

## XSSD50-04GR-SYS

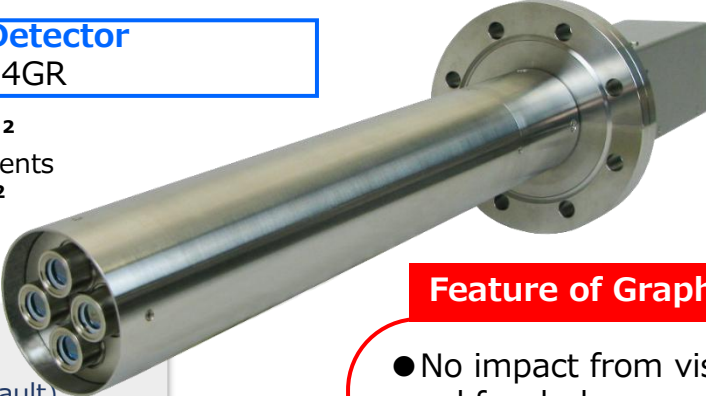
## SYSTEM

The latest SDD adopts a 4-element configuration, achieving high counting rate and high energy resolution. The APU504XDC allows the selection between high counting rate mode and high resolution mode, enabling flexible measurements.

### Silicon Drift Detector XSSD50-04GR

### Graphene Window

**Total sensitive area: 188 mm<sup>2</sup>**  
collimated to 47 mm<sup>2</sup> × 4 elements  
**Total element area: 260 mm<sup>2</sup>**  
65 mm<sup>2</sup> × 4 elements



### Feature of Graphene Window

- No impact from visible light, so no need for darkroom or blackout curtains
- Maintains high performance up to a heat sink temperature of 80°C
- Capable of operating for over 10 years with stable vacuum conditions
- Transmittance equal to or greater than that of a polymer window

Customizable

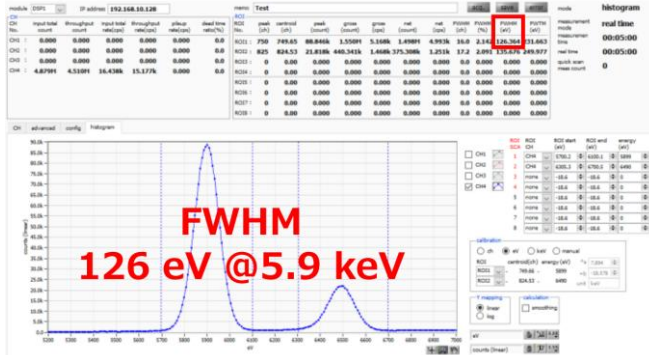
- Flange (ICF114)
- Tube length: 200 mm (default)
- \*Modifications will incur additional costs.

### High Counting Signal Processing Module APU504XDC



**100 Msps, 16-bit**

Throughput	Maximum 150 kcps : 2 us Maximum 1000 kcps : 0.15 us
Measurement Mode	Histogram, List, Waveform, ROI-SCA
Energy resolution (typ.)	126 eV @ 5.9 keV MnKa, at 1 μs peaking time 1000 kcps OCR @ high counting setting
Communication	Gigabit Ethernet (TCP/IP)
Accessories	Data collection app, user manual Command manual, sample program
Option	Z-axis up/down mechanism, UHV valve, etc.



Screen of the included application



LEMO cable with both ends for signal(50cm)



Power and fan cables(3m)

### Power supply for detector APU3900



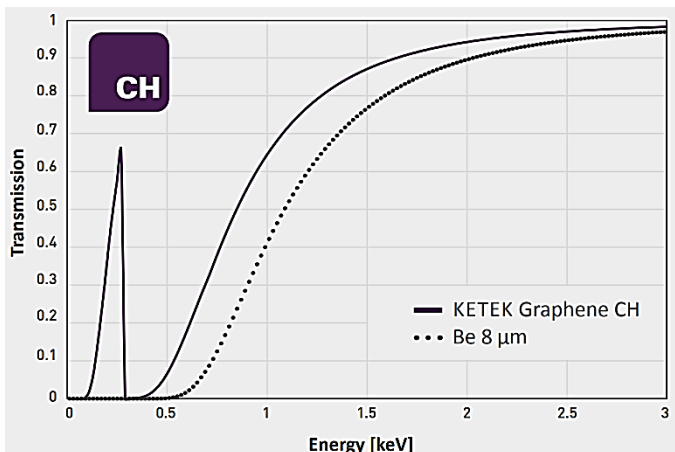
-200 V , ±5V , + 3.3V

\*Images is for illustration purpose.  
\*Please note that contents may change without prior notice.



### CH type (for high energy)

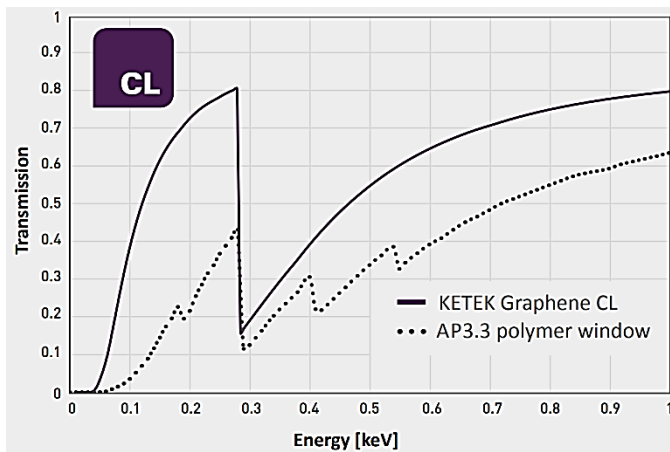
- 1  $\mu\text{m}$  thick carbon
- No support grid
- Replacement with 8  $\mu\text{m}$  beryllium window



Comparison between Beryllium Window and 1  $\mu\text{m}$  Graphene Window

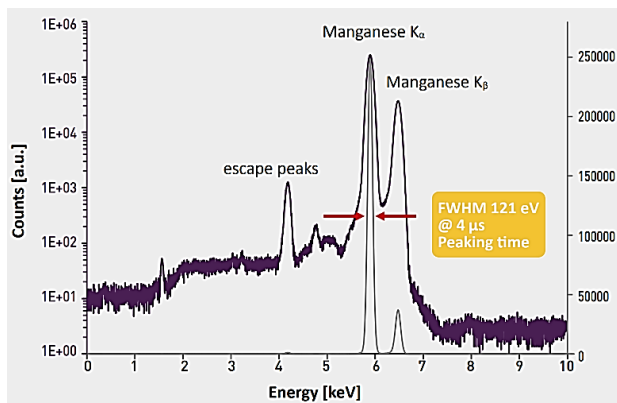
### CL type (for low energy)

- 165 nm thick carbon
- Silicon support grid (open area ratio 86%)
- For low energy applications

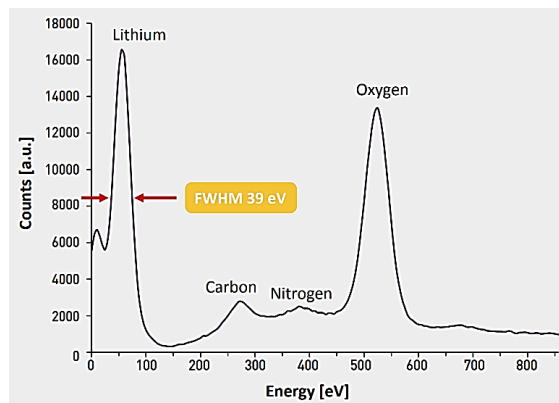


Comparison between AP.3 Window and 165nm Graphene Window

- Both windows provide vacuum sealing for the detector and exhibit excellent cooling performance.
- The transmission rate has been improved across the entire energy range compared to conventional windows.



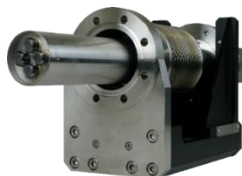
Energy resolution (FWHM) for Manganese Ka up to 121 eV at a peaking time of 4  $\mu\text{s}$



Low-energy spectrum  
Gaussian lithium and oxygen Ka peaks



Applying a 25-degree angle to the detection surface  
Reduces the focal distance to the sample



When using a vacuum-compatible bellows drive mechanism

**We also accept custom orders and prototypes.  
Please feel free to contact us.**

