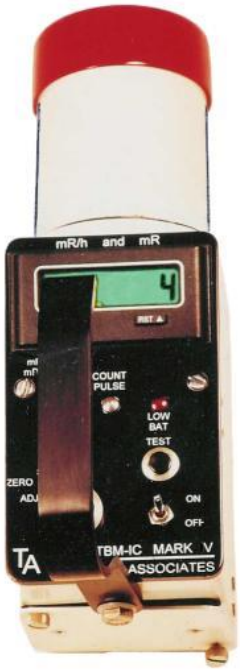
GAMMA - X-RAY SURVEY METER
"CUTIE PIE"
GENERAL PURPOSE ION CHAMBER

Model ~ TBM-IC-MARK V



FEATURES:

- PORTABLE ION CHAMBER
- DIGITAL SURVEY METER
- OMNI DIRECTIONAL RESPONSE TO LOW ENERGY X-RAYS & SCATTER
- SEES AXIALLY BELOW 5 KEV GAMMA OR X-RAY
- WIDE RANGE: 0.1 mR/hr to 10,000 mR/hr
- BOTH DOSE RATE & TOTAL DOSE 8 DIGIT READ OUT
- SMALL LIGHTWEIGHT TBM PACKAGE; 26 oz.
- FLAT RESPONSE - FREE AIR ION CHAMBER
- SEES ALPHA, BETA, GAMMA, X-RAY
- FAST RESPONSE
- **IP63; CE MARK**
- **OPTIONAL** X-RAY COMPLIANCE SLEEVE

APPLICATION:

Whenever the TBM-IC, a fast, sensitive ion chamber instrument is needed, the **TBM-IC-MARK-V** is the latest in a series. Important for use in medical departments including Oncology, Treatment & Diagnostic Areas, Radiology & Imaging, PET Scanners, and Gamma Knife.

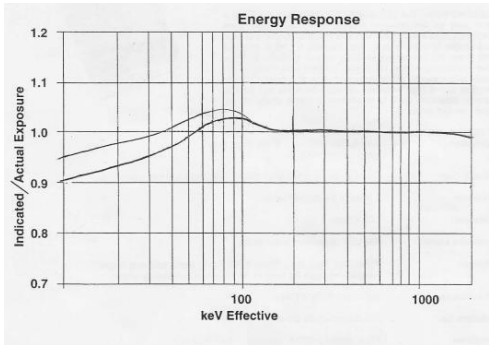
DESCRIPTION:

The **TBM-IC-MARK V** is a general purpose Gamma X-Ray Survey Meter known as the "Cutie Pie". It consists of a 2.5" dia x 3.5" long air ion chamber coupled to a stable solid state MOSFET input electrometer with built in A to D converter to read out directly in mR/h or mR. The **TBM-IC-MARK V** ion chambers are now smaller and lighter. Stable, essentially drift-free electrometer technology.

Rate range is 0.1 mR/h to 10.000 mR/h in a single range. Integrated Dose Range is 0.01mR – 100 R in a single range. 180 mg/cm2 graphite lined methacrylate walls accurate ``air equivalence."

Thin (0.5 mg/cm2) Mylar window allows high sensitivity readings for alpha and for low energy Beta such as C14 in addition to higher energy Betas, Gammas and X-rays.

Unlike other instruments the TBM-IC-Mark-V protects staff workers by detecting low energy scattered radiation which other instruments ignore.



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Divisions of US NUCLEAR CORP

TICKER UCLE

CBRN Real - Time Air & Water Specialists

GAMMA - X-RAY SURVEY METER
"CUTIE PIE"
GENERAL PURPOSE ION CHAMBER

Model ~ TBM-IC-MARK V

SPECIFICATIONS:

Detector: Free Air ion chamber 2.5" dia x 3.5" long. Internal volume 260 cc
Wall & Cap: Methacrylate, graphite lined 180 mg/cm2 walls and 540 mg/cm2 Beta cap.
Optional: 1g/cm2 walls.
Window: 2.0" dia. x 0.5 mg/cm2 Mylar.
Readout: LCD 8 digits.
Indicator Lamp: **Green LED:** High Range; **Red LED:** Over-Range Indicator
Range: Rate: 6 digit 0.1 mR/h to 10,000 mR/h in a single range or 0 µSv/hr to 100,000 µSv/hr
Integrated Total Dose: 8 digits 0.01 mR to 100 R in a single range.
Controls: 3 Way Toggle: On/Off/Battery Check; Zero Set Dial
Zero Set Button-puts in Zero Offset while Depressed
2 buttons on Display:
(1 Reset for Integrate Mode 1) Toggles Dose to Dose Rate
Operating Temp: -35° C to 75° C

ELECTRONICS:

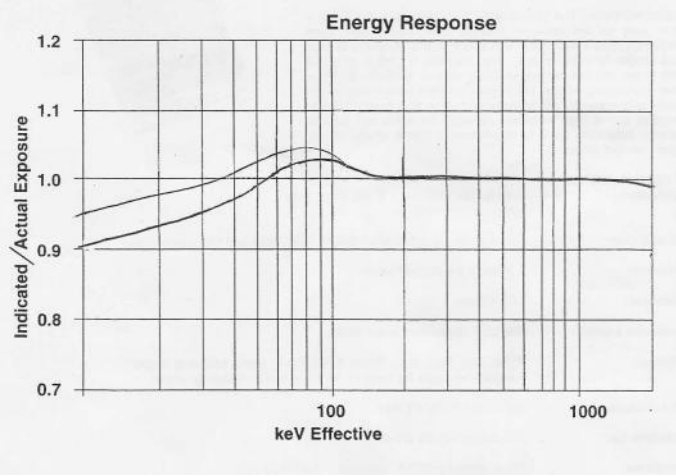
Electrometer: Solid State MOSFET input.
Electronics: A-D converter LCD drivers.
Batteries:
15 ea. (Button) NEDA CR-1220 - shelf life 7 years.
6 ea. (AA) NEDA 15A - 1000hr.

DIMENSIONS & WIEGHT

Dimensions: 5-1/2" x 3-1/2" x 8" including handle.
Weight: 26 oz. complete with batteries.

OPTIONS:

Readout in Si units: Sv and Sv/h.
X-Ray-SLV is optional X-Ray compliance sleeve with 10cm2 aperture.



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PORTABLE ION CHAMBER COMPARISON

Model	Range	Decades	Chamber Volume	Variation From Mark V (MV)
TBM-IC-MARK V	0.1-10,000 mR/h	5	300 cc	300cc Utilizes essentially drift-free electrometer technology. **NOTE:** Most popular model. Fits in a brief case. Great stability
TBM-IC-MV-R	0.1-50,000 mR/h	5.5	450 cc	Rugged aluminum chamber. Up to 50R/h. **NOTE:** Rugged for use in power plants, industry, and military
TBM-IC-AJI	0.05-10,000 mR/h	5	800 cc	More stable below 2mR/h. **NOTE:** Best-in-Field for all medical users
TBM-IC-LR	0.01-1,000 mR/h	5	2,000 cc	Sees 10 times lower, 2 litre chamber. **NOTE:** Detects background levels in 10 sec
TBM-IC-HLS	0.1 mr/h-1,000 R/h	7	300 cc	Plus second range to 1,000 R/h. **NOTE:** This very wide range conforms to **ANSI N42.33 Homeland Security Type 2**
TBM-IC-BW	1 µR/h-10 R/h	5	300 cc	Built-in microprocessor, auto ranging, built-in data logger. **NOTE:** Down to 0.0001 mR/h
TBM-IC-XRAY	0.1-10,000 mR/h	5	300 cc	Includes 10cm^2 aperture sleeve **NOTE:** Complies with **FDA regulation 21 CFR1020.40**
CP-MU-D1	0.1-1,000 KR/h	4	1 cc	60 foot cable, up to 10^6 R/h **NOTE: Water proof design** allows for underwater monitoring in reactor and in spent fuel pool to 1 million R/h. **OPTIONAL:** 100 ft cable
CP-MU-D1000	0.1-1,000 R/h	4	1,000 cc	60 foot cable, up to 10^3 R/h **NOTE:** Water-proof design allows for monitoring in both reactor and spent fuel pools
CP-MU-7-D1 & D1000	1.0-10 million R/h	7	1 & 1,000 cc	System includes one electronics and two chambers **NOTE:** Unplug one detector and plug in the other to switch ranges

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