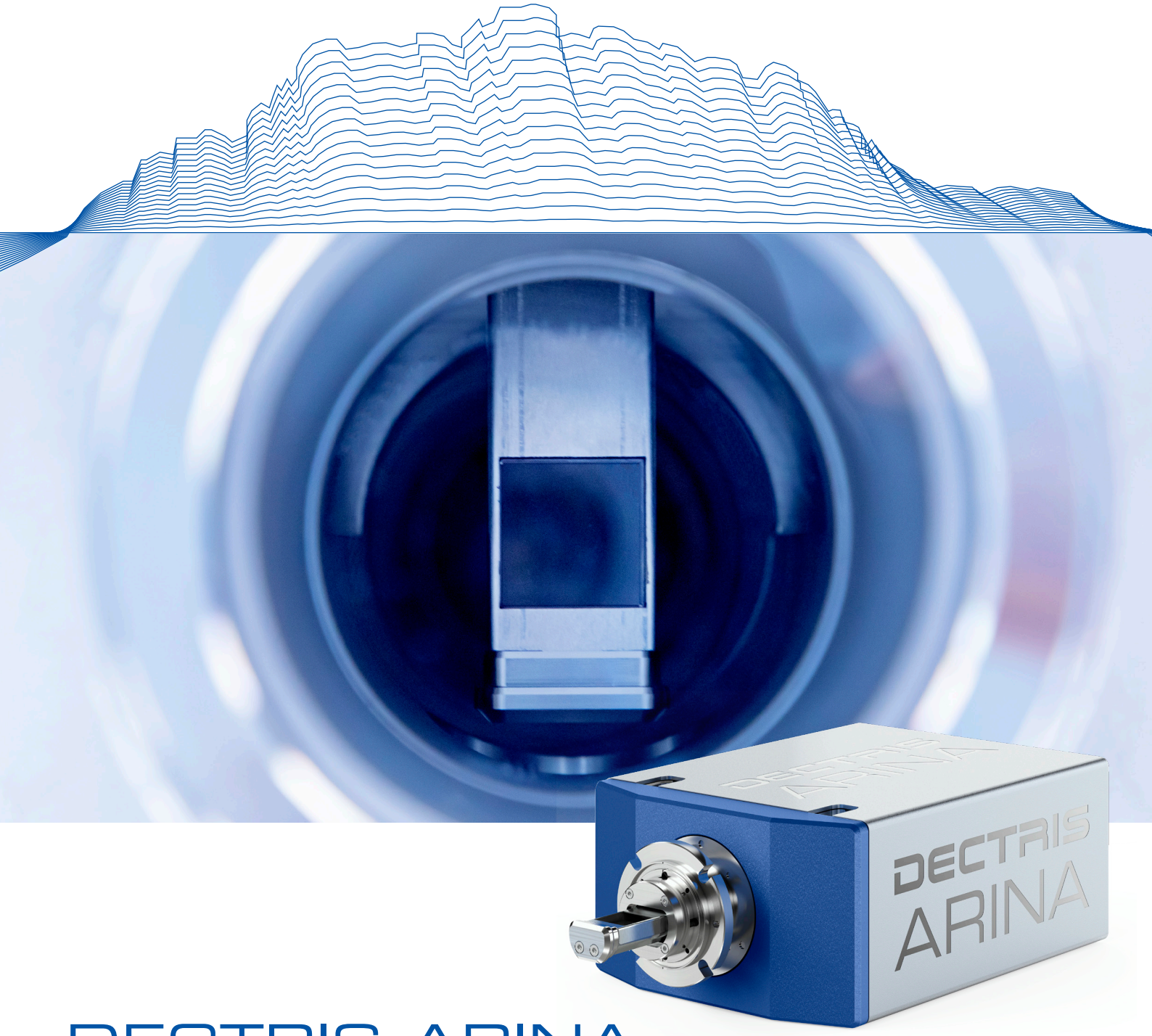
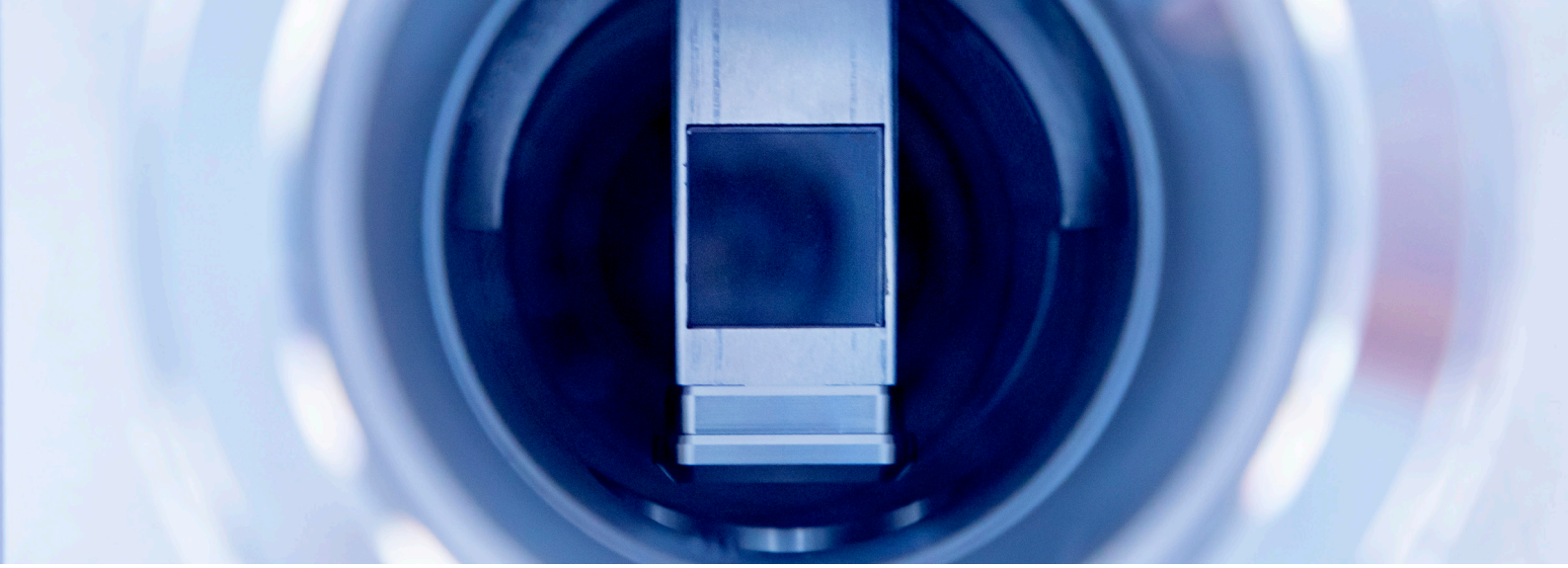
DECTRIS
detecting the future



DECTRIS ARINA

An ultra-fast 4D STEM hybrid-pixel detector



Technical Specifications

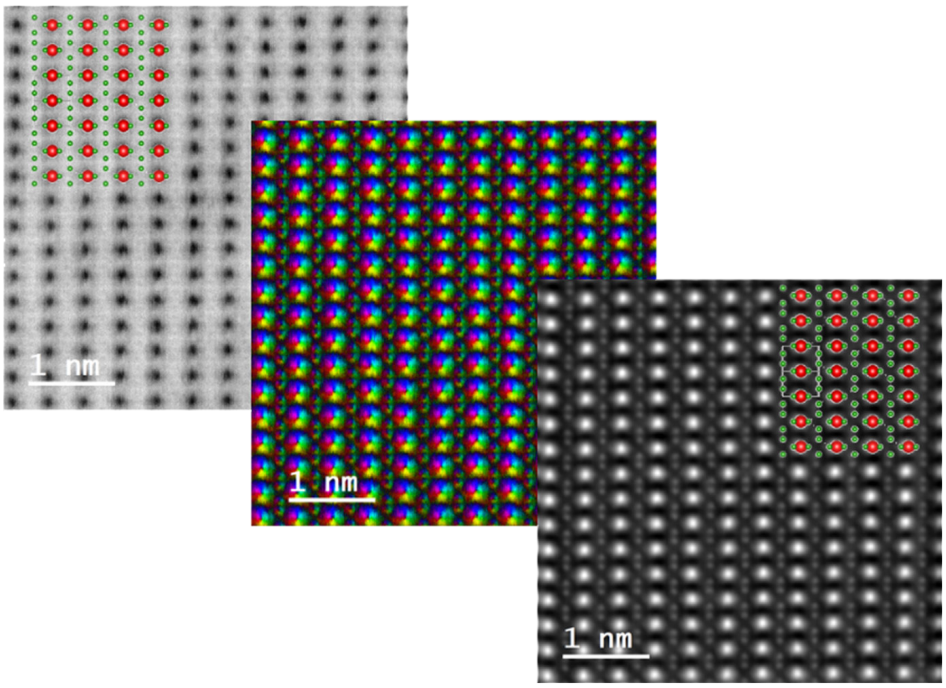
Frame rate (max)	120,000 Hz
Count rate (max)	10^8 el/s/pixel
Number of pixels	192 x 192
Pixel size	100 x 100 µm²
Sensor material	Silicon (Si) or high-Z
Energy range	30 - 300 keV
Detector mounting	Retractable

All specifications are subject to change without notice.

Designed for the future of 4D STEM

DECTRIS ARINA® retractable, electron-counting detector was specifically developed for 4D STEM applications. Featuring a new ASIC, it combines an extreme speed of up to 120,000 frames per second with a high dynamic range and noise-free readout, thus enabling high-quality data acquisition at the native speed of a conventional STEM measurement. Thanks to DECTRIS' hybrid-pixel technology, ARINA can employ different sensor materials and perform optimally in the whole energy range of 30-300 keV. It has a compact design and an active area of 20 mm by 20 mm or 192 pixels by 192 pixels.

DECTRIS ARINA fits the bill for a broad spectrum of 4D STEM applications with dwell times below 10 µs, from crystalline-phases and orientation mapping to ptychography - including flexible STEM images reconstruction with virtual detectors.



4D STEM experimental results with DECTRIS ARINA detector at 200 kV. Data was collected with 10 µs acquisition time per pixel.

Top-left: Virtual Bright Field STEM image.
Center: Local electric fields visualization with differential phase contrast (DPC).
Bottom-right: Integrated center of mass (iCoM) reconstruction indicating local atomic potentials for Sm and B atoms.
Overlay: atomic structure of SmB_6 along the <110> zone axis, with Sm as red and B as green spheres.

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