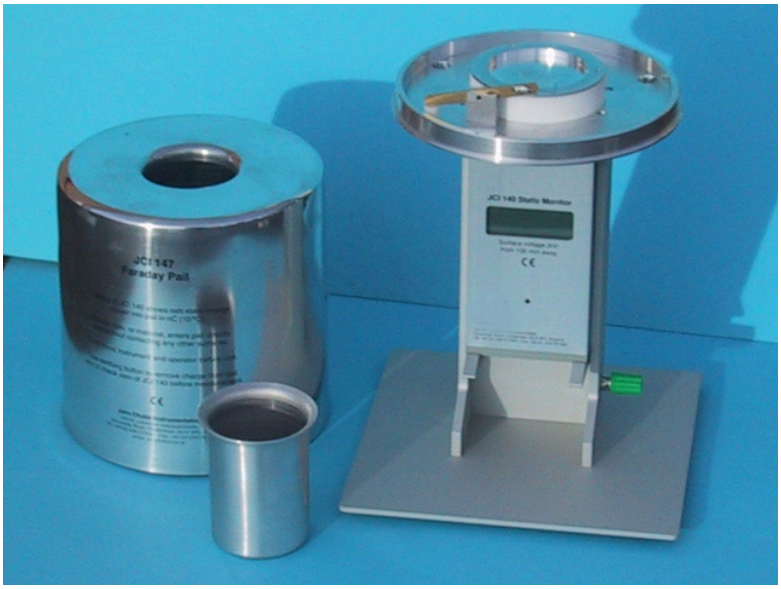
JCI 147 Faraday Pail
Data Sheet



The JCI 147 Faraday Pail is an accessory for use with the JCI 140 Static Monitor. A sensitive instrument for precise and reliable measurement of electrostatic charge placed in the pail.

The unit comprises a Faraday Pail mounted on high quality insulation in a well-defined location relative to the sensing aperture of the JCI 140 Static Monitor. Charged objects placed in the pail raises the voltage of the pail a little, in proportion to the pail capacitance. This increase in voltage is measured by the JCI 140. The pail is relatively deep (a height to diameter ratio of 1.5) so all charge introduced into the pail couples to the pail (when not filled above 40%). The charge appearing on the outside of the pail is the net quantity of charge placed in the pail. It is not necessary that the charge introduced conducts to the pail, so measurements are equally applicable to insulating and conducting materials. The shielding around the pail ensures that measurements are not affected by nearby static charges on people or surfaces.

Benefits

- 'Field mill' type fieldmeter means near zero charge leakage (insulation resistance typically 1014 Ohms or more)
- High sensitivity - with a resolution down to 1pC
- Stability of the zero charge reading on the JCI 140.
- The JCI 140 Static Monitor is easily removable from the mechanical arrangement and can be used in its own right for other measurement purposes.

Specification features

SENSITIVITY	2,000 and 20,000 pico-Coulombs full scale, 1pC resolution when used on most sensitive range, JCI 140 only. Sensitivity selected via on/off switch or by external control signal
ZERO STABILITY	Noise within ±1 pC. Zero stable to ±10 pC.
ACCURACY & LINEARITY	Within ±5% FSD on display and analogue output
DISPLAY	3½ digit liquid crystal display of charge directly in picoCoulombs with polarity and `LO BATT' indication
AUDIO ALARM	Pulsing audio signal when above user set level
CONTROLS	On/off slide switch: off - range 1 - range 2 Screwdriver set alarm threshold Screwdriver zero setting adjustment
POWER SUPPLY	Replaceable PP3 battery JCI 142 'Wall Cube' supply via 2.1 mm DC power connector Any external 12V floating supply via 8w mini DIN connector
EXTERNAL CONNECTIONS	Via 8w mini DIN connector: • analogue output signal (±2 V FSD) • sensitivity range indication and selection • earth • external power supply inputs • 2.1 mm DC power input
EARTH BONDING	Earth connection terminal on side of mounting frame
DIMENSIONS	Overall 180 mm x 180 mm baseplate, 335 mm high Pail 50 mm diameter, 75mm high, 50mm aperture in shield
WEIGHT	about 3kg
OPTION F	Fast response (3ms) Static Monitor (for standalone use). See JCI 140 Datasheet

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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Would you like more information?

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