MICRO ION CHAMBER
Model # TBM-ICP

• FEATURES:
  • HIGH SENSITIVITY AND WIDE RANGE
  • DIGITAL READOUT: 6 digit-rate, 8 digits integrate
  • DOSE RATE & TOTAL DOSE READ OUT
  • SMALL LIGHTWEIGHT UNDER 3 LBS.
  • NO RANGE SWITCHING
  • FLAT ENERGY RESPONSE - SEALED ION CHAMBER
  • SEE AXIALLY BELOW 5 KEV GAMMA OR X-RAY
  • SEE BETA, GAMMA, X-RAY
  • RADIAL (SIDEVIEW) DETECTION DOWN TO 20KeV
  • FAST RESPONSE
  • WIDE RANGE: 0.1 mR/hr to 50,000 mR/hr
  • LOW PRESSURE- NO SHIPMENT RESTRICTIONS

APPLICATION: Whenever a fast, sensitive ion chamber instrument is needed, the TBM-ICP is the latest in a series. These sealed ion chambers are now smaller, lighter and more rugged. Based on newest more stable, essentially drift-free electrometer technology.

DESCRIPTION: The TBM-ICP consist of a 3" dia x 5" long sealed 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*. Rate range is 0.01 mR/h to 5,000mR/h in a single range. Dose range is 0.001mR - 10R in a single range. The sealed ION Chamber obviates the need to make temperature and pressure corrections and eliminates the need for dessicant change. While still giving sideview sensitivity down below 20 KeV and end-on below 5 KeV. Thin (0.5 mg/cm²) Kapton window allows high sensitivity readings for low energy beta such as Tc-99 in addition to other Betas, Gammas and X-rays.

* µSv/h rate and µSv dose is optional.
SPECIFICATIONS:

• **Detector:** Sealed Air ion chamber 3” dia x 5” long. Physical Internal volume 450 cc, effective volume 2.0 liters.
• **Wall & Cap:** Aluminum wall, plastic plus graphite lined and 540 mg/cm² cap. Optional 1g/cm² walls.
• **Window:** 2.0” dia. x 0.5 mg/cm² Kapton.
• **Readout:** LCD 8 digits with backlight.
• **Indicator Lamp:** Green LED 10 pulses/sec per mR/h
  Red Over-range Indicator
• **Range:**
  Rate 8 digit 0.01 mR/h to 5,000 mR/h in a single range.
  Integrate 8 digits 0.001 mR to 10.0R in a single range.
• **Audio Alarm:** User settable anywhere within TBM range
• **Electrometer:** Solid State MOSFET input.
• **Electronics:** A-D converter LCD drivers.
• **Batteries:**
  22 ea. (Button) NEDA CR-1220 - 7 years life.
  6 ea. (AA) NEDA 15A – 200 hour life.
• **Dimensions:** 5-1/2” x 3-1/2” x 8” including handle.
• **Weight:** 2.9 lbs. complete with batteries.
• **Options:** Readout in Si units: Sv and Sv/h.
• **Optional Chamber sleeves**
  • X-Ray-SLV is X-Ray compliance sleeve with 10cm² aperture.
  • Deep dose gamma sleeve.
<table>
<thead>
<tr>
<th>Model #</th>
<th>Range</th>
<th>Decades</th>
<th>Chamber Volume</th>
<th>Variation From MV</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBM-IC-MARK V</td>
<td>0.1-10,000mR/h</td>
<td>5</td>
<td>300cc</td>
<td>Utilizes essentially drift-free electrometer technology.</td>
</tr>
<tr>
<td>TBM-IC-MV-R</td>
<td>0.1-50,000mR/h</td>
<td>5.5</td>
<td>450cc</td>
<td>Rugged aluminum chamber. Up to 50R/h.</td>
</tr>
<tr>
<td>TBM-IC-AJI</td>
<td>0.1-10,000mR/h</td>
<td>5</td>
<td>800cc</td>
<td>More stable below 2mR/h.</td>
</tr>
<tr>
<td>TBM-IC-LR</td>
<td>0.01-1,000mR/h</td>
<td>5</td>
<td>2,000cc</td>
<td>Sees 10 times lower, 2 litre chamber.</td>
</tr>
<tr>
<td>TBM-IC-HLS</td>
<td>0.1mR/h-1,000R/h</td>
<td>7</td>
<td>300cc</td>
<td>Plus second range to 1,000 R/h.</td>
</tr>
<tr>
<td>TBM-IC-BW</td>
<td>1µR/h-10R/h</td>
<td>5</td>
<td>300cc</td>
<td>Built in HP ipac, auto ranging, built-in data logger.</td>
</tr>
<tr>
<td>TBM-IC-XRAY</td>
<td>0.1-10,000mR/h</td>
<td>5</td>
<td>300cc</td>
<td>Includes 10cm&lt;sup&gt;2&lt;/sup&gt; aperture sleeve.</td>
</tr>
<tr>
<td>CP-MU-D1</td>
<td>0.1-1.000R/h</td>
<td>4</td>
<td>1cc</td>
<td>60 foot cable, up to 10&lt;sup&gt;2&lt;/sup&gt; R/h.</td>
</tr>
<tr>
<td>CP-MU-D1000</td>
<td>0.1-1,000,000R/h</td>
<td>7</td>
<td>1 &amp; 1,000cc</td>
<td>System includes electronics and two chambers.</td>
</tr>
<tr>
<td>CP-MU-D1/1000v</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>TBM-IC-RN</td>
<td>10 picoCi/l to 1µCi/l</td>
<td>5</td>
<td>300cc</td>
<td>Calibrated to measure radon gas concentration.</td>
</tr>
</tbody>
</table>

**Model # Special Notes**

- **TBM-IC-MARK V**: Most popular model. Fits in a brief case. Great stability.
- **TBM-IC-MV-R**: Rugged for use in power plants, industry, and military.
- **TBM-IC-AJI**: Best-in-Field for all medical users.
- **TBM-IC-LR**: Detects background levels in 10sec.
- **TBM-IC-HLS**: This very wide range conforms to ANSI N42.33 Homeland Security type 2
- **TBM-IC-BW**: Down to 0.01mR/h
- **TBM-IC-XRAY**: Complies with FDA regulation 21 CFR1020.40.
- **CP-MU-D1**: Allows for underwater monitoring to 1 million R/h.
- **CP-MU-D1000**: Water-proof design allows for monitoring in both reactor and spent fuel pools.
- **CP-MU-D1/D1000**: Unplug one detector and plug in the other to switch ranges.
- **TBM-IC-RN**: Can detect Radon to public release levels in less than 10 minutes.