

NEW

I μ S High Brilliance



- for Cu, Mo & Ag
- up to 60% more intensity
- component recognition
- improved safety features
- fully compliant with Machinery Directive 2006/42/EC

I μ S High Brilliance

The new Incoatec Microfocus Source

Five years after the successful launch of the I μ S, we are proud to introduce the next generation of Microfocus Sources: the new Incoatec Microfocus Source I μ S^{High Brilliance}! Its outstanding performance raises the standard of low-maintenance sealed tube solutions for crystallography, available for Cu, Mo and Ag radiation. Compared to the classic I μ S, the I μ S^{High Brilliance} shows an increase in intensity of about 30 % for Cu, 50 % for Ag and 60 % for Mo (Fig 1). The I μ S^{High Brilliance} perfectly matches the new Bruker AXS D8 crystallography solutions (Fig 5).

What's new? The improved heat-management makes it possible to produce more photons in the same small spot. Tried and trusted, our state-of-the-art Quazar multilayer optics are ideal for 2-dim focusing or collimating. Of course, the I μ S^{High Brilliance} includes all familiar advantages of our previous I μ S systems: air-cooling, no moving parts, long lifetime without maintenance (3 years warranty). Furthermore, memory chips are built into tube, tube mount and optics, recording the real-time status of the components ("DAVINCI" design, Fig 4). These data allow for easier installation and change of components, and can be assessed online, making remote diagnostics faster, better and easier. The result is an absolutely reliable system. The I μ S fulfills highest safety standards: radiation safe, vacuum tested and fully compliant with Machinery Directive 2006/42/EC.

With a peak flux density of more than $2 \cdot 10^9$ photons/(s mm²) the Mo-I μ S^{High Brilliance} enables scientists in small molecule and high-resolution crystallography to collect better data sets in shorter time. Measurements in the Incoatec Application Lab with a Bruker D8 show an increase of more than 60 % in the diffracted intensity.

The compact design makes the I μ S^{High Brilliance} an attractive component for many academic and industrial research organizations to upgrade existing X-ray analytical instruments to cutting-edge performance.

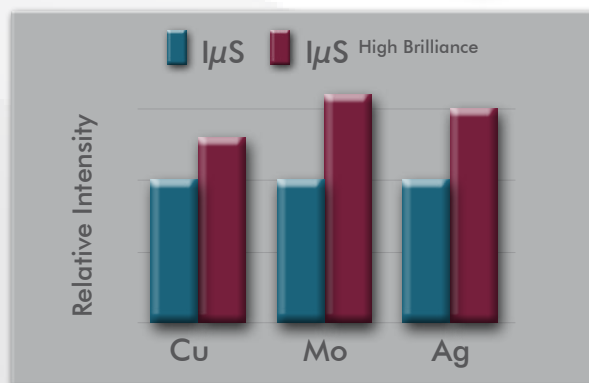


Fig 1



Fig 2



Fig 3



Fig 4



Fig 5

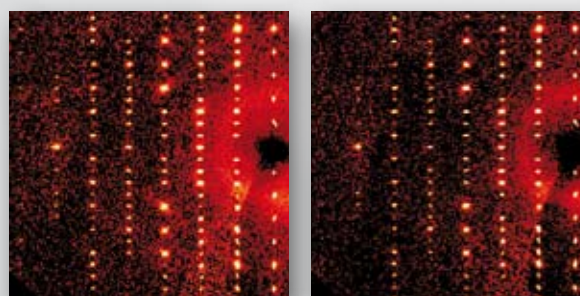


Fig 6: Section of the diffraction pattern of an Ylid crystal (C₁₁H₁₀O₂S, 0.16 x 0.12 x 0.12 mm³, 2s/0.5° exposure time, h0l layer) recorded with an I μ S^{High Brilliance} (left) and a classic I μ S (right).

Source	I μ S ^{High Brilliance}	I μ S classic
<I>	2927.2	1828.5
Resolution [Å]	0.83 (0.92-0.83)	0.83 (0.92-0.83)
<I/σ>	37.9 (8.7)	31.8 (6.5)
R (int); R(σ) [%]	3.39; 1.50	4.17; 1.81
R1; wR2 [%]	3.13; 8.80	3.58; 10.00
d (C2-C3) [Å]	1.368(3)	1.363(4)

Fig 7: Two data sets with statistics of an Ylid crystal

All configurations and specifications are subject to change without notice.

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