

Hitachi Tabletop Microscope  
**TM-1000**

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**HITACHI**

STACCHI

Tabletop Microscope

TM 1000

POWER

EXCHANGE

## **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

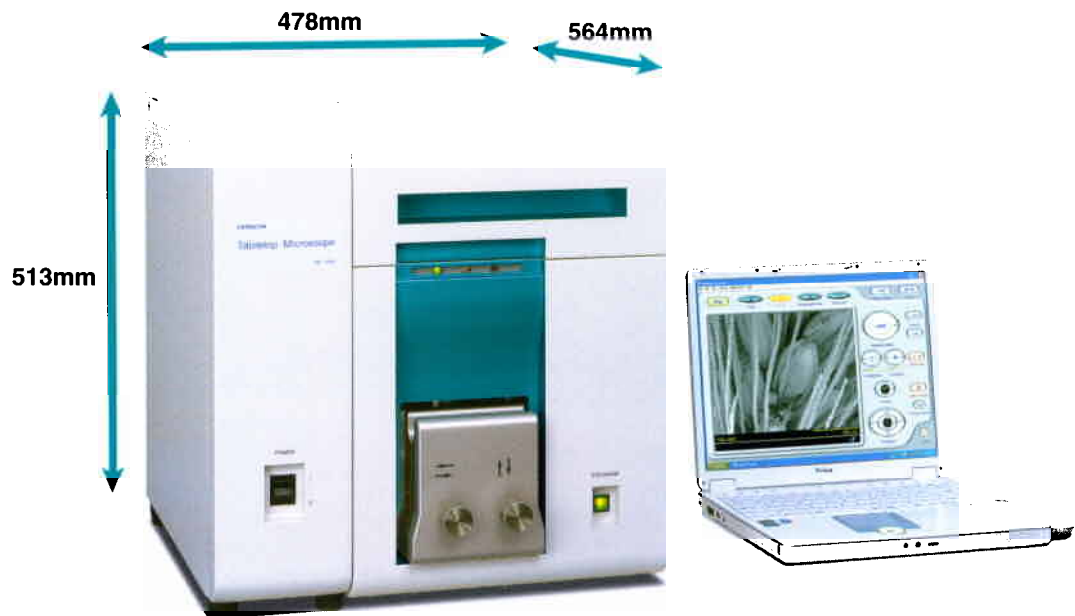
- 1 Energy-saving design and size
- 2 Easy to use - like a digital camera
- 3 No coatings required for observing a non-conductive sample
- 4 Stereoscopic morphological observation  
with greater depth of focus





# 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.

## Comparison of start-up time

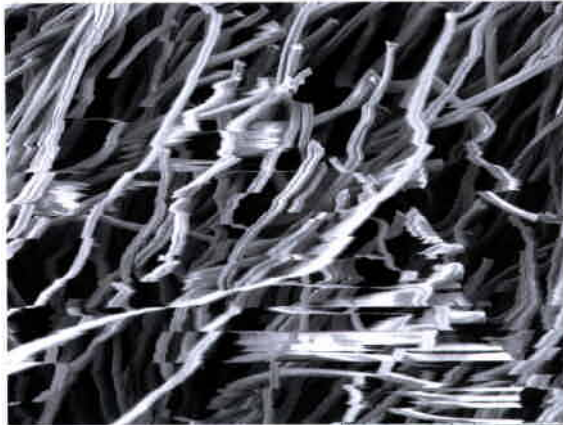


The "Auto-start" function allows the user to adjust focus and brightness automatically with single-click on a button. The target field of view can easily be found reducing the observation time.

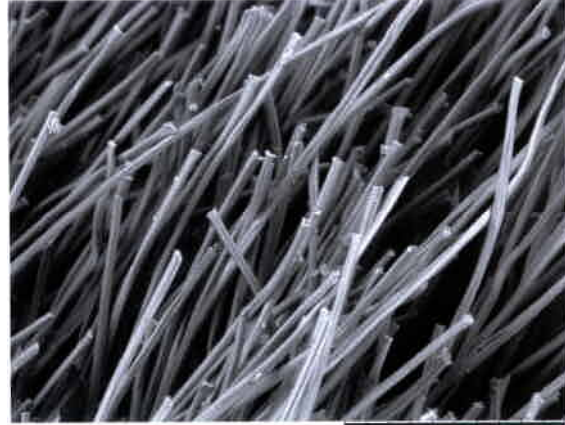
### 3 No metal coatings required to observe a non-conductive sample

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



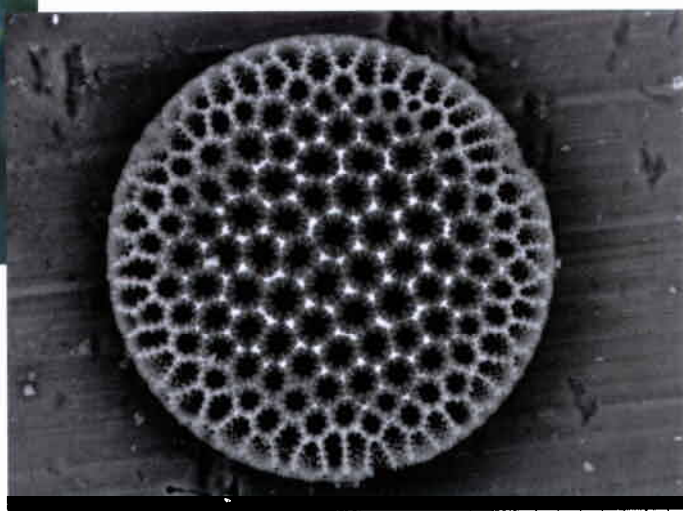
Charge-up reduction mode

### 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



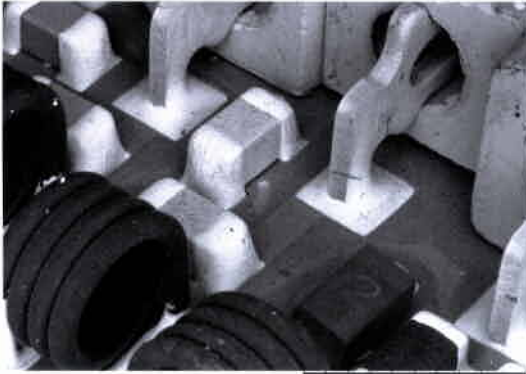
TM-1000 image

30 μm

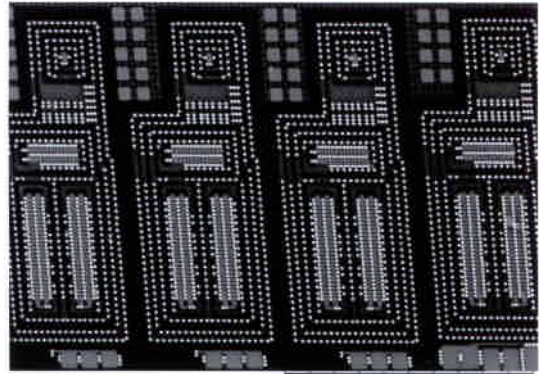


The "TM-1000" uses backscattered electrons (BSE) for image observation. Morphology as well as composition information of the sample can be obtained. A brighter field indicates the area where consists of higher atomic number elements (and vice versa).

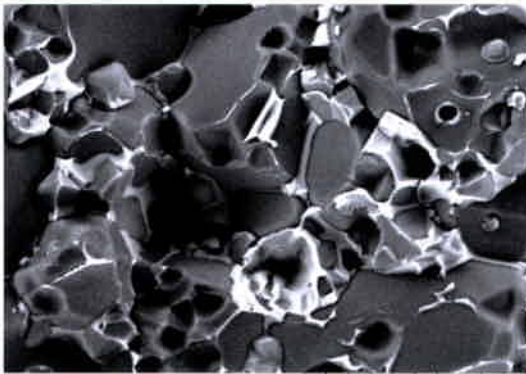
## Electronic Applications



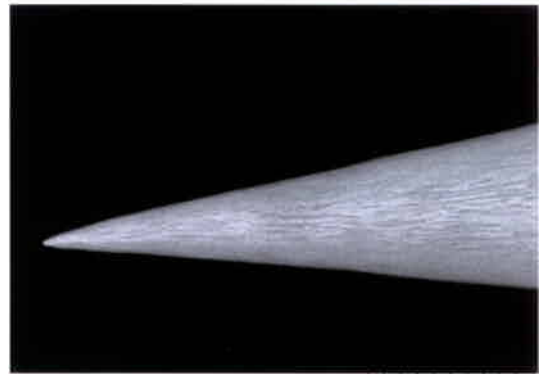
Printed circuit board (component mounting side) 2 mm



Semiconductor 30 μm

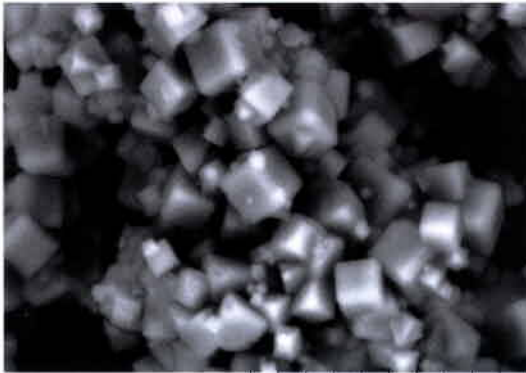


Varistor 20 μm

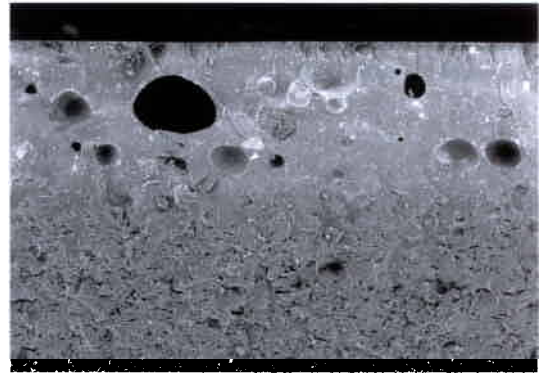


Probe tip 10 μm

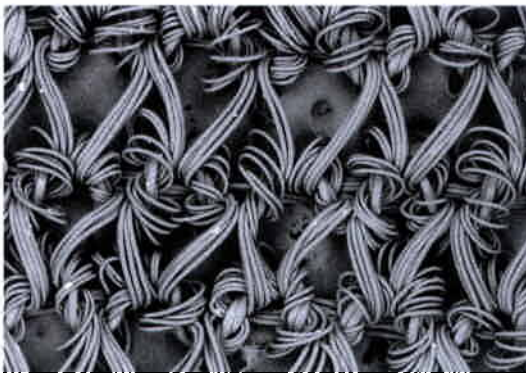
## Material / Chemical Applications



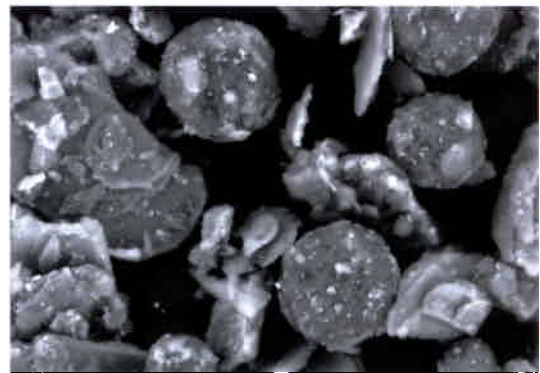
Zeolite 20 μm



Ceramic 500 μm



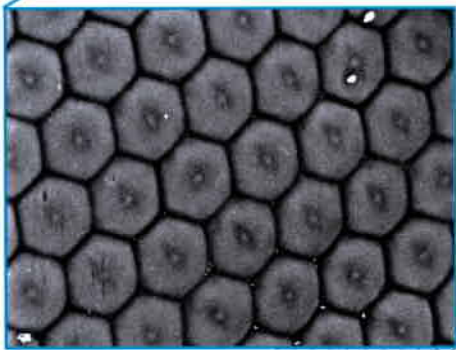
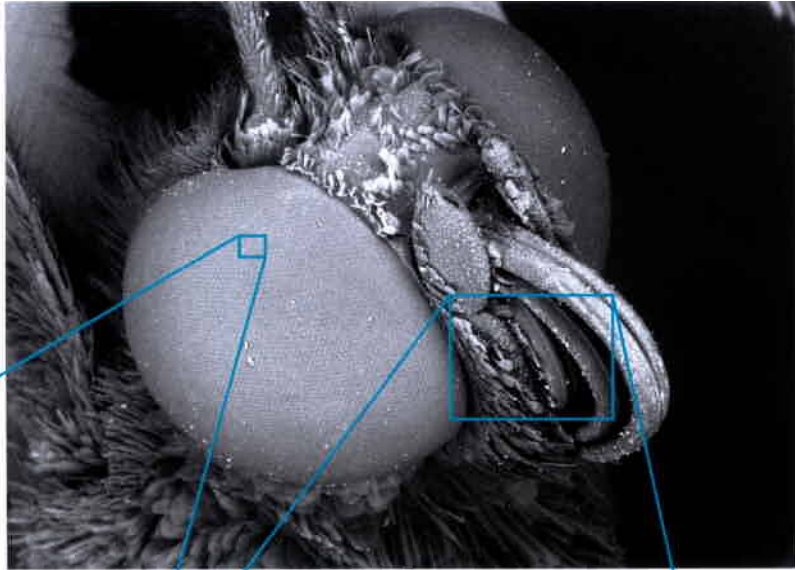
Nylon Stocking 1 mm



Cosmetic Foundation 30 μm



Butterfly head



Compound eye

50  $\mu$ m



Proboscis

300  $\mu$ m



Fungus

500  $\mu$ m



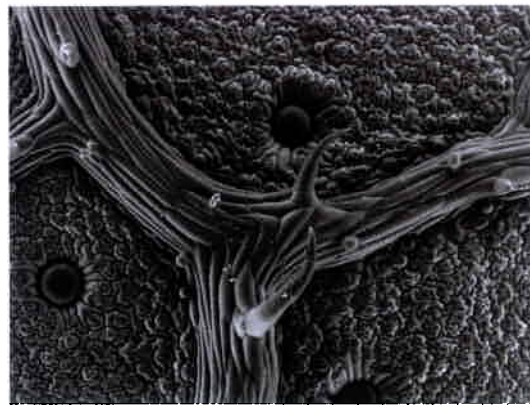
Pseudoscorpion

500  $\mu$ m



Bristle grass

1 mm



Japanese basil

500  $\mu$ m

## Specifications

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

## PC Specifications

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

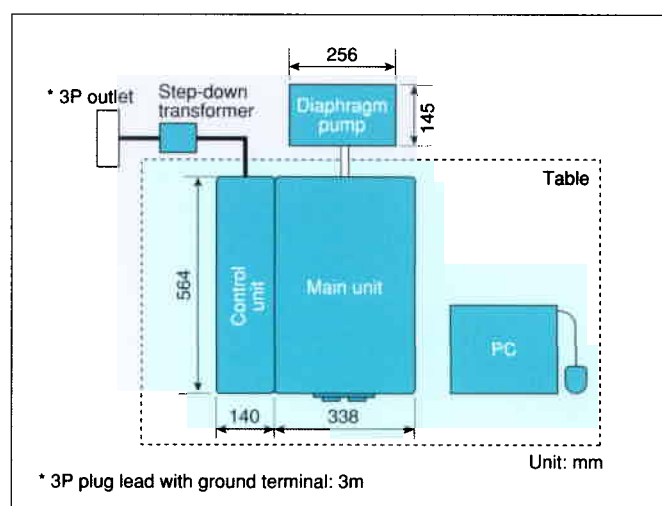
## Dimensions and weight

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

## Installation Condition

Items	Description
<b>Room temperature</b>	15~30°C
<b>Humidity</b>	70%RH or less
<b>Power source</b>	Single-phase AC 100,110,115,200,220 or 240V(±10%), 500VA
<b>Grounding</b>	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/without notice, as Hitachi High-Technologies Corporation continues to develop the latest technologies and products for our customers.

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