

MOVING FILTER AIR MONITOR ALPHA, BETA/GAMMA PARTICULATES, CHEMICALS, & GAS

Model Series - SAAM-2HVM

FEATURES:

- ❖ MOVING AIR FILTER
- ❖ 3 CHANNEL AIR MONITOR
- ❖ AIRBORNE ALPHA PLUS BETA/GAMMA PARTICULATES
- ❖ AIRBORNE CHEMICALS, IODINE & NOBLE GASES
- ❖ RUGGED, 100% DUTY CYCLE
- ❖ SETTABLE ALARM
- ❖ HIGH THROUGH-PUT
- ❖ UNATTENDED OPERATION
Up to 6 WEEKS
- ❖ PRINTED RECORD (Optional)
- ❖ 3" LEAD SHIELD (Lighter Unit Optional)
- ❖ COUNTS SEPARATELY AND SIMULTANEOUSLY
- ❖ NETWORK READY ELECTRONICS
- ❖ USB and/or ETHERNET



SAAM-2HVM



Filter Paper

APPLICATION:

The SAAM Series Monitors are used for monitoring effluent from radioactivity utilizing or producing facilities either directly at the stack or other outlet or at the property boundary. The SAAM Series are designed to provide a **complete record of activity for up to 45 days of unattended operation**. This instrument automatically advances the filter. This avoids frequent manual filter replacement. Alarms are preset by user.

OPTIONS:

1. Single Channel Analyzer window(s) specifically for Pu-239, and U-238 and/or other nuclides.
2. Clock and calendar give date and time of each reading.
3. Helium Flush for Alpha Spectroscopy.



**TECHNICAL ASSOCIATES
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Divisions of  US NUCLEAR CORP

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DESCRIPTION:

The **SAAM- 2HVM** is a three channel air monitor for simultaneous measuring of gross Alpha, Beta/Gamma particulates and gaseous radioactivity and airborne chemicals and vapors including Iodine.

Like all of the SAAM series, these are continuous duty, high capacity, rugged skid or caster-mounted systems.

Electronics are microprocessor with color LCD display. Also preamps etc. are plug-in modules allowing change or addition of function as needed and allowing rapid repair by substitution of modules in the field.

Shields are void free lead encased in welded steel and with stainless steel liners for a long, useful life and easy decontamination.

Filters are easily changed via quick disconnect, O-ring sealed filter holder. Shield can be opened for filter change or cleaning with minimum effort. All shield connections and openings are sealed against air leaks.

The **air moving system** is based on a high capacity air pump capable of delivering 4 cfm with **options** up to 30 cfm free air and a real time electronic flow meter. The flow meter feeds directly into the TAquire software data analysis for more accurate calculation of airborne concentration and total activity.

The entire system is mounted in a self-contained rugged cabinet and comes complete with all cabling and connectors in place ready to operate. The standard unit is operated from 120 V single phase, 60 Hz; 220 V optional, 50 or 60 Hz.

The modular system is covered by T/A's unique exchange warranty, in addition to the full one year warranty covering all T/A products.

SPECIFICATIONS:

USER SETTABLE ENGINEERING UNITS

ALARMS: Clear audio and visual alarms are provided.

Channels:	1	2	3
Physical Form:	Particulates	Airborne Chemicals & Iodine	Noble Gases
Activity Detected:	Alpha, Beta/Gamma	Beta/Gamma	Beta/Gamma
Detector Type:	Thin Window GM	Spectroscopy Grade NaI(T) Scintillator	Thin Window GM (2 each)
Size:	2" Diameter	2" Diameter x 1" Thick	2" Diameter
Model:	T-1190	PGS-3L16	T-1190
Filters Media:	Moving Filter	Activated Charcoal Cartridge	Gas Chamber
Size:	75mm x 100 meters	2.5" Diameter	1 Liter
Construction:	Standard or Glass Fiber	Metal Cased	Stainless Steel Lined
Filter Type:	Glass Fiber Filter	TEDA Activated Charcoal Cartridge	Measurement Chamber
Standard Shielding:	3" (Pb) Lead	3" (Pb) Lead	3" (Pb) Lead
Optional Shielding:	1" (Pb) Lead	1" (Pb) Lead	1" (Pb) Lead
Sensitivity:	2×10^{-13} μ Ci/ml	2×10^{-13} μ Ci/ml	1×10^{-7} μ Ci/ml



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SPECIFICATIONS (continued):

ELECTRONIC SYSTEM DESCRIPTION:

Micro-processor includes:

CPU with data acquisition	Keyboard
High resolution, color	Color LCD Monitor
Mouse	Audio
Manuals	Onscreen Graphics (Built-in Printer Optional)

Data Storage:	Non-volatile memory 1 year. Data stored every 2 minutes all year.
1 terabyte hard drive:	Stores programs, plus room to add additional new software functions in the future.
Energy Analyzer:	Fully adjustable single channel analyzer with independent High Voltage power supply.
Power Supply:	1 ea. MVR-5R
High Voltage Supply:	Separately variable for each detector from 0 to 1500V. Standard FM-5 modular series.
Display Monitor:	Showing both real time concentration and accumulated dose for each channels.
Accuracy:	±10% except for resolution loss and statistical variation.

SPECIALIZED AIR MONITOR SOFTWARE.

- ❖ User settable Engineering Units.
- ❖ Calibration feature allows readout directly in Ci/cc or cps/m or other units.
- ❖ Integrates results over an eight hour, or 24 hour interval.

MENU OPTIONS:	1. Modify shift length	2. Change filter
	3. Configure energies	4. Set alarms
	5. Start shift	6. Calibration

ALARMS: Alarms pre-settable to any trigger level.

Low Level Alarm:	Automatic Reset
High Level Alarm:	High level alarm remains activated until RESET is pushed.
Alarm Indication:	Red-High Level, Amber-Low Level
Audio:	1000 Hz, greater than 80 db. Also see Safety Features below.

AIR MOVING SYSTEM:

Air pump:	Extremely rugged continuous high capacity duty Positive displacement pumping system. Ultra Low Noise Pump
Pump Drive Motor:	1 HP, 50/60 Hz, capacitor start, induction run.
Flow Rate:	Electronic mass flow meter continuously informs analysis system.
Inlet and Outlet:	20 foot 3/4" hose inlet: 20 foot 1" hose outlet. Length may be extended.



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CONTROLS:

System:	ON-OFF	
Air:	ON-OFF	
Alarms:	(each channel) High Level Alarm:	Set
	(each channel) High Level Alarm:	Reset
	(each channel) Low Level Alarm:	Set
	(each detector) Voltage:	Set
	(each detector) Energy Threshold/Window:	Set

STANDARD SPECIFICATIONS:

High Voltage Supply:	Separately variable from 0 to 1,5000 VDC at 200 μ a on scintillation or proportional channels.
LCD Color Monitor:	17" Monitor shows both real time concentration & accumulated dose for all Channels
Accuracy:	+/- 10% except for resolution loss and statistical variation
Alarms:	Alarms are pre-settable to any trigger level
Low Level Alarm:	Automatic Reset
High Level Alarm:	High level alarm remains activated until RESET button is pushed
Alarm Indication Lights:	6 Lights Red-high level; Amber-low level count for each channel, plus more indicators shown on LCD Monitor.
Audio:	1,000 Hz, greater than 80 db
Outputs:	Alarm Condition Outputs: <ol style="list-style-type: none">1. Logic Level Signal2. Contact Closure or Opening Ethernet USB
Standard Installation:	Cabinet: heavy gauge steel. Skid or caster mounted Five inch ball bearing casters (4 each). Two of these are full 360 degree swiveling.
Special Safety:	Loss of system vacuum air flow alarm with relay switch closure. Loss of signal alarm. All system circuits fused.
Power:	120 VAC – 220 VAC; optional 50/60 Hz
OPTIONAL:	Thermal protection on motor.



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OPTIONS:

- ❖ 3 Channel 4-20mA Chart Recorder Drive
- ❖ Skid Mount
- ❖ Grab Sample Port
- ❖ Available without air mover or with alternate air movers.
- ❖ Broader range 12 decades.
- ❖ Different detector types.
- ❖ Positive displacement of Roots Blower.
- ❖ Three push-button Detect & Test sources (License exempt quantities) of the three channels.
- ❖ Flow rate can be increased to 30 cfm with larger pump and minor changes in the plumbing
- ❖ Lighter system with less Shielding eg: 1" thick.

WEIGHT, DEMENSION, SHIPPING:

Dimensions: 29" wide x 31" deep x 41" high - exclusive of casters.
Weight: 1600 lbs.
Shipping Weight: 1750 lbs.



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