Flexible Design, Unyielding Performance

fleX-Beam™ is a unique, compact X-ray generator that combines a low-powered X-ray source and a precisely-aligned polycapillary optic to deliver a bright X-ray beam for advanced material analysis. fleX-Beam is available in several standard focused or collimated beam configurations and can also be customized for specific applications.

fleX-Beam

Industry-Leading Performance

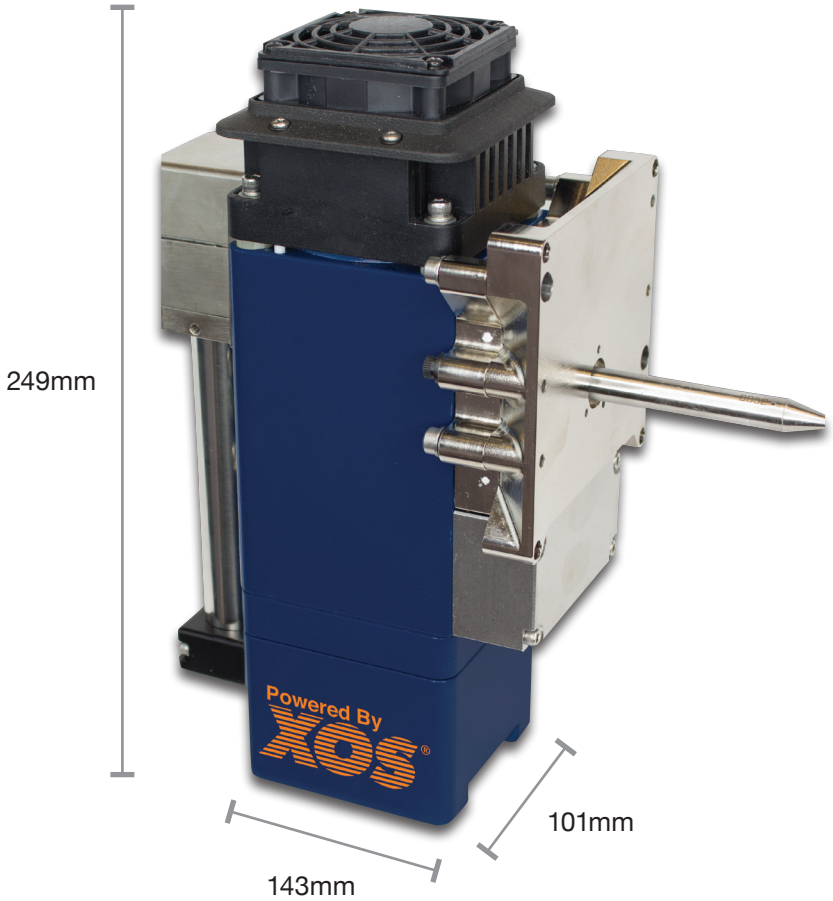
- fleX-Beam's intensity is up to 10,000 times greater than conventional pinhole collimators
- Focal spot as small as 5µm @ Rh Ka (20.162keV)
- 50 watt performance exceeds conventional kilowatt-powered X-ray tubes
- Integrated safety shutter & 8-position filter wheel

Simple Integration

- This comprehensive solution is compact and easily integrates with any instrument or system

Easy Serviceability & Field-Alignment

- Innovative design allows for the ability to interchange different optics, as well as service the X-ray source in the field



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Custom Solutions

fleX-Beam™ can be used in different applications where a compact X-ray source with high photon flux is required. Various configurations are available to be used in μ-XRF, diffraction, in-line process monitoring or in-situ analysis, and medical imaging applications. XOS provides custom fleX-Beam optics based on customer requirements.

Standard fleX-Beam Models

Highly-Focusing Optics						
Working distance (mm)	2	4	9	20	50	100
Focal spot size* (μm, FWHM)	8	15	25	45	100	180
Output beam intensity* (photons/s)	3.5×10^7	7.0×10^7	1.5×10^8	2.0×10^8	3.0×10^8	4.0×10^8

Typical Applications: Micro XRF
- Small Feature Analysis
- Film & Plating Thickness
- High-Resolution Elemental Mapping

** Note: For Mo Kα radiation using a 100μm, Mo-anode x-ray source at 50 kV/1mA*

Slightly-Focusing Optics				
Output convergent angle (degree)	0.25	0.5	1	2
Output beam intensity	5.0×10^8	1.6×10^9	5.0×10^9	1.6×10^{10}

Typical Applications: XRD
- Residual Stress Analysis
- Laue Diffraction
- Powder Diffraction

** Note: For Cu Kα radiation using a 100μm, Cu-anode x-ray source at 50 kV/1mA. Working distance is 140mm and focal spot size is 0.5mm*

Highly-Collimating Optics								
Output beam diameter (mm)	0.5	1	2	3	4	6	10	20
Output beam intensity (photon/s)*	3.0×10^8	1.2×10^9	3.5×10^9	6.5×10^9	1.0×10^{10}	1.3×10^{10}	1.8×10^{10}	2.5×10^{10}

Typical Applications: XRD & WDS
- Powder Diffraction
- Texture & Strain Measurement
- Wavelength-Dispersive Spectrometer

** Note: For Cu Kα radiation using a 100μm, Cu-anode x-ray source at 50 kV/1mA. Output beam divergent angle is 0.2˚*

PCS50 controller is available for research applications. It offers precise command and custom settings.

Dimensions: 382mm W x 335mm L x 107mm H

Technical Specifications

Available Targets*	Cr, Cu, Mo, Rh, W
Nominal Output Power	50 kV / 1.0 mA / 50 W
Stability	<0.5% RSD per ºC over 8 hours
Ambient Operating Temp	20º-35º C
Cooling Mode	Integrated forced air
Dimensions	101mm W x 143mm L (w/o optic) x 249mm H
Weight	5.9kg

Included: Built in safety shutter & 8-position filter wheel

**Other target materials may be available upon request.*

XOS®
better analysis counts

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