

Hardware

Silicon Drift Detector resolution guaranteed on customer's microscope:

Sensor size	At Mn K α (50,000cps)	At Cu K α (50,000cps)
30mm ²	< 137 eV	< 158 eV

Resolution is guaranteed and tested on installation using an **x-stream2** pulse processor, between 10°C and 30 °C.

Detector stability

- Peak position is guaranteed to change by no more than 1 eV between 1,000 cps and 100,000 cps

Low energy performance

- Guaranteed detection of elements from Z=5 (boron).

Silicon Drift Detector

As Standard:

- Low noise external FET with unique new PentaFET precision inside, ensuring accurate results at higher count rates.
- Pulsed restore for performance at high throughput and a stable response with changing count rate
- SATW ultra thin polymer window
- Collimator assembly incorporating electron trap.
- Manufactured under ISO9001 standard
- EMC Approved
- Vacuum sensor which shuts-off the detector when the chamber is vented

Liquid nitrogen-free cooling using Peltier cooling:

- Requires only electrical supply
- No external compressor, gas lines or chiller
- Vibration free – no moving parts
- Cool on Demand Capability detector only needs to be cooled as required:
 - Detector cools automatically when TTM chamber is pumped
 - Detector cools down in seconds ready for stable analysis

x-stream2 pulse processor

x-stream2 is the latest generation of pulse processors capable of handling very high count rates. High speed communications with the built in embedded PC and Microscope Image Capture (MIC) electronics enable digital control and digital pulse processing. Single USB connection to Microscope PC and pre calibration of system enables simple connectivity and ease of installation.

- Effective pile-up discrimination when working at very high count rates
- Simple automatic system calibration
- Using a single pure element standard (e.g. Si, Co, Cu) at a single process time
- High precision energy scale under any conditions
- Two process times to provide control of count rate and resolution

Environmental specification

These requirements are necessary for the installation and operation of the system and are the responsibility of the purchaser.

- Operating temperature: 10°C to 30°C
- Operating humidity: <80% relative humidity, non-condensing
- Operating altitude range: Sea level to 1,500 m



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