

CTL 003 – Automated Gas Burette Apparatus Data Sheet

An instrument for laboratory quantification of gas evolution rates from chemical processes and decompositions.

The principle of the apparatus is very simple. Gas generated by a process displaces the fluid in the U-Tube and causes a pressure increase which is directly equivalent to the volume of gas evolved. The pressure increase is recorded by a sensitive transducer mounted on the side of the U-tube. Once the pressure reaches a predetermined limit (selected and calibrated by the operator), a solenoid valve opens and relieves the pressure by venting the gases. The pressure measured by the transducer, and the number of times the solenoid valve has activated, are recorded by link-up to a data acquisition system thus enabling the total gas evolved from the process to be calculated.


Benefits

- High sensitivity decomposition gas evolution measurements
- Essential for hazard and process studies
- Gas evolution rate and volume voltage outputs
- Low drift signal processing with latest instrumentation
- Simple to use and easy to calibrate
- Compact laboratory bench version
- Fully configurable for data acquisition systems
- Controller is compatible with older gas evolved equipment
- Permits laboratory quantification of gas evolution rates from chemical processes
- May be connected to a Mettler RC1mx set-up or to any other data acquisition system
- Volumetric measurement does not require composition of gas to be known
- Suitable for a wide range of hazardous gases with inert construction materials




Gas Burette (label: Controller display and 316 stainless steel mounting board complete with glass manometer tube, pressure transducer, and outlet exhaust valve)

Functional specification and deliverables

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- A single and pre-configured controller instrument with dedicated I/O modules.
 - All parameters are operator adjustable from the front panel.
 - Backwards compatible with the old Gas Evolved Apparatus. Sensor input and signal outputs will accept all existing connecting leads.
 - Mains supply: 110 - 120 - or 220-240 V a.c / 2 Amp
 - Accurate data up to approximately 5 cm³.s-1
 - Single output power supply
 - Valve open times: Any value 1 to 30 seconds
 - Analogue count output and analogue pressure output (1 V to 10 V full scale selectable)
 - Supplied with electronic control unit, 316ss mounting back-board, Gas Burette (manometer)
 - Full system with control unit, sensor, mounted U-Tube, solenoid outlet valve, pressure transducer, silicon oil, miscellaneous tubing, 100 ml glass calibration syringe. Optional additional solenoid valve and pressure transducer
 - Supplied with all connecting leads.
 - Note that cables from the Burette are supplied compatible with the UCB RC1 interface. Any other requirements should be specified when quoting.
 - Burette to RC1 ECB interface cables are available as an optional extra for newer RC1 set ups.

Advantages over other systems

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- Lower maintenance costs
 - Smaller instrument case footprint
 - No internal control box access required compared to older version
 - Accurate switching Trip Level
 - No mechanical potentiometers
 - Proven reliability



DEKRA Organisational & Process Safety

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In terms of behavioural change, we deliver the skills, methods, and motivation to change leadership attitudes, behaviours, and decision-making among employees. Supporting our clients in creating a culture of care and measurable sustainable improvement of safety outcomes is our goal. The breadth and depth of expertise in process safety makes us globally recognised specialists and trusted advisors. We help our clients understand and evaluate their risks, and we work together to develop pragmatic solutions. Our value-adding and practical approach integrate specialist process safety management, engineering, and testing. We seek to educate and grow client competence in order to provide sustainable performance improvement. Partnering with our clients, we combine technical expertise with a passion for life preservation, harm reduction and asset protection.

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We have offices throughout North America, Europe, and Asia.

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Would you like more information?

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