



ULTRA-LITE MAGNUM®

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

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.

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

Mechanical Specifications

Tube type: Metal-ceramic

Operating Temperature: -10° to +60° C

Storage Temperature: -30° to +85° 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: 500~800µm FWHM (typical)

Window: Beryllium

Input Power: RoHS3

RoHS Compliant: 6-18 VDC

Standard Warranty: 1 year or 2000 operating hours

Ordering Information

Part Number	Anode Type	Be Foil Thickness (µm)
TUB00125-AG1	Ag	250
TUB00125-AG2	Ag	125
TUB00125-PD1	Pd	250
TUB00125-RH2	Rh	125
TUB00125-RH3	Rh	250
TUB00125-W01	W	250
TUB00125-W07	W	250

Standard Package

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

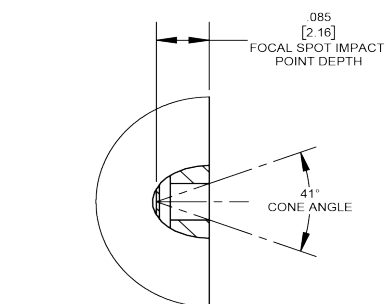
Source Controller Options

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

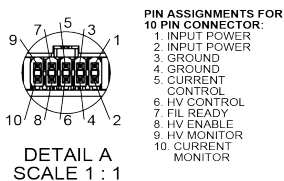
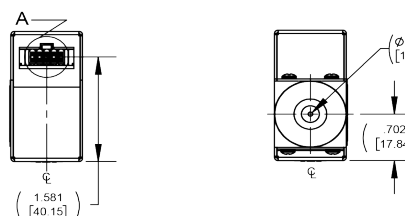
*Customizable Options- Customer to Specify

- Additional target materials available

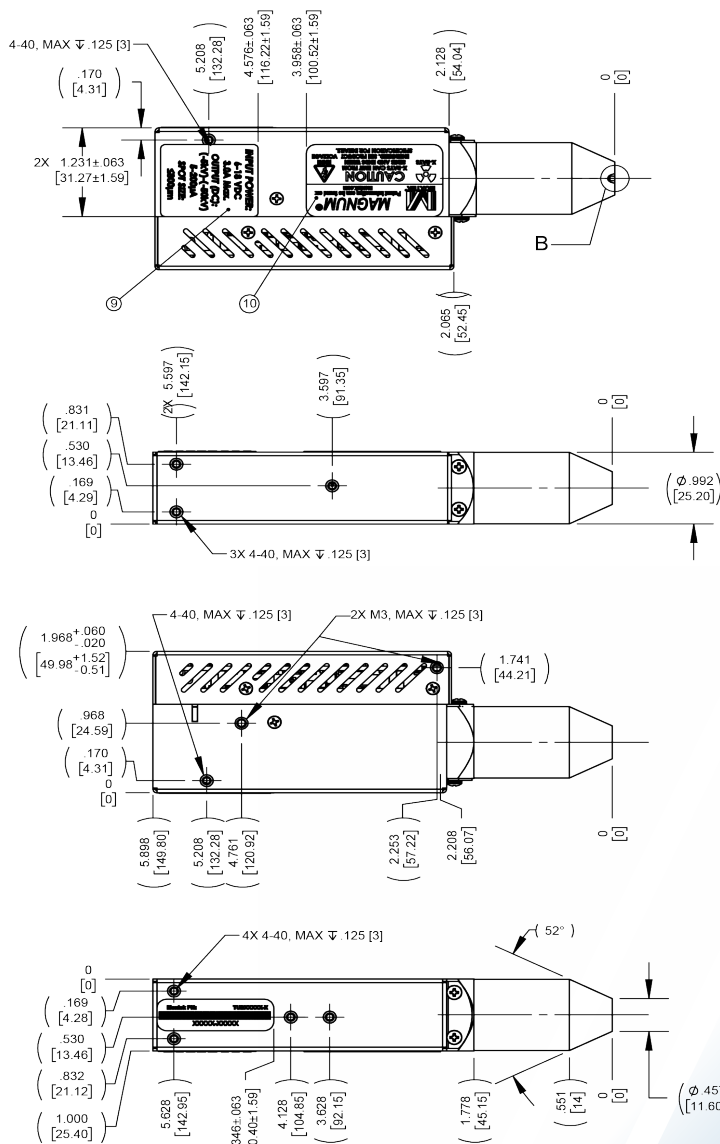
50kV ULTRA-LITE MAGNUM 50kV 4W Mechanical Drawing



DETAIL B
SCALE 4 : 1



DETAIL A
SCALE 1 : 1



⚠ 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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