



MAGPRO



Moxtek® MAGPRO X-ray sources are designed for portable and benchtop XRF instruments. Additionally, The focal spot size is ideal for X-ray imaging applications.

Feature	Benefits
Small, compact design	Close coupling of detector/ source
Lightweight	Portable, easy to integrate
Stable output	High Precision of measurements, low detection limits
Multiple communication protocols	Improved heavy element analysis
High x-ray output	Short sampling time
Small spot size	Possible coupling with optics, good image resolution
70kV 12W	Improved light element analysis
Wide cone angle	Energy and flux appropriate for backscatter imaging (70kV only) Large flat field for imaging (70kV only)

## Applications

### Materials Characterization and Identification

#### XRF

- Elemental composition

#### XRD

- Powder diffraction
- Residual stress

#### Imaging

- Medical R&D, small animal imaging
- Security
- Radiographic inspection

## Notes

- Operating Temperature: Moxtek recommends a warm up period of 10 minutes before running below 0°C
- \*Radiation Leakage: Moxtek takes every precaution with radiation leakage but it is up to the end user to make sure there is adequate protection for your needs. Consult with an application engineer for your specific application.

## Mechanical

### Specifications

#### 70kV Imaging Source

#### 70kV XRF

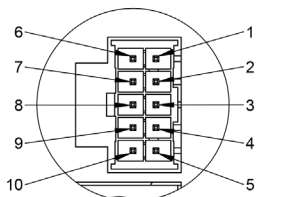
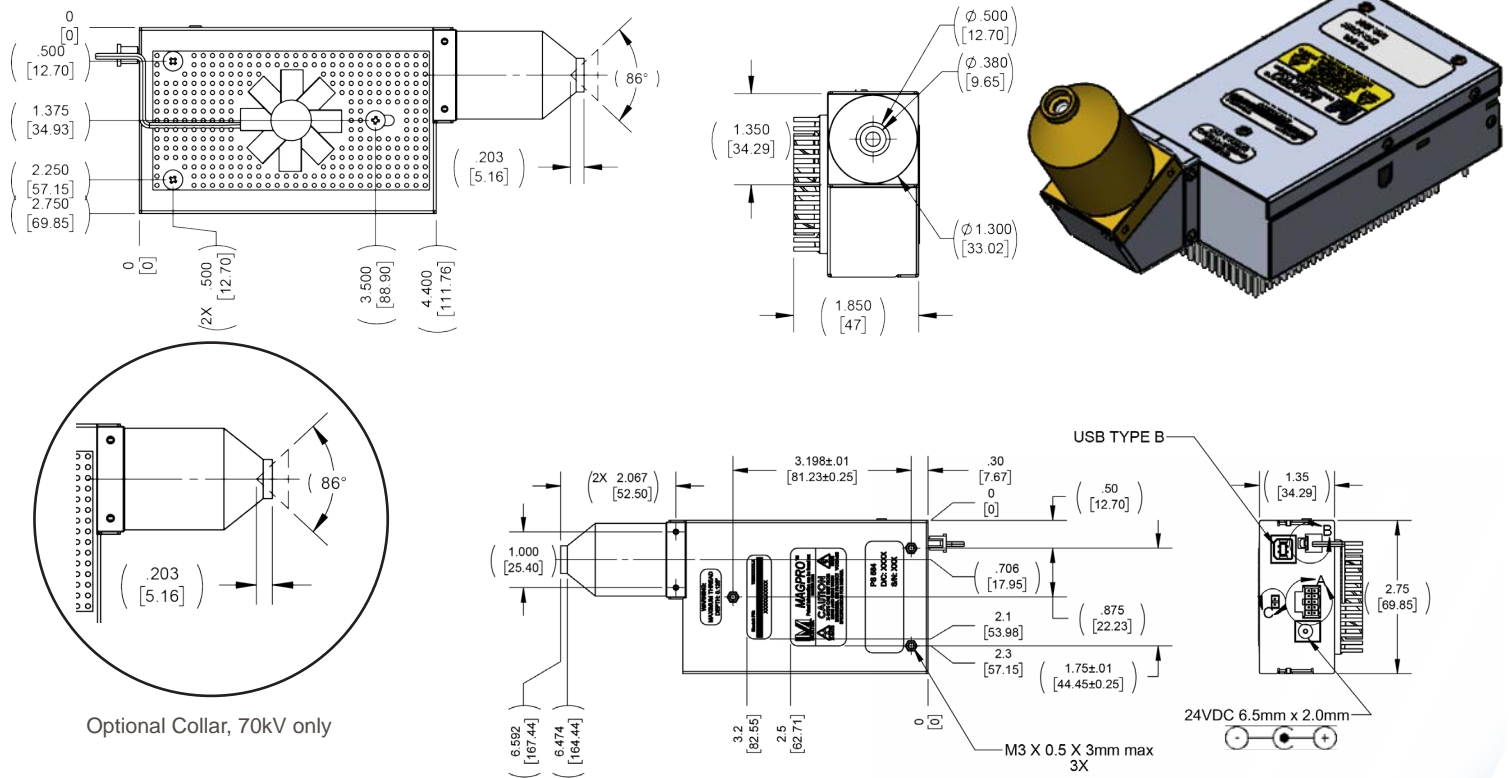
<i>Tube Type:</i> Metal-ceramic	Metal-ceramic
<i>Operating Temperature:</i> -10 to +50° C	-10 to +50° C
<i>Storage Temperature:</i> -20 to +85° C	-20 to +85° C
<i>Cooling:</i> Forced air	Forced air
<i>Weight:</i> ≤ 900g (typical)	900g (typical)
<i>Available Targets:</i> W	W, Mo

## X-ray Tube Characteristics

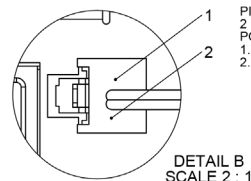
<i>HV Polarity:</i> Grounded anode	Grounded anode
<i>High Voltage:</i> 50 to 70kV	40 to 70kV
<i>Beam Current:</i> 10 to 240µA @ 50kV	10 to 300µA @ 40kV
<i>Total Power:</i> 12 watts (maximum)	12 watts
<i>Focal Spot:</i> Typical ~500µm FWHM	Typical ~500µm FWHM
<i>Window:</i> Beryllium 125µm or 250µm (depending on target)	Beryllium 125µm or 250µm (depending on target)
<i>Radiation Leakage:</i> 2mR/h at 50mm	10mR/h at 50mm
<i>Input Power:</i> 24 VDC, 1.1A	24 VDC, 1.1A
<i>Standard Warranty:</i> 1 year or 2000 operating hours	1 year or 2000 operating hours

	Application	Part Number	Angle	Control Type	Target
				XX	XXX
60kV	XRF (no collar)	TUB00140-XXX	Straight	Analog (A) I <sup>2</sup> C (I) SPI (S)	AG2 (Lt. Silver) RH3 (Rhodium) CR6 (Chromium) CU6 (Copper) W06 (Tungsten) M06 (Molybdenum) W06 (Tungsten)
		TUB00141-XXX			
		TUB00142-XXX			
		TUB00143-XXX	60 degrees		
TUB00144-XXX					
TUB00145-XXX	90 degrees				
TUB00146-XXX					
TUB00147-XXX					
TUB00148-XXX					
70kV	Imaging (collar)	TUB00153-XX-XXX	Straight (S)	Analog (A)	W06 (Tungsten)
<i>Not Released</i>	XRF (no collar)	TUB00154-XX-XXX	60 degrees (6) 90 degrees (9)	I <sup>2</sup> C (I) SPI (S)	W06 (Tungsten) M06 (Molybdenum)

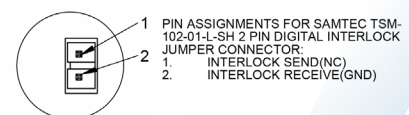
## MAGPRO Mechanical Drawings



DETAIL A  
SCALE 2 : 1



DETAIL B  
SCALE 2 : 1



DETAIL C  
SCALE 2 : 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 in 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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