

The unique combination of the precision graded multilayer coating along the mirror length with a single mirror substrate allows the capture of a part of the source larger than any other multilayer mirror system of equivalent length.

This design brings more flux to your sample.



### Benefits

- enhanced useful flux due to the **SINGLE REFLECTION ADVANTAGE** compared to standard two-reflection designs
- reduced collection time
- enhanced resolution ( $q_{\min}$  reduction)
- enhanced lifetime and lower cost of ownership (under vacuum)
- compact mechanical design
- easy to align (10 minutes procedure)
- fits all X-ray generators (rotating anode generators, sealed tubes or micro-focus sources)
- no direct beam

### Applications

- SAXS (Small Angle X-ray Scattering)
- high resolution system (coupled with a monochromator)

### Optional Accessories

- alignment camera
- collimator
- crystal monochromator
- vacuum pump
- stand

## Technical Data

Subject to technical changes without notice

### Beam features

■ wavelength	1.54Å / 8keV (Cu K $\alpha$ )
■ beam size (at the mirror exit)	1.2x1.2 mm <sup>2</sup>
■ typical flux gain	from 2 to 6 compared to other optics
■ typical flux	$\geq 10^9$ photons/s Source 300 $\mu$ m run at 40Kv, 80mA (3,2 Kw)
■ beam uniformity	$\pm 15\%$ [ $(I_{\text{Max}} - I_{\text{Min}}) / (I_{\text{Max}} + I_{\text{Min}})$ ] for a 300 x 300 $\mu$ m <sup>2</sup> point source
■ collected angle	11.4 mrad (0.65°), for the 2 planes
■ K $\alpha$ spectral purity	>97%
■ K $\beta$ contamination	typically <0.3%

### Optical features

■ divergence	1 mrad FWHM (for the 2 planes with a 0.1x0.1 mm <sup>2</sup> source)
■ distance from source to optics centre	12 cm
■ precision graded multilayer	designed for the best compromise between reflectivity and total flux
■ substrate with optimized shape	parabolic

### Mechanical features

■ overall FOX2D system length	202 mm
■ mirror length	60 mm
■ reversible mechanical housing	6° take off angle $\pm 2 \times$ Bragg angle
■ tilt and incidence micrometric screws for a simple and sensitive adjustment	10° total range (both axes) movement in vertical (tilt) and horizontal (Bragg) directions
■ XYZ adjustment table	14x14x5 mm <sup>3</sup> stroke

### Vacuum features

■ primary vacuum housing	longer lifetime and lower cost of ownership
■ Kapton® windows	loss per window : 0.75% (Kapton®)
■ dry vacuum pump	working pressure : 3 mbar pumping speed : 0.6 m <sup>3</sup> /h voltage : 220V or 110V

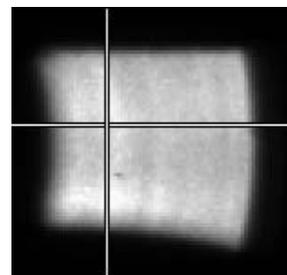
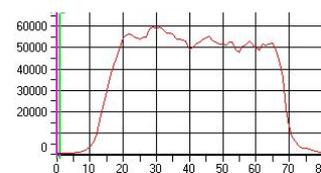
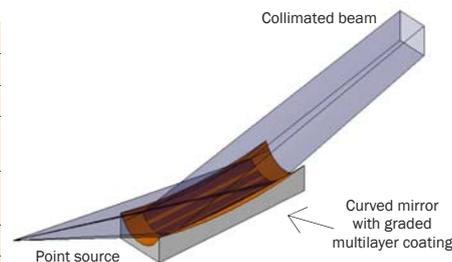


Image of the collimated Cu-K $\alpha$  x-ray beam, 80 mm after the mirror centre taken with a CCD camera with 23  $\mu$ m pixel size. The beam dimensions (FWHM) are: H = 1.18 mm, V = 1.07 mm.

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