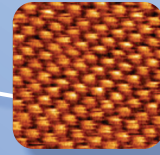




Danish Micro Engineering A/S  
DME Nanotechnologie GmbH



# Rasterscope™ EC-STM Microscope

## Applications areas of the Rasterscope™ EC-STM

The Rasterscope™ ElectroChemical Scanning Tunneling Microscope (EC-STM) is a STM-System dedicated for electrochemical investigation of surfaces in liquid environment. Therefore it is applicable to research within many different areas, e.g.

- basic atomic scale research
- battery development
- corrosion studies
- electroplating
- electropolishing
- materials science

## Introduction

In collaboration with scientists, DME A/S has developed a comprehensive, versatile tool for investigating surfaces in liquids under potentiometric as well as galvanometric control.

## Microscope Specifications

The Rasterscope™ EC-STM microscope has a measuring volume of  $4.5 \times 4.5 \times 1.3$  micron. The Rasterscope™ EC-STM microscope is supported by our Rasterscope™ C-26 control unit and our SPM software for Windows provides excellent possibilities of analysis of the recorded data.

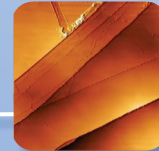
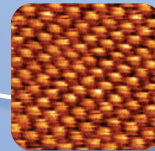
The design of the EC-STM is focused on supreme stability against environmental influences (thermal, acoustical, electrical). The design of the EC Liquid cell allows easy handling the electrochemical cells and a comfortable tip exchange. The universal mechanical/electrical interface yields a quick mounting of cell of optional designs.



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## Technical specifications for Rasterscope™ EC-STM

### Scanner

X,Y scan size: 4.5 × 4.5 micron  
X,Y resolution: Atomic resolution  
Z range: 1.3 micron  
Z resolution: Atomic resolution

### Approach

Type: Automatic  
Length: > 1.5 mm

### Sample size

Max sample size: 5 mm diameter  
Max sample height: 1 mm  
(these values can easily be increased with  
customer adaptation of EC )

### Operation

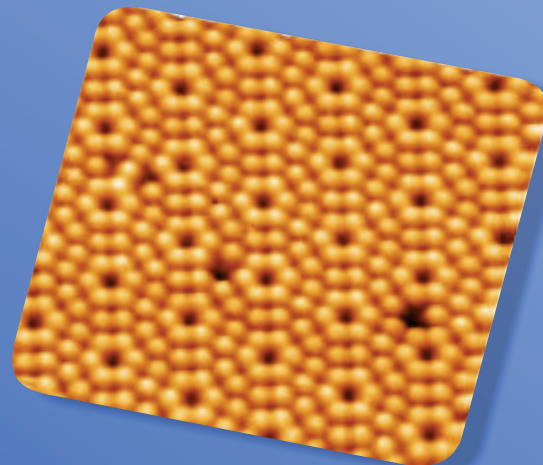
Mode: STM  
In-situ STM  
Imaging: Topography

### Material

All stainless steel  
Accessories:  
DME 1744 10 pcs STM tips, Pt-Ir,  
mechanically sharpened.  
DME 2055 Test sample, 3 micron, 3D.  
DME 2356 Calibration grids for SPM (set).  
Local representative



Liquidcell with contacted sample and  
reference electrodes



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