

ACTS

## The Automated Corrosion Test System (ACTS)

Miniaturisation and parallel processing are fundamental strategies in high throughput testing. INTERTEK CAPCIS and Cambridge Reactor Design (CRD) have developed a generic multi-cell platform suited to a broad range of industries where high volume testing is necessary as part of fundamental screening, quality assurance and development processing.

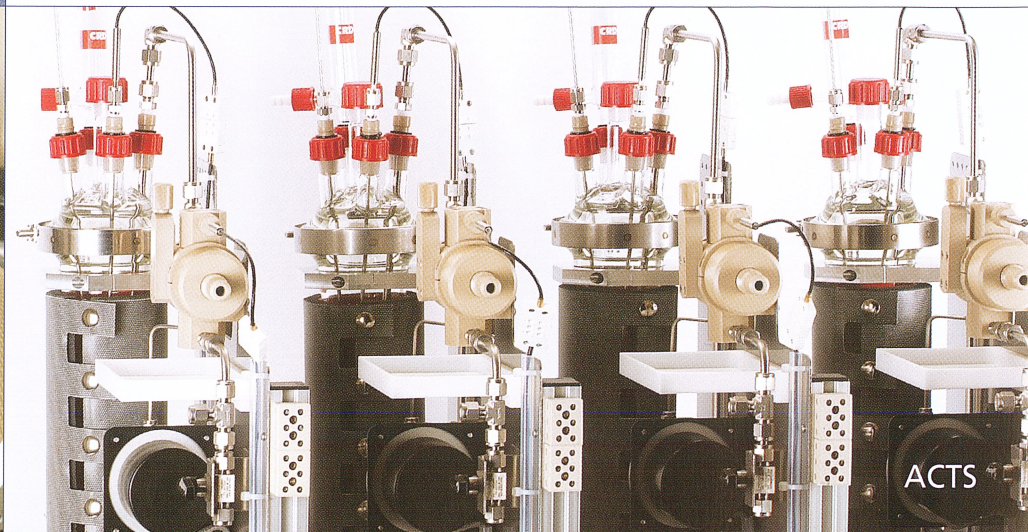
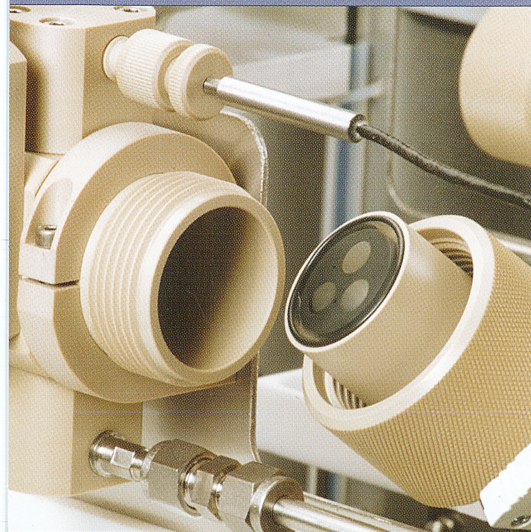
The Automated Corrosion Test System (ACTS) consists of a modular rail of up to eight independently controlled miniature test cells allowing simultaneous chemical and or material testing under variable temperature conditions. Platforms can be multiplied in groups of four, coupon and solution exchanges can be performed in minutes.

The system allows users to select the optimum configuration for their requirements either in process optimisation or corrosion monitoring. The user-friendly graphical interface and database structure with automatic data capture enables the user to set up tests quickly and recall previous ones easily. A wide assortment of standard tests and techniques are available and may be deployed at the click of a button.

Yielding high-quality real time data the ACTS permits evaluation of more experimental parameters than previously affordable.

### ACTS

- Is a multiple flow cell test system
- Is more cost effective than conventional tests, easy to set up and reliable in use
- Offers various electrode configurations
- All aspects of a single cell can be controlled independently
- Offer industry standard screening tests under a wide range of temperature conditions
- Operates under software control for easy set up, data collection and reporting
- Designed with a much reduced footprint, fits easily inside a fume cupboard
- In-situ, fast and efficient cleaning



## The Automated Corrosion Test System (ACTS)

ACTS offers a software controlled industrial screening and testing facility

### System Specification

#### Dimensions

Physical dimensions (l x w x h), mm: 830 x 570 x 750  
Weight: 35kg

#### Environment

Operating pressure: Ambient  
Operating temperature: Ambient to 80°C  
Flow: 10mL/min to 300mL/min

#### Concerto<sup>TM</sup> and data collection resolution

Linear Polarisation Resistance (1 Ohm)  
Potentiodynamic sweeps (60µV, 1mV/s)  
Potentiostatic holds (60µV)  
Galvanic current (0.1nA)  
Electrochemical Noise (0.1nA and 1µV)  
Input impedance (1 G Ohm)  
Current span: ± 8.4mA  
Voltage span: ± 1.7V

#### User settable parameters

Logging intervals, Stearn-Geary constant, electrode surface area, wait time between measurements, settling times, LPR steps size and direction, ability to set up sequences, temperature ramp and hold.

#### Materials

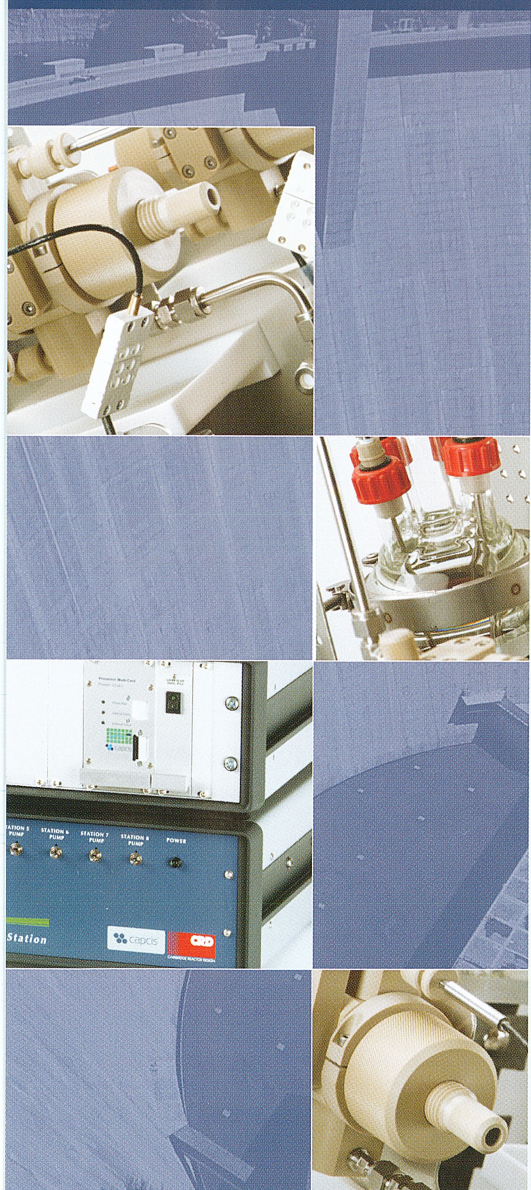
Materials of construction: Borosilicate glass, 316 stainless steel, Peek, Viton  
Capacity: 500 ml  
Pump materials: Peek, 316 Stainless steel

#### Corrosion Cell material

Cell volume (full): 20.0 ml  
Materials of Construction: Peek  
Working electrode area (max): 2 cm<sup>2</sup>  
Counter electrode area (max): 2 cm<sup>2</sup>

#### Customisation

Materials: C276 Hastelloy, plastic tubing i.e. Tygon, Viton etc  
Reflux condenser: Optional  
Reference electrode (Ag/AgCl): Optional



#### Manchester office

CAPCIS House 1 Echo Street  
Manchester M1 7DP  
United Kingdom  
Tel +44 (0)161 933 4000  
Fax +44 (0)161 933 4001

#### Oxford office

Unit 6 Hanborough Business Park  
Long Hanborough Oxford  
OX29 8LH United Kingdom  
Tel +44 (0)1993 882 445  
Fax +44 (0)1993 882 559

#### Aberdeen office

78 Carden Place Aberdeen  
AB10 1UL  
United Kingdom  
Tel +44 (0)1224 612 400  
Fax +44 (0)1224 612 401

#### UAE office

PO Box 4660  
Sharjah  
United Arab Emirates  
Tel +971 6 5387036  
Fax +971 6 5388051

#### Libyan office

CAPCIS Ltd Fairouz Complex  
4th Floor #2 Mezran Street  
Tripoli Libya  
Tel +218 21 333 0886 Ext 111  
Fax +218 21 333 6530