CTL 005 – MIT Cloud Test Apparatus
Data Sheet

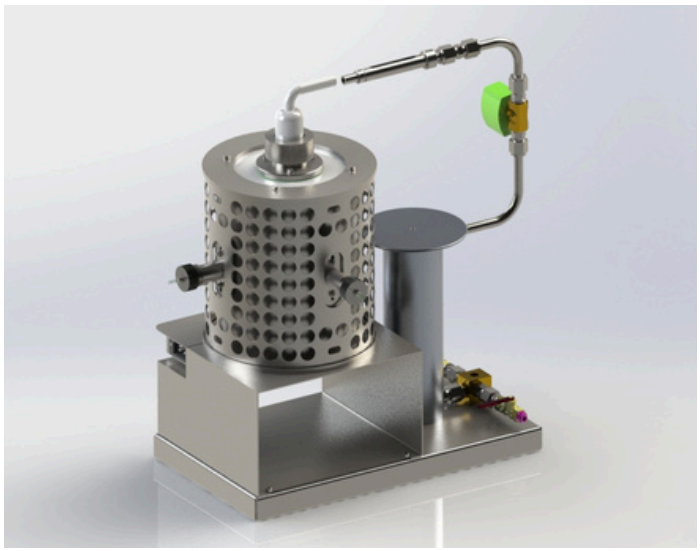
NEW

An instrument for testing the susceptibility of a dust cloud to auto ignition in a heated environment when dispersed as a dust cloud

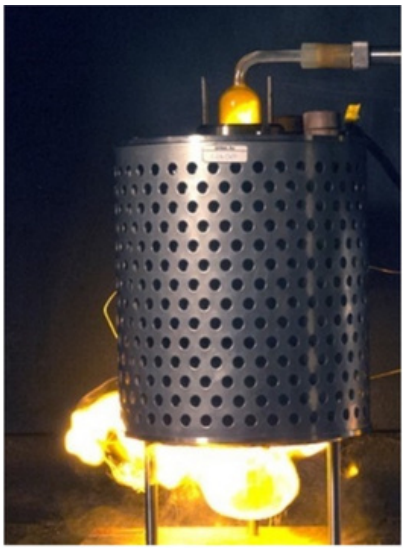
(IEC 80079-20-2,EN50281-2-1 and ASTM E1491-06)

The MIT Cloud Apparatus provides an objective way to measure the susceptibility of a dust cloud to auto ignition in a heated environment (e.g. with plant processing temperatures above 110 °C). When most powders are dispersed in heated air, spontaneous combustion will take place provided the air temperature is high enough.

The Minimum Ignition Temperature (MIT) test measures the lowest temperature at which such ignition will take place. It is used for the specification of electrical equipment for use in the presence of combustible dusts and also has some application in the specification of safe drying temperature (above 110°C) on process plant.



MIT Cloud Apparatus



MIT Furnace

Benefits

- Simple to use
- New robust design (Quartz centre core)
- Control unit now displaying on-board temperature of both thermocouples and inlet pressure.
- Simpler calibration and set up of measurement displays
- New furnace base box for easier visual determination of flame colour and provides higher containment of unspent sample
- Approximately 30% efficiency saving on testing time due to increased heat up speed
- Streamlined side temperature sensor insertion/setting & withdrawal facility
- Quick release furnace mounting which lends itself to faster more efficient maintenance

Functional specification and deliverables

- Mains inlet 220-240 V ac single phase / 10Amp (1000Watt furnace),
- Temperature control- ambient to 1000°C.
- Transformer provided (Step Down 220V to 110V 10 Amp)
- Accessories: Spare observation glasses and fittings, spare tubing, set of thermocouples, new integral control unit complete with furnace temperature controller and inlet pressure meter, furnace viewing mirror.
- No Computer is needed for this test.
- ¼" bsp inlet pressure transducer connection / bleed off facility

Location recommendations and specifications

TRANSFORMER	Locate away from powder loading area. (Adjacent to fume cupboard suggested)
CONTROL UNIT	Recommendation to locate beside furnace adjacent to fume cupboard with control and interface cables passing via a side wall letter box style cable gland)
FURNACE	Locate inside the fume cupboard
DIMENSIONS	• Furnace: 55 cm (w) x 30 cm(d) x 49 cm(h) (18Kg) • Control Unit: 45 cm x 42 cm x 15 cm (7Kg) • Transformer: 39 cm x 29 cm x 26 cm (21Kg) • Fume cupboard internal width ideally min 100 cm wide x 80 cm high x 60 – 80 cm deep or 100cm (width) x 100cm (depth) if space available.
AIR REQUIREMENTS	Air regulator requirements - 1 barg MAXIMUM. Transducer – FS capability 0-1 Barg. Failure to observe this fact could lead to damage of the transducer
ENVIRONMENTAL RATINGS	All units Nominal 23°C rating (i.e. controlled professional lab temperature). All units 60% RH Max (Non-Condensing)
ELECTRICAL RATINGS	Transformer I/P ~230V (Ideal Range 240-220V absolute V), current draw ~6A full power. O/P ~110V (Ideal range 108-118V absolute V), current draw ~10A full power

Optional extras

Extra accessories available for purchase

DEKRA Organisational & Process Safety

Contact

DEKRA Organisational and Process Safety are a behavioural change and process safety consultancy company. Working in collaboration with our clients, our approach is to assess the process safety and influence the safety culture with the aim of making a difference.
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.
We are a service unit of DEKRA SE, a global leader in safety since 1925 with over 48,000 employees in 60 countries and five continents. As a part of the world's leading expert organisation DEKRA, we are the global partner for a safe world.
We have offices throughout North America, Europe, and Asia.

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