HITACHI
Inspire the Next

Transmission Electron Microscopes

HT7800

HF5000

HT7800 Family

20-120kV W/LaB_6 TEM/STEM in 3 models

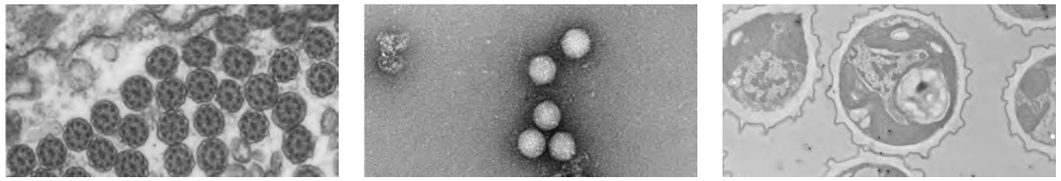
The Fully Digital TEM / STEM for all Applications

The HT7800 family supports a wide range of applications, from life sciences to materials science. It's available in three different pole piece variants, always based on our patented objective lens for fast switching between high contrast and high resolution.

The 3 pole piece variants in detail:

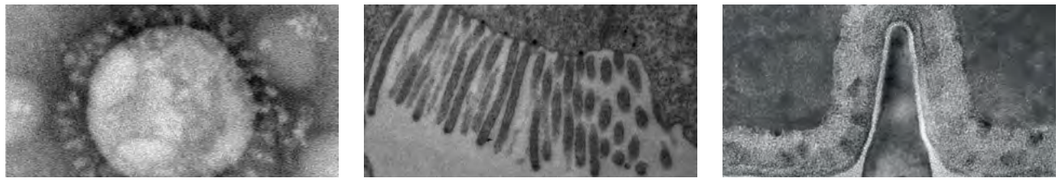
HT7800
Standard Version

With large pole piece distance for life science applications, high tilt angle series (tomography), correlative and cryo work. This standard version is also well suited for soft-matter materials science applications with low intrinsic contrast.



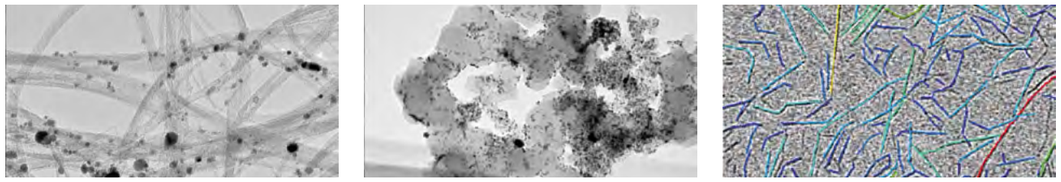
HT7820
High-Resolution Version

For "more" resolution in TEM, STEM as well as EDX and cryo mode, with 30 degree goniometer tilt (optional special holder for 360 degree tilt).



HT7830
UHR Version

For materials science with the highest resolutions and magnifications in the 120kV segment, while maintaining top contrast values thanks to the patented high-contrast mode.



+ Optional Accessories

- EDX element analysis
- Automation
- LaB_6 electron source
- STEM Function
- Tomography function
- Software packages for 3D reconstruction, particle analyses, automated diffraction mapping incl. analysis, CFR21 compliance, ...

✓ Product Features

5-axis sample stage with coordinate memory for easy retrieval of samples. Sample navigation via "full-grid" navigation image

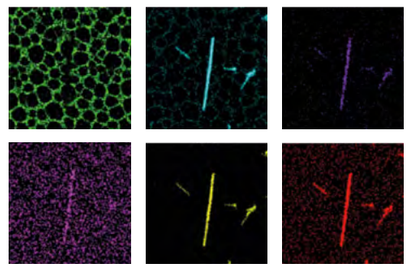
Convenient on-screen operation via the fully integrated digital CMOS overview camera with >30 images per second instead of a bi-ocular

Electron source either tungsten or LaB_6

Fully integrated main cameras from renowned manufacturers for optimum adaptation to the working environment.

The figure below shows EDX mapping of an asbestos fibre (anthophyllite:$(Mg,Fe)_7Si_8O_{22}(OH)_2$).

Highly sensitive (S)TEM-EDX mapping of the sample can be captured on the HT7800 with a simplified configuration, without the need for a full-featured STEM imaging unit.



Air Protection

Cold Feld Emitter

HITACHI
Inspire the Next

HF5000

60-200kV ETEM with maximum resolution

In-situ capabilities with Atomic Resolution Analytics

The HF5000 is a Cs-corrected S/TEM customisable for in-situ experiments. The special feature is provided by the Everhart Thornley SE detector, which images the surface of the sample at 60-200kV, just like in an SEM. This is particularly advantageous for gas & heating in-situ experiments, in which gas reacts with the surface of the sample. Thanks to the Cs-corrector, the surface can be visualised with atomic resolution. The routine and fast switching between TEM and STEM makes daily work with a fully automated Cs-corrector easy, even for beginners in the field of TEM.

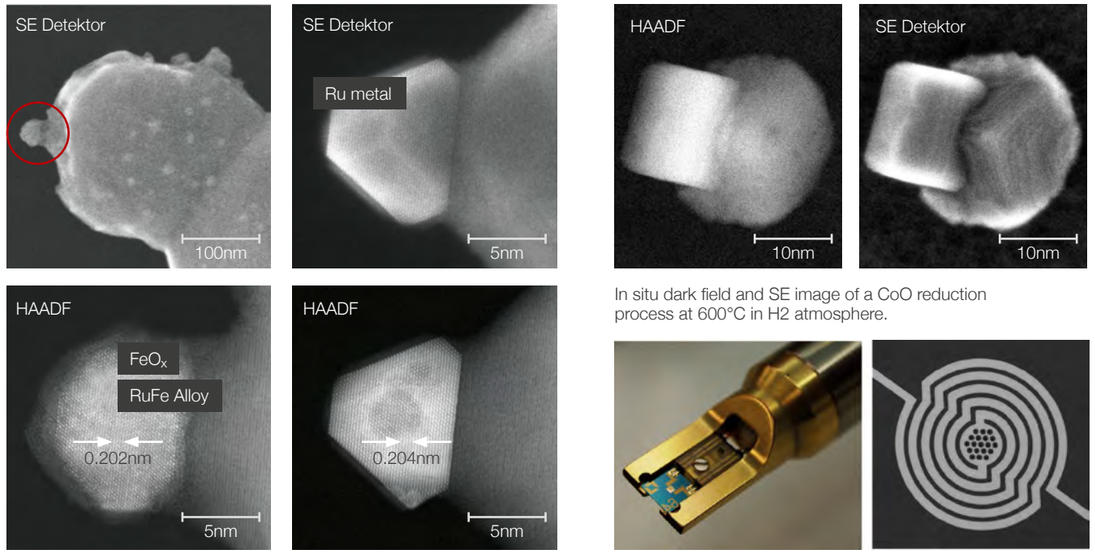
+ Optional Accessories

- EELS
- 2x 100mm² dual EDX
- In-situ functionality (ETEM) for gases, liquids, temperatures
- Large selection of sample holders, e.g. inert gas sample transfer, Hitachi FIB compatible holders, 360° tomography holder

✓ Product Features

- Cold field emission electron source with energetically narrow-band emission, ideal for high-resolution imaging and EELS
- Hitachi STEM Cs-corrector, fully automated
- Secondary electron detector for superimposed information on sample surface in correlation to signal of transmitted electrons
- ETEM experiments e.g. possible in an open gas atmosphere

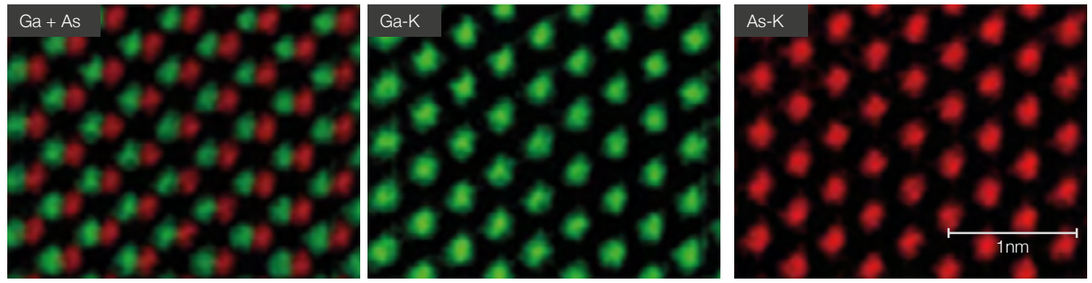
200° **800°**



Ru nanoparticles in an O_2 atmosphere at 200°C and 800°C.

In situ dark field and SE image of a CoO reduction process at 600°C in H2 atmosphere.

In-situ holder for heating experiments. The gas is introduced into the microscope through a separate nozzle.

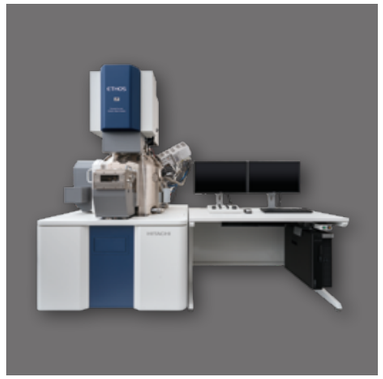


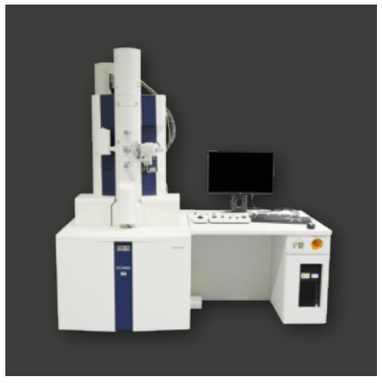
Atomically resolved EDX distribution measurement on GaAs

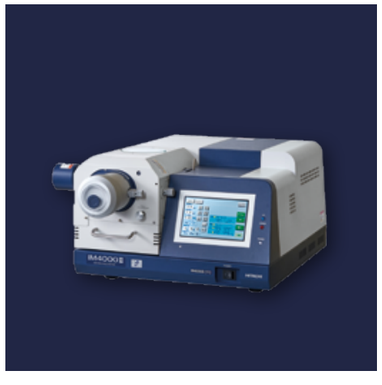







HITACHI
Inspire the Next

Not sure which product aligns with your needs?

Our experts are here to provide guidance and help you make the best choice.

Speak with an expert

Follow us

Hitachi High-Tech Europe GmbH
Europark Fichtenhain A12
47807 Krefeld
Tel.: +49 2151 6435 300
E-Mail: hte-ask@hitachi-hightech.com

www.hitachi-hightech.com

Notice: For correct operation, follow the instruction manual when using the instrument.

Specifications in this catalog are subject to change with or without notice, as Hitachi High-Tech Corporation continues to develop the latest technologies and products for our customers.