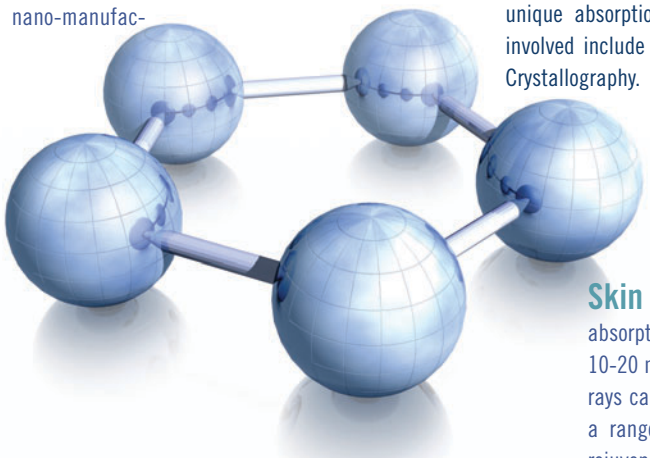
LIGA Soft X-rays provide the ideal light source for high aspect ratio lithography required for nano-manufacturing

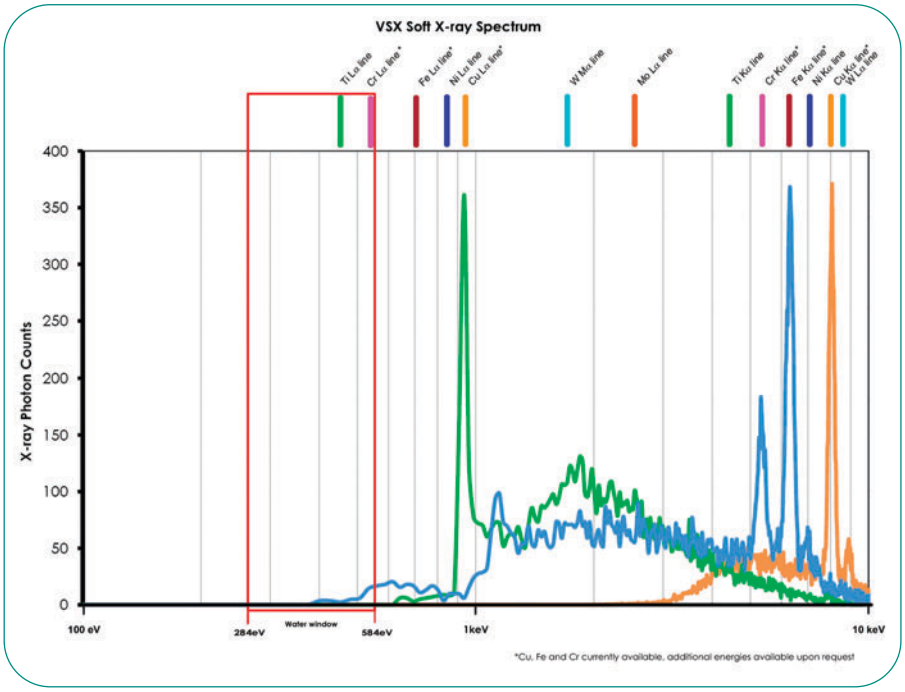
Metrology Soft X-rays are an ideal source for the inspection and studying of nanostructures due to their inherently small size and unique absorption properties. The techniques involved include Microscopy, Spectroscopy and Crystallography.



Irradiation The range of soft X-ray radiation is at the cutting edge of scientific research and applications, whether it's neutralizing bacteria on food supplies, charging ricin and anthrax in air purification systems, or simply irradiating DNA.

COMMERCIALIZE YOUR SOFT X-RAY APPLICATION

Skin Therapy With the strong absorptions of soft X-rays in the first 10-20 micrometers of the skin, soft X-rays can be used for the treatment of a range of skin ailments from skin rejuvenation and mild inflammations to skin cancer. Controlling the wavelength and intensity of the soft X-ray beam will allow one to remove blemishes, treat scars or tackle melanoma.



The spectral measurements were completed with an Amptek XR-100 detector, resolution 189eV at 5.9keV. The theoretical line width of the Lα and Kα is <6.4eV yielding a $\triangle E/E \sim 10^{-4}$.

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REV 4.0

PRODUCT SPECIFICATIONS

MODEL: VSX-C	TECHNICAL SPECIFICATIONS	
ITEM	NOMINAL	NOTES
1. RADIATION		All energy and power levels at the source, before filter window
1.1. Source power, in 4π steradian	0.7 W	
1.2. Photon energy (peak)	Cu (Lα930eV, Kα 8.05keV) Cr (Lα 571eV, Kα 5.4keV) Fe (Lα 704eV, Kα 6.4keV)	See spectrum for other energies
1.3. Flux	10^{10} Photons/sec	Through focal spot of polycapillary optics
2. BEAM		Can be coupled to a vacuum chamber or transmitted through a beryllium window
2.1. Beam Height	1.4 m	Standard Beam Height
2.2. Number of ports available	3	Two 2 1/2" Conflat Vacuum fittings / Removable 9 1/2" door
2.3. Distance from source to window	10 cm	
2.4. Spot size	100 μm x 1mm	
2.5. Spot size through optional focusing optics	50-125 μm	Using polycapillary optics to capture light from divergent source
3. OPERATIONAL		
3.1. Continuous Operational Lifetime	>140 Hours	One hour to replace consumable parts
3.2. Safety	CSA Certified	
3.3. Radiation Levels	Negligible	With ports capped
4. FACILITY REQUIREMENTS		
4.1. Power	208 VAC. 3 phase. 35 A	
4.2. Cooling	Chilled water supply @<20ºC	
4.3. Gas supply	20 psi clean nitrogen	
4.4. Network	standard ethernet (RJ45)	
5. MECHANICAL		
5.1. Dimensions: L x W x H	48" x 32" x 70"	
5.2. Weight	500 lbs.	
5.3. Mounting	Vibration Isolation Feet	Integrated wheels for easy movement
6. CONTROLS		
6.1. User Interface	Web-Based	Remotely controlled via any web browser on network
6.2. Operation Modes	Fully Automatic Manual	One button operation Full user control
6.3. Safety Interlocks	Two Available	
6.4. Soft X-Ray Active	Normally Open Switch	Used to signal external systems when X-Ray output is active

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