

Open Type Metal-Jet-Anode Microfocus X-Ray Source

Features

- ➔ Extreme brightness, 10× better than conventional microfocus x-ray sources
- ➔ Easy maintenance
- ➔ Easy to operate
- ➔ Compact
- ➔ Suitable for e.g. x-ray diffraction, micro-CT, and phase-contrast imaging

Specifications

Parameter	Value
Target Material	Ga / In / Sn Alloy*
Acceleration Voltage	50-100 kV
Minimum Spot Size	5 μm
Max Beam Current	10 mA
Max Power	200 W
Focus to Object Distance	TBD, < 30 mm
X-Ray Beam Angle	TBD
X-Ray Output Window	TBD
Maintenance Interval	> 250 h (estimated)
Operation	Pulsed or Continuous

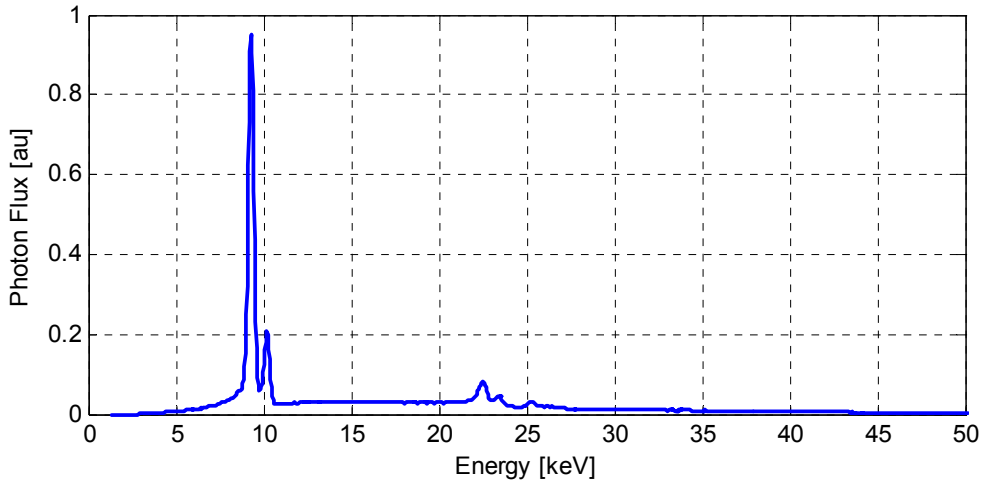
* Or other room temperature liquid

Performance Examples

Spot size [μm , FWHM]	Voltage [keV]	Power [W]
5	50	50
20	100	200

Preliminary Data Sheet

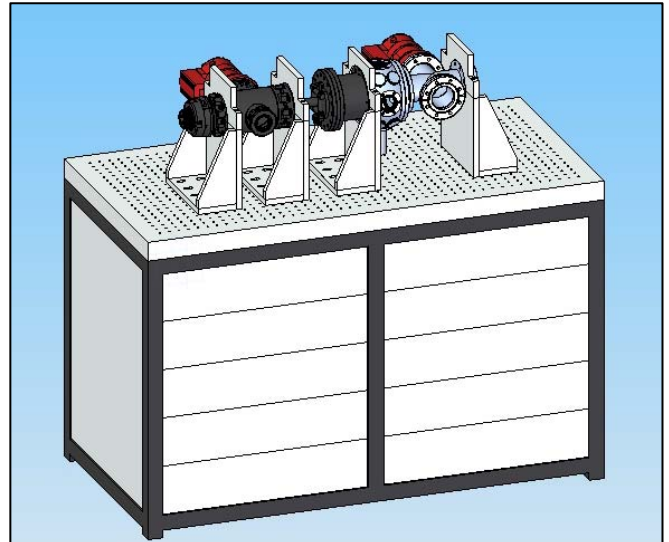
Spectral Output



Sample output spectrum from using a Ga/In/Sn alloy target and 50 keV acceleration voltage. The 9.25 keV Ga K α line emission is suitable for e.g. diffraction studies.

Dimensional Outlines etc

- Different integration options
 - Stand alone unit on small breadboard with all electronic etc. integrated in stand.
 - Source head flexibly connected to separated control unit.
- Radiation shields and interlocks integrated on request.



Current prototype setup on 120 × 60 cm breadboard.

Precautions

1. X-Rays emitted from this device are harmful for the human body and it is necessary to protect the operator.
2. During operation the x-ray unit should be installed in a radiation shielded area to avoid leakage.
3. The system interlocks should be used to prevent dangerous misuse.
4. The product may be subject to local government radiation hazard regulations.

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