

Beam delivery system GeniX MO Low Divergence



The GeniX Mo Low Divergence system combines a high brilliance micro-focus X-ray source with a Xenocs industry-proven single reflection multilayer optic to deliver an intense beam with very low divergence, making it ideal for small angle X-ray scattering or for high resolution X-ray diffraction when coupled with a crystal.

A distinct advantage of the GeniX beam over standard line-focusing systems is that the GeniX provides a smaller beam without using beam-limiting slits, a result of the optic that provides a beam with low divergence in both the vertical and horizontal planes.

The proprietary cooling technique and smart power management extend the source lifetime and lower the cost of ownership. The intuitive user interface of the control unit provides powerful functionality for either standalone or integrated use.

Due to its unprecedented stability and reliability, the GeniX Mo Low Divergence provides a significant performance advantage over existing sealed tube based configurations, making it a reliable, cost-effective, and low maintenance solution for small angle X-ray scattering and high resolution diffraction applications.



Fig. 1: Control unit

Applications

- small angle X-ray scattering
- grazing Incidence SAXS
- high resolution X-ray diffraction

Benefits

- high brightness
- low background parasitic radiation
- extremely stable beam
- compact system for easy integration
- low power and low maintenance source
- intuitive user interface
- smart source power management

Options

- configurable collimator system
- software utility for remote operation

Accessories

- alignment camera
- pin diode detector
- dry vacuum pump
- rack-mountable water to air chiller
- beam alignment system (3 points)

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Preliminary Technical Data

Subject to technical changes without notice

Beam features

- Wavelength 0.71 Å / 17.4 keV (Mo K α)
- Beam size (at the mirror exit) 0.75 x 1.2 mm² FWHM
- Typical flux (in vacuum) 5 x 10⁶ ph/s (source run at 50W - 50 kV - 1 mA)
- Divergence < 0.4 mrad FWHM for both planes
- K α spectral purity Typically > 95%

Electronic

- Dimensions 3U - 19" - 600 mm in depth
- Total weight 13.6 Kg
- Power 110/220 V (AC) or 24 V (DC)

Head

- Dimensions (L x W x H) 50 x 12 x 33 cm³ with collimator
27 x 12 x 33 cm³ without collimator
- Total weight Maximum 14.5 Kg

Integration

- System power consumption 150 Watts
- Remote control features Ethernet port & software utility
- System shutters Safety & measurement shutters
- Cooling flow rate (closed loop) >1.2 l/min (set point 25°C)
- Dry vacuum pump Working pressure : 3 mbar
Pumping speed : 0.6 m³/h