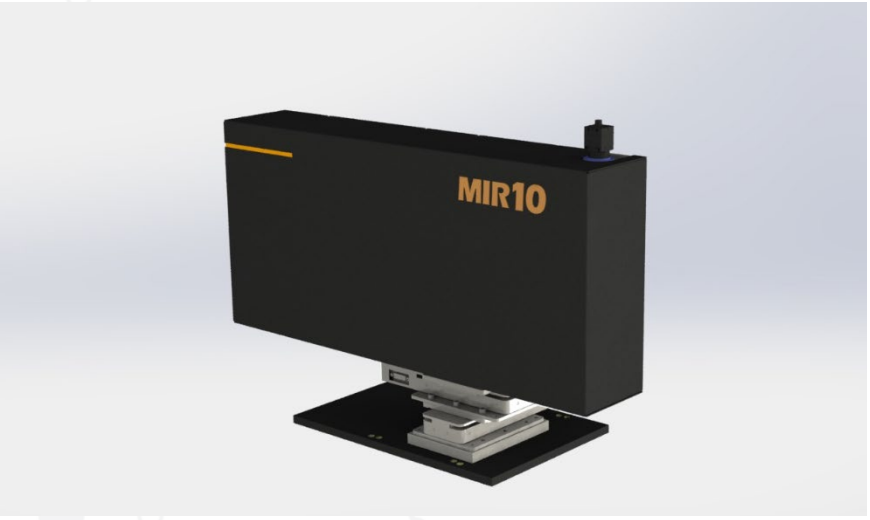
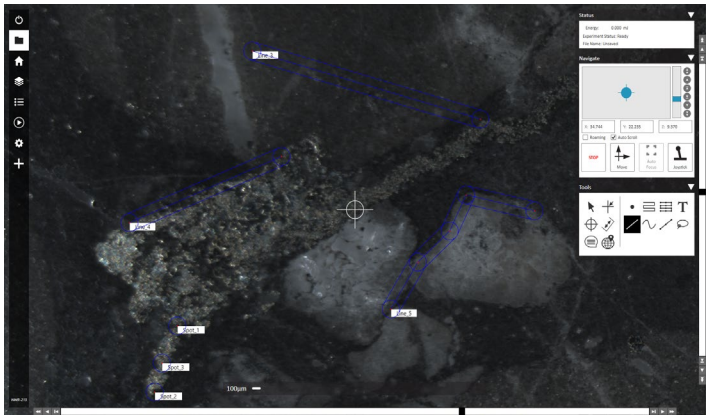
MIR10²

Heating and Fusion System

INNOVATION TO ILLUMINATE





ActiveView2 control software

Introducing Elemental Scientific Lasers' MIR10² – an infrared laser device for the heating/fusing of minerals.

Now in its second generation, the successful MIR10² offers a sophisticated platform for programmed heating and fusing of minerals for noble gas and isotope ratio geochemistry. Smooth transitions in laser energy and spot size result in controlled, stepped heating to maximize yield and minimize thermal damage.

All new ActiveView2 control software improves workflow and increases usability.

Features and Benefits

- 30W and 55W versions available
- Sub-micron sample motion control
  - Precise sampling from any growth band or zoned mineral
  - 50 mm computer-driven sample movement in X, Y and Z axes
  - Accurate and precise control directly from the PC
- 5MP digital sample viewing
  - High-resolution, clear imagery with modern software platform for accurate and precise sampling
- Controlled energy delivery for smooth temperature transitions
  - Programmable stepped heating functions

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Elemental Scientific LASERS

MIR10^2
Specifications summary

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Performance Specifications

Digital Camera	5 MP (USB3)
Zoom Range (FOV)	8 mm (0%) to 0.3 mm (100%)
XYZ Stage Travel (mm)	Floating 50 x 50 x 50 mm (standard)
XYZ Stage Step Resolution (nm)	50 x 50 x 25 nm
Sample Lighting	All LED: Flood lighting Transmitted lighting
Laser Wavelength	10.6 µm (mid-infrared)
Laser Power (continuous wave)	30 W (standard) 55 W (optional)
Spot Size Range	180-3000 µm
Energy Measurement	Realtime energy readout, calibrated to sample surface.

Software Specification

ActiveView2 software for Windows10
Live video during pattern placement and heating
Import image and coordinate data from other systems; Work directly from your images for improved workflow
Program stepped heating/fusing protocols for hands-free analysis
Z-tilt correction and contour-following functions
Read offline digitized files 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 and JPG,)

General Specifications

Depth	27" / 685 mm
Width	12" / 305 mm
Height	24" / 610 Mm
Weight	90 lb / 41 Kg
Power Requirements	100-240 V (AC), 250 W, 50/60 Hz
Cooling	Closed loop distilled water system (not supplied with laser system)
Temperature	21˚C ± 3˚C (70˚F ± 10˚F)
Relative Humidity	20-65% non-condensing
Safety Classification	Class 4
Warranty	12 Months

Applications

Laser fluorination (e.g. $^{18}O/^{17}O/^{16}O$ and $^{34}S/^{33}S/^{32}S$)

Laser heating (e.g. $^{13}C/^{12}C$ and $^{18}O/^{16}O$)

Noble gas isotope ratio measurements (e.g. $^{40}Ar/^{39}Ar$)

Ocean circulation dating using Pb isotopes

Atmospheric chemistry through isotopic analysis of rocks

In-situ dating of geological materials by $^{40}Ar/^{39}Ar$

Tracing paleoclimates through isotopic analysis of mammal teeth

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