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*The Nucleus of Quality Air Monitoring Programs*

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# Tritium Collection System Model MRB200H3E

### NOTABLE FEATURES:

- Tritium in Water Vapor Collection System
- Automatic Flow Control
- Digital Flowmeter displaying flow, elapsed time and accumulated volume
- Large, bright LED Display
- Correction of flow rate and volume to a reference temperature and pressure (4 options)
- Tri-20ml bubbler system
- 220VAC; 50/60Hz; single phase



### GENERAL DESCRIPTION:

The Model MRB200H3E-BL Tritium collection system consists of a three 20 ml vial bubbler train for collection of tritium in water vapor. A diaphragm pump with an automatic flow control mechanism utilizing the F&J digital flowmeter system is provided.

Typical flow range is 75 to 200 sccm (other flow range options are available).

Real-time data download is available through the RS232 port. An optional flash card data storage device is available.

The unit is designed for continuous indoor use. Please consult the product specifications for the design temperature range and the installation category.

Collection efficiency for tritium in water vapor is greater than 99% utilizing ethylene glycol.

**REV: 08 June 2009**

# **MRB200H3E Tritium Collection System (220 – 240VAC)**

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## **SPECIFICATIONS:**

<b>PUMP TYPE:</b>	Diaphragm
<b>MOTOR:</b>	Brushless Type
<b>MAXIMUM CAPACITY:</b>	Typical 75 cc/min to 200 cc/min. control range Other flow ranges available upon request.
<b>POWER REQUIREMENTS:</b>	220 VAC; 50 Hz; 1 ampere; single phase
<b>CIRCUIT BREAKER PROTECTION:</b>	5 amperes
<b>ELECTRICAL CORD:</b>	All temperature, 3-wire, 16 gauge
<b>DIMENSIONS:</b>	14”H × 9”W × 12.5”D (35,6 cm H × 22,9 cm W × 31,8 cm D)
<b>WEIGHT:</b>	17.5 lbs. (8 kg)
<b>INSTALLATION CATEGORY:</b>	Pollution Degree 2

## **TRITIUM COLLECTION SYSTEM:**

- Removable 20 ml scintillation vials; One three vial train
- Detection Limit: 1E-10  $\mu$ Ci/cc
- Efficiency: > 99% with ethylene glycol

## **AIR FLOW MEASUREMENT SYSTEM**

- Air flow:  $\pm 4\%$  of full scale
- Temperature:  $\pm 0.9^\circ\text{F}$  ( $0.5^\circ\text{C}$ ) (Not displayed)
- Absolute Pressure:  $\pm 0.6$  inches Hg (15,24 mm Hg) (Not displayed)

## **ON-BOARD CALCULATIONS**

- Flow calculation from differential pressure value corrected to a reference T and P
- Elapsed Time
- Cumulative Volume corrected to a reference T and P

**OPERATING TEMPERATURE:** ( $0^\circ\text{-}40^\circ\text{C}$ ) ( $32^\circ\text{F-}104^\circ\text{F}$ )

**STORAGE TEMPERATURE:** ( $-10^\circ\text{C-}50^\circ\text{C}$ ) ( $14^\circ\text{F-}122^\circ\text{F}$ )

**OPERATING HUMIDITY:** 0-95% RH non-condensing

**COMMUNICATIONS INTERFACES:** RS-232 available for real-time data download of airflow data

## **OPTIONS:**

- Flash Card Data Storage Device 232FCDS
- Flash Card (1 GB) 372239
- PC Flash Card Reader SDDR-199-A20