Hitachi High-Technologies

Hitachi Tabletop Microscope
TM-1000

HITACHI

A compact tabletop microscope invites you to the stereoscopic micron world

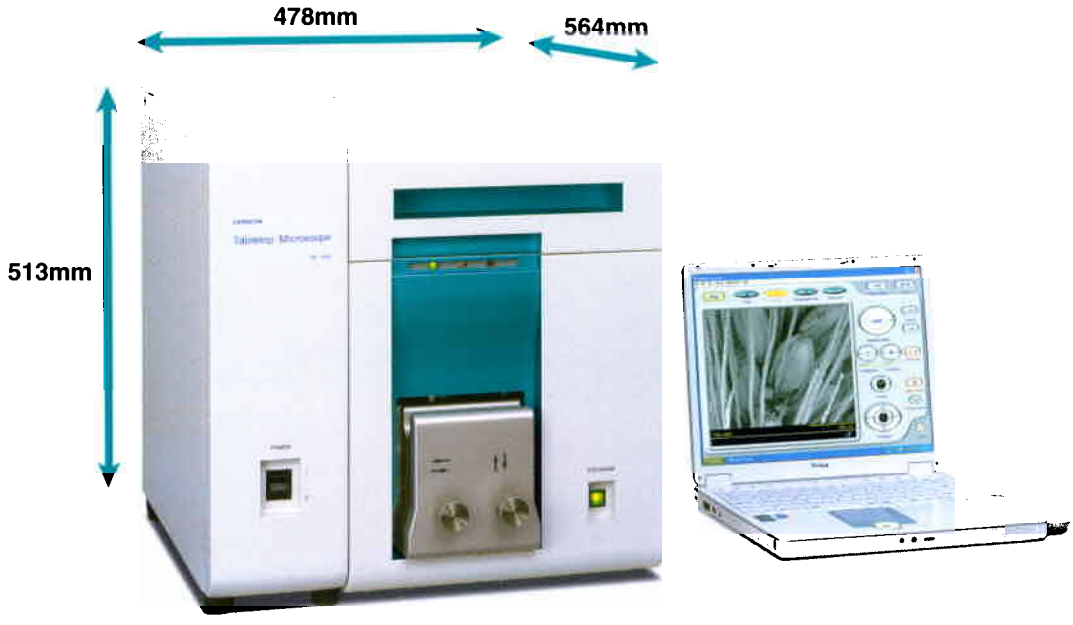
Compact Size
Easy to Use
Solid Construction
Superior Resolution and Higher Magnification than an Optical Microscope
Ideal For a Variety of Applications

Features

1. Energy-saving design and size
2. Easy to use - like a digital camera
3. No coatings required for observing a non-conductive sample
4. Stereoscopic morphological observation with greater depth of focus

1 Energy-saving design and size

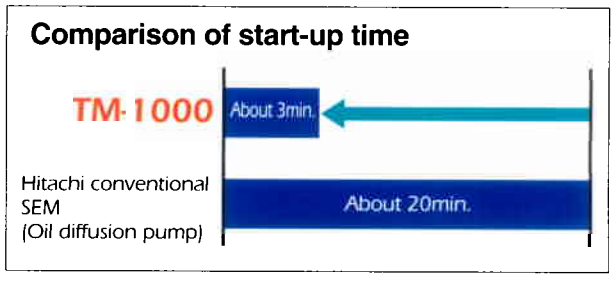
Standard 3P outlet is required for installation. No cooling water necessary. System is ready for immediate use without special engineering or installation procedures.



2 Easy to use - just like a digital camera

The "TM-1000" is ready to use in only three minutes.

Traditional electron microscopes require condition settings prior to use. Condition settings are not necessary for "TM-1000". Image observation can be easily achieved even by novice users.

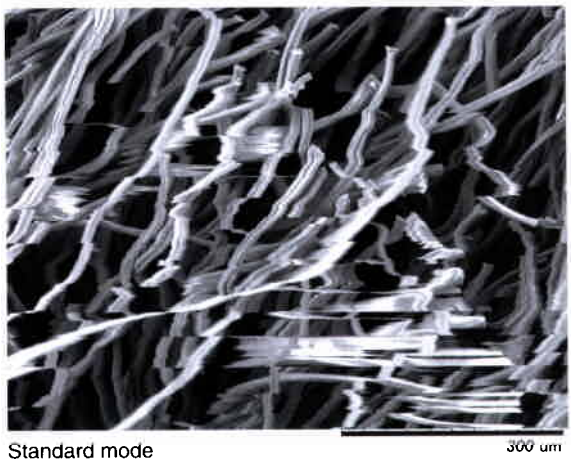


The "Auto-start" function allows the user to adjust focus and brightness automatically with single-click on a button. The target field of view can easily be found reducing the observation time.

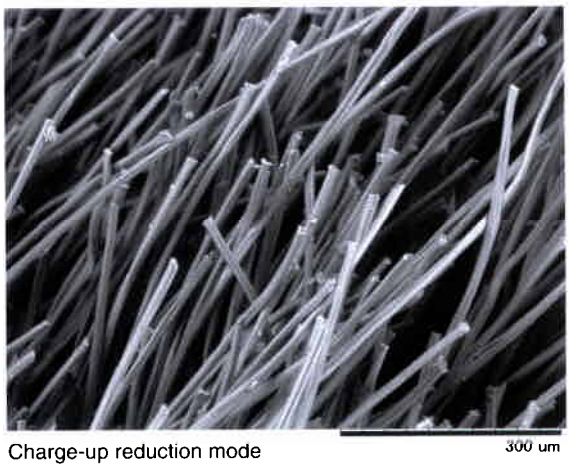
3 No metal coatings required to observe a non-conductive sample

Since there is no need for metal coating preparation, observation of insulator samples can be carried out quickly with the "TM-1000".

Depending on observation conditions such as sample type or magnification, charge-up may occur. Charge-up can cause image disturbances which makes it difficult to conduct accurate image observation. By setting the observation mode to "Charge-up reduction mode" the interference will be reduced and observation becomes sharper.



Standard mode

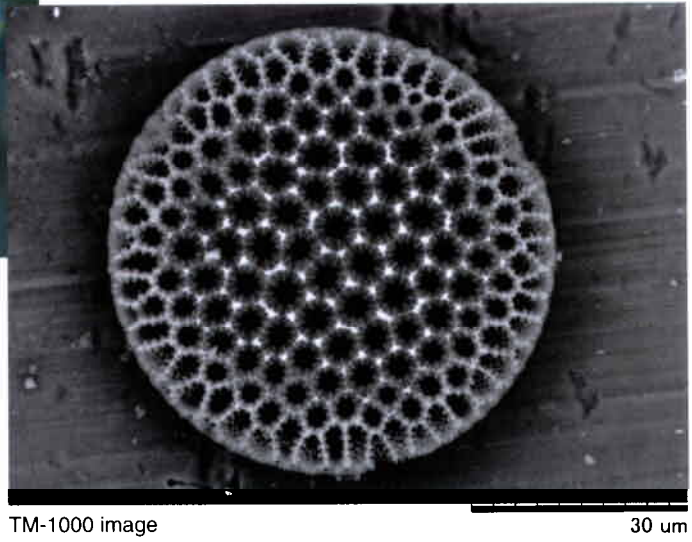


Charge-up reduction mode

4 Stereoscopic morphological observation with greater depth of focus

The "TM-1000" allows for stereoscopically morphological observation with high resolution and a greater depth of focus which are not available with an optical microscope.

Stereo-microscope image

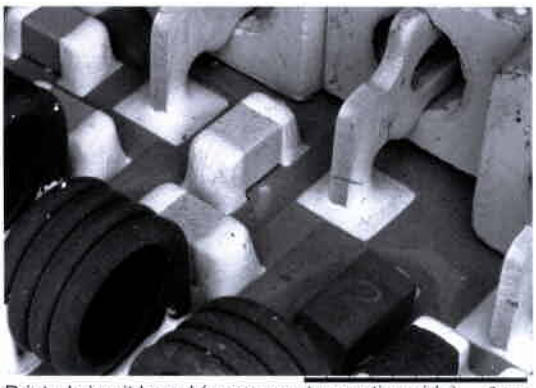


TM-1000 image

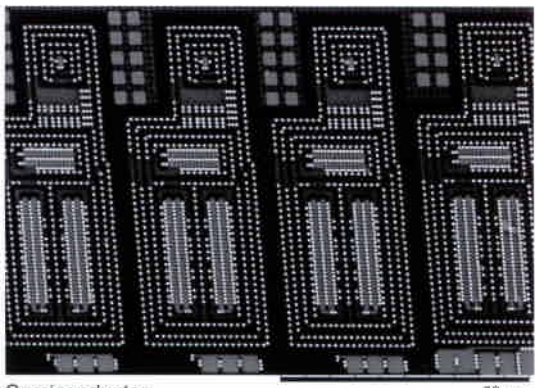
Application data

The "TM-1000" uses backscattered electrons (BSE) for image observation.Morphology as well as composition information of the sample can be obtained. A brighter field indicates the area where consists of higher atomic number elements (and vice versa).

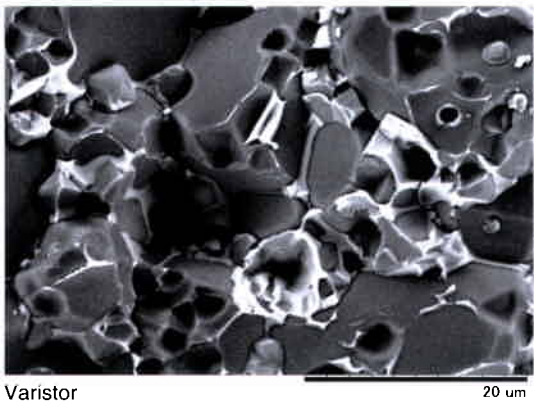
Electronic Applications



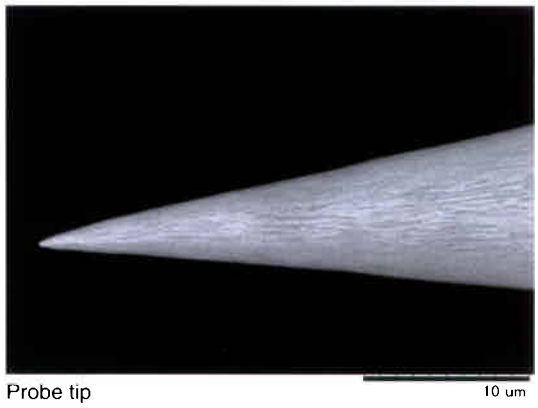
Printed circuit board (component mounting side) 2 mm



Semiconductor 30 um

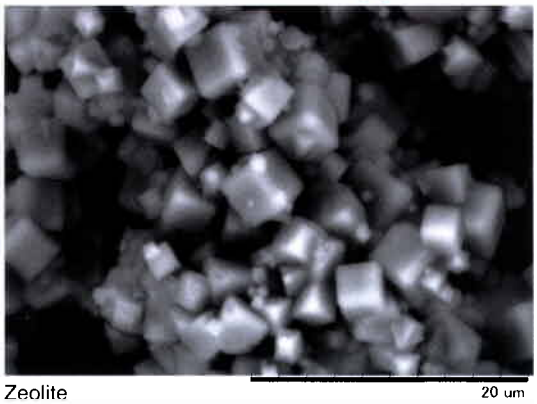


Varistor 20 um

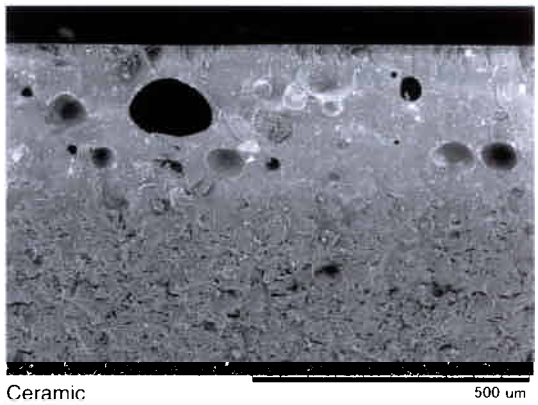


Probe tip 10 um

Material / Chemical Applications

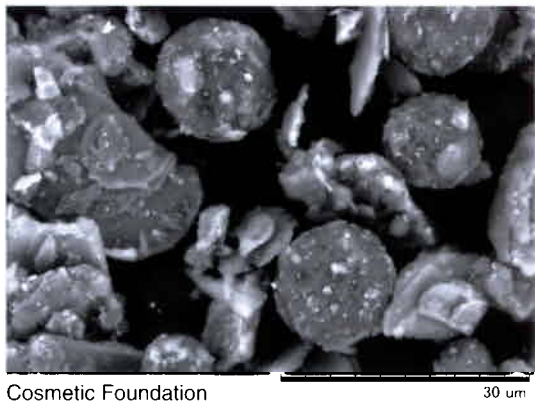


Zeolite 20 um



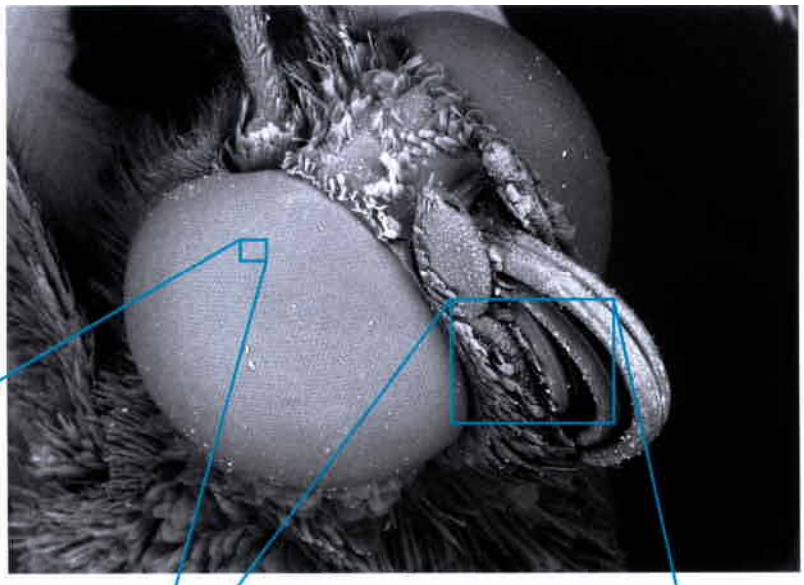
Ceramic 500 um

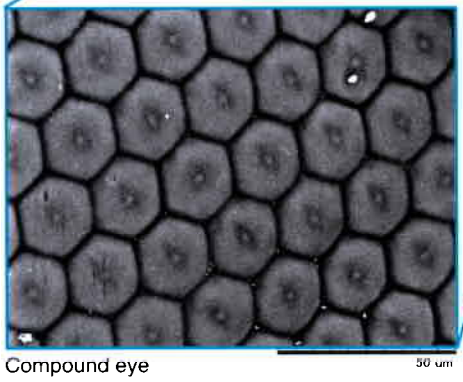
Nylon Stocking 1 mm



Cosmetic Foundation 30 um

Butterfly head



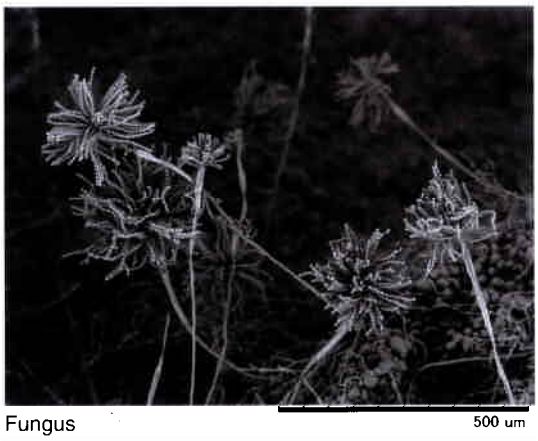


Compound eye

50 um

Proboscis

300 um



Fungus

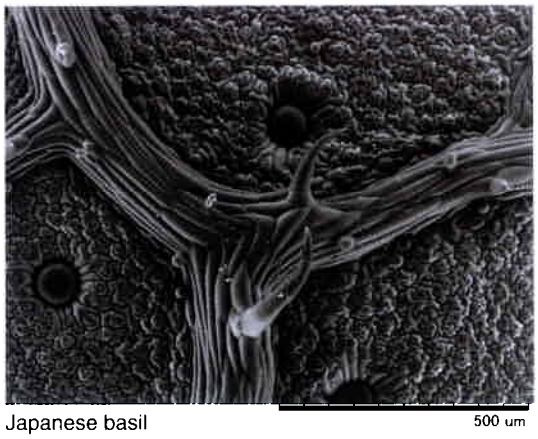
500 um

Pseudoscorpion

500 um

Bristle grass

1 mm



Japanese basil

500 um

Specifications

Items	Description
Magnification	20~10,000× (digital zoom: 2, 4×)
Accelerating voltage	15kV
Observation mode	Standard mode/charge-up reduction mode
Specimen traverse	X:15 mm, Y:18 mm
Maximum sample size	70mm in diameter
Maximum sample thickness	20mm
Electron gun	Pre-centered cartridge filament
Detection system	High-sensitive semiconductor BSE detector
Auto image adjustment function	Auto start, Autofocus, Auto Brightness
Frame memory	640 × 480 pixels, 1,280 × 960 pixels
Image data memory	HDD of PC and other recording medium
Image format	BMP
Data display	Micron marker, Micron value, date and time, image number comments
Evacuation system (vacuum pump)	Turbomolecular pump: 30L/s × 1 unit, Diaphragm pump: 1m³/h × 1 unit
Safety device	Over-current protection function

PC Specifications

Items	Description
OS	Windows xp Home Edition (SP2)
CPU	Intel Celeron M340 or better (or compatible CPU)
Amount of memory installed	256MB or larger
Display resolution	1,024 × 768 pixels (16,770,000 colors)
Display	15"
Interface connector	USB 2.0

* Windows is a registered trademark of Microsoft Corporation in the United States and/or other countries.
* Intel and Celeron are registered trademarks of Intel Corp. or its affiliated companies in the United States and/or other countries.
* Specifications of a PC are subject to change.

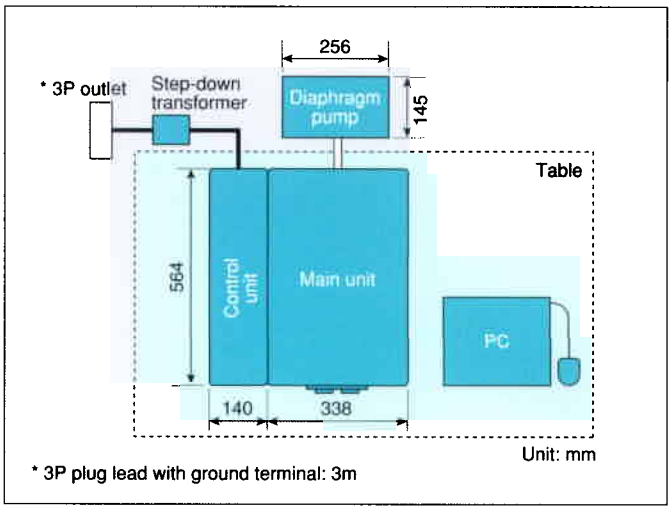
Dimensions and weight

Items	Description
Main Unit	338(W) × 564(D) × 513(H)mm, 58.5kg
Control Unit	140(W) × 564(D) × 513(H)mm, 23.0kg
Diaphragm pump	145(W) × 256(D) × 217(H)mm, 4.5kg

Installation Condition

Items	Description
Room temperature	15~30°C
Humidity	70%RH or less
Power source	Single-phase AC 100,110,115,200,220 or 240V(±10%), 500VA
Grounding	100Ω or better

Suggested installation layout



* Recommended table size: 1,200 × 800mm, withstand load: 100kg or more
* Periodical maintenance is required for this apparatus

NOTICE: For proper 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.

Hitachi High-Technologies Corporation

Tokyo, Japan
http://www.hitachi-hitec.com
24-14 Nishi-Shimbashi 1-chome, Minato-ku, Tokyo, 105-8717, Japan
Tel: +81-3-3504-7111 Fax: +81-3-3504-7123

Printed in Japan (H) **HTD-E112P** 2005.10