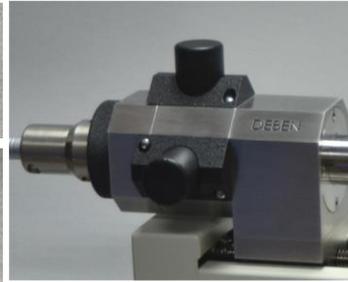


SEM Semiconductor detector with exchangeable detector diodes, BSE/STEM/HAADF/Segmented HAADF



Interchangeable diode options

Four quadrant Back Scattered, 10mm, 18mm or 24mm

Four segment STEM for standard STEM & phase contrast imaging

Annular Back Scattered

Annular STEM, full ring or segmented

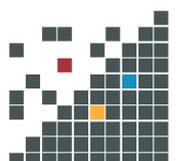
HAADF STEM

Imaging applications

- BSE, STEM, Annular STEM, HAADF
- characterisation of nano-structured materials
- inorganic and organic samples
- crystalline and amorphous materials
- semiconductors, metal oxide catalysts, crystal structure
- geological, composite & metallurgical samples

System features

- low kV operation (<1kV)
- outstanding Z contrast resolution
- EDX compatible
- one or three simultaneous video outputs
- resolution close to that of the SEM (in SE mode)
- 12 position 3.05mm grid holder for STEM applications
- high speed TV rate imaging
- motorised insertion & retraction
- PC controlled with USB interface
- available for most SEMs





The Deben GEN5 detector can be supplied with single or multiple semiconductor detector diodes allowing the user to switch from BSE to STEM imaging in a matter of minutes. A large selection of diodes is available with a choice of 10mm, 18mm or 24mm four quadrant BSE diodes, where 10mm would be chosen for EDX compatibility and 18mm or 24mm for maximum sensitivity. Also available is an annular BSE diode. Many different STEM diodes are available depending on your application with full ring or segmented annular and specific HAADF designs. Contact us to discuss your requirements.



A unique advantage of using the Deben detector is that it can be user configured for either BSE or STEM at initial purchase or in the future. Configured with Deben GEN5 electronics it becomes easy to obtain very high spatial resolution images with excellent contrast of low-Z materials. Other benefits include reduced effects from contamination, less charging, and minimised beam damage.

For STEM operation 3.05mm TEM specimen grids are easily mounted to the 12 position grid holder. Any combination of bright and dark field diodes (including reversed polarity) may be selected for processing.

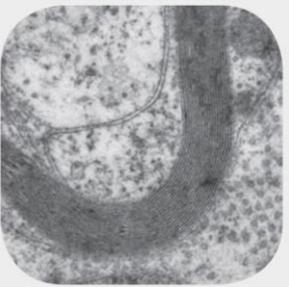


Image acquisition is via a microprocessor controlled amplifier providing an unrivalled scope of adjustment and optimisation. High quality images can easily be acquired and fed back into the SEM video system via the SEM auxiliary video input for viewing, further processing and saving. The quality of this amplifier in terms of noise, sensitivity and greyscale definition far exceeds those generally found fitted to SEM manufacturers standard BSE or STEM detectors.

Motorised insertion & retraction is supplied as standard, allowing keypad and PC positioning control. Alignment of the detector position is better than 20µm.



Software can be installed on the SEM or a standalone computer, acquisition parameters can be set to automatic or manual, providing ease of use for novice or expert microscopists.

Specifications

- retractable mounting mechanics including feed-through flanges and mounting adaptors to suit most SEMs
- 12 position 3.05mm grid holder with mountings to suit SEM stage
- 4 simultaneous input channels
- auxiliary video input is required on SEM for image display and saving
- 8,000,000: 1 total gain range, auto control system with imaging to TV rate
- Gen5 microprocessor controlled amplifier system with all cables and manuals
- PC software for USB system control
- One or three (optional) simultaneous analogue video outputs
- easy to use software control interface compatible with Windows™ XP/7.0, 32/64bit
- operating voltage 115V or 230V, fully CE and RoHs compliant

