

AIR MONITOR

MULTI-USE RADIATION MONITOR

Model # AIR-TBM-SP

Air Monitor • Survey Meter • Wipe Counter • also Chem or Bio Aerosols
Gamma-source Search Tool

FEATURES:

- ALPHA, BETA-GAMMA
- IDEAL FOR FIRST RESPONDERS
- **QUADRUPLE USE:**
 - **AIR MONITOR- RADIATION**
 - **WIPE COUNTER**
 - **SURFACE MONITOR**
 - **PERSONAL AIR SAMPLER**
- REAL TIME
- PORTABLE
- INTEGRATED EXPOSURE
- STANDARD **TBM-3D** RATEMETER
- DRAWS AIR FROM ROOM
- EASY CHANGE FILTER
- SLIDE-ON WIPE-HOLDER
- BATTERY POWERED SYSTEM, AC OPERATION OPTIONAL
- GAMMA-SOURCE SEARCH TOOL



TBM-3D
WITH DC
PUMP

AC PUMP
AP-5020E

PRINCIPLE OF OPERATION: Air is pulled thru a charcoal impregnated filter paper by a pump. This filter is constantly observed by a 2" diameter thin window GM tube and ratemeter.

DESCRIPTION: The AIR-TBM uses standard 57-70 mm filters in T/A's easy change, no leak filter, to trap any airborne radioactivity. The filter is under constant surveillance via pancake GM tube. Air is drawn through the system by a continuous duty pump. The unit is completely self-contained and portable. Room air is drawn in through the charcoal impregnated filter paper. Then through the pump and its 3 ft. exhaust hose that can be extended. Wipe holder WH-15 accepts wipes from 1" diameter up to 2" diameter.

A unique "groove and track" system allows the air sampler (Model# **MINI-AIR-15**) and wipe holder (Model# **WH-15**) to be separated from the detector/ratemeter (Model# **TBM-3D**). The **TBM-3D** is itself a compact surface monitor and survey meter. The **MINI-AIR-15** can be left with the pump turned on, so collection of air pollutants is not interrupted.

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SPECIFICATIONS:

- **Measures:** Airborne radioactivity including aerosol, particulate and gases - but excluding the noble gases.
- **Sensitivity:** Limit of sensitivity (99% confidence level) one nanoCi collected on filter paper (as beta over 0.1 MeV). This is the integrated content of entire amount of air drawn through the system. This corresponds to 2×10^{-11} $\mu\text{Ci/cc}$ after 5 days with pump running or 1×10^{-10} $\mu\text{Ci/cc}$ after 24 hours or 3×10^{-9} $\mu\text{Ci/cc}$ after pump runs for 1 hour. This level is below 2/10th of the California Safety Code Title 17 (and NRC Title 10) limit for 40 Hr. exposure to most hazardous beta and/or gamma emitter in absence of AC 227.
- **Detector:** 2" diameter. Thin window 1-3/4" x 1.5-2 mg/cm² pancake GM detector, Model T-1190
- **Background:** Typically 25 cpm
- **Flow Rate:** Calibrated at factory. See chart. Positive displacement pump.
- **Filters:** Includes package of fifty filters, charcoal impregnated #4I, 70mm. Or 1" dia. filters optional. Can use membrane, paper or glass fiber filters.
- **Case:** Electronics housed in instrument-case, carrying handle included.
- **Dimensions:** Excluding Pump: 3" W x 5" H x 6"D
- **Shipping Weight:** Depends on pump ordered.
- **Electronics:** TBM-3D Digital Ratemeter.
- **Ranges:** 0.01 to 100 mR/hr.
- **Meter Response Time:** 2 seconds
- **Pump Power:** 6 AA batteries- standard- AC optional. 115V, 50-60 Hz (230 V optional)
- **Options:**

- Flow regulator
- Serial output
- High alarm
- Flow meter
- * Extended Life Pump
- * Unit fitted with inlet hose to allow monitoring of hoods

Pump	Model #	Flow Rate	Weight
Battery Operated	STANDARD MINI-AIR-15	4 ft ³ /hour (2 lpm)	1 lb
AC Operated	AP-5020E	0.5 ft ³ /minute	6 lb
AC Operated	AP-5030E	1 ft ³ /minute	12 lb
AC Operated	AP-5040E	2 ft ³ /minute	14 lb

Additional pumps available, please call with specifications.

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Model # AIR-TBM-SP has all the features and functions of the AIR-TBM, plus it adds additional measurement circuit, BNC jack, and External Gamma Scintillator probe for use as gamma-source search-tool and micro-R survey meter.

Gamma Scintillation Probe utilizing a highly gamma sensitive crystal (NaI(Tl)). 1" diameter x 1" long hermetically sealed crystal optically coupled to photomultiplier tube. Gamma sensitivity is 100 times greater than GM tubes. Will also detect x-rays > 25KeV.