The Model 357RM-C14 is Overhoff’s basic, low-cost fixed C-14 version air monitor based on the popular Model 357RM. Suitable for rack-mount or table-top use, this general purpose monitor features the essential components for the stable measurement of C-14: dual 2L ionization chambers for gamma compensation, pump system with a HEPA filter and flow-meter, radon/alpha pulse suppression, and a single adjustable alarm set-point with audible/visible alarm indicators.

The Model 357RM-C14 air monitor is stable down to 0.1 μCi/m³ (0.01 MBq/m³). (1 S.D.)

OTC tritium monitors are designed and built to distinguish C-14 against natural radon background using proprietary radon recognition and elimination circuitry. Instruments that do not have this feature will exhibit a noisy zero response.

With radon rejection, the Model 357RM-C14 ignores radon and is therefore fast, sensitive, and accurate. Once adjusted, it is long-term zero stable, and due to special electrometer design, the span calibration is permanently stable.

The only maintenance required for Model 357RM-C14 is periodic service of the pump and replacement of the dust filter.

The sensitivity and noise level of Model 357RM-C14 is superior to current competitive instrumentation by an order of magnitude.

Applications:
- Room air
- Stacks, hoods, or other effluents
- Process piping
- Glove boxes, and similar
- Carbon-14 Air Monitoring

Available Options:
- Remote Alarm and Display Units
- Low Flow Alarm
- Calibration Resistor
- RS232, USB, Ethernet Output
- Logarithmic Output
- 4-20 mA Output
- HTO: Gas Ports for noble gas compensation
Model 357RM-C14
Carbon-14 in Air Monitor

TECHNICAL SPECIFICATIONS

RANGE
Available in the following ranges:
  a) 0.1 to 1,999.9 µCi/m³
  b) 0.01 to 199.99 MBq/m³

DISPLAY
Digital Meter, 4 ½" digit LED

ACCURACY
±10 % of reading, ±0.1 µCi/m³, whichever is greater

STABILITY AND
DRIFT, LONG TERM
±0.2 µCi/m³, ambient temperature

NOISE
±0.2 µCi/m³, 2 sigma, with 20 second time constant

GAMMA COMPENSATION
second ionization chamber of equal volume, coaxially mounted, serves to
  cancel effects of external gamma fields

RESPONSE RATE
two linear time constants
  20 seconds for measurements below 80 µCi/m³
  3 seconds for measurements above 80 µCi/m³

ALARM SYSTEM
single alarm, with set point adjustable from 0.1 to 100 µCi/m³

INDICATORS
acoustic signaler, red LED

IONIZATION CHAMBER
VOLUME
measuring: 1,600 cm³
  total wetted: 2,000 cm³

ION TRAP
Kanne type, coaxial integral

PORTS
hose barb fittings for 3/16" I.D. vinyl tubing

FLOWMETER
0-10 LPM adjustable rotameter

DUST FILTER AND PUMP
high efficiency respirator type cartridge,
  long life continuous duty oscillating piston positive displacement pump

ENVIRONMENTAL
storage: -40° C to +60° C
Operating: 0° C to +50° C
  0 to 95 % R.H. non-condensing

POWER
115 VAC or 240VAC, 50/60 Hz

PHYSICAL CABINET
19 ° rack mount, aluminum sheet metal

DIMENSIONS
8.8" [223mm] H x 19.0" [483mm] W x 6.0" [406mm] D

WEIGHT
40 lbs. [18.2Kg]

OPTIONS
- Plate-out proof wire-grid chamber to reduce contamination
- For HTO only measurement: Gas ports added for noble gas compensation
- Low flow alarm
- Choice of one data output:
  RS232, USB, Ethernet, 4-20mA, or logarithmic output

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