

TM3030Plus specification

Specifications

Items	Description
Magnification	15 to 120,000x ^(*)
Observation condition	5 kV/15 kV/EDX
Signal select	BSE/SE/Mix
Observation mode	BSE:Conductor/Standard/Charge-up Reduction SE :Standard/Charge-up Reduction Mix :Standard/Charge-up Reduction
Image mode (BSE)	COMPO/Shadow 1/Shadow 2/TOPO
Sample stage traverse	X:35.0 mm, Y:35.0 mm
Maximum sample size	70 mm in diameter
Maximum sample height	50 mm
Electron gun	Pre-centered cartridge filament
Signal detection system	BSE:High-Sensitivity semiconductor 4-segment BSE detector SE: High-Sensitivity Low Vacuum SE detector (UVD)
Auto image adjustment function	Auto start, Auto focus, Auto brightness/contrast
Frame memory	640x480 pixels, 1,280x960 pixels
Image data memory	HDD of PC and other removal media
Image format	BMP, TIFF, JPEG
Data display	Micron marker, micron value, date and time, image number and comments, Image mode, Observation condition, D (Distance), Observation mode, Signal select
Evacuation system (vacuum pump)	Turbomolecular pump: 30 L/s x 1 unit, Diaphragm pump: 1 m ³ /h x 1 unit
Operation help functions	Raster rotation, Magnification preset (two steps), Image shift (±50 μm@D=4.5 mm)
Safety device	Over-current protection function, built-in ELCB

※In case digital zoom function.

Required PC specifications

Items	Description
OS	Windows® 7 Professional(64bit version)
CPU	Intel®Core™ i5-2520M(Equivalent or higher)
Memory	2 GB minimum
Display resolution	1,280x800 pixels or 1,366x768 pixels
Display size	15-inch display
Interface connector	Installing USB 2.0 and PC-card slot (IEEE1394(6pin) for Oxford EDX is indispensable.)
Memory device	With HDD DVD-ROM Drive
Other	More than 100 MB of free space in HDD is required

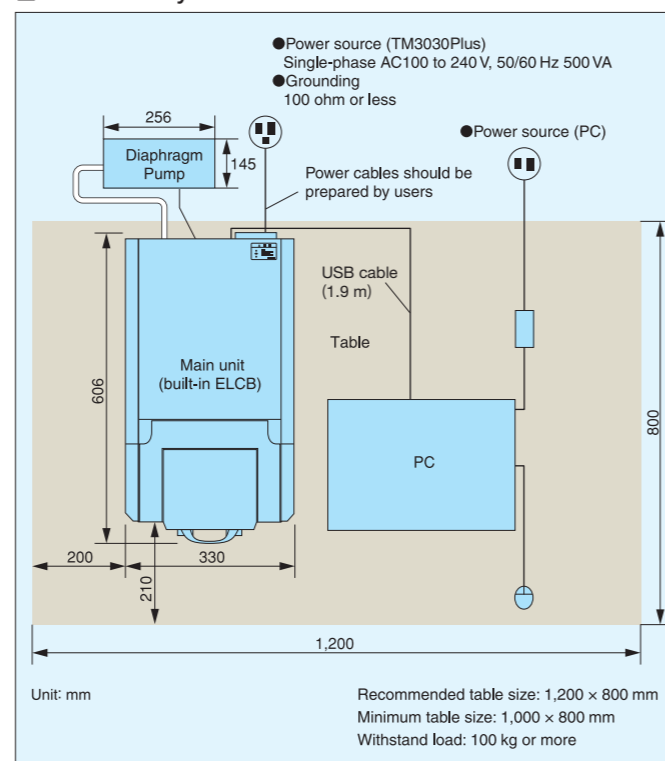
Dimensions and weight

Items	Description(Width x Depth x Height, Weight)
Main unit	330 x 606 x 565 mm, 65.0 kg(manual stage) 330 x 633 x 565 mm, 68.0 kg(motor drive stage)
Diaphragm pump	145 x 256 x 217 mm, 4.5 kg

Optional Accessories

Energy Dispersive X-ray spectrometer (EDX)
3-dimensional image display/measurement function 3D-VIEW
Cool stage
Tilt & Rotate stage

Installation layout



- *A table with casters is not suitable to put a main unit of TM3030Plus on.
- *Recommended table size: 1,200 × 800 mm, withstand load: 100 kg or more.
- *Periodical maintenance is required for this apparatus.
- *Limited to indoor operation.
- *TM3030Plus is not approved as a medical device.
- *Dedicated mentors, teachers who received the operation training of the instrument are required at compulsory schools.
- *Powercables, earth terminal and table should be prepared by users.
- *Please put a diaphragm pump under the table.
- *Please make room for more than 200 mm to the left side of a main unit and put it the closest to the center position of the table.
- *It is advisable not to install or relocate the instrument by yourselves.
- *When relocating the system, please contact in advance the sales department that handles your account or a maintenance service company designated by Hitachi.
- *Screen shows simulated image.

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-Technologies Corporation continues to develop the latest technologies and products for our customers.

Copyright (C) Hitachi High-Technologies Corporation 2014 All rights reserved.

Hitachi High-Technologies Corporation

Tokyo, Japan
<http://www.hitachi-hitec.com/global/em/>

24-14, Nishi-shimbashi, 1-chome, Minato-ku Tokyo, 105-8717, Japan

For technical consultation before purchase, please contact: contact@nst.hitachi-hitec.com

Tabletop Microscope TM3030Plus

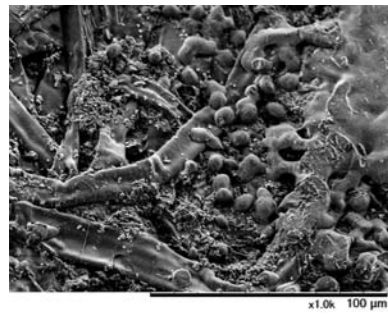
HITACHI
Inspire the Next

Tabletop Microscope TM3030Plus



TM3030Plus enables to enhance image quality in the low vacuum observation world.

Plus 1 Newly Innovated Secondary Electron Detector



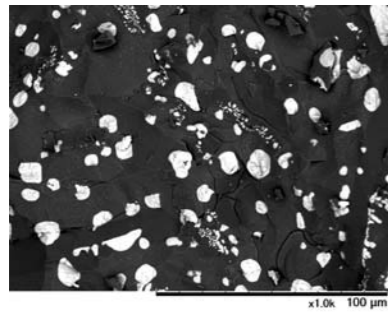
TM3030Plus has a premium SE detector which has been incorporated in FE-SEM & VP SEM, and well-accepted by users as a high-sensitivity detector. It can be operated effectively under a low-vacuum environment and allows for quick SE image observation without specimen preparation.

Specimen : Ink printed (Uncoated)
SE, 5 kV, Charge-up reduction mode, x1.0K

Plus 2 Unique Compositional Image

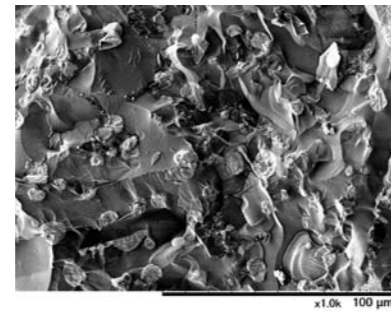
The TM3030Plus allows for effective image analysis with dual signals in one image; displayed as one combined SE signal providing surface rich information and BSE signal for compositional information.

BSE Image



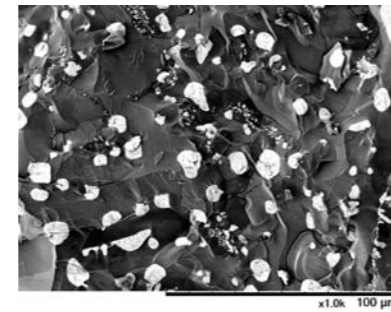
5 kV, Standard mode
Magnification: x1.0K

SE Image



x1.0k 100 μm

Mixing Image



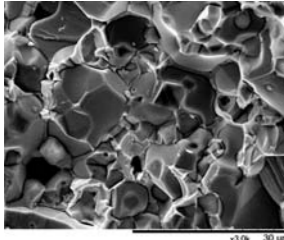
x1.0k 100 μm

Specimen: Ceramics (Uncoated)

Plus 3 High Throughput EDX[®] and Seamless Operation

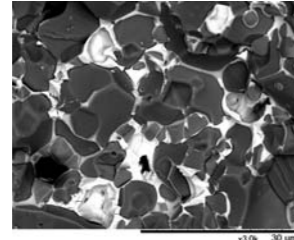
The Energy Dispersive X-ray Spectrometer (EDX) for the Hitachi TM3030 series is equipped with the latest SDD (silicon drift detector), a large detection area (30 mm²), and multiple elemental analyses such as point/area analysis, line scan and mapping. Uncoated sample observation brings seamless operation for the two signals through element mapping.

SE Image



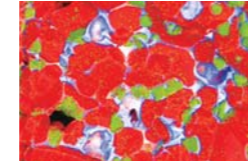
15 kV, Standard mode
Magnification: x3.0K

BSE Image

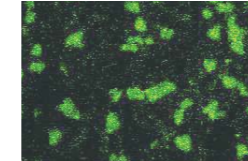


Specimen: Varistor (Uncoated)

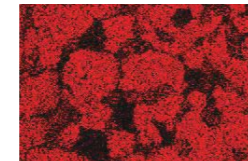
Mapping Image



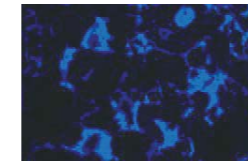
Synthesized map



Antimony



Zinc



Bismuth

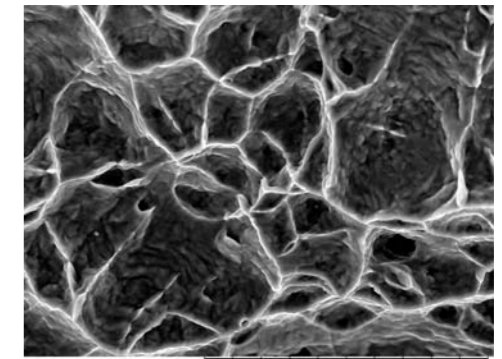
※Option

Application Gallery



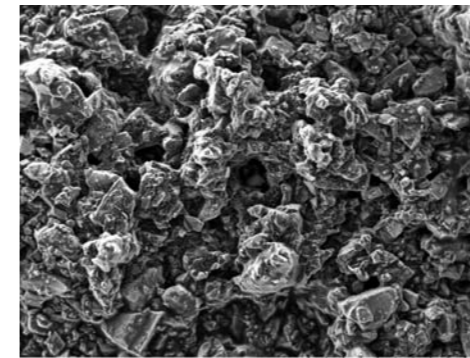
x30k 3.0 μm

Specimen: Silver wiring for solar battery (Uncoated)
SE, 15 kV, Standard mode Magnification: x30.0K



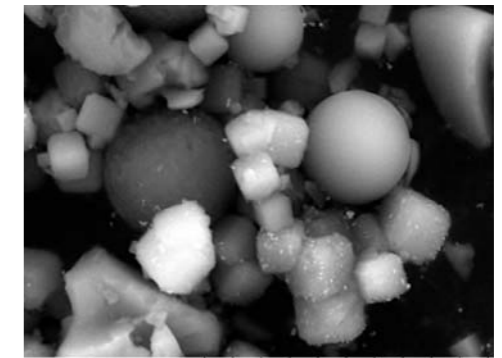
x5.0k 20 μm

Specimen: Cross section of metal (Uncoated)
SE, 15 kV, Standard mode Magnification: x5.0K



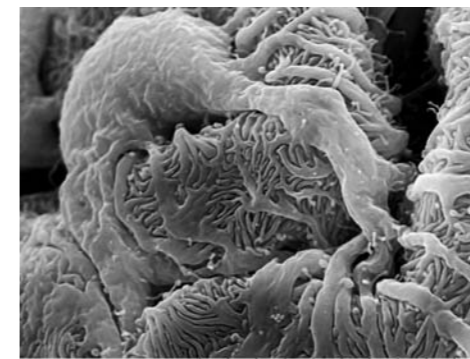
x600 100 μm

Specimen: Toothpaste (Uncoated)
SE, 5 kV, Standard mode Magnification: x600



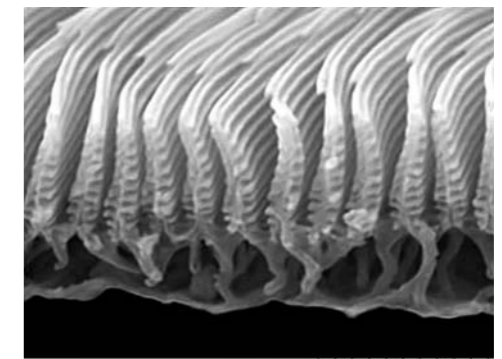
x10k 10 μm

Specimen: Powder spray (Uncoated)
SE, 15 kV, Charge-up reduction mode Magnification: x10.0K



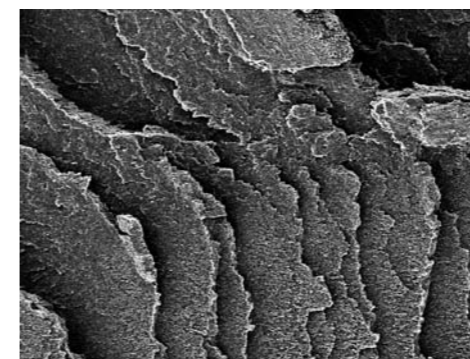
x10k 10 μm

Specimen: Kidney glomerulus (Metal coated)
SE, 15 kV, Standard mode Magnification: x10.0K



x20k 3.0 μm

Specimen: Butterfly wing (Metal coated)
SE, 15 kV, Standard mode Magnification: x20.0K



x1.0k 100 μm

Specimen: Resin material (Metal coated)
SE, 5 kV, Standard mode Magnification: x1.0K



x1.0k 100 μm

Specimen: Stomach medicine (Uncoated)
Mix, 5 kV, Standard mode Magnification: x1.0K