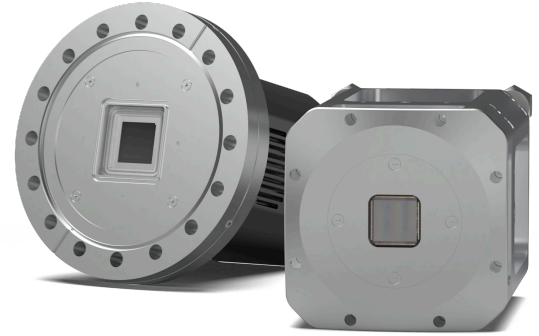


# Dhyana XF95 / XV95

The Dhyana XF95 features a high quantum efficiency (QE) of nearly 100% within the 80 eV to 1000 eV range, utilizing advanced BSI sCMOS technology without an anti-reflection coating. This innovation enhances soft X-ray and EUV imaging performance while providing greater resistance to radiation damage. <sup>[1]</sup>



## Key Features

## Benefits

~100% Peak QE@80 eV-1000 eV	Excellent soft x-ray and extreme ultraviolet imaging performance.
95% Peak QE@200 nm-1100 nm	Supports more spectral analysis and imaging applications.
100 ke- Full Well Wapacity	High dynamic range for the measurement of bright and dim signals at the same time.
48 fps@4.2 MP	Dozens of times the speed of CCD cameras.
Reliable and Stable Cooling	Effectively suppresses dark current and signal fluctuation, ensuring system stability.

## Typical Applications

- Soft X-ray Scattering / Spectroscopy
- Extreme Ultraviolet Spectroscopy
- Layered Diffraction Imaging
- High Harmonic Generation Radiation

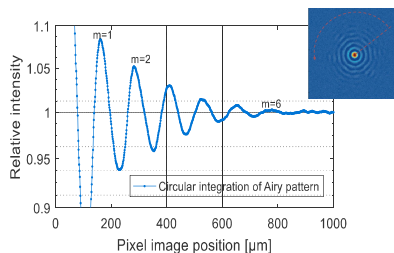
## Noted Examples

"Backside-illuminated sCMOS technology is very attractive for cost-adapting to specific applications, and overall shows good dynamic range, which can significantly reduce acquisition time for imaging applications compared to commonly used classical backside-illuminated CCD cameras."

---Journal of Synchrotron Radiation, 2020.

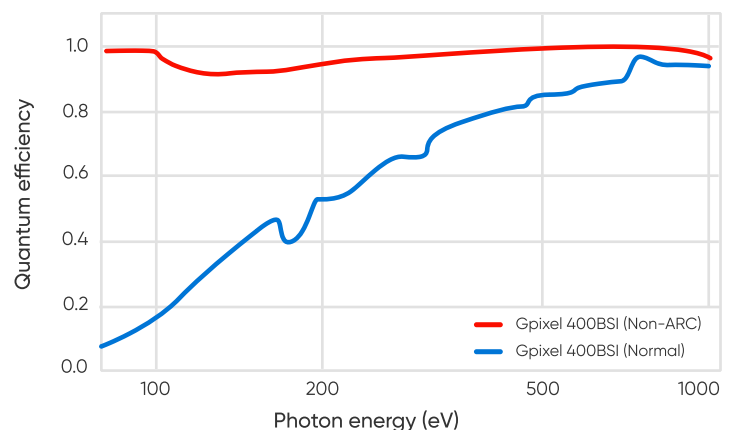


Beamline hutch at SOLEIL Synchrotron, France

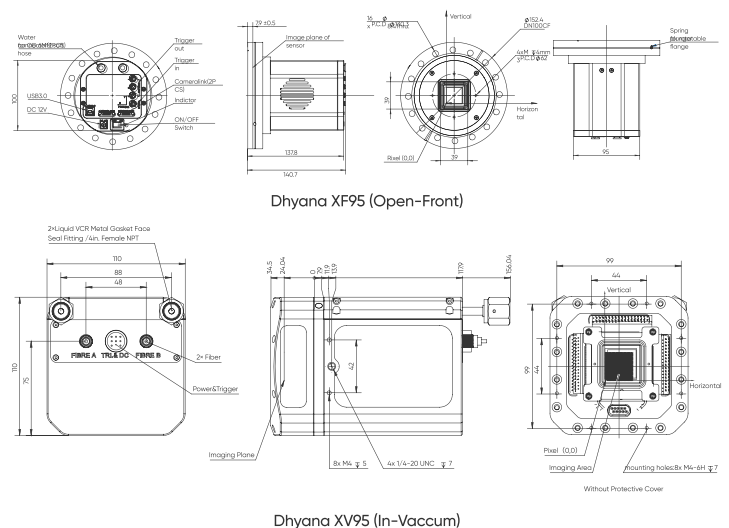


Diffraction pattern of 186 eV beam captured with Dhyana camera

## Quantum Efficiency



## Dimensions (Unit: mm)



# Specifications

Model	Dhyana XF95 (Open-Front)		Dhyana XV95 (In-Vacuum)	
Sensor Type	Non Anti-Reflection Coating / Standard BSI sCMOS			
Sensor Model	GSENSE 400BSI-PS / GSENSE 400BSI			
Peak QE	~100%			
Chrome	Mono			
Array Diagonal	31.9 mm			
Effective Area	22.5 mm x 22.5 mm			
Resolution	4.2 MP, 2048 (H) x 2048 (V)			
Pixel Size	11 μm x 11 μm			
Full Well Wapacity	Typical: 90 ke-		Typical: 85 ke-	
Dynamic Range	90 dB			
Frame Rate	HDR: 24 fps; STD: 48 fps			
Readout Noise	Typical: 1.6 e- (Median)			
Shutter Mode	Rolling			
Exposure Time	21 μs~300 s			
Linearity	> 99%			
DSNU	0.2%			
PRNU	0.3%			
Bit Depth	12 bit, 16 bit			
Cooling Method	Liquid Cooling, Air Cooling		Liquid Cooling	
Cooling Temp.	-35°C@25°C (ambient temp.), -50°C@20°C (water temp.)		-45°C@20°C (water temp.)	
Dark Current	0.3 e-/pixel/s@-40°C chip temp.		0.3 e-/pixel/s@-40°C chip temp.	
Vacuum Compatibility	10 <sup>-7</sup> Pa (Max)		10 <sup>-6</sup> Pa	
Binning	2 x 2, 4 x 4			
ROI	Support			
Timestamp Acc.	1 μs			
Trigger Mode	Hardware, Software			
Trigger Output	Exposure Start, Simulated Global, Readout End, High, Low			
Trigger Interface	SMA		Hirose	
Data Interface	CameraLink, USB 3.0		USB 3.0-Over-Fiber	
Flange Size	DN100CF / User Customization		Feedthrough DN100CF / Customization	
Power Supply	12 V / 8 A		AC Power	
Power Cons.	<65 W		<65 W (incl. ctrl. box)	
Dimensions	152.4 mm x 152.4 mm x 140.7 mm		110 mm x 110 mm x 191 mm	
Weight	~3700 g		~2600 g (camera body)	
Software	Mosaic, SamplePro, LabVIEW, MATLAB, Micro-Manager			
SDK	C, C++, C#		C, C++, C#, Python	
Operating System	Windows, Linux			
Operating Environment	Temp.: 0°C~40°C		Temp.: 0°C~40°C	
	HUM 0%~75%, non-condensing		HUM 0%~75%, non-condensing	
	Bake-out Temp.: < 70°C		Bake-out Temp.: < 70°C	

\*Specifications in this manual are subject to changes without prior notice.



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