Model 9447 - Automated Deadweight Boost System

Applications

- Automated, long term, high pressure drift test
- Sustained pressure testing of high pressure components
- Calibration and testing of oil and gas pressure sensors

Features

- Automatically controls and sustains pressure input into a CPB6000 or existing DH Model 5306 Hydraulic Deadweight Tester
- Maintains very stable pressure over time by controlling the float level to within ±0.5 mm of the correct piston displacement
- Stepper motor driven high pressure screw pump
- Computer with LCD touch screen
- Firmware to monitor and record float position and reference pressure
- Working pressure up to 40,000 psi

Description

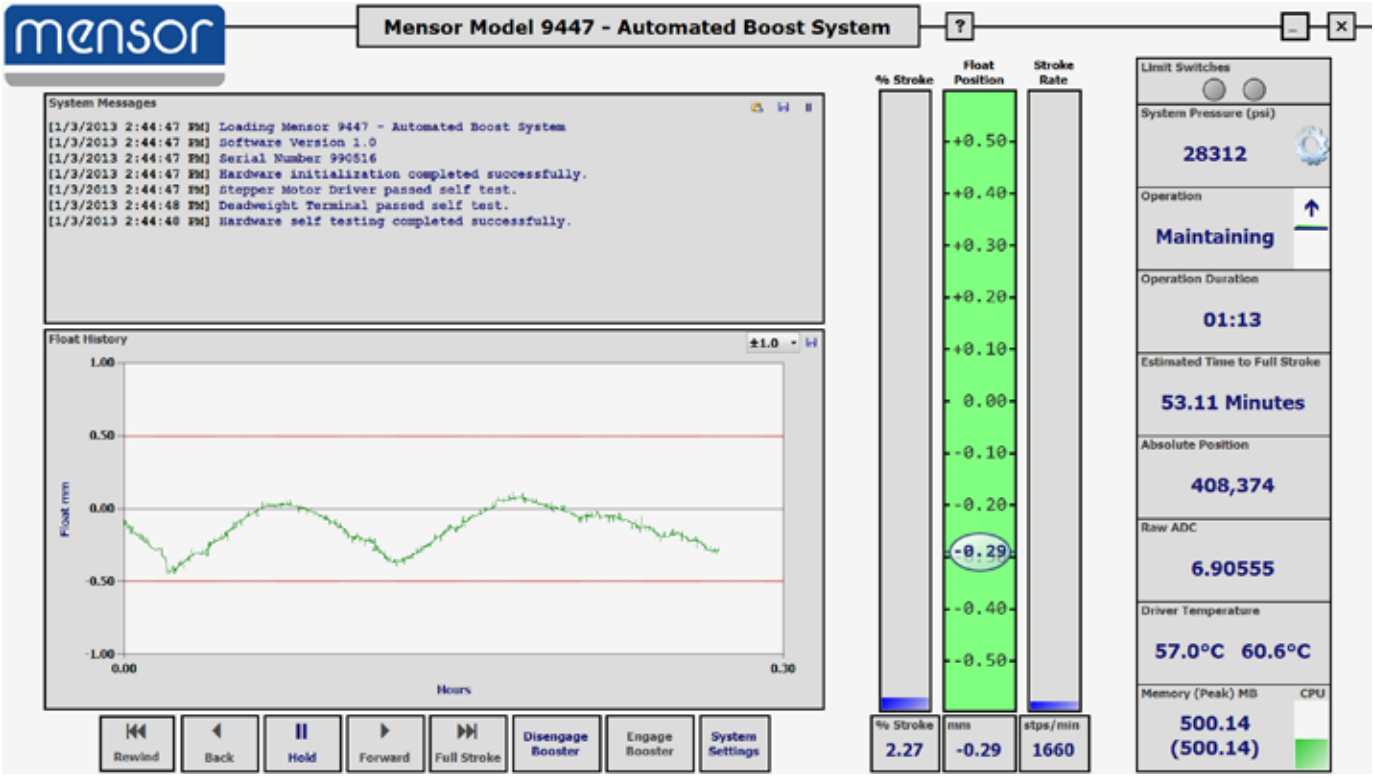
The Mensor Model 9447 Automated Deadweight Boost System includes a Desgranges & Huot CPB6000 Hydraulic Deadweight Tester and provides the capability to automatically maintain a given pressure (float position) over an extended period of time. Weights can be loaded to generate pressures up to 40,000 psi. System software reads the float position sensor on the CPB6000 and automatically controls a micro-stepper motor that turns a hydraulic screw pump. The pump sustains the float position to within ±0.5 mm. Float duration depends on the pressure, system volume and leak rate of the piston cylinder system in the Deadweight Tester but float duration typically exceeds 24 hours on a single stroke. The software provides a record of float position offset for each test period.

Model 9447 Components

- Three level work surface
  - A shelf with a micro-step stepper motor and driver, gear box, and hydraulic screw pump
  - A shelf with the CPB6000 Hydraulic Deadweight Tester
  - An operator shelf with power bus bar, and computer and LCD touchscreen display. A standard keyboard and mouse is included supplementing the touchscreen
- The DH-B Terminal 5000
- Operating manual

Model 9447
Automated Deadweight Boost System

System Software / Control / Data Records



Model 9447 System Software

The main screen consists of a title bar at the top, a message and error display on the left, a command bar at the bottom, a nine function status bar on the far right and current conditions bar graph between the message display and the function status bar.

- The rewind button resets the screw press to its most outward position allowing maximum travel
- The back and forward buttons are used for manual adjustment
- The disengage booster button takes the booster out of the engage mode and doubles as a cancel button
- The engage booster button is used to start the automated piston position system once the masses have been floated
- The system settings button can be used to change the configuration of the system, calibrate the internal pressure transmitter, and set other operational limits
- The system setting panel allows fine tuning of the system. Under normal operation, no changes should be required
- The scale panel provides an indication of the current operation
- The % of stroke is a graphical indication of the amount of stroke that has been used
- The float position is a graphical indication of the piston position as read from the Terminal 5000
- The stroke rate is an indication of how fast the stepper motor is driving to maintain the float position

All of these values and settings provide status and control of the system during setup and operation. Data is being stored while the system is operating. When the test is complete, the system status messages, the float history graph, and the float position data can be saved for verification and analysis.

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