

# Automated Corrosion Test System



Valued Quality. Delivered.



Corrosion is an uncertain science and can cause irreparable damage to vital equipment, systems and infrastructure across a wide range of industries.

Testing corrosion samples is an essential part of the monitoring and mitigation process and can protect organisations' assets from irreparable damage and production downtime.

With almost forty years of experience in corrosion monitoring and mitigation, we have developed a range of systems and processes to assure the integrity of your assets.

Our automated corrosion test system is a high-throughput series of software-controlled independent cells.

Linked in a daisy-chain formation, they allow for the simultaneous testing of samples, saving time and increasing efficiency.

The automated corrosion test system is supported by two types of software - our in-house Concerto software and Zebrafish, developed by our partner, Cambridge Reactor Designs (CRD).



## Benefits:

- Efficient automated corrosion test system suited to a broad range of industries.
- Compatible with Intertek Concerto lab sequencer software.
- Evaluates more parameters than traditional systems.



**Concerto Corrosion Evaluation System**

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**Automated Corrosion Test System**

Alongside CRD, we have developed the automated corrosion test system, a generic multi-cell platform.

Suited to a broad range of industries where high-volume testing is necessary as part of fundamental screening, the equipment offers quality assurance and development processing.

The high-throughput system consists of independent, software-controlled test cells. Tens of these can be connected in a daisy-chain formation, allowing for the simultaneous testing of samples.

User-friendly control software is integral to the system and facilitates the easy collection of data to provide the required information.

Our platform, which is comprised of both the Concerto and Zebrafish systems, sets the conditions for examining the corrosion performance of test samples in a user-defined environment, i.e. electrolyte, flow and temperature.

Users can sample the electrolyte for metal ion content and tests can be performed with any number of additives to evaluate degradation.

As well as yielding high-quality corrosion data, the high-throughput approach provides a means to evaluate more complete parameter spaces than was previously viable.

**Automated Corrosion Test System**

- A multiple-cell test system.
- More cost-effective than conventional tests.
- Easy to set up and reliable to use.
- Single cells can be controlled independently.
- Performs under a wide variety of conditions.
- Software control for easy data setup and reporting.
- In-situ, fast and efficient cleaning.

**Corrosion Evaluation System (Concerto)**

- Linear polarisation resistance (LPR), resolution 1 Ohm.
- Potentiodynamic sweeps (resolution of 60uV, 1mV/s).
- Galvanic current (resolution of 0.1nA).
- Electrochemical noise (resolution of 0.1nA and 1uV).
- Input impedance of greater than 1Gohm.
- Voltage span - ±1700 mV.
- Current span - ±8 mA.

**Corrosion Evaluation System (Concerto)**

(We have some room to include some information here about how Concerto evaluation system relates to ACTS?)

Concerto lab instrumentation is an independent system that comes packaged in a standalone enclosure.

It can accommodate four measurement modules (potentiostats) per rack, allowing for easy upgrades when testing requirements change.

It also meets the requirements of the EU Low Voltage Directive and EMC Directive.

**Concerto Lab Sequencer Software**

Concerto Lab Sequencer is the accompanying software for controlling measurement sequences and works in parallel with the automated corrosion test system software to provide a combination of cell and measurement control.

It allows the user to repeatedly format different measurement sequences for standard test setups.

Data can be viewed in real-time via the software's graphing windows.

For reviewing historic data, the common CSV file format can be used and imported into Excel for further analysis, or reviewed using the lab sequencer software.

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