



Taha Kimia Tajhiz Co.



Chandler Engineering Co.

Model 5400 Dynamic Scale Deposition Loop Datasheet

Cement Testing/ Viscometers and Rheometers Equipment



Model 5400

DYNAMIC SCALE DEPOSITION LOOP

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

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

Prior to the test section, two lengths of coiled tubing inside the oven are used to pre-heat the samples to the pre-determined test temperature. Two manual set-point back pressure regulators (high or low range) are used to create the sample pressure inside the test section during pumping. Fluids are transported through the tubing via two HPLC pumps, both with switching valves (6-port) for various anion, cation, scale inhibitor or cleaning fluids.

The software is designed for ease of use, and powerful enough to calculate and collect all required data during the test cycle. The software allows the operator control over flow rate, test time, fluid selection and temperature of each individual test. All data and test parameters are stored in a test-specific .CSV file for analysis.



FEATURES and BENEFITS

- ✓ *Forced air convection oven*
- ✓ *Removable sample and pre-heat tube assembly*
- ✓ *External pH electrode with sample*
- ✓ *Hastelloy C276 sample tubing and fittings inside oven*
- ✓ *HPLC sample injection pumps equipped with six inlet streams*
- ✓ *Sample injection scheduling with automatic loop clean-up*
- ✓ *Microsoft Windows based control and data acquisition*

Model 5400

Specifications:

Pumping system:

Maximum Pressure: 5,800 PSI

Flow Rate: 10 mL/Minute Maximum

Temperature Range: 500 °F Maximum (pH measured at ambient temp)

HPLC Pumps – 6 port switching valves, with 3-way solenoid for flushing system with DI water

Test Section Lengths - 3' and 10', Interchangeable

Back Pressure Regulator (Low Range): 0 – 800 PSI

Back Pressure Regulator 2 (High Range): 0 – 5,800 PSI

Utilities:

Power Requirements: 120 VAC 50/60 Hz, 10A (Oven)

120 VAC 50/60 Hz, 500 Watt (System)

(Uninterruptible Power Supply Recommended)

Water: 20-30 psi, 1 gpm max

Dimensions (w x d x h): 80" x 28" x 40"

* Manufacturer's specifications subject to change without notice



CHANDLER ENGINEERING

2001 North Indianwood Avenue, Broken Arrow, OK 74012

Tel: +1 918-250-7200 • Fax: +1 918-459-0165

e-mail: chandler.sales@ametek.com • www.chandlereng.com

Houston Sales and Services

4903 W. Sam Houston Parkway, N., Suite A-400, Houston, TX 77041

Tel: +1 713-466-4900 • Fax: +1 713-849-1924