual manifold back connection assembly has a standard ¼" pipe thread (NPT) with a ¼" tubing fitting

Technical Specifications and Requirements

- 171-50-4 115 Volt
- 171-51-4 230 Volt

Specifications

- Maximum Temperature: 350°F (176°C)
- Maximum Pressure: 1,500 PSI (10,342.5 kPa)
- Pressure Source: Nitrogen (at least 1500 PSI / 10,343 kPa)
- Test Cell Capacity: 250 mL
- Voltage: 115 or 230 Volt (built to specification)
- Heater: 200 Watt
- Size: 39.25" × 25.75" × 37.5" (99.7 × 65.4 × 95.3 cm)
- Weight: 175 lb (79.5 kg)
- Shipping Size: 46" × 31" × 44" (117 × 79 × 112 cm)
- Shipping Weight: 250 lb (113.4 kg)

Loss Circulation Material Receiver

In loss circulation tests, slotted disks are often used to simulate the varying pore sizes found in downhole environments. Many slotted disks are permeable to large particles, which eventually end up in the back pressure receiver. These large particles can clog the narrow openings in standard back pressure receivers, valve stems, and bleeder valves. The Loss Circulation Receiver is designed to replace the traditional back pressure receiver when testing drilling fluids with large particles.

The Loss Circulation Material Receiver is compatible with existing PPT units. It includes a modified outlet cell cap with a wider opening for filtrate. A ball valve between the cell cap and the receiver allows the cell to be sealed before and after testing. A filter inside the receiver protects the filtrate collection valve from getting clogged by large particles. And with the standard valve stem on the top, the receiver can be pressurized with either N_2 or CO_2 pressure assemblies.

Features

- Compatible with existing Permeability Plugging Testers (PPT)
- Modified cell cap has a larger opening to prevent clogging from larger particles
- Ball valve between cell and receiver allows the cell to be sealed before and after testing
- Standard valve stem compatible with N_2 or CO_2 pressure assemblies

Technical Specifications and Requirements

- #171-84-10-1 Loss Circulation Material Receiver
- #171-193-10 Permeability Plugging Tester, 5000 PSI, with LCM Receiver

Specifications

- Maximum Temperature: 400°F (204.4°C)
- Maximum Pressure: 500 psi (3.4 MPa)
- Material: 316 Stainless Steel

Automatic Pressure Control System for PPT

The Automatic Pressure Control System can provide and maintain a constant pressure on up to four Permeability Plugging Testers. It consists of two air-driven pumps and four hydraulic, self-venting regulators. Replacing the manual hand pump, the air-driven pump automatically engages when you start the test and maintains a constant pressure for the duration.

Features

- Incorporates pressure relief valves for safety
- Maintains constant pressure

Technical Specifications and Requirements

- #171-89 Automatic Pressure Control System for PPT

Specifications

- Maximum Pressure: up to 4000 PSI
- Pressure medium: hydraulic fluid

Requirements

- Air Supply: 130 PSI

HTHP Filter Press, 500 mL, Threaded Cell, Cement

We has designed a new cell with safety in mind. This modular design is much safer and more convenient. The two-piece cap is threaded, and cannot be opened while the cell is pressurized. And interchangeable caps make it easy to reconfigure the cell for testing with different filter media (filter paper, ceramic disks, or cement screens) with a single cell body. All cells are provided with pressure certification, unique serialization, and material certification which provides true traceability.

Features

- **Safety:** Cell cap cannot be removed if pressure is trapped inside the cell
- **Versatility:** Interchangeable cell caps enable testing with filter paper, ceramic disks, and cement screens with the same cell body. Fits all standard heating jackets.
- **Pressure:** Ability to add a piston allows for testing above 3,000 PSI

Technical Specifications and Requirements

- #171-192 115 Volt
- #171-192-1 230 Volt

Specifications

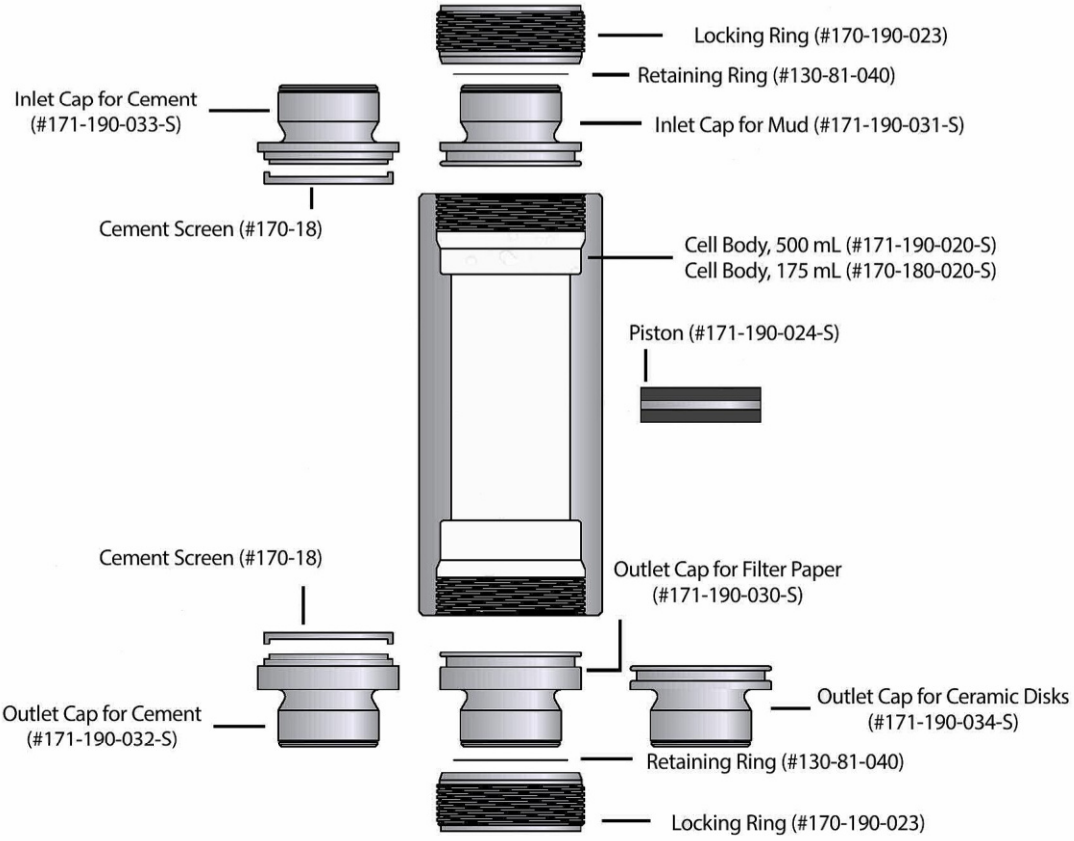
- Maximum Temperature: 500°F (260°C)
- Maximum Pressure (Cell): 5,000 PSI (34.5 MPa)
- Cell Caps:
  - Inlet: Removable Cement Screen, 325 Mesh with 60 Mesh Backup
  - Outlet: Removable Cement Screen, 325 Mesh with 60 Mesh Backup

	171-191-S HTHP Filter Press Cell with Threaded Cap, 500 mL, Mud	171-192-S HTHP Filter Press Cell with Threaded Cap, 500 mL, Cement	171-193-S HTHP Filter Press Cell with Threaded Cap and Piston, PPT	170-181-S HTHP Filter Press Cell with Threaded Cap, 175 mL, Mud	170-182-S HTHP Filter Press Cell with Threaded Cap, 175 mL, Cement
171-190-020-S Cell Body, 500 mL	✓	✓	✓		
170-180-020-S Cell Body, 175 mL				✓	✓
171-190-031-S Inlet Cap for Mud	✓		✓	✓	
171-190-030-S Outlet Cap for Filter Paper	✓		✓	✓	
171-190-024-S Piston			✓		
171-190-034-S Outlet Cap for Ceramic Disks	✓		✓	✓	
171-190-033-S Inlet Cap for Cement		✓			✓
171-190-032-S Outlet Cap of Cement		✓			✓
170-18 (2) Cement Screen		✓			✓
171-190-023 Locking Ring	✓	✓	✓	✓	✓
130-81-040 Retaining Ring	✓	✓	✓	✓	✓
171-190-027 Rupture Disks	✓	✓	✓	✓	✓

All cells come with two complete sets of o-rings:

- Viton 75D (Black) - For tests up to 400°F (204°C)
- Viton 90D (Green) - For tests up to 500°F (260°C)

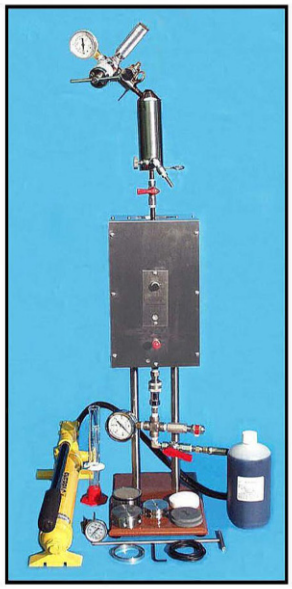
HTHP Filter Press Cell with Threaded Caps



Permeability Plugging Tester, 5000 PSI

The Permeability Plugging Tester (PPT) is designed to run filtration tests on plugging materials without the interference of particles settling on the filter medium. The PPT uses the same test cell as the standard HTHP Filter Press. However, in the PPT, the cell is inverted with the filter and receiver on top. Several filter media are available, such as ceramic disks, conventional filter paper, and slotted stainless steel disks. The cell is pressurized with hydraulic oil. A floating piston separates the oil from the test fluid to prevent contamination.

We has designed a new cell with safety in mind. This modular design is much safer and more convenient. The two-piece cap is threaded, and cannot be opened while the cell is pressurized. And interchangeable caps make it easy to reconfigure the cell for testing with different filter media (filter paper, ceramic disks, or cement screens) with a single cell body. All cells are provided with pressure certification, unique serialization, and material certification which provides true traceability.



Features

- **Safety:** Cell cap cannot be removed if pressure is trapped inside the cell
- **Versatility:** Interchangeable cell caps enable testing with filter paper, ceramic disks, and cement screens with the same cell body. Fits all standard heating jackets.
- **Pressure:** Ability to add a piston allows for testing up to 5,000 PSI

Technical Specifications and Requirements

- #171-193 115 Volt
- #171-193-1 230 Volt

Specifications

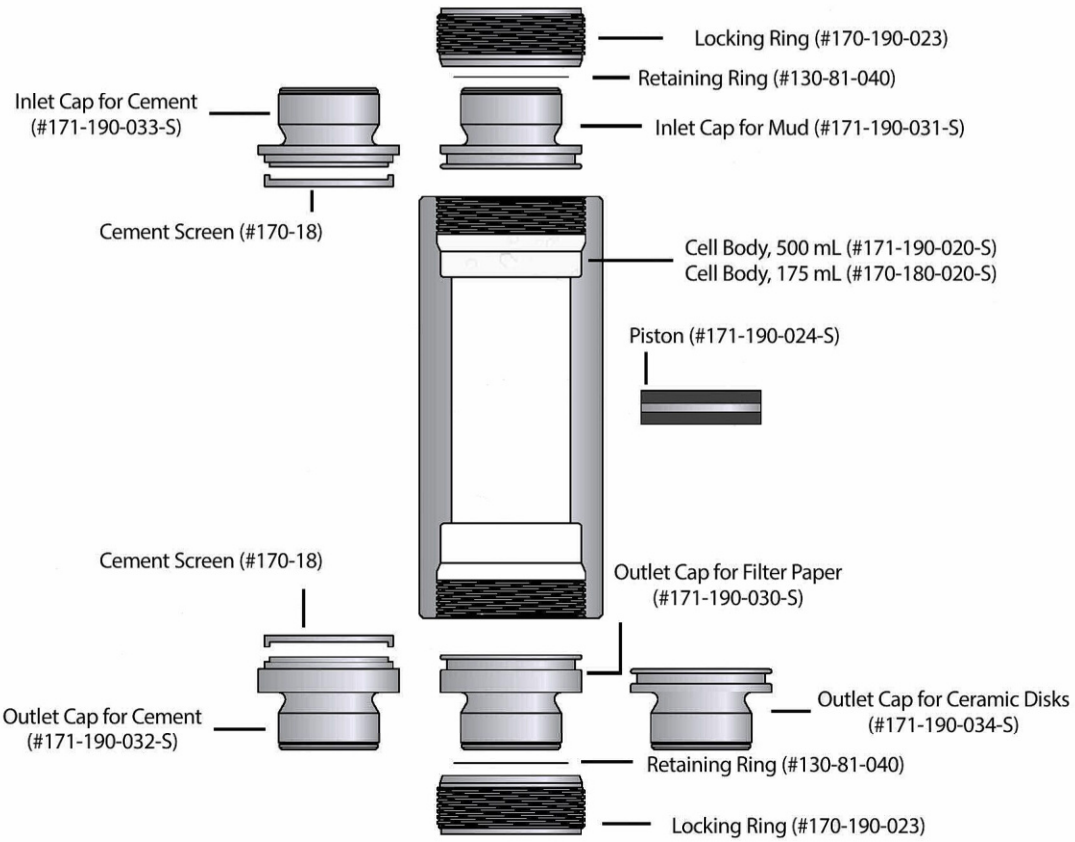
- Maximum Temperature: 500°F (260°C)
- Maximum Pressure (Cell): 5,000 PSI (34.5 MPa)
- Cell Caps:
  - Inlet: 60 Mesh Screen
  - Outlet: 60 Mesh Screen (for filter paper)
  - Outlet: Scribed (for ceramic disks)

	171-191-S HTHP Filter Press Cell with Threaded Cap, 500 mL, Mud	171-192-S HTHP Filter Press Cell with Threaded Cap, 500 mL, Cement	171-193-S HTHP Filter Press Cell with Threaded Cap and Piston, PPT	170-181-S HTHP Filter Press Cell with Threaded Cap, 175 mL, Mud	170-182-S HTHP Filter Press Cell with Threaded Cap, 175 mL, Cement
171-190-020-S Cell Body, 500 mL	✓	✓	✓		
170-180-020-S Cell Body, 175 mL				✓	✓
171-190-031-S Inlet Cap for Mud	✓		✓	✓	
171-190-030-S Outlet Cap for Filter Paper	✓		✓	✓	
171-190-024-S Piston			✓		
171-190-034-S Outlet Cap for Ceramic Disks	✓		✓	✓	
171-190-033-S Inlet Cap for Cement		✓			✓
171-190-032-S Outlet Cap of Cement		✓			✓
170-18 (2) Cement Screen		✓			✓
171-190-023 Locking Ring	✓	✓	✓	✓	✓
130-81-040 Retaining Ring	✓	✓	✓	✓	✓
171-190-027 Rupture Disks	✓	✓	✓	✓	✓

All cells come with two complete sets of o-rings:

- Viton 75D (Black) - For tests up to 400°F (204°C)
- Viton 90D (Green) - For tests up to 500°F (260°C)

HTHP Filter Press Cell with Threaded Caps



Roller Oven

The Roller Oven (U.S. Patent No. 4,677,843) is an effective aid in determining the effects of temperature on drilling fluid as it circulates through the well bore. The Roller Oven is designed to provide heating and rolling functionality simultaneously or independently. It is available with either 4 or 5 rollers and includes a circulation fan for uniform heating.

Features

- Variable-speed controlled
- Enclosure is constructed of stainless steel for longer life
- Stainless steel rollers promote a cleaner environment inside the oven
- Glass-impregnated Teflon® roller bearings extend the life of the rollers and allow for longer maintenance-free service
- Digital temperature controller that can be read directly from outside the oven
- Temperature is controlled by an electronic solid state thermostat and operates between 100°F and 450°F (38 - 232.2°C)
- Circulating fan greatly improves air circulation within the oven and provides more stable, consistent, and reliable heating

Technical Specifications and Requirements

- #172-00-C 4 Rollers, 115 Volt
- #172-00-1-C 4 Rollers, 230 Volt
- #172-00-RC 4 Rollers with Redundant Heat Control, 115 Volt
- #172-00-1-RC 4 Rollers with Redundant Heat Control, 230 Volt
- #173-00-C 5 Rollers, 115 Volt
- #173-00-1-C 5 Rollers, 230 Volt
- #173-00-RC 5 Rollers with Redundant Heat Control, 115 Volt
- #173-00-1-RC 5 Rollers with Redundant Heat Control, 230 Volt

Specifications

- Temperature Range: 100 - 450°F (38 - 232.2°C)
- Digital Temperature Controller
- Motor Speed: 25 RPM
- Programmable Timer
- Heater: 2 × 350 Watts
- Material:
  - Cabinet: 303 Stainless Steel
  - Rollers: 304 Stainless Steel
- Capacity (Aging Cells Sold Separately)
  - 4 Roller Oven
    - 260 mL Aging Cells: 6
    - 500 mL Aging Cells: 3
    - 1000 mL Aging Cells: 3
  - 5 Roller Oven
    - 260 mL Aging Cells: 12
    - 500 mL Aging Cells: 8
    - 1000 mL Aging Cells: 4
- Power Requirements: 115 Volt/230 Volt
- Dimensions
  - 4 Roller Oven
    - Size: 26.75" × 22" × 26" (70 × 56 × 66 cm)
    - Weight: 141 lb (64 kg)
    - Crated Size: 35" × 29" × 36" (89 × 74 × 91 cm)
    - Crated Weight: 239 lb (108.4 kg) 1 lb (64 kg)
  - 5 Roller Oven
    - Size: 33.75" × 26.25" × 26" (86 × 67 × 66 cm)
    - Weight: 172 lb (78 kg)
    - Crated Size: 38" × 33" × 34" (97 × 84 × 86 cm)
    - Crated Weight: 290 lb (131.5 kg)

Optional

#175-25 Aging Cell, 260 mL, 303 Stainless Steel
#175-30 Aging Cell, 500 mL, 303 Stainless Steel
#175-50 Aging Cell, 500 mL, 316 Stainless Steel
#175-40 Corrosion Test Cell, 500 mL, 303 Stainless Steel
#175-47 O-ring for Outside of Aging Cell, Viton
#170-04 CO_2 Pressuring Assembly
#170-40 Cell Carrying Tool

Portable Roller Oven

The Portable Roller Oven (U.S. Patent No. 4,677,843) is an effective aid in determining the effects of temperature on drilling fluid as it circulates through the well bore. Aging the drilling fluid in pressurized containers effectively demonstrates the thermal effects on viscosity and how various additives behave at elevated temperatures. Aging is done under conditions that vary from static to dynamic and from ambient to highly elevated temperatures.

Features

- Portable Roller Oven has 3 rollers
- Holds (2) 260 mL cells or (2) 500 mL cells
- Specifically designed for the field
- Variable-speed controlled
- Enclosure is constructed of stainless steel for longer life
- Stainless steel rollers promote a cleaner environment inside the oven
- Glass-impregnated Teflon® bearings extend the life of the rollers and allow for longer maintenance free service
- Digital temperature controller that can be read directly from outside the oven
- Temperature is controlled by an electronic solid state thermostat and operates between 100°F and 450°F (38° - 232.2°C)

Technical Specifications and Requirements

- #174-00 Portable Roller Oven (115 Volt)
- #174-00-1 Portable Roller Oven (230 Volt)

Specifications

- 150 Watt Heater
- Temperature Range: 100 - 450°F (38 - 232°C)
- Digital Temperature Controller
- Motor Speed: 25 RPM
- Capacity:
  260 mL Aging Cells: 2 (Sold Separately)
  500 mL Aging Cells: 2 (Sold Separately)
- Crated Size: 25" × 22" × 11" (63.5 × 30.5 × 27.9 cm)
- Crated Weight: 53 lb (24.1 kg)
- Power Requirements: 115 Volt/230 Volt

Optional Items

#175-25: Aging Cell, Stainless Steel Grade 303, 260 mL, Pressurized
#175-30: Aging Cell, Stainless Steel Grade 303, 500 mL, Pressurized
#175-50: Aging Cell, Stainless Steel Grade 316, 500 mL, Pressurized
#175-40: Corrosion Test Cell, Stainless Steel Grade 303, 500 mL
#175-60 - Teflon® Liner for Aging Cells for 500 mL Aging Cells
#175-60-6 - Teflon® Liner for Aging Cells for 260 mL Aging Cells

#175-46: O-ring for Outside of Aging Cell, Teflon
#175-54: O-ring for Outside of Aging Cell, Buna N

#170-04 CO_2 Pressuring Assembly

#170-40 Test Cell Removal and Carrying Tool

Aging Cell, OFITE Style

Aging Cells are designed for pressurizing fluid samples for high-temperature aging in Roller Ovens. They are available in two sizes (260 mL and 500 mL) and three different materials (303 or 316 Stainless Steel and C-276 Hastelloy).

The patended (U.S. Patent No. 4,805,443) OFITE design features a removable gasket on the cell body.

Included Items

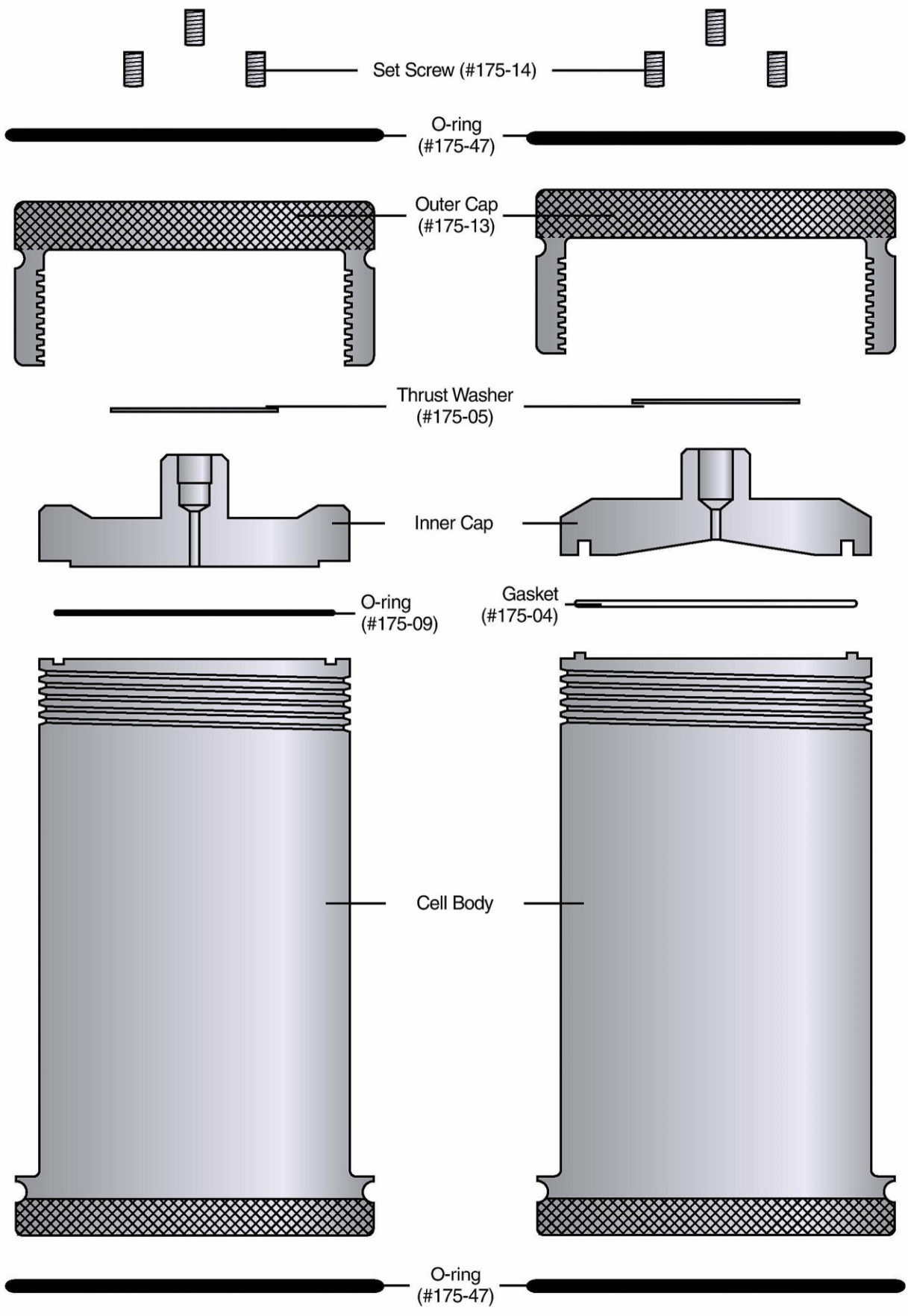
- #175-05 Thrust Washer
- #175-16 Valve Stem
- #170-17 O-ring for Valve Stem
- #175-14 Set Screw
- #175-15 Wrench for Set Screws
- #175-47 O-ring for Outside of Cell, Viton
- #175-09-1 O-ring for Inside Aging Cell, Teflon
- #175-09-2 O-ring for Inside Aging Cell, Viton

Technical Specifications and Requirements

- #175-25 260 mL, 303 Stainless Steel
- #175-25-03 260 mL, 316 Stainless Steel
- #175-25-H 260 mL, C-276 Hastelloy
- #175-30 500 mL, 303 Stainless Steel
- #175-50 500 mL, 316 Stainless Steel
- #175-30-H 500 mL, C-276 Hastelloy

Specifications

- Maximum Temperature: 500°F (260°C)
- Maximum Pressure: 2,000 PSI (13.8 MPa)


OFITE Style Aging Cell
Old Style Aging Cell
Set Screw (#175-14)
O-ring
(#175-47)
Outer Cap
(#175-13)
Thrust Washer
(#175-05)
Inner Cap
O-ring
(#175-09)
Gasket
(#175-04)
Cell Body
O-ring
(#175-47)

Corrosion Test Cell

Aging Cells are designed for pressurizing fluid samples for high-temperature aging in Roller Ovens. The Corrosion Test Cell includes a specially-designed backet on the inner cap for holding a corrosion coupon in place during testing. The coupon stays suspended in the test fluid throughout the test and is held in place with a Teflon® grommet.

The patended (U.S. Patent No. 4,805,443) OFITE design features a removable gasket on the cell body.

Included Items

- #170-17 O-ring for Valve Stem
- #175-05 Thrust Washer
- #175-09-1 O-ring for Inside Aging Cell, Teflon
- #175-09-2 O-ring for Inside Aging Cell, Viton
- #175-14 Set Screw
- #175-15 Wrench for Set Screws
- #175-16 Valve Stem
- #175-47 O-ring for Outside of Cell, Viton
- #180-04 Grommets, Teflon, Pack of 10

Technical Specifications and Requirements

- #175-40 303 Stainless Steel
- #175-40-1 316 Stainless Steel
- #175-40-H C-276 Hastelloy®

Specifications

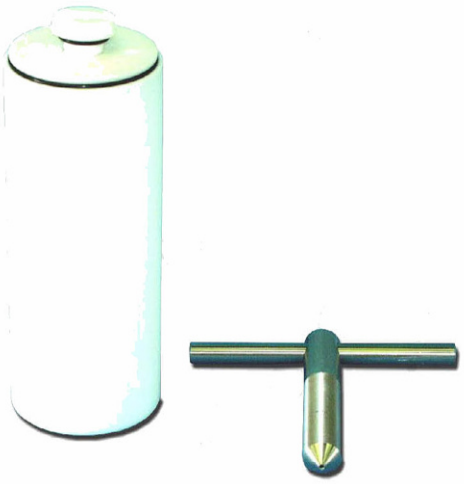
- Volume: 500 mL
- Maximum Temperature: 500°F (260°C)
- Maximum Pressure: 2,000 PSI (13.8 MPa)

Teflon Liner for Aging Cells

Testing highly corrosive fluids at high temperatures and pressures can cause significant, permanent damage to typical stainless steel aging cells. The Teflon® Liner is designed to prevent corrosive damage while still providing the same results as a standard aging cell.

The Teflon® Liner consists of a chamber for the test fluid and a floating piston that pressurizes the sample fluid when the aging cell is pressurized. Included is a T-screw that attaches to a hole in the piston and facilitates removal. A plug seals the hole in the piston during a test to prevent leakage.

Note: Not for use with the Corrosion Test Cell with Coupon Holder (#175-40).



Included Items

- #175-60-1 Liner Body (For 500 mL Cells)
- #175-60-5 Liner Body (For 260 mL Cells)
- #175-60-2-1 Piston
- #175-60-3 Plug
- #175-60-4 T-screw
- #175-62 O-ring for Plug, Viton®
- #175-63 O-ring for Piston, Viton®

Technical Specifications and Requirements

- #175-60 Teflon Liner For Aging Cells, 500 mL
- #175-60-6 Teflon Liner For Aging Cells, 260 mL

High Temperature Aging Cells

The High Temperature Aging Cell* (#175-80) is a pressure vessel that enables samples to be subjected to temperatures higher than the boiling point of water (up to 600°F / 315.6°C) and still be maintained in a liquid state. The cells may be used for static temperature exposure or in a dynamic mode in a roller oven (sold separately).

Features

- Metal-to-metal seal eliminates the needs for internal gaskets
- Accepts standard valve stems
- Does not require use of o-rings, eliminating o-ring failure
- Recommended for use with the High Temperature Roller Oven (#176-00-C)

Technical Specifications and Requirements

- #175-80 1,000 mL

Specifications

- Maximum Temperature: 600°F (316°C)
- Maximum Pressure: 2,000 PSI (13.8 MPa)
- Material: 316 Stainless Steel (other alloys available)
- Size: 14.5" Tall × 4" Diameter (37 × 10 cm)
- Weight: 18.4 lb (8.3 kg)

High Temperature Roller Oven

The High Temperature Roller Oven is an effective aid in determining the effects of temperature on drilling fluid as it circulates through the well bore. Aging the drilling fluid in pressurized Aging Cells demonstrates the thermal effects on viscosity and shows how various additives behave at elevated temperatures over time. Aging is done under conditions that vary from static to dynamic and from ambient temperatures up to 600°F (315.6°C).

Features

- Able to reach higher temperatures than conventional ovens
- Variable-speed controller
- Enclosure is constructed of stainless steel for longer life
- Stainless steel rollers promote a cleaner environment inside the oven
- Sealed back so bearings and chains are not exposed to lab personnel
- Glass-impregnated Teflon® bearings extend the life of the rollers and allow for longer maintenance-free service
- A digital temperature controller maintains a constant temperature throughout the aging process
- A programmable 7-day timer enables unattended operation by automatically starting and stopping the heaters
- The circulating fan ensures more stable, consistent, and reliable heating

Technical Specifications and Requirements

- #176-00-C - High-Temperature Roller Oven With Circulating Fan

Specifications

- Rollers: 5
- Temperature Range: 100 - 600°F (38 - 315.6°C)
- Digital Temperature Controller
- Motor Speed: 25 RPM
- Programmable Timer
- Heaters: 2 × 750 Watts
- Material:
  Cabinet: 300 Series Stainless Steel
  Rollers: 304 Stainless Steel
- Capacity:
  260 mL Aging Cell: 12 (Sold Separately)
  500 mL Aging Cell: 8 (Sold Separately)
  1,000 mL Aging Cell: 4 (Sold Separately)
- Size: 26" × 27.5" × 36" (66 × 70 × 91 cm)
- Weight: 133 lb (293 kg)
- Crated Size: 33.75" × 26.25" × 26" (86 × 67 × 66 cm)
- Crated Weight: 172 lb (78 kg)
- Power Requirements: 230 VAC, 50/60 Hz, 18 Amps

Optional Items

#175-25	Aging Cell, Stainless Steel Grade 303, 260 mL, Pressurized
#175-30	Aging Cell, Stainless Steel Grade 303, 500 mL, Pressurized
#175-50	Aging Cell, Stainless Steel Grade 316, 500 mL, Pressurized
#175-80	Aging Cell, Stainless Steel Grade 316, 1000 mL, Pressurized
#175-40	Corrosion Test Cell, Stainless Steel Grade 303, 500 mL

#170-04 CO_2 Pressuring Assembly

#170-40 Cell Carrying Tool

ɔol

Capillary Suction Timer

The capillary suction time test was developed to study the filterability of sewage sludge and evaluate the effects of pre-treatment chemicals and process conditions of sewage treatment. It has been widely used to study the colloidal properties of clay suspensions. The petroleum industry uses the Capillary Suction Timer to characterize shales and to optimize the electrolyte concentration in drilling fluids for minimizing its effect on shale formations.

Industry Uses

Wastewater Treatment

- Mechanical dewatering of thickened slurries from sedimentation basins and filter backwash
- Conditioning of surface and subterranean water in potable water
- Clarification of filter backwash water and thickening of hydroxide slurries from sedimentation basins

Sewage Plants

- Dewatering of raw sludge, digested sludge, and waste-activated sludge on drying beds, rotary vacuum filters, vacuum belt filters, decanter centrifuges, and plate/frame filter presses
- Thickening of biological sludge prior to addition of primary sludge
- Thickening of sludge in Dissolved Air Flotation (DAF) systems
- Improving separation efficiency in mechanical pre-clarification processes

Industry Uses

Petroleum Industry

- Borehole stabilization to determine the best electrolyte and polymer to use for maximum shale swelling inhibition
- Evaluating colloidal shale properties to study the reduction of permeability of the formation around the wellbore
- Evaluating the effects of soluble salts and polymers on cuttings

Features

- Digital - readouts have higher accuracy
- LCD Display - makes measurements easy to read

Technical Specifications and Requirements

- # 294-50 Capillary Suction Timer

Specifications

- Power Requirements - 9-Volt Battery
- Size: 10" × 4.75" × 2" (25 × 12 × 5 cm)
- Weight: 1 lb 8 oz (.68 kg)

LISST-PORTABLE | XR

Portable Particle Size Analyzer

• Particle Size Distribution • Particle Volume Concentration

The LISST-PORTABLE | XR is the worlds' only portable, battery powered laser diffraction based particle size analyzer. Designed for use in the field and the laboratory, it analyzes the sample in a wet state to obtain particle size distribution and particle volume concentration. It has five unique features:

- Pumped and recirculating mixing chamber that keeps large and heavy particles suspended.
- 7" touch panel display for measuring and displaying data with no need for a PC.
- Rechargeable battery allows for a full day of work without external power
- Shock mounted optics that can withstand the rigors of field use.
- A built-in ultrasonic probe for complete sample dispersion.

All data are immediately processed and stored in an ASCII file on the instrument for subsequent offloading and report generating.

LISST-PORTABLE | XR Portable Particle Size Analyzer

FEATURES

- Truly portable - completely self-contained with built-in data logger, processor, rechargeable battery, and 7" touch panel color display.
- Touch panel allows for easy SOP programming, sample analysis and display of data without a PC.
- Shock mounted optics block.
- Multiple Mie models as well as Fraunhofer model available for inversion, selectable from the touch panel.
- All data-processing is performed on board and stored in ASCII-format. No post-processing necessary.
- Outputs: Total volume concentration, mean size, standard deviation, optical transmission, D_5, D_{10}, D_{16}, D_{25}, D_{50} (median grain size), D_{60}, D_{75}, D_{84}, D_{90}, D_{95}, D_{60}/D_{10} (Hazen uniformity coefficient), particle surface area, silt fraction, silt volume, size distribution, battery voltage, sample notes.
- Built-in ultrasonic probe for complete particle dispersion.
- Based on the laser diffraction principle. Compliant with ISO-13320-1 standard.

SPECIFICATIONS (subject to change without notice)

Size and concentration range

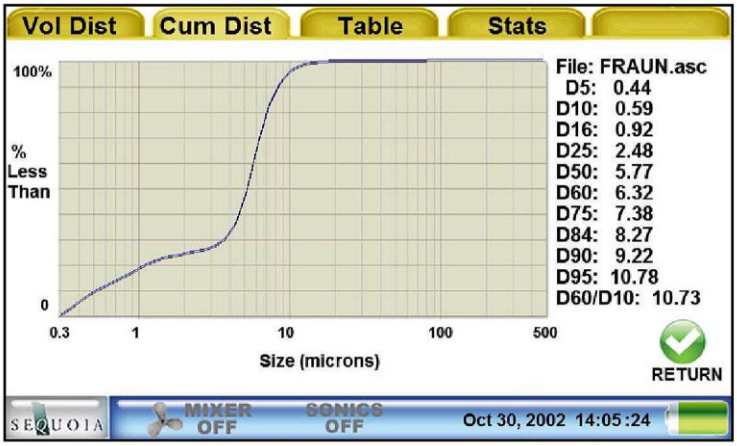
- 0.34-500 µm in 44 log-spaced size classes.
- 30-1,900 mg/l range, depending on particle size (see table). Resolution < 1 mg/l. Accuracy ± 20%.

Material	Concentration [mg/l] @ 95% transmission	Concentration [mg/l] @ 75% transmission	D10 [µm]	D50 [µm]	D90 [µm]	SMD [µm]
ISO Fine	30	170	1.5	7	41	3
ISO Coarse	95	395	4	38	99	10
20-30 µm glass beads	195	1,075	19	24	34	24
Sieved sand 75-125 µm	345	1,925	85	122	175	112

Mechanical and electrical

- Dimensions and weight of instrument: 17.7 cm (7") × 29 cm (11.5") × 44.3 cm (17.5") [H×D×W]; 7.5 kg (17 lbs).
- Dimensions and weight in shipping box: 78 cm (31") × 53 cm (21") × 28 cm (11"); 22 kg (49 lbs).
- Data storage: 128 MB flash card, capable of storing at least 40,000 size distributions and associated sample information.
- Rechargeable Lithium-ion battery provides for 6 hours of sample processing.
- 25W, 40kHz ultrasonic probe with controller electronics, managed from the touch panel display.

Touch panel screenshot of Main Menu



Touch panel screenshot of size distribution

LISST-PORTABLE|XR lid and ultrasonic holder detail (all parts included)

LISST-PORTABLE|XR and toolbox in ship case (included)

LISST-PORTABLE|XR power supply, charger and USB offload cable (included)

Shear History Simulator

The rheology of a fracturing fluid is highly dependent upon the composition/concentration of the polymer and crosslinker, temperature, pH, magnitude of shear, and the duration of shear. To minimize parasitic frictional pressure losses, an optimal fracturing fluid would have only sufficient viscosity to fully transport the proppant from the well head, through the tubulars and perforations, and into the formation. Achieving an optimal fluid design is difficult due to down hole fluid temperature changes and the variability of the magnitude and duration of the shear the fluid is exposed to. Fortunately, the use of delayed crosslinkers makes it possible to control the rheology of a fracturing fluid as a function of a time, pH, temperature, and/or shear. Under ideal circumstances, the polymer would fully crosslink just before entering the perforations of the well. The increase in viscosity allows the fluid to effectively transport the proppant though the perforations and into the formation. Shear History Simulator makes it possible to analyze the effects of shear and temperature upon a fracturing fluid and serves as an invaluable tool in the optimization of a fluid design.

Features

- Operating Pressure: 3,000 psi (20.7 mPa)
- Maximum Shear Length: 225 ft Capillary Tubing, ⅛" OD
- Circulation Pump : 0 - 40 mL/min
- Injection Pump - 0.002 - 2.5 mL/min provides precise control of cross linker injection
- Transfer test fluid under pressure directly to the Model 1100 Viscometer
- Individual temperature control for each loop

Technical Specifications and Requirements

- #700-200-60

Specifications

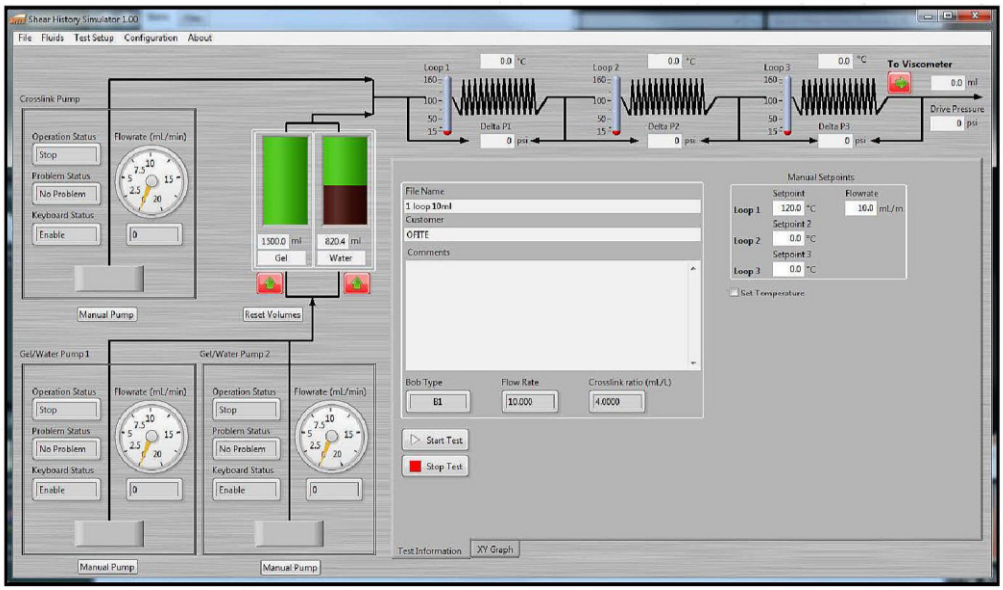
- Pressure Relief Settings: 3,000 PSI (20.7 mPa)
- Three Capillaries: 0.125" (3.175 mm) OD × 75' (22.86 m) long, 316 Stainless Steel
- Gel Pump: 0 - 40 mL/min
- Additive Pump: 0.002 – 2.5 mL/min
- Dimensions: 39.6" W × 22" H × 24" D (101 × 56 × 61 cm)
- Shipping Dimensions: 48" W × 52" H × 48" D (122 × 132 × 122 cm)
- Net Weight: 420 lb (190.5 kg)
- Shipping Weight: 705 lb (320 kg) approximate

Requirements

- Input Voltage: 230 VAC, 50/60 Hz, Single Phase
- Input Air: 100 - 200 psi (689.5 - 1,379 kPa)
- Water Source: 40 psi, 10 GPM
- Drain

Data Acquisition Features

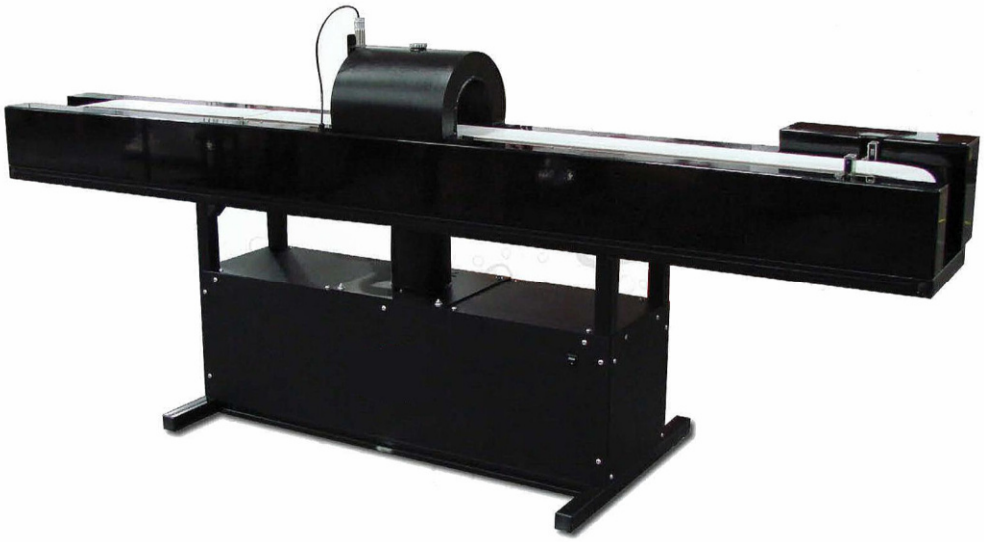
- Displays pump status, each capillary tube temperature and differential pressure, drive pressure, accumulator volume, and more
- Controls the pumps



SGR-740 Spectral Gamma Ray Core Logger

A total gamma-ray well log is a recording of the total natural gamma radiation of the formation around the wellbore. A spectral gamma-ray well log is a recording of the relative amounts of the three main elements that create the natural radiation (Potassium, Uranium, and Thorium).

The SGR-740 Gamma Ray Core Logger measures the energy level and quantity of the radiation emitted from a core sample and calculates the quantity of each of the elements. The amounts of each of these elements and the total gamma-ray count are then plotted as a function of depth.



Features

- Dual logging mode - simultaneously plots Spectral and Total logs from cores in one pass
- Constant temperature controller is integrated with scintillation detector - improves repeatability
- Stepper motor drive mechanism for multiple speed settings - optimizes resolution and speed
- Automatic conveyor stop mode - prevents cores from falling off end of conveyor
- Mounted on locking swivel castors - enables quick and easy moving
- V-shaped conveyor track - keeps cores in center of conveyor
- Can log cores up to 4.5" in diameter
- Calibration standards are available on request

Method of Operation

To begin a test, the operator arranges the core samples onto the conveyor belt in order of depth. The unit will record background radiation for 15 minutes in order to establish a base reading. Then the conveyor belt pulls the samples through the machine while the computer shows the results on the screen. At the end of the test, the results are graphed and can be printed or exported. The SGR-740 plots both spectral and total gamma radiation.

Technical Specifications and Requirements

- 700-410 SGR-740 Spectral Gamma Ray Core Logger

Specifications

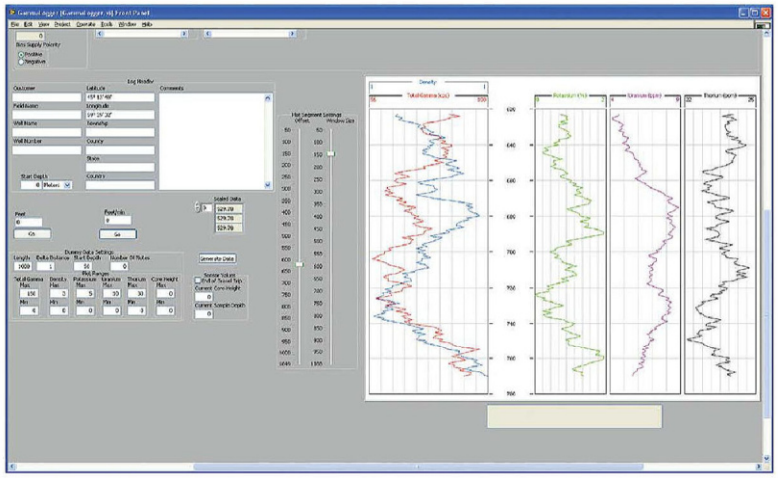
- Belt Size: 6" wide × 9' long (15 × 274 cm)
- Gamma Ray Detector: NaI Crystal, 3" × 3" (8 × 8 cm)
- Size: 24" × 47" × 118" (60 × 120 × 300 cm)
- Weight: 992 lb (450 kg)

Requirements

- Power: 230 Volts, 50/60 Hz, 2 Amps

Data Acquisition Features

- Comes complete with a PC and software for Logger Control and Data Acquisition



Production Screen Tester

The Production Screen Tester is designed to test flow-back of completion fluids on the rig site. It is no longer necessary to ship fluid samples back to the lab and delay the completion operation for days or weeks. Field fluids can be tested in real time with samples of the actual production screen being used down hole. The PST now makes it possible to determine if the fluid remaining in the annulus will flow back through the production screen.

Features

- Designed similar to API filter press
- Tests a sample of the actual production screen in use
- Accepts any type of production screen
- Can test both invert-emulsion and water-based reservoir drill-in fluids
- Portable to well site
- Optional Advanced Screen Holder accepts screens of varying thickness

Technical Specifications and Requirements

- #810-00-1 Production Screen Tester

Specifications

- Pressure Source: CO_2
- Cell Size: 3" ID × 10.9" Long (8 × 28 cm)
- Sample Volume: 1,000 mL
- Screen Size: 1.9" (50 mm) Diameter and 2.5" (63.5 mm) Diameter
- Size: 11.5" × 8" × 27" (29 × 20 × 69 cm)
- Weight: 24 lb (10.9kg)