

# THORIUM MOLTEN SALT REACTOR AIR & STACK MONITOR

Model ~ MSTR-A9

## FEATURES:

- SENSITIVE TO:
  - THORIUM 232
  - H-3  $10^{-7}$   $\mu\text{Ci}/\text{cc}$
- READS DIRECTLY IN  $\mu\text{Ci}/\text{cc}$  or Bq/l
- VISUAL & AUDIO ALARM
- DATA LOGGING STANDARD
- HARD COPY PRINTER – (optional)
- DYNAMIC BACKGROUND COMPENSATION
- CAN ACTUATE REMOTE CONTROLS
- CAN OPERATE IN PRESENCE OF OTHER RADIOACTIVE GASES
- MICRO PROCESSOR OPERATION
- USB and ETHERNET PORTS
- DIGITAL ACCURACY



## APPLICATION:

The TA-OVERHOFF Thorium Air & Stack Monitor is a sensitive, rugged stack monitor designed and built for Thorium Molten Salt Nuclear Power Plant use. Other versions are available for research labs, room air, glove boxes and other applicable uses.



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Divisions of  US NUCLEAR CORP

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**DESCRIPTION:**

- Optional Radon Rejection decreases background effects to negligible levels.
- The deionized and filtered intake reduces to negligible levels spuriousness based on smokes, dusts, and existing ionization in the air.
- Inlet and outlet hoses allow the return of monitored air to source: interiors of fume hoods and exhaust stacks, etc.
- All instruments are calibrated at the factory. Calibration check may be performed in the field with a license exempt  $\mu$ Curie level beta source.

**Thorium-Tritium Air & Stack Monitor Isotope Identification Guide**

AIRBORNE ACTIVITY	MSTR-A9	
	CHEMICAL FORM	
<b>Tritium H3</b>	T <sub>2</sub> , HTO, T <sub>2</sub> O	YES
<b>Inorganic Organic</b>	CO <sub>2</sub> Various	OP
<b>Particulate</b>	Alpha – Thorium 232	YES
<b>Particulate</b>	Beta	YES
<b>Iodine</b>		OP
<b>Noble Gas:</b>	Gross/All Argon Xeon Radon	YES OP OP RX

**Number of Channels:**    **YES** = Measures Separately  
                                       **RX** = Rejects  
                                       **OP** = Optional



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Measurement Ranges of Optional Detectors	From	4 Decade Model	6 Decade Model
Alpha – Thorium 232-Particulate	$5 \times 10^{-8}$	$10^{-4}$	$\mu\text{Ci/cc}$
Tritium	$10^{-7}$	$10^{-3}$	$10^{-1} \mu\text{Ci/cc}$
Inorganic C-14	$10^{-8}$	$10^{-4}$	$10^{-2} \mu\text{Ci/cc}$

## SPECIFICATIONS:

<b>Background:</b>	Elimination by subtractive balanced chambers.
<b>Smoke, Dust &amp; Ion Elimination:</b>	Filter and deionizer reduce effects to negligible levels.
<b>Circuit:</b>	Electrometer circuit amplifies net difference between internal chamber and a background chamber of similar size and configuration.
<b>Output:</b>	USB Port is standard ethernet port is <b>optional</b> . <ul style="list-style-type: none"> <li>• <b>Optional</b> 0-5 volt or 4-20 mA.</li> </ul>
<b>Alarm Set Point:</b>	User settable
<b>Alarm:</b>	High Level: Red flashing light plus warbling sound; <ul style="list-style-type: none"> <li>• System Fault Alarm: White steady light.</li> </ul>
<b>Remote Alarm:</b>	3 Relays
<b>Data-logging:</b>	Serial port or on-board logging

## WEIGHT & DIMENSIONS:

<b>Dimensions:</b>	23" wide x 66" high x 36" deep.
<b>Shipping Weight:</b>	635 lbs.

## OPTIONS:

- ❖ MODEL RDX-8 Remote alarm (audible & visual) (including standard 25" of cable).
  - Can be used to 500 feet. 4-20 mA output.
- ❖ Hard Copy Printer.



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