Bruker AXS Microanalysis GmbH

30 mm²
127 eV

XFlash® Detector 5030 - 30 mm² active area for low beam current applications

Bruker AXS Microanalysis' successful XFlash® Silicon Drift Detector (SDD) series includes a detector with high quantum detection efficiency – the XFlash® Detector 5030. Due to its large active area of 30 mm², this liquid nitrogen-free detector is the instrument of choice for installations on transmission electron microscopes (TEMs) and cold field emission scanning electron microscopes (cold FE-SEMs).

Like other XFlash® SDDs the 5030 has an impressive maximum input count rate capability – 750,000 cps. This is achieved in combination with Bruker's hybrid pulse processing unit. Therefore, the detector delivers extremely fast EDS analysis results.

In comparison to a 10 mm² SDD the detector's 30 mm² active area results in a threefold increase of count rate detection capability at the same beam current. This makes the XFlash® Detector 5030 ideal for low beam current applications and convenient for the examination of sensitive samples using environmental and variable pressure SEMs as well as TEMs.

Thanks to its optimized electron trap, interference-free analysis is guaranteed even at low excitation energies.

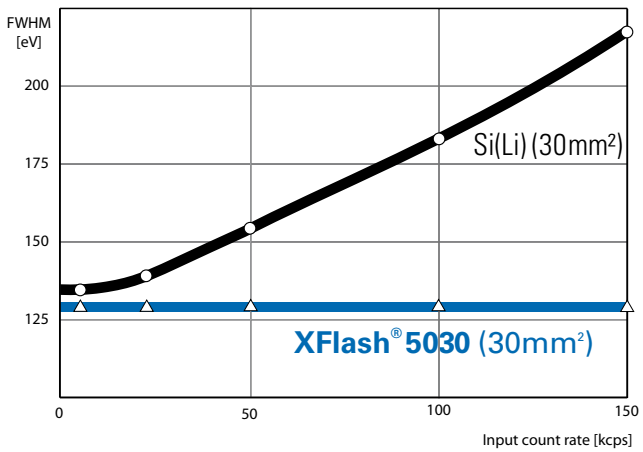
At the same time, the XFlash® 5030 achieves a superb energy resolution of ≤127 eV (Mn Kα) at 100,000 cps. Nevertheless, the detector's finger is no wider than the finger of the 10 mm² XFlash® Detector 5010. Its small dimensions allow reduced distance between detector and sample. The low weight of 2.5 kg minimizes mechanical strain on the TEM or SEM electron column.

The XFlash® Detector 5030 features a passive thermoelectric cooling system, which operates without liquid nitrogen and contains no moving parts. Because of this the detector doesn't affect high resolution microscopes through vibrations or unbalanced mass. The virtually maintenance-free XFlash® 5030 can be used within seconds after being switched on, giving you more time for your applications.

Technical Data
Energy resolution of 127 eV (Mn Kα) guaranteed at 100,000 cps, 54 eV C Kα, 62 eV F Kα (in compliance with ISO 15632 : 2002) stable over whole OCR range
Detection from beryllium (4) to americium (95)
Maximum pulse load 750,000 cps
Active area of 30 mm^2
Optimized electron trap for interference-free analysis in the low energy range
Peltier cooling (no liquid nitrogen or other cooling agents required)
Due to compact design, low weight and vibration-free cooling method no image distortion at the SEM
Compatible with all microscopes

Comparison XFlash® 5030 / Si(Li) Detector

Typical energy resolution at Mn Kα vs. input count rate



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