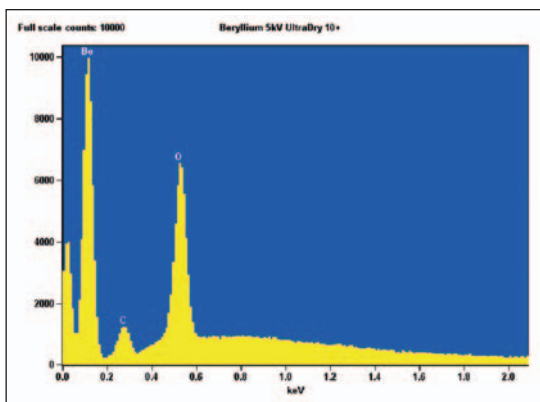
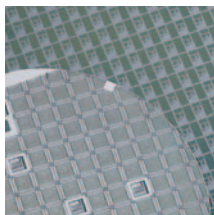


A new generation of X-ray detection from Thermo Scientific: the UltraDry silicon drift X-ray detector. The UltraDry detector combined with our X-ray micro-analysis system, gives users high-resolution high-throughput data collection with no-LN convenience.

UltraDry

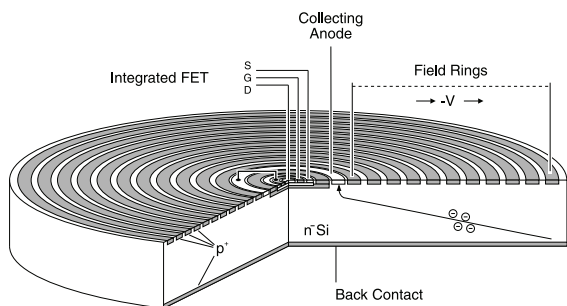
Silicon drift X-ray detector



The UltraDry silicon drift detector from Thermo Scientific brings new benefits to X-ray microanalysis by providing X-ray detection performance equal to current EDS detectors, but in a much shorter collection time. Combined with our X-ray microanalysis system, the UltraDry detector gives users high-resolution, high-throughput data collection with no-Liquid Nitrogen convenience. Compared to Si(Li) detectors, the silicon drift detector has extremely low internal capacitance. This permits operating the pulse processing electronics with short integration times, without sacrificing energy resolution. Short processing time with the silicon drift detector results in fewer pulse pile-up losses and more high-resolution data stored per second of acquisition.

With the latest generation of silicon drift detector sensors, the full potential of this technology has been realized for micro-analysis applications. Full light element analysis equal or even better than Si(Li) detectors can be performed down to Beryllium.

The UltraDry employs modern silicon drift detector technology to achieve high count rate performance. An integrated detector crystal, FET and thermoelectric cooling system create a highly efficient system that allows the collection of data at extremely high count rates with little sacrifice in energy resolution. While the silicon drift detector is capable of operating at room temperatures, thermoelectric cooling provides resolutions comparable to LN-cooled Si(Li) detectors. The UltraDry also provides "instant on" operation. While other detectors require hours of cool-down time, the UltraDry can be powered up and fully running in minutes.

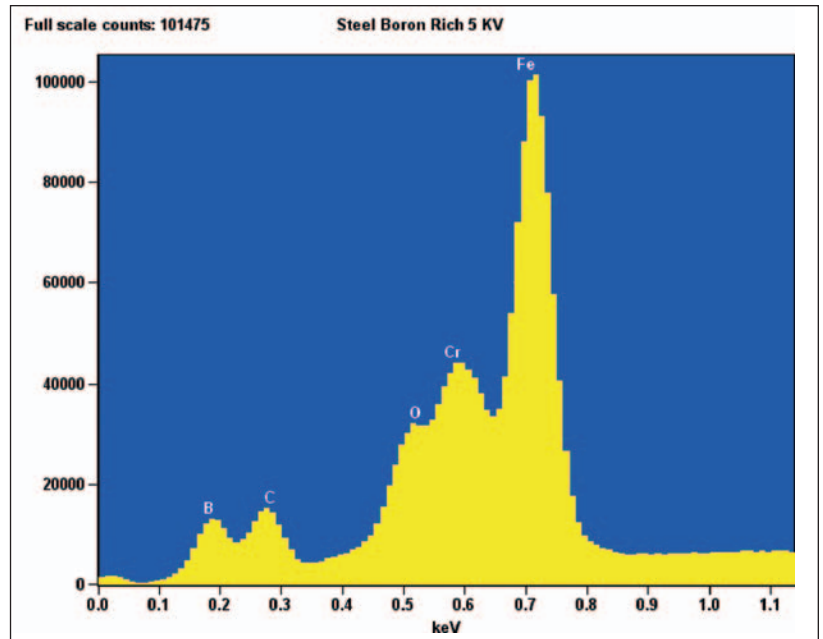


Cross section of Silicon Drift Detector

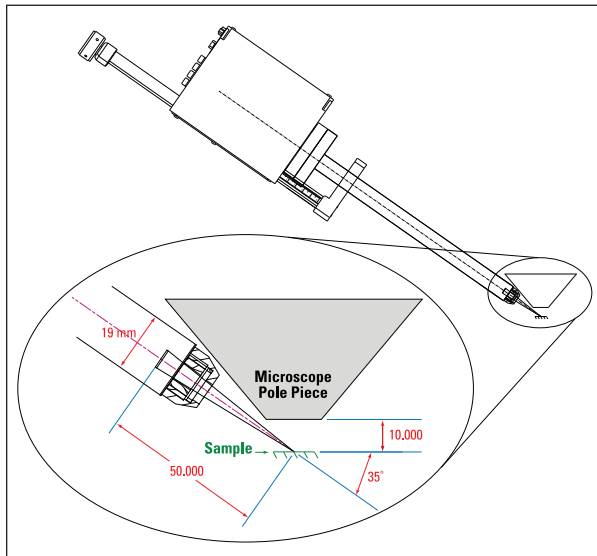
Specifications

- Maintains energy resolution at high input rates
- Light element sensitivity down to beryllium
- Integrated FET (reduces noise)
- Thermoelectric (Peltier) cooling (no auxiliary cooling connections, water or fans)
- Operating environment to 35 °C
- FWHM measured at 5.8keV (Mn-K α) with 10,000 counts per second stored in the spectra, measured on the electron microscope
- +/-5eV resolution change (+/-3eV typical between 1% and 60% deadtime) from minimum to maximum count rate at a given analyzer time constant
- +/-5eV peak shift (+/-3eV typical between 1% and 60% deadtime) from minimum to maximum count rate at a given analyzer time constant
- Input count rates >100,000 counts per second
- Motorized slide optionally available

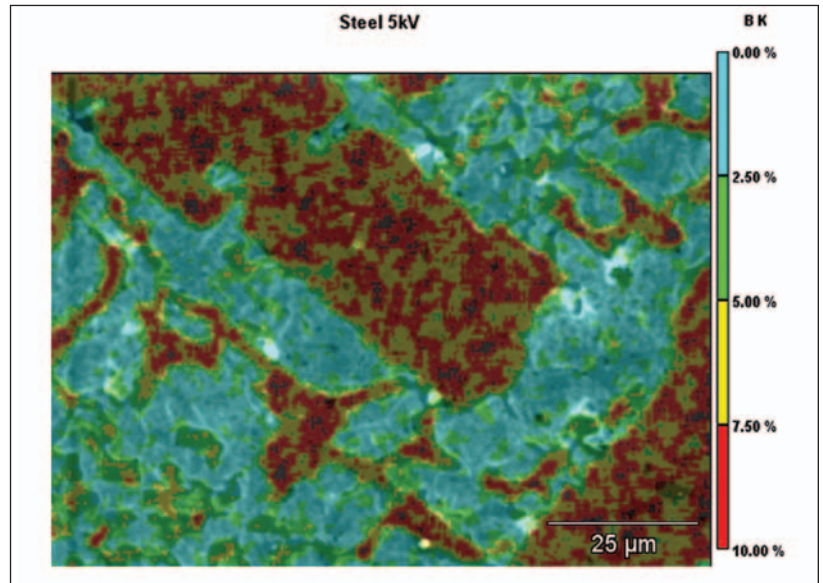
Active Area	Available Resolutions
10 mm ²	129, 132eV
30 mm ²	138, 143eV



UltraDry not only has the capability of high throughput, it also handles light element analysis with ease.



The 19 mm tube diameter of the UltraDry enables positioning of the silicon drift detector very close to the sample. This results in dramatically improved solid angle geometries for most SEM installations. Consult your sales representation regarding the specific geometry values of your microscope model.



Boron composition in a steel matrix measured at 5kV and a count rate of more than 50,000 cps.

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Thermo Electron Scientific Instruments LLC,
Madison, WI USA is ISO Certified.

PS50751_E 10/07M

Africa +43 1 333 5034 127
Australia +61 2 8844 9500
Austria +43 1 333 50340
Belgium +32 2 482 30 30
Canada +1 800 530 8447
China +86 10 5850 3588

Denmark +45 70 23 62 60
Europe-Other +43 1 333 5034 127
France +33 1 60 92 48 00
Germany +49 6103 408 1014
India +91 22 6742 9434
Italy +39 02 950 591

Japan +81 45 453 9100
Latin America +1 608 276 5659
Middle East +43 1 333 5034 127
Netherlands +31 76 587 98 88
South Africa +27 11 570 1840
Spain +34 914 845 965

Sweden/Norway/Finland +46 8 556 468 00
Switzerland +41 61 48784 00
UK +44 1442 233555
USA +1 800 532 4752
www.thermo.com

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