MIC Smoke Measuring Equipment, type EC-912
The second generation of the MIC smoke measuring equipment

General
The MIC is suitable for smoke density measurements, for example in connection with the testing of smoke detectors and smoke alarms. The MIC is based on the ionisation measuring principle, with the usage of a small radioactive source emitting alpha particles.

Applications
The MIC is used for reference measurements of smoke density:
- In smoke tunnel measurements according to EN54-7
- In fire sensitivity testing according to EN54-7/9
- In the UL smoke box measurements according to UL 217 and UL 268
- In other applications where accurate smoke measurements are required

DELTA has exclusive licence
The MIC was originally developed by Cerberus Ltd. of Switzerland. DELTA Test & Consultancy has been granted an exclusive license to manufacture, sell and repair the equipment for customers worldwide.

Technical components
The MIC smoke measuring system type EC-912 consists of the following parts:
- MIC smoke measuring head
- Multi-cable, 10 m (other lengths on request)
- MIC control unit with power supply
- Flow control unit with filter
- Vacuum pump
- Air tube
- Accessories, instruction manual, etc.

The smoke measuring head is installed at the measuring site and connected to the control unit via the multi-cable. The control unit, flow control unit and power supply are housed in a cabinet, which can be placed in an operator room. The vacuum pump is placed in a convenient location.

System operations
Zero and full-scale adjustment is done manually from the front of the control unit. These adjustments are done in clean air before each measurement (smoke ramp).

System Specifications
Mains supply: 100-240 VAC, 50-60 Hz without switchover.

Cabinet
19 inch desktop/subrack cabinet with power supply, MIC controller and Flow control unit.

Measuring head
Chamber quiescent current: 100 pA (nominal).

Chamber impedance: $1.9 \times 10^{11} \Omega \pm 5\%$.
Radioactive source: Am241.
Smoke sensitivity: The measuring head is calibrated against DELTA’s reference MIC within ±3% smoke sensitivity. Calibration certificate is enclosed with each measuring head.

Control unit
Readout: 3.5 digit LCD display. Chamber voltage or smoke density X can be selected. Analogue outputs: X (0.0 - 10.0 VDC), chamber voltage Uc (14-25 VDC approx.). Load impedance >100 kΩ.
Flow control unit: Flow rate: Adjustable between 0 - 50 l/min.

Vacuum pump
115 VAC ± 10%, 50-60 Hz or 230 VAC ± 10%, 50-60 Hz, approx. 0.15 kW

Contact and further information
For further information about prices and availability of the MIC Smoke Measuring Equipment, type EC-912, please contact Test & Consultancy support at +45 72 19 45 00 or e-mail: customercentre@delta.dk

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