The Moxtek® ULTRA-LITE MAGNUM® (50kV 4W) is our smallest and lightest x-ray tube source available and high voltage power supply on the market designed specifically for the handheld XRF instruments. The performance, reliability, and low cost of ownership make it a perfect choice for a state-of-the-art handheld instrument.

**Applications**

**Materials Characterization and Identification (XRF)**
- Metal and alloy sorting
- Mining and geology
- Environmental analysis
- Lead in paint
- Regulatory (RoHS/WEEE)
- Art and archeometry
- R&D

**X-ray Imaging**
- Medical R&D, small animal imaging
- Security
- Radiographic inspection

**Features**

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small, compact design</td>
<td>Close coupling of detector/source</td>
</tr>
<tr>
<td>Lightweight</td>
<td>Reduces weight of the XRF instrument</td>
</tr>
<tr>
<td>Stable output across all high voltage settings</td>
<td>High precision of measurements, low detection limits</td>
</tr>
<tr>
<td>Rh target and high emission current at low kV’s</td>
<td>Improved light element detection limits and precision</td>
</tr>
<tr>
<td>High x-ray output</td>
<td>Short sampling time</td>
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<tr>
<td>Small spot size</td>
<td>Small sampling area on the sample</td>
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</tbody>
</table>

**Mechanical Specifications**

- **Tube type:** Metal-ceramic
- **Operating Temperature:** -10º to +60º C
- **Storage Temperature:** -30º to +85º C
- **Cooling:** Conduction
- **Weight:** 250g (typical)
- **Available Targets:** W, Rh, Ag, Pd, Mo

**X-ray Tube Characteristics**

- **HV Polarity:** Grounded anode
- **High Voltage:** -4 to -50kV
- **Beam Current:** 5 to 200µA
- **Total Power:** 4 watts
- **Focal Spot:** 500 to 800µm FWHM (typical)
- **Window:** Beryllium
- **Input Power:** RoHS3
- **RoHS Compliant:** 6-18 VDC
- **Standard Warranty:** 1 year or 2000 operating hours
**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Anode Type</th>
<th>Be Foil Thickness (μm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUB00125-AG1</td>
<td>Ag</td>
<td>250</td>
</tr>
<tr>
<td>TUB00125-AG2</td>
<td>Ag</td>
<td>125</td>
</tr>
<tr>
<td>TUB00125-PD1</td>
<td>Pd</td>
<td>250</td>
</tr>
<tr>
<td>TUB00125-RH2</td>
<td>Rh</td>
<td>125</td>
</tr>
<tr>
<td>TUB00125-RH3</td>
<td>Rh</td>
<td>250</td>
</tr>
<tr>
<td>TUB00125-W01</td>
<td>W</td>
<td>250</td>
</tr>
<tr>
<td>TUB00125-W07</td>
<td>W</td>
<td>250</td>
</tr>
</tbody>
</table>

**Standard Package**
- MAGNUM® tube potted in a brass shield
- High voltage power supply potted on an aluminum shell
- High voltage insulation- silicone potting

**Source Controller Options**
- FTC-200 Controller. Source can also operate using analog DC voltage signals

*Customizable Options - Customer to Specify*
- Additional target materials available

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**50kV ULTRA-LITE MAGNUM 50kV 4W Mechanical Drawing**

**WARNING**

X-rays are emitted from the sides and ends of this product when energized. Moxtek takes actions to reduce the exposure rate from X-rays emitted from the sides through the use of various shielding agents inherent to this product design. It is the buyer’s responsibility to ensure adequate protection is provided in the testing and manufacturing of the final product and that users are adequately shielded from incidental exposure.

This product contains a beryllium window. The inhalation of fumes or dust from beryllium metal (or its compounds) are hazardous. Corrosion may occur on the beryllium window during use, these should not be scraped off, machined, or removed. Disposal of the tube unit should conform to federal, state, and local regulations governing beryllium.

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Subject to technical change without notice