MIR 10-30

Laser Fusing and Heating System

Laser Fusing and Heating Systems

MIR10-30 is a compact laser system that provides a versatile method of sampling and analyzing solids for noble gas and isotope-ratio mass spectrometry. MIR 10-30 system “floats” above the sample chamber enabling the use of non-flexible tubing to the extraction line for stronger signals and lower blanks. Bake-out ovens can remain under the sample chamber. The MIR10-30 Laser Fusing and Heating System is a complete, integrated instrument providing full computer control of all laser, beam-delivery, sample-observation and sample-manipulation functions. The 30 watt laser output power, is sufficient for micro-feature (in-situ) and bulk analysis (rapid heating diffused – RHD) sampling of difficult materials such as sanidine, feldspar and zircon. The long working distance, joystick control and 1,024 steps of output-power resolution yield optimal results.

The MIR10-30 Advantages

- Gantry mounted system “floats” over stationary sample chamber; ready to use for optimal results
- On-axis viewing and lasing at 90° to sample
- Long working distance accommodates most sample cell designs
- >20W minimum power to the sample, continuously adjustable for power “ramping”
- Automated variable spot sizes below 100µm for *in-situ* analysis and up to 3000µm for rapid heating diffused (RHD) fusions
- Software controlled iris “flattens” beam
- Software control of all functions, including sample mosaic navigation function
- Joystick control for tactile “chasing” of grains in wells

Applications

For ICP, ICP-MS noble gas or stable isotope mass spectrometry. The MIR10-30 excels in:

- Laser fluorination (e.g. 18O/16O, 17O/16O, 34S/32S and 33S/32S)
- Laser heating (e.g. 13C/12C and 18O/16O)
- Rare-gas isotope ratio measurements (e.g. 40Ar/39Ar dating)
- Ocean circulation dating using Pb isotopes
- Atmospheric chemistry through isotopic analysis of rocks
- In-situ dating of geological materials by 40Ar/39Ar
- Tracing paleoclimates through isotopic analysis of mammal teeth

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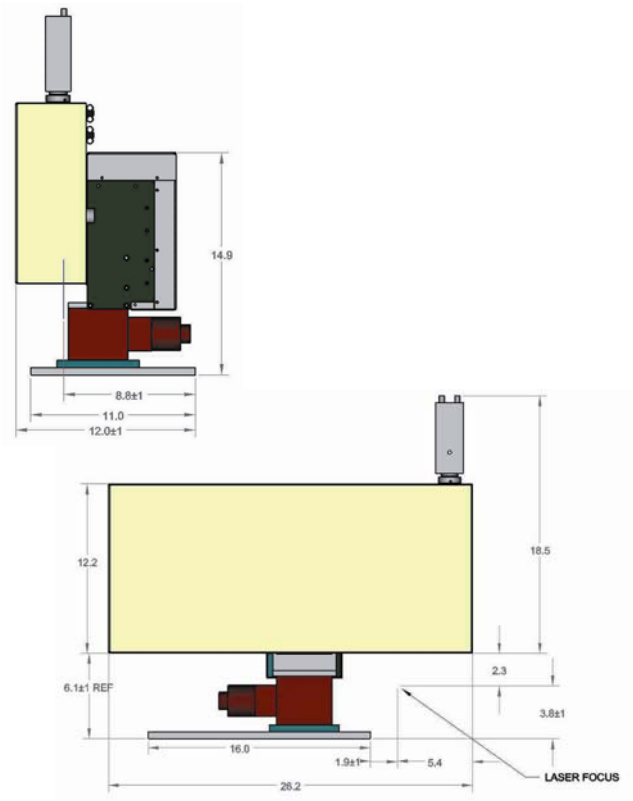

All dimensions shown are in inches.

Dimensions (nominal)

Laser Module	
Depth	27” / 67 cm
Width	12” / 31cm
Height	24” / 61 cm
Weight	90 lb. / 41.4 kg
Laser Power Supply	
Depth	11” / 28 cm
Width	10” / 24 cm
Height	8” / 19 cm
Weight	20 lb. / 9 kg
Voltage	100 - 120 VAC, 10A, 50/60 Hz 220 - 240 VAC, 5A, 50/60 Hz

System Configuration

- 30W CO_2 laser with exceptional beam quality and stability
- High-resolution color, CCD camera shows true colors of samples
- Computer-controlled and motorized variable spot size and iris
- 6x computer-controlled zoom for wide field-of-view and viewing samples under high magnification
- Built-in laser power meter for real-time measurements
- Coolant safety flow switch (water supply not included)
- X-Y-Z stages with gantry mount mechanism providing 52mm travel and sub-micron resolution on all axes
- Options include computer and monitor (does not include sample chamber and extraction line)

Limited Warranty

One year — call for limited warranty statement.

Other IRMS and Noble Gas MS Products

Universal Platform – YAG based UV laser-ablation systems at 266nm, 213nm or 193 nm.

MicroMill – sample prep micro-drill system for milling incremental growth bands and other features on carbonates, apetites and silicates.

NEW WAVE RESEARCH

www.new-wave.com

USA
New Wave™ Research, Inc.
48660 Kato Road
Fremont CA. 94538-7339
Tel: 510-249-1550
Tel: 800-566-1743
Fax: 510-249-1551
Email: Lasers@new-wave.com

Japan
New Wave™ Research, KK
5F Chojiya Building, 1-36-4,
Shinjuku-ku, Shinjuku
Tokyo, 160-0022 Japan
Tel: +81-3-3351-0131
Fax: +81-3-3351-0121
Email: NewWaveKK@new-wave.com

Taiwan
New Wave™ Research G. C. Co., Ltd.
No. 58-3, XingShan Rd.,
Neihu Dist.,
Taipei 114 Taiwan
Tel: 886-2-8792-7585
Fax: 886-2-8792-7584
Email: NewWaveGC@new-wave.com

Europe
New Wave™ Research Co., Ltd.
8 Avro Court, Emine Business Park
Huntingdon, Cambs
England PE29 6XS, UK
Tel: 44-(0)1480 456566
Fax: 44-(0)1480 456545
Email: NewWaveEU@new-wave.com

China
New Wave™ Research (China) Co., Ltd.
Rm. 1102, 11/F, Jiaxing Mansion,
No. 877, Dongfang Rd.
Shanghai 200122, China
Tel: 86-21-5058-7785
Fax: 86-21-5058-7786
Email: NewWaveCN@new-wave.com