

Corrosion & Rotating Disc Test System- CRS

Features

- High Pressure & Temperature
- Hastelloy Wetted Material
- Easy Opening Reactor Design
- Rotating Disc Testing
- Metal Coupon Testing
- Manual Operation
- Computer Automation

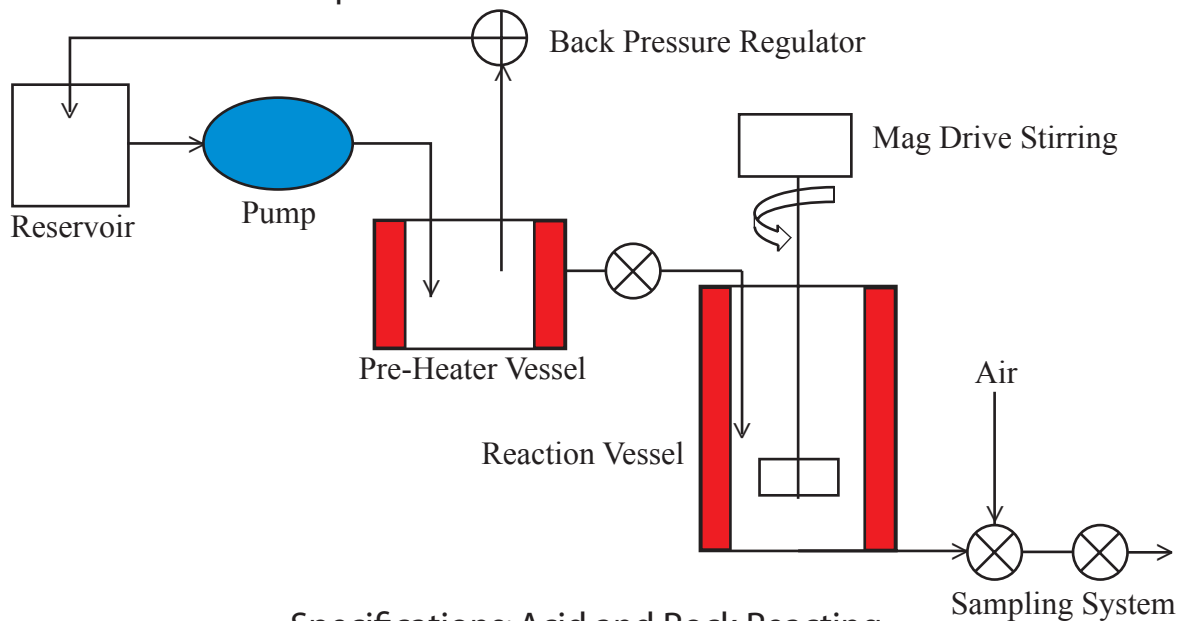


Temco introduces the first high pressure, high temperature reactor instrument for the testing of the fluid interaction between acids and reservoir core materials and the fluid interaction between acids and metal materials used in the oil field. This instrument is used for simulating the conditions of high temperature and pressure normally encountered in the well.

Instrument Operation

The instrument is designed for the easy operation of the test by either manual or automatic operation. The reaction vessel is opened using the easy opening, hand-operated, assembly mechanism, so that the vessel does not need to be lifted. The test core or disc sample and/or corrosion coupon(s) are mounted to the rotating shaft. The reactor vessel is then reassembled using the assembly mechanism. The test acid is then placed into the pre-heater vessel. The pre-heater vessel is then pressurized to the test pressure using the air operated hydraulic pump or air pressure and the back pressure regulator. The pre-heater vessel and reactor vessel are then heated to the test temperature. As the pre-heater vessel heats, excess pressure bleeds off through the back pressure regulator in the system. Once the desired pressure and temperature is achieved, the connection valve between the pre-heater vessel and the reaction vessel is opened and the acid is rapidly displaced into the reaction vessel. The test disc and corrosion coupons are then rotated at the desired rate. To evaluate the reaction and corrosion rates, liquid samples can be removed during the test.

Liquid samples can be removed over time to test for Calcium, Hydrogen, and Carbon Dioxide to evaluate the reaction rate versus time for each test. An outlet valve is opened and a ten (10) cc sample is captured in a section of tubing. After closing this valve, another valve is opened sending the sample into a fraction collector. To remove any liquid trapped in the sample tube, air is driven through the tube until all of the fluid is collected into the fraction collector. This process is repeated over time as desired by the researcher until as much as 200 cc is removed from the reactor. As the fluid is removed, the pressure is maintained by the air driven hydraulic pump and the back pressure regulator. The instrument is provided with a computer and SmartSeries™ Software for the data acquisition and control of the instrument.



Specifications: Acid and Rock Reacting Rate Test System CRS Series Instruments

- Material: Hastelloy C or B
- Capacity of the autoclave vessel for 1 core sample mounted to stirring shaft
- Sample size: 2.54 cm, 1" diameter
- Capacity to mount four (4) metal coupons
- Capacity of Reactor Vessel: 300, 500, or 1,000 cc
- Capacity of Pre-Heater Vessel: 400, 600, or 1,100 cc
- Pressure rating: 21 MPa (3,000 psi), 35 MPa (5,000 psi), or 50 MPa (7,240 psi)
- Temperature rating: 250°C (482°F)
- Rotating: 100-2000 rpm
- Magnetic Stirring Mechanism to mix the sample continuously
- Heating Jacket and Controller, 2 each
- Pneumatic Pressure System
- Sampling System
- Pressure Transducer
- Fraction Collector
- Computer Data Acquisition and Automation System
- Automation Hardware
- Electrical: 220-240 VAC, 50-60Hz