



50kV Cable with MAGNUM® X-ray Source

### 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

Moxtek® manufactures low-power, miniature x-ray sources for a variety of applications including handheld and benchtop instruments. Moxtek sources are small, lightweight, and can be packaged into custom enclosures. The MAGNUM® x-ray source produces high output with a small spot size.

Features	Benefits
Small, compact design	Close coupling of source to detector
Lightweight	Portable, versatile, easy to integrate
Stable output	Enables precise calibrated measurements
Low power consumption	Long battery life
Low spectral contamination	High precision of analysis
High x-ray output	Short sampling time
Customized configurations	Flexible form factor

\*See reverse side for customizable options

### Mechanical Specifications

*Tube Type:* Metal-ceramic

*Cathode Type:* Tungsten filament

*Operating Temperature:* -10 to +50 °C

*Storage Temperature:* -25 to +85 °C

*Cooling:* Conduction

*Weight:* 500g (typical)

*Available Targets:* Ag, W, Rh

### X-ray Tube Characteristics

*HV Polarity:* Grounded anode

*High Voltage:* -10 to -50kV

*Beam Current:* 5 to 200mA

*Total Power:* 10.0 watts (maximum)

*Stability:* <1.0% RSD

*Window:* Beryllium, 0.25mm or 0.125mm thick

*Input Power:* 9-12 VDC

*Focal Spot:* 500 to 800µm FWHM (typical)

*RoHS Compliant:* RoHS3

*Standard Warranty:* 1 year or 2000 operating hours

## Ordering Information

Part Number	Anode Type	Be Foil Thickness (µm)
TUB00050-AG1	Ag	250
TUB00050-AG2	Ag	125
TUB00050-RH2	Rh	125
TUB00050-RH7	Rh	125
TUB00050-W01	W	250
TUB00050-W07	W	250

## Standard Package

- MAGNUM® tube potted in a brass shield
- High voltage power supply potted on an aluminum shell
- Standard high voltage wiring length of 292mm, (11.5 inches)
- High voltage insulation- silicone potting

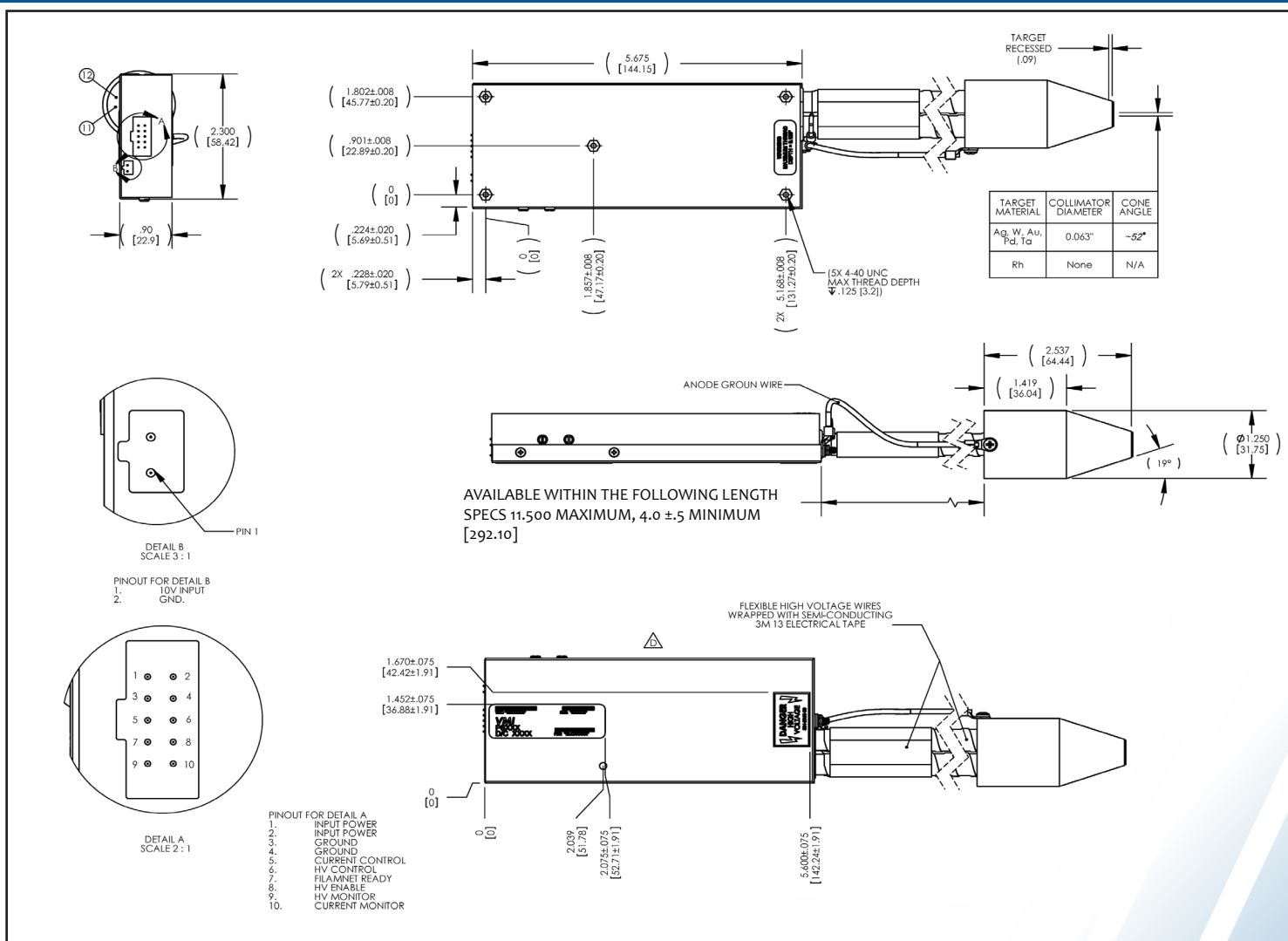
## Source Controller Options

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

## \*Customizable Options

- Variable high voltage wiring length 100-292mm, (4.0 to 11.5 inches)
- Additional target materials available
- Vacuum compatible option also available, please inquire
- Side window for imaging applications

## 50kV MAGNUM® 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.



452 West 1260 North / Orem, UT 84057  
 Phone 801.225.0930 / Fax 801.221.1121  
[www.moxtek.com](http://www.moxtek.com)  
[info@Moxtek.com](mailto:info@Moxtek.com)