

Loading devices

Cormet provides various kinds of loading devices for stress corrosion cracking, sulphide stress cracking, hydrogen induced cracking and cyclic fatigue studies. Nearly all the instruments are available as ambient-temperature and high-temperature high-pressure environment versions.

PC-controlled loading device

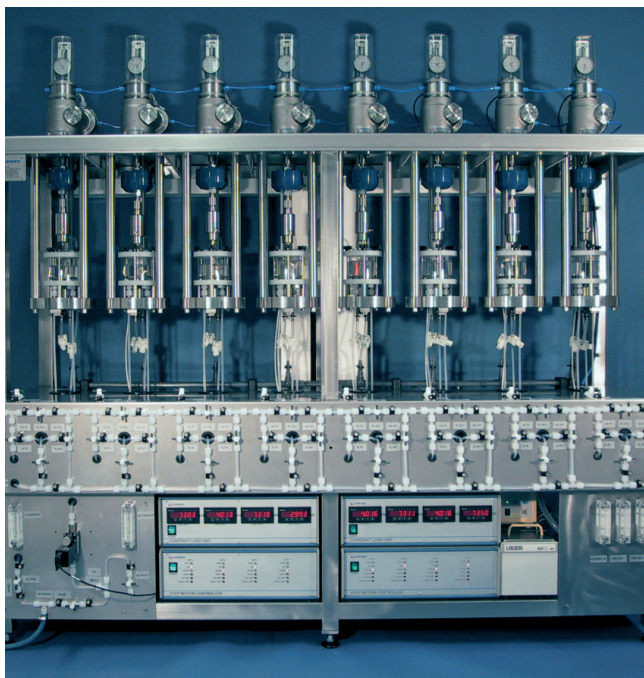
Cormet's PC-controlled electromechanical loading device is capable of performing slow strain rate tests (SSRT, CERT), constant-load and cyclic-fatigue tests. The loading device can be equipped with various kinds of specimen holders as well as with accessories such as DC PD, LVDT and electrochemical tools. The SSRT instrument can be installed in various kinds of test cells, including an ambient temperature test cell, HT HP autoclave and high-temperature gas furnace. The load capacities 10 kN, 20 kN, 50 kN and 100 kN are available.

Bent specimens

Standards NACE TM0177 Method B and ASTM G39 describe the instruments needed for testing the sulphide stress corrosion cracking susceptibility of pipeline steels. Cormet provides loading frames for four-point bending instruments and the stressing frames required. These frames can be manufactured for various specimen sizes.

Proof rings

A proof ring is the most popular constant-load instrument that can perform the tensile test described in NACE TM0177 Method A. Cormet's proof ring has been designed for a 20 kN load, being capable of operating with 3.81 mm and 6.35 mm diameter round tensile specimens. The test cell has glass cylinder walls and PVDF bottom and top lids. Each proof ring is calibrated before delivery. Gas-feeding, waste-gas and temperature-control systems are available.



Constant-load instruments

In addition to proof rings, Cormet has constant-load instruments that have load cells and gear boxes. The applied load can be monitored and readjusted based on the load cell information. The load can be adjusted manually or automatically using a DC electric motor.

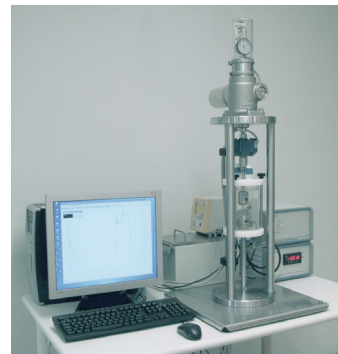
Servo-hydraulic fatigue autoclaves

The highest cyclic-fatigue frequency of an electromechanical loading device is limited to about 0.1 Hz. Servo-hydraulic loading devices are used when higher fatigue frequencies are needed. Cormet builds autoclaves with pull rods and specimen holders that can be installed between the supporting rods of a conventional servo-hydraulic loading device. Another approach is to integrate the hydraulic actuator with Cormet's autoclave. In both cases, the original servo-hydraulic controlling software and hardware can be used.

Hydrogen Induced Cracking (HIC)

Cormet builds instruments needed for HIC tests according to NACE TM0284. A test system includes testing chamber(s), gas-feeding systems and H₂S-neutralization tools. We often deliver temperature-control instruments, draft cabinets, mass-flow controllers, gas-cylinder cabinets and gas-alarm systems with HIC instruments. The

package can be a real turn-key delivery including complete installation and training.



Cormet manufactures material- and corrosion-testing instruments for the laboratory and field environments. We specialise in high-temperature high-pressure applications. Cormet delivers instruments to university and industrial laboratories including the power-generation, chemical, transportation and oil & gas industries. Nearly all the products are tailored according to customers' needs.