


**DCI** TEST SYSTEMS

# Application Note

## February 2019

HIGH PRESSURE HIGH TEMPERATURE FOAM RHEOMETER (PICTURED WITH BOOSTER CART)

DCI PRODUCT HIGHLIGHT

## Product Highlight

### Did you know DCI made that?

DCI has a vast product line allowing tests in Routine Core Analysis, Special Core Analysis, Rock Mechanics, Syringe Pumps, and Fluid Properties. Some of the products you may not know DCI manufactures are highlighted below.

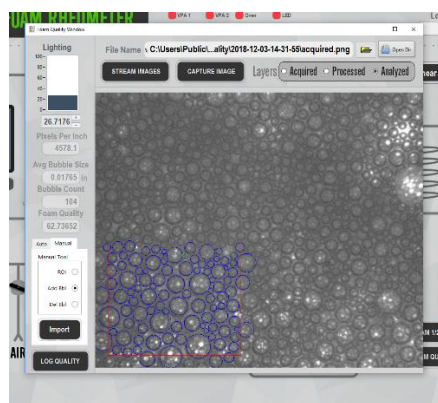
#### Foam Rheometer

DCI's high pressure high temperature foam rheometer is loaded with features that allows the user to easily run and analyze data. These features include:

- Precise metering of fluids into the flow loop via VPA syringe pumps
- Programmable profile mode to automatically run shear rate test profiles
- Adjustable viewing depth HPHT sight glass with high resolution camera and zoom lens for determining foam quality and bubble dimensional data.
- HPHT Half Life Sight Glass with camera/zoom lens
- Custom software with integrated vision analysis for quick and seamless control

- Multiple range highly accurate and durable delta P transducers
- High accuracy Coriolis Meter
- Heated accumulators, flow loop, and sight glasses for constant temperature fluid

Purpose designed software is the heart of the Foam Rheometer. The software allows the user to easily control shear rate profiles, log data, monitor accumulator volumes, and view/analyze the foam quality and half-life sight glasses.



#### HPHT Foam Rheometer

#### Booster Cart

#### Automated Back Pressure Regulator

#### HPHT Sight Glasses

#### CFAST™ Patent Approval

DCI was recently awarded Patent US 10,197,490 B2. This patent makes DCI the only company available which can provide measurement of two phase production from a core using acoustic fluid separator in conjunction with light and heavy fluid syringe pumps. The CFAST™ system provides highly accurate measurements of the volume of two different phases that are produced in a core flood experiment, even when the volumes of fluids produced exceeds the volume capacity of the two phase separator. In this arrangement, one of the VPAs is operated in external transducer feedback mode, maintaining a constant fluid level, while the other VPA is controlling back pressure on the system. Any fluid be produced from the core is measured by either the heavy fluid VPA or the light fluid VPA.

## Booster Cart

The Booster Cart is a must have accessory for any lab needing gas pressures higher than bottle.

The Gas Booster Cart is an easy to use system that allows users to connect a supply gas and increase the supply gas pressure to store in an accumulator mounted on the cart. The outlet of the accumulator is equipped with a regulator and can easily transfer gas to other systems at a desired pressure. The control panel is equipped with multiple gauges and valves to easily and safely boost gas. The cart is mounted on wheels that allow this cart to easily move between systems and labs.



The booster car is available in a 10,000 psi version and 20,000 psi version.

## Automatic Back Pressure Regulator (ABPR)

The ABPR is a digital automated back pressure regulator that uses state-of-the-art motor and control for the best possible accuracy and ease of use. This system is a perfect accessory for any system needing accurate back pressure regulation.

The system uses a 7" touch screen user interface with easy to use intuitive software. All that is required is to enter a desired back pressure set point and start control, the software's control algorithms take care of the rest. The software can be installed on a separate computer for remote access/control of the automatic back pressure regulator. The back pressure regulator valve body can also be removed from the control box and mounted elsewhere for a more flexible system setup. Other mounting locations can include an oven or other elevated temperature atmosphere. Multiple configurations are available to meet your pressure, fluid, and flow rate needs.



The ABPR has multiple operating modes. One useful mode is the process pressure control and allows the user to connect an external pressure transducer to the APBR in the process line and control to that signal.



## High Pressure High Temperature Sight Glasses

DCI offers a range of sight glasses that can be used in various oil and gas testing applications. Some of the applications include PVT cells, Foam Rheology, and Core Flooding.

One unique and useful sight glass is the adjustable viewing plane sight glass. This sight glass allows the user to change the viewing plane thickness from a maximum of .200" to .000" This flexibility in field of depth allows the user to set the view plane to allow the best possible images to be taken. Paired with DCI's back lighting and camera system you will be surprised by the quality of images that can be acquired.

Sight glasses are available in pressure ranges up to 10,000psi.

