



XFlash[®] detector 5030 – the specialist in small beam current applications

The XFlash[®] 5030 supports EDS analysis under most complicated conditions. The large active detector area of 30 mm² designates this detector for application on scanning electron microscopes (SEM) that can only provide small beam currents. This includes cold field emission microscopes, environmental and low pressure SEMs.

The larger area of this detector provides three times input count rate on the SEM than a 10 mm² silicon drift detector (SDD) at the same beam current. This enables analysis of beam sensitive samples, like organic specimens, as well. The generated input count rate is sufficient to keep acquisition times short, which is important to limit damage to these samples.

The XFlash[®] 5030 provides excellent spectrometric properties. Apart from an impressive maximum input count rate of 750,000 cps, it works at its best energy resolution over a wide range. This range may be up to 100,000 cps wide depending on the selected version (with 127, 129 or 133 eV energy resolution at Mn K α). This means that the detector is also suitable for fast mapping at a good energy resolution.

Like for all members of the XFlash[®] detector family, great care has been taken in the design of and selection of materials for the XFlash[®] 5030 to cause as little interference as possible with the image formation in the SEM. On the one hand this is attained through the small and lightweight design including liquid nitrogen-free Peltier cooling. On the other hand the new patented electron trap causes no distortion even at lowest SEM acceleration voltages.

Specifications

Energy resolution 127 eV at Mn K α (54 eV C K α , 64 eV F K α), guaranteed up to 50,000 cps

Also available:

129 eV at Mn K α (58 eV C K α , 68 eV F K α), guaranteed up to 75,000 cps

133 eV at Mn K α (65 eV C K α , 73 eV F K α), guaranteed up to 100,000 cps

Stated in compliance with ISO 15632 : 2002

Detection range from boron (5) to americium (95)

Maximum input count rate 750,000 cps

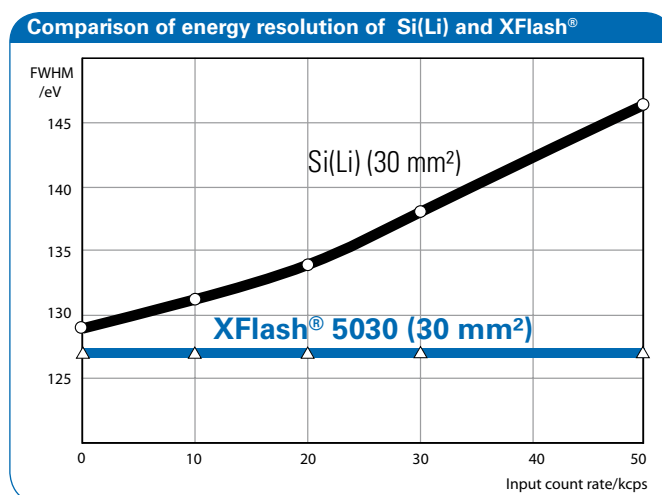
30 mm² active detector area

Optimized electron trap for interference-free analysis in the low energy range

Peltier cooling (neither liquid nitrogen nor water required for cooling)

No image distortion on the SEM due to compact design, low mass and the vibration-free cooling method

Compatible with all SEM-types



Comparison of energy resolution in dependence on the input count rate between 30 mm² Si(Li) and XFlash[®] 5030.

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