

**rayonix**  
**mx** series

**Ultrahigh-performance, high-resolution X-ray detectors**

*seamless multi-element CCD technology*





The Rayonix mx225 is fully compatible with the mardtb automated goniostat and the marcsc automated sample changer.

## rayonix mx series

Technical Specifications			mx225	mx300	mx325
Type	Multiple CCDs; tiled fiber-optic tapers		9 CCDs; 9 tapers	16 CCDs; 16 tapers	16 CCDs; 16 tapers
X-ray Sensitive Surface			225mm × 225mm (50,625mm <sup>2</sup> )	300mm × 300mm (90,000mm <sup>2</sup> )	325mm × 325mm (105,625mm <sup>2</sup> )
Detective Quantum Efficiency	Up to 0.8 for 8keV to 12keV X-rays		•	•	•
Point Spread Function	FWHM = 100µm; FW 1%M = 300µm		•	•	•
Gain			6 e <sup>-</sup> /12keV photon	6 e <sup>-</sup> /12keV photon	5 e <sup>-</sup> /12keV photon
Read Noise*	10 e <sup>-</sup> /pixel		•	•	•
Dark Current*	<0.01 e <sup>-</sup> /pixel/sec.		•	•	•
Full Well Capacity*	360k e <sup>-</sup> /pixel		60k 12keV photons	60k 12keV photons	72k 12keV photons
Dynamic Range	16 bits		•	•	•
Fiber-optic Tapers			2.7:1	2.7:1	2.9:1
CCDs	32mm × 32mm; 2048 × 2048 15µm pixels		9 CCDs	16 CCDs	16 CCDs
CCD Operating Temperature	-70° C		•	•	•
Cooling	Closed-cycle refrigeration		•	•	•
Readout Electronics	2 channels per CCD		18-channel readout	32-channel readout	32-channel readout
<b>Readout Options (Software Selectable):</b>					
	<b>On-chip Binning</b>	<b>Readout Time</b>	<b>Number of Pixels in Image (Pixel Size)</b>		
<b>Standard Mode</b>	2 × 2	1.0 sec.	3072 × 3072 (73µm)	4096 × 4096 (73µm)	4096 × 4096 (79µm)
	4 × 4	0.5 sec.	1536 × 1536 (146µm)	2048 × 2048 (146µm)	2048 × 2048 (158µm)
<b>Computer Interface</b>	PCI DMA; single fiber-optic cable		•	•	•
<b>Physical Dimensions:</b>					
<b>Detector Head</b>	Height × Width × Depth		46cm × 32cm × 40cm	58cm × 42cm × 43cm	58cm × 42cm × 43cm
	Approximate Weight		52kg	115kg	125kg
<b>Electronics/Cooling Assembly</b>	Height × Width × Depth		175cm × 64cm × 64cm	175cm × 64cm × 64cm (×2)	175cm × 64cm × 64cm (×2)
	Approximate Weight		215kg	215kg (×2)	215kg (×2)

\*Specified for standard readout mode



**High Efficiency models available**  
High electro-optical gain design

# rayonix

High-performance X-ray technology

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