

# Beam delivery system GeniX CU Very High Flux



Fig. 1: Control unit

## Applications

- protein crystallography
  - high throughput screening
  - structure determination
- powder diffraction

## Benefits

- very high flux density
- excellent beam focusing
- extremely stable beam
- compact system - easy to integrate
- low power and low maintenance source
- smart source power management
- intuitive user interface

## Options

- manual filter wheel (3 positions)
- configurable collimator system
- software utility for remote operation

## Accessories

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

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Xenocs - A spin off company from Institut Laue Langevin

The GeniX Cu VHF X-ray beam delivery system combines a high brilliance micro-focus X-ray source with the latest FOX3D advanced aspheric optic technology. It delivers a very intense X-ray beam enabling users to improve data quality and to accelerate the measurements in challenging diffraction applications.

The advanced focusing properties and the high flux density of the GeniX Cu VHF results in very small diffraction spots and in considerable improvement of the signal to noise ratio on small and weakly diffracting crystals.

Its unprecedented stability and reliability, makes it a powerful, cost-effective, and low maintenance solution, ideal for applications that require enhanced data quality or reduced data collection time such as small crystal structure determination and high throughput screening.

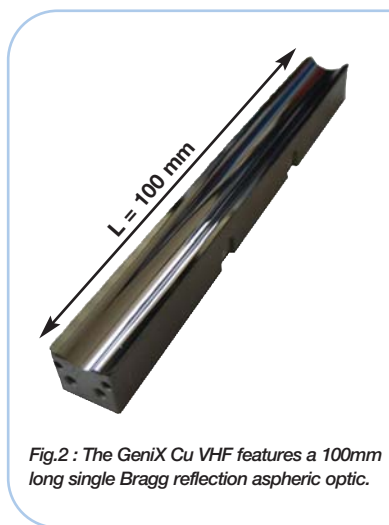


Fig.2 : The GeniX Cu VHF features a 100mm long single Bragg reflection aspheric optic.

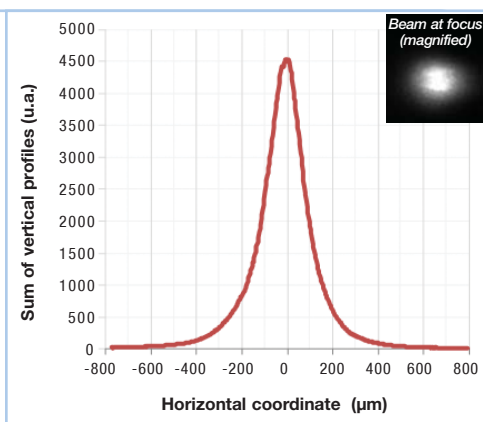


Fig.3 : GeniX Cu VHF beam at focus : sum of vertical profiles and CCD camera image (inset).

## Preliminary Technical Data

Subject to technical changes without notice

### Beam features

- Wavelength 1.54 Å / 8 keV (Cu K $\alpha$ )
- Integrated flux (in vacuum) > 300 x 10<sup>9</sup> phs/s (source run at 50W—50 kV—1 mA)
- Flux within 100 µm (in vacuum) > 40 x 10<sup>9</sup> phs/s (source run at 50W—50 kV—1 mA)
- Divergence 5.4 x 5.4 mrad<sup>2</sup> FWHM
- Spot size at focus ~190 µm FWHM
- Nominal distance from optic centre to focus > 170 mm

### 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) 31 x 20 x 33 cm<sup>3</sup>
- 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 m<sup>3</sup>/h