

PARTICULATE, IODINE & NOBLE GAS REPLACEMENT DETECTORS FOR RMS AIR MONITORS

Models ~ RD-60 – RD-60HT

FEATURES:

PERFECT FORM & FIT REPLACEMENT

- ❖ 3 DETECTORS
 - ❖ PARTICULATE - BETA
 - ❖ IODINE - GAMMA
 - ❖ NOBLE GAS - BETA
- ❖ EXACT REPLACEMENT SCINTILLATOR
- ❖ WORKS WITH STANDARD CHECK SOURCES
- ❖ COMPLETE CALIBRATION & TEST REPORTS SHIPPED WITH RD-60
- ❖ EASY INSTALLATION
- ❖ TEST DATA PACKET WITH EACH PROBE

RD-60 BETA
TA DETECTOR



RD-60 BETA
Original
DETECTOR

DETECTOR APPLICATION:

- For use in conjunction with a signal processor in Radiation Monitoring Systems for Nuclear Power Plants.
- Detector life is much shorter than system life, so detectors requires periodic replacement
- Replica detectors for RMS systems are manufactured & available from Technical Associates a Division of US Nuclear Corp.

DESCRIPTION:

- 3 Scintillation Detectors
 - **PARTICULATE DETECTOR:**
 - Scintillator-photomultiplier assembly & lead plug and handle on cable end
 - Filter collects 99% or more of particulate matter greater than 0.3 microns from the sample
 - Filter is viewed by a RD-60 Beta scintillator
 - **IODINE DETECTOR**
 - A NaI(Tl) detector photomultiplier assembly & lead plug and handle on cable end
 - Sample passes through replaceable charcoal cartridge which absorbs the Iodine
 - Iodine is viewed with the RD-60 NaI(Tl) Gamma detector
 - A single channel analyzer amplifier (SCA) such as the RM-80, monitors an adjustable (typically 10%) window around the I^{131} photo peak
 - **NOBLE GAS DETECTOR**
 - Scintillator-photomultiplier assembly & lead plug and handle on cable end
 - Sample enters the shield & passes through a fixed volume chamber then exits the shield
 - Fixed volume is viewed by RD-60 Beta scintillator that senses Beta particles from gaseous isotopes



TECHNICAL ASSOCIATES OVERHOFF TECHNOLOGY

7051 Eton Ave., Canoga Park, CA 91303
818-883-7043 (Phone) 818-883-6103 (Fax)

tagold@nwc.net

WWW.TECH-ASSOCIATES.COM

Divisions of  US NUCLEAR CORP

PARTICULATE, IODINE & NOBLE GAS REPLACEMENT DETECTORS FOR RMS AIR MONITORS

Models ~ RD-60 – RD-60HT

SPECIFICATIONS:

Detector Dimensions:

Particulate Beta:	2" Dia. (5 cm) x 0.02" (0.05 cm) thick Beta phosphor coupled to PM Tube
Iodine Gamma:	2" Dia. (5 cm) x 2" (5 cm) thick NaI(Tl) spectrometer grade crystal OPTIONALLY doped with Am ²⁴¹ Optically coupled to 2" Dia. photomultiplier tube
Noble Gas Beta:	2" Dia. (5 cm) x 0.02" (0.05 cm) thick Beta phosphor coupled to PM Tube
Sample Temperature:	35° to 120° F (2° to 49° C)
Electrical Connectors:	(1) High voltage – MHV ~ Teflon Insulated Co-axial connector (1) Signal BNC ~ Teflon Insulated Co-axial connector
Output Pulse Rate:	10 ¹ to 10 ⁷ cpm
Operating Voltage:	700 – 2000 VDC
Check Source:	Suitable for use with 0.03 to 0.01 µCi Cl ³⁶ & 8µCi Ba ¹³³ check sources
Shielding:	Typical: 3 inch lead follower (or longer if required) at probe handle end
Shield Temperature:	RD-60HT: 150° F (65° C)

ADDITIONAL RMS SYSTEM REPLACEMENT PARTS SUPPLIED BY TECHNICAL ASSOCIATES:

Detectors: RD-2 to RD-72, Including: Scintillators, Ion Chambers, Solid-state and GM Detectors

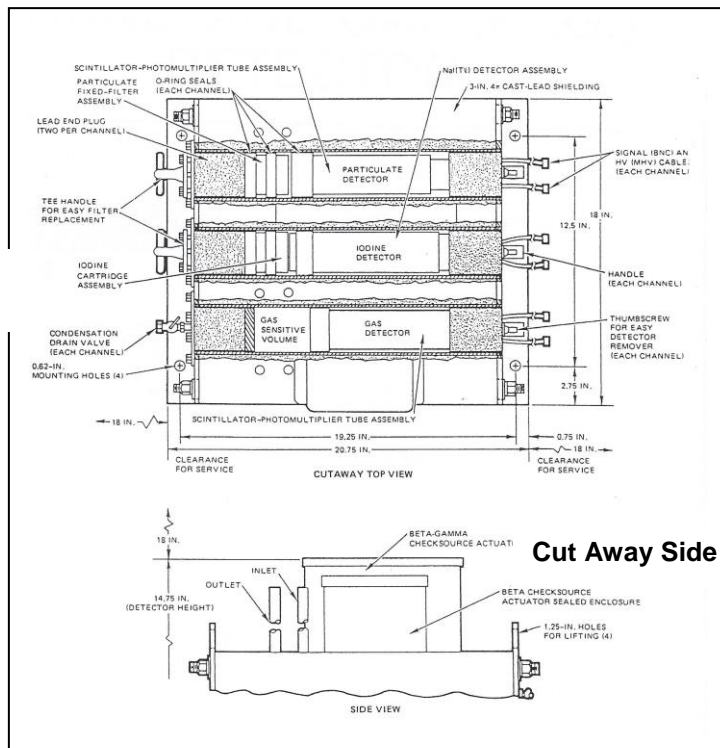
Filters: Discs, Charcoal Cartridges, Spools, Filter Drives, etc.

Circuit Cards: Amplifiers & Others

Pumps

Power Supplies: Low Voltage & High Voltage as required

**Cut Away Top View
Detector Placement**



Real - Time
Air & Water
Specialists



**TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY**

7051 Eton Ave., Canoga Park, CA 91303
818-883-7043 (Phone) 818-883-6103 (Fax)

tagold@nwc.net

WWW.TECH-ASSOCIATES.COM

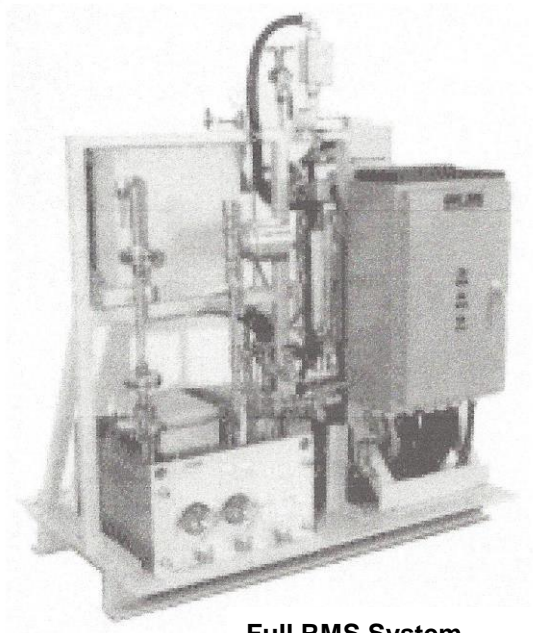
Divisions of



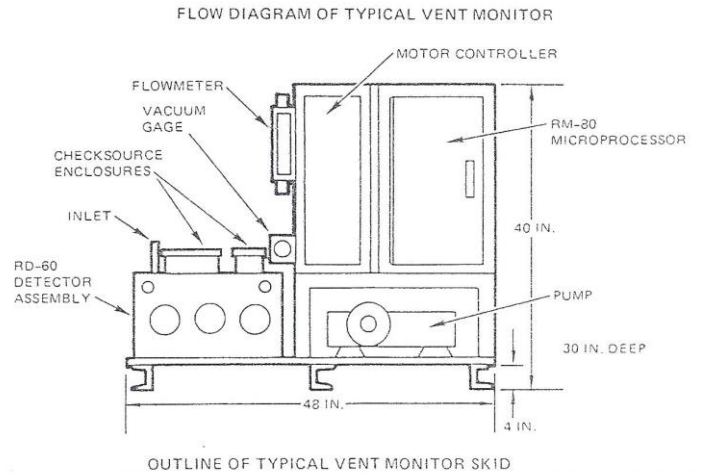
US NUCLEAR CORP

PARTICULATE, IODINE & NOBLE GAS REPLACEMENT DETECTORS FOR RMS AIR MONITORS

Models ~ RD-60 – RD-60HT

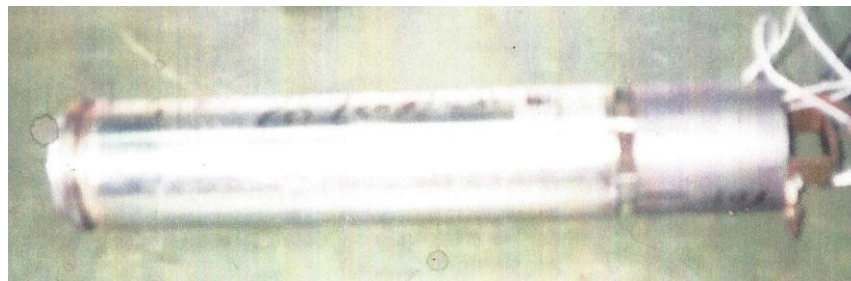


Full RMS System

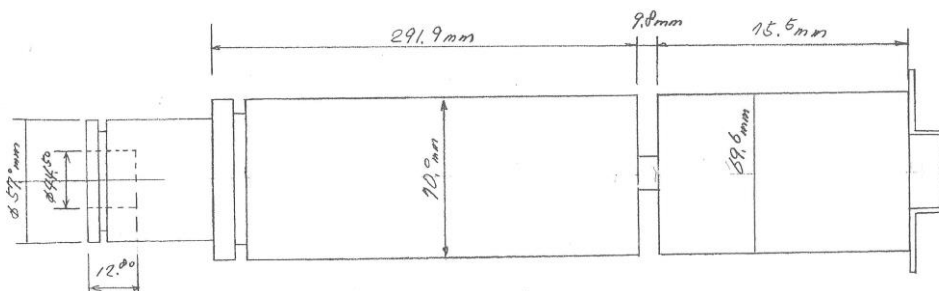


Full RMS System Diagram

Iodine Detector
RD-60



Iodine Detector
Diagram
RD-60



**TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY**

7051 Eton Ave., Canoga Park, CA 91303
818-883-7043 (Phone) 818-883-6103 (Fax)

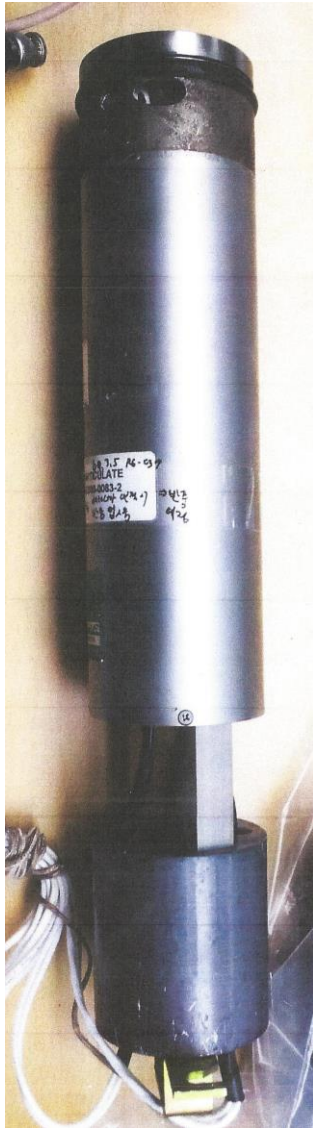
tagold@nwc.net

WWW.TECH-ASSOCIATES.COM

Divisions of  US NUCLEAR CORP

PARTICULATE, IODINE & NOBLE GAS REPLACEMENT DETECTORS FOR RMS AIR MONITORS

Models ~ RD-60 – RD-60HT



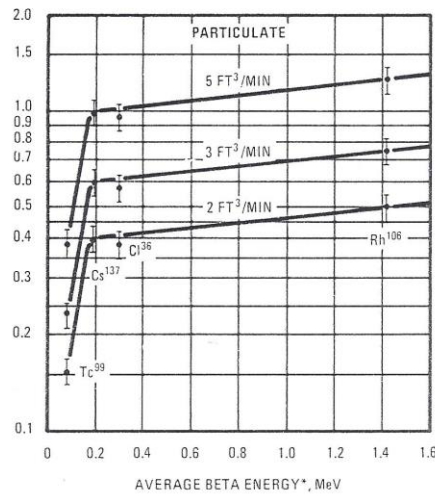
RD-60 TA Detector

RD-60
TA Detector

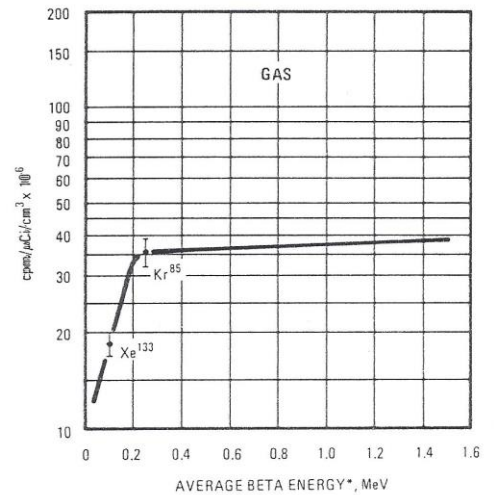


RD-60
Original Detector

TA RD-60 Detector
Comparison



Particulate



Noble Gas

Energy Response Curves



tagold@nwc.net



**TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY**

7051 Eton Ave., Canoga Park, CA 91303
818-883-7043 (Phone) 818-883-6103 (Fax)

WWW.TECH-ASSOCIATES.COM

Divisions of



US NUCLEAR CORP