

**MODEL 357BW
TRITIUM MONITOR**

The model 357BW is a single range, ionization chamber monitor for the measurement of tritium. It is contained in a NEMA 12 enclosure and is suitable for permanent installation and for continuous duty.

It is suited for the monitoring of rooms, glove boxes, fume hoods, exhaust stacks and systems, as well as process piping when supplied with external dedicated ionization chambers.

The enclosure has a hinged door with a tempered glass window. The enclosure is double-hinged so that it can be opened for servicing the various components inside. The audible alarm and a pushbutton for muting the audible alarm are located on the top of the enclosure. The sample inlet and exhaust fittings are located on top of the enclosure. Connector receptacles are mounted on the top of the enclosure for AC power entry and remote output.



Major distinguishing features include the following:

Display/Control Unit installed in a Wall Mount
NEMA 12 enclosure.

Available with Dual or Quadruple ionization chambers

Single measurement range over four plus decades.

Plate out proof ionization chambers eliminate "background" zero drift

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PERFORMANCE SPECIFICATIONS

MEASUREMENT

Range	single, 1 – 10,000 $\mu\text{Ci}/\text{m}^3$
Display	4 digit panel meter, LED
Accuracy	$\pm 5\%$ of reading, $\pm 1\mu\text{Ci}/\text{m}^3$ whichever is greater
Reproducibility	$\pm 5\%$ over the entire measurement range
Zero Drift	$\pm 1\mu\text{Ci}/\text{m}^3$ long term, over the entire temperature range
Temperature Coefficient	Less than $\pm 0.3\%/^{\circ}\text{C}$, total accumulated error $\leq \pm 10\%$ relative to 20°C reading
Response Time	two linear electronic time constants, 20 seconds for measurements below approximately $80\mu\text{Ci}/\text{m}^3$, 3 seconds for measurements above $80\mu\text{Ci}/\text{m}^3$
Background Subtraction	second pair of ionization chambers of equal volume, mounted in a cruciform arrangement, serves to cancel effects of external gamma fields
Warm Up Time	less than five minutes
Over Range Indication	All segments on digital panel meter display will flash when the measurement has exceeded $10,000\mu\text{Ci}/\text{m}^3$

ALARM SYSTEMS

High Level Alarm	a single set point alarm system is adjustable with digital thumb switches over the entire measurement range
Indicator	Audible and Visual flashing red LED.
Mode Switch	A toggle switch is used to select the operating mode, Latching or Non Latching with a momentary Reset position
Malfunction Alarm	Audible and Visual steady amber LED indicates when either one of two conditions occur, A failure of any one of the internal D.C. power supplies or malfunction of the electrometer
Low Flow Alarm	Audible and Visual steady amber LED indicates when the sample flow rate has dropped to below 2 LPM
Acknowledge push button	silences the audible indicator for all of the above alarms

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**IONIZATION CHAMBER
INTERNALLY MOUNTED**

Ionization Chamber	measuring: 1800 cm ³ total wetted: 4000 cm ³
Electrode	Wire grid, contamination resistant
Gaskets	Silicone rubber
Pressure	0.1 to 2 atmospheres
Ports	1/4" stainless steel Swagelok
Material of Construction	chamber: stainless steel electrometer housing: aluminum

**SAMPLE FLOW SYSTEM
INTERNALLY MOUNTED**

Flow Meter	0-10 LPM adjustable rotameter
Dust Filter and Electrostatic Filter	high efficiency 99.99% at 0.1 microns, respirator type
Pump	long life continuous duty oscillating piston positive displacement pump. Medo VCO201 E1

ENVIRONMENTAL

Temperature	-40° C to +65°C storage 0° C to +55°C operating
Humidity	0 - 95 % RH
Air Conditioning	Ventilation or air conditioning is not required.

PHYSICAL, MAIN CABINET

	NEMA 12 rated
Size	24.0" [610mm] wide x 24.0" [620mm] high x 19.0" [483mm] deep
Power	120 VAC ±10%, 60 Hz, 1A , 1 PH
Fuse	1 A slow blow fuse
Weight	160 pounds [73 kg]



1160 US ROUTE 50
MILFORD, OHIO 45150-9705
TELEPHONE (513) 248-2400
FACSIMILE (513) 248-2402
E-MAIL sales@overhoff.com
WEB www.OVERHOFF.com