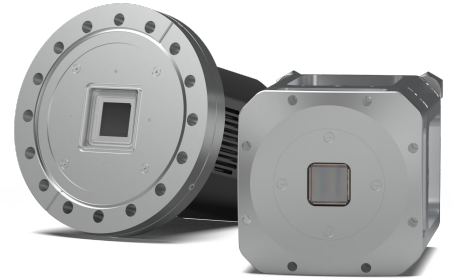
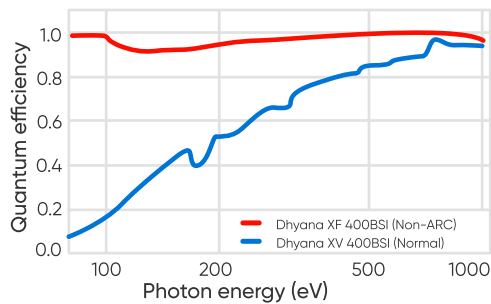


# Dhyana XF / XV400BSI

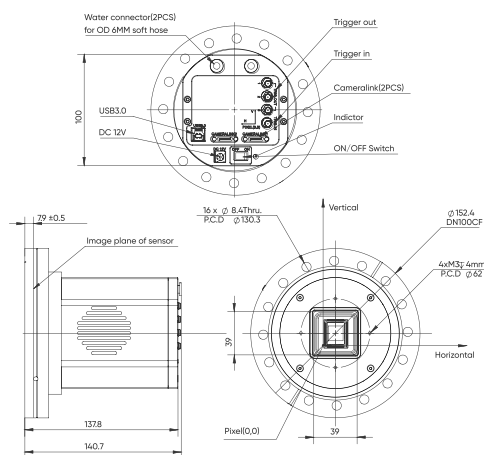
The Dhyana XF / XV 400BSI series soft X-ray camera offers high-precision imaging with 6.5  $\mu\text{m}$  pixels, balancing high SNR and resolution. Its 45 Ke<sup>-</sup> full well capacity ensures a wide dynamic range, handling both strong and weak signals. This delivers key advantages in soft X-ray experiments like scattering studies.



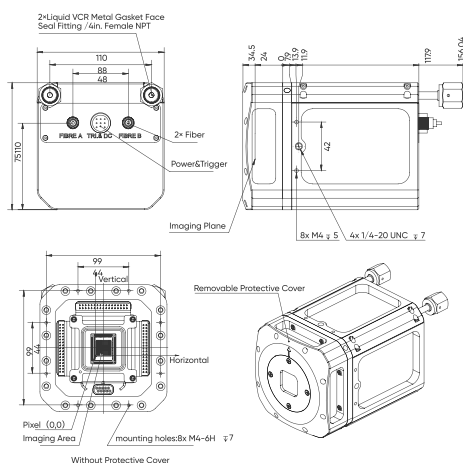
## Quantum Efficiency



## Dimensions (Unit: mm)



Dhyana XF 400BSI (Open-Front)



Dhyana XV 400BSI (In-Vacuum)

## Specification

| Model              | Dhyana XF400BSI                                               | Dhyana XV400BSI           |
|--------------------|---------------------------------------------------------------|---------------------------|
| Sensor Model       | GSENSE2020BSI-PS / GSENSE2020BSI                              |                           |
| Sensor Type        | Non Anti-Reflection Coating / Standard BSI sCMOS              |                           |
| Peak QE            | ~100%                                                         |                           |
| Array Diagonal     | 18.8 mm                                                       |                           |
| Effective Area     | 13.3 mm x 13.3 mm                                             |                           |
| Resolution         | 2048 (H) x 2048 (V)                                           |                           |
| Pixel Size         | 6.5 $\mu\text{m}$ x 6.5 $\mu\text{m}$                         |                           |
| Full Well Capacity | Typical: 45 Ke <sup>-</sup>                                   |                           |
| Dynamic Range      | 90 dB                                                         |                           |
| Spectral Range     | 80~1000 eV / 200~1100 nm                                      |                           |
| Frame Rate         | 40 fps@USB 3.0,<br>100 fps@Camera Link                        | 40 fps@USB 3.0            |
| Readout Noise      | Typical: 1.1 e <sup>-</sup> (Median)                          |                           |
| Shutter Mode       | Rolling, Global Reset                                         |                           |
| Exposure Time      | 6.6 $\mu\text{s}$ ~300 s                                      |                           |
| Linearity          | > 99%                                                         |                           |
| DSNU               | 0.2 e <sup>-</sup>                                            |                           |
| PRNU               | 0.3%                                                          |                           |
| Bit Depth          | 11 bit, 12 bit, 16 bit                                        |                           |
| Cooling Method     | Liquid Cooling, Air Cooling                                   |                           |
| Cooling Temp.      | 60°C below ambient                                            |                           |
| Dark Current       | 0.5 e <sup>-</sup> /pixel/s@-40°C chip temp.                  |                           |
| Vac. Compatibility | 10 <sup>-7</sup> Pa (Max)                                     | 10 <sup>-6</sup> Pa (Max) |
| Binning            | 2 x 2, 4 x 4                                                  |                           |
| ROI                | Support                                                       |                           |
| Timestamp Acc.     | 1 $\mu\text{s}$                                               |                           |
| Trigger Interface  | SMA                                                           | Hirose                    |
| Data Interface     | CameraLink, USB 3.0                                           | USB 3.0                   |
| Flange Size        | DN100CF                                                       | Feedthrough DN100CF       |
| Customization      | Customization                                                 | Customization             |
| Power Supply       | 12 V / 8 A                                                    | AC Power                  |
| Power Cons.        | ≤ 65 W                                                        |                           |
| Weight             | ~3900 g                                                       | ~2600 g                   |
| Software           | Mosaic 3.0, Sample Pro, LabVIEW,<br>MATLAB, Micro-Manager 2.0 |                           |
| SDK                | C / C++ / C# / Python (XV Series only)                        |                           |

