

MicroMill

MICROSAMPLING DEVICE FOR ISOTOPIC ANALYSIS



Designed for high-resolution milling to recover sample powder for chemical and isotopic analysis.

Features

Sub-micron sample motion control

Sample height detection and tilt correction by drill-tip sensor

50 mm computer-driven sample movement in X, Y and Z axes

Subsampling of complex crystal zonation provides high-resolution elemental isotopic chemistries and intra-zonal variations of crystal structure

Subsampling within annual growth banding of molluscan shells allows reconstructing seasonal variations present during the life cycle of an organism, e.g. clam

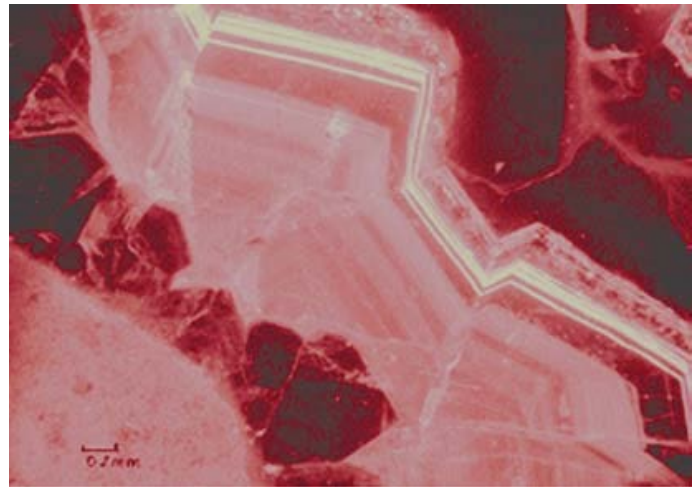
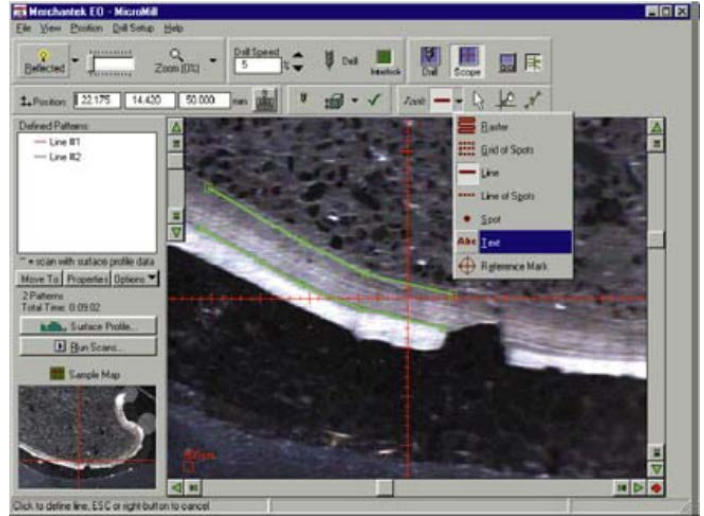
MicroMill

Specifications summary



Performance Specifications

Optical Zoom	6.7X to 40X zoom
Main Camera	S-video color CCD main camera
Secondary Camera	Color CCD with 3X digital magnification for in-process viewing of mill bit
Field of View	24.5mm to 3.3mm
Stage Travel	50mm in X, Y and Z stages
Step Resolution	Sub-micron
Lighting	Software-selectable flood and transmitted lighting
Polarization	Continuously adjustable (360°) cross polarizers
Milling Chuck	Low-eccentricity, high-torque DC
Drill speed	1,200-35,000 RPM (software controlled)
Tool material	Tungsten-carbide
Joystick	Stage control for sample positioning



Software Specifications

MicroMill software with point-and-click functions
Live video image displayed on computer monitor
On-screen display of digitized and interpolated sub-sampling paths
Precise depth control over entire area of sampling
Z-tilt correction and contour-following functions
Offline digitized files can be read directly with software transformation of image coordinates
Data record file with sample-path information and estimated sample volumes
Save, recall, and export images (BMP, TIF, JPG, and TGA)

Site Requirements

Length	16in / 406mm
Width	12in / 305mm
Height	26in / 660mm
Weight	42lb / 19kg
Power Requirements	100-240V (AC), 300W, 50/60Hz

