

Large area Silicon Drift Detector

X-Max^N performance reaches new levels of size and sensitivity.

Large sensor = Maximum counts.

Coupled with X-Max^N new electronics, means higher throughputs as well as increased counts provided by X-Max due to large solid angles.

X-Max^N allows the same excellent resolution at higher count rates for better throughput. In addition, improved sensitivity for low energy X-rays means that not only is Be guaranteed, but also Si L_I and Al L_I lines are commonly detected.

Detector	Sensor active area (mm ²)	Sensor chip area (mm ²)
X-Max ^N 20	20	30
X-Max ^N 50	50	65
X-Max ^N 80	80	110
X-Max ^N 150	150	170

Resolution Guarantees	Resolution guaranteed and tested on installation using an x-stream2 pulse processor, between 10°C and 30°C up to 1,500m Standard (X-Max^N 20, 50, 80 and 150) <ul style="list-style-type: none"> • Mn Kα resolution guaranteed to be less than 127 eV at 50,000 cps • F Kα resolution guaranteed to be less than 64 eV at 50,000 cps • C Kα resolution guaranteed to be less than 56 eV at 50,000 cps Premium (X-Max^N 20, 50 and 80) <ul style="list-style-type: none"> • Mn Kα resolution guaranteed to be less than 124 eV at 20,000 cps • F Kα resolution guaranteed to be less than 58 eV at 20,000 cps • C Kα resolution guaranteed to be less than 48 eV at 20,000 cps
Detector Stability	Peak position and resolution guaranteed to change by no more than 1eV between 1,000 cps and 100,000 cps (measured on Mn K α at Process Time 4)
Detection Range	Detection from beryllium (Be) to californium (Cf)
Low Energy Performance	Incorporates SATW Ultra Thin Polymer Window for the best low energy performance. All X-Max ^N detector resolution specifications are guaranteed in compliance with ISO15632:2012
Cooling	LN ₂ -free, vibration free, Peltier Cooling <ul style="list-style-type: none"> • Requires only an electrical supply • No external compressors, chillers, or gas lines required – no vibration

As Standard:

- Motorised slide
- Low noise external FET, ensuring accurate results at all count rates. Includes pulsed restore for performance at high throughput and a stable response with changing count rate
- Unique vacuum reservoir specifically designed for increased detector lifetime and improved light element performance
- Uniquely designed to operate in any orientation – ideal for fitting multiple geometries.
- Customised detector interface for your microscope with 'O' ring vacuum seals to the chamber and vacuum bellows seal to the detector probe
- Manufactured under ISO9001 standard
- Geometry design with an optimal take off angle to maximise count rates and solid angle (specific to each microscope)

x-stream2 pulse processor

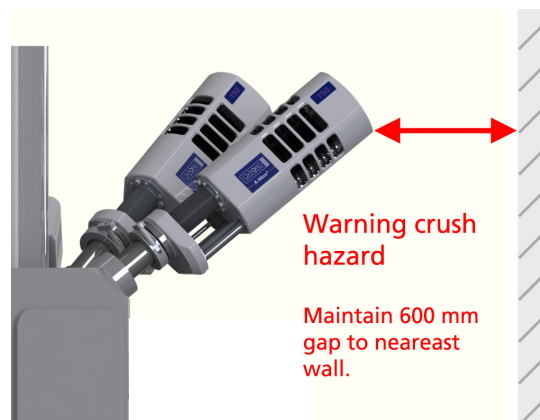
x-stream2 is the latest generation of pulse processors capable of handling very high count rates. IEEE1394 plug and play high speed communications with the analyser PC and Microscope Image Capture (micsF+) electronics enable digital control and digital pulse processing.

- 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
- Six process times to provide full control of count rate and resolution

X-Max^N 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



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