MicroMax™-007 HF

Leading With Innovation

Unleash the competitive advantage with the leading home lab X-ray source: 8 x10^{10} X-rays/mm^2/sec

Advanced microfocus rotating anode X-ray source for structural biology

Extended uptimes and designed-in maintainability differentiate the MicroMax-007 HF, the most popular microfocus rotating anode X-ray source for structural biology, from the competition. Ideal for rapid sample screening and for collecting the highest quality data for in-house structure determination, the MicroMax-007 HF's small focal spot will make you more productive because it delivers the flux you need, where you need it: on your crystal.

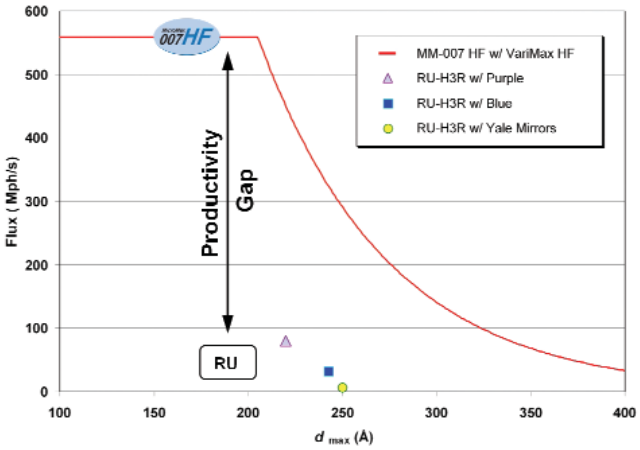
- **Designed for small and poorly diffracting crystals**
- **Brilliant flux intensity of 8 x 10^{10} X-rays/mm^2/sec**
- **Proven productivity across the largest installed base**

Proven "state-of-the art" source

Commercial microfocus sources suitable for protein crystallography first became available early in this decade with the advent of the patented* Rigaku MicroMax-007. Incorporating three additional patented design enhancements, the more powerful MicroMax-007 HF was engineered to be the perfect upgrade path from older generations of large focal spot generators. The MicroMax-007 HF is the most popular microfocus rotating anode X-ray source available today.

Power and flexibility for superior performance

With a brilliant 8 x 10^{10} X-rays/mm^2/sec beam coming from the smallest possible focal spot (70 µm diameter), the MicroMax-007 HF delivers performance that is beneficial for all aspects of in-house crystallographic research. The most challenging projects can now be performed in the home laboratory: screen crystals where no diffraction was seen on a standard system, collect full data sets on samples where only low resolution reflections would normally be observed, and solve previously intractable structures. High performance adjustable Osmic™ VariMax™ optics allow users to select high flux or lower divergence to deliver superior resolving power.



MicroMax-007 HF provides dramatic performance gains over traditional focus X-ray sources

Perfect upgrade path from older generators

Comparison of beam flux versus maximum obtainable resolution (d_{max}) shows that a MicroMax-007 HF, equipped with an adjustable high performance optic, provides dramatic performance gains in flux and divergence over older Rigaku RU-series and similar, competitive X-ray generator systems. With the ability to easily tailor beam characteristics, the MicroMax-007 HF delivers the productivity gains required for today's competitive environment.

*Patented microfocus technology produces a beam that affords exceptional signal-to-noise for small crystals: US 6,823,042 and US 6,249,566.

Rigaku

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GREEN Solutions

Engineered for reliability

The day-to-day productivity of a system is dependant on its operability, maintainability and overall performance. Featuring a unique direct-drive anode, the compact tower assembly of the MicroMax-007 HF contains both the vacuum chamber and turbo-molecular pump for fast pump downs. The tower may be easily moved on the generator tabletop for integration with various optics, goniometers and detectors. Unlike competing products, the MicroMax-007 HF was designed for lower real cost-of-ownership. For example, filament changes are not an all day affair with Rigaku microfocus generators. Superior Rigaku engineering has reduced this service headache to a "do-it-yourself" 45-minute maintenance routine of simply changing a cartridge.

Unique features for high performance

As the generator of choice for most modern structural biology crystallography labs, the Rigaku MicroMax-007 HF delivers productivity by design:

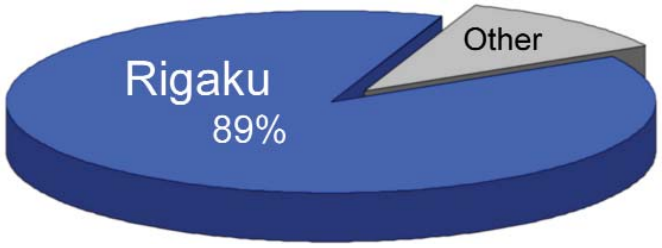
- **Smallest focal spot size of any rotating anode generator (70 µm diameter)**
- **1.2 kW power in a small beam provides greater flux density and less background for tiny crystals**
- **Extended anode and filament lifetimes**
- **Unique pre-aligned and pre-crystallized filament cartridges minimize maintenance**
- **Moveable anode assembly accommodates any hardware configuration**
- **Choice of anode materials: Cu, Mo, Ag, and Cr**
- **Optimum performance when coupled with Osmic VariMax optics**
- **The X-ray generator of the HighFlux HomeLab™**
- **A high flux option for Rigaku small molecule and small angle X-ray scattering (SAXS) systems**

Legendary Rigaku Productivity

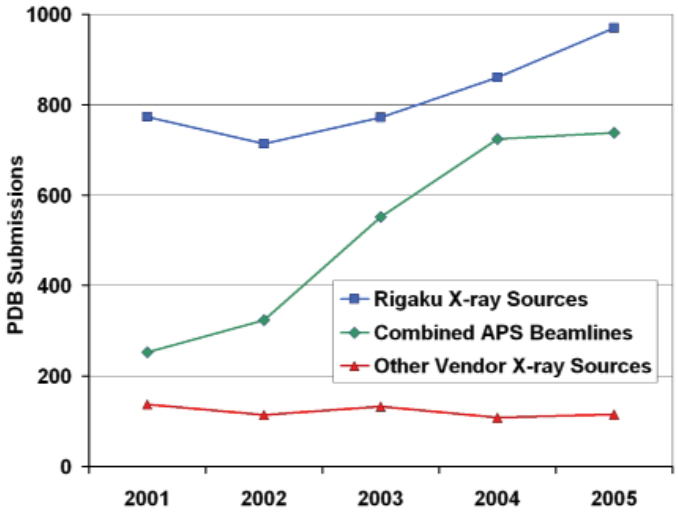
Rigaku is the leading provider of home laboratory X-ray sources for macromolecular crystallography. A statistical analysis of X-ray crystal structures submitted to the Protein Data Bank[1] (PDB) showed that of those solved with home lab sources in 2005[2] 89% used Rigaku equipment. The data conclusively demonstrate that Rigaku structural biology customers are the most productive, far exceeding the nearest competitor in the home lab market.

[1] H.M. Berman, J. Westbrook, Z. Feng, G. Gilliland, T.N. Bhat, H. Weissig, I.N. Shindyalov, P.E. Bourne: The Protein Data Bank. Nucleic Acids Research, **28** pp. 235-242 (2000).

[2] 2005 is the most recent year where PDB data is complete



Home lab PDB submissions by source vendor for 2005[2]



Home lab PDB submissions by source vendor for 2005

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