

LeNeo® FUSION INSTRUMENT

Keeping ahead through expertise
in sample preparation by fusion



A CLASS OF ITS OWN

LeNeo fusion instrument prepares glass disks for XRF analysis as well as borate and peroxide solutions for AA and ICP analysis. This automatic electric instrument has one fusion position and is easy to use. It guarantees safety for the operator as well as superior analytical performances in the laboratory.



LeNeo's value to sample preparation by fusion

- Three instruments in one
- Ready to use right out-of-the-box
- Absolute safety for the operator

MINING / MINERALS



LeNeo is a great quality control tool leading to very high analytical performance and allowing the obtention of precise and accurate results.

COSMETICS



The versatility of LeNeo is convenient when it comes to analyzing cosmetics samples.

RESEARCH



With this simple and low maintenance instrument, you can quickly switch from producing glass beads for XRF to producing solutions for ICP analysis. It then facilitates your experiments.

FOOD



The safety door of the instrument prevents spills and allows a clean and safe preparation of food samples.

BUILDING MATERIALS



LeNeo is a great quality control tool leading to very high analytical performance and allowing the obtention of precise and accurate results.

ACADEMIA



LeNeo is a versatile fusion instrument that is easy to use and that requires low maintenance. It's therefore a great choice for universities.

PHARMACEUTICALS



In addition to providing excellent reproducibility, LeNeo instrument is very helpful in analyzing pharmaceutical samples.

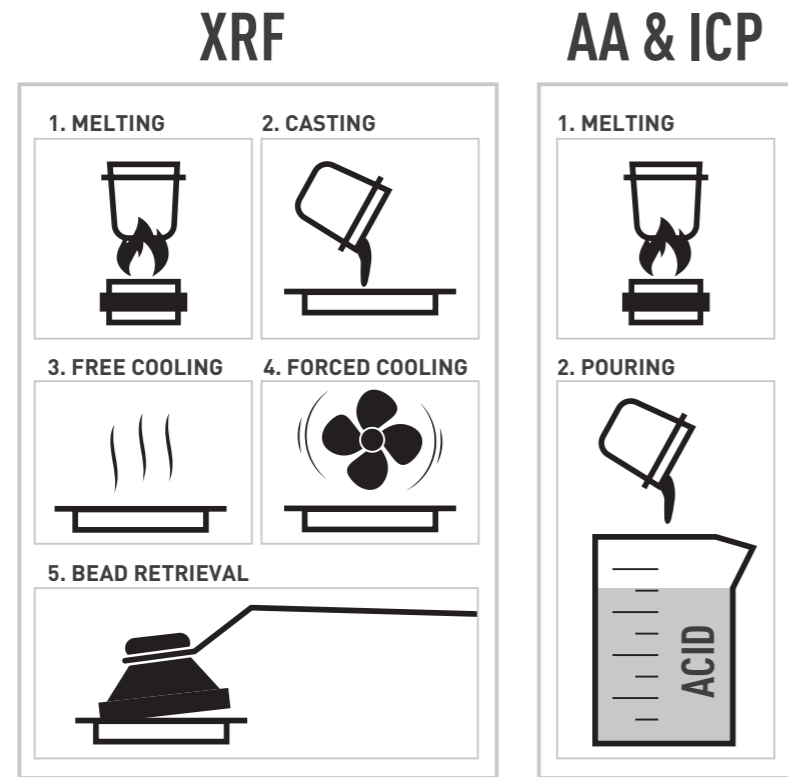
ENVIRONMENTAL



LeNeo instrument is useful for the preparation of soils and sediments since it leads to high-quality analytical results.

WHAT IS FUSION?

Fusion is a sample preparation method developed in the mid 50s. It consists of dissolving at high temperatures a fully oxidized sample in a suitable solvent (a flux) in a platinum, zirconium or graphite crucible. The melted mixture is agitated and poured into a mold to create a glass disk for XRF analysis. It can be poured into a beaker to create a solution for AA or ICP analysis.



Why should I use fusion in my laboratory?

This universal technique has numerous benefits when you compare it with other sample preparation methods such as pressed pellets or acid digestion.

	Fusion	Pressed pellets
Affected by mineralogy	No	Yes
Affected by particle size	No	Yes
Desirable size of powder (microns)	50-100 (easy)	5-30 (difficult)
Accuracy	≤1%	≤10%
Easy calibration with synthetic standards	Yes	No
Application of matrix correction	Yes	No

WHY INVEST IN LeNeo FUSION INSTRUMENT?

High analytical performance

This high-accuracy instrument has a heating chamber that heats up to 1200°C. The absolute control of the fusion temperature allows repeatable results. The user can choose whether he wants a controlled or a maximum heating rate to optimize oxidation and fusion success rate.

Ready to use right out-of-the-box

LeNeo instrument is user-friendly. In fact, no training is required prior to its operation. It's fully automatic (one-touch operation) and has a library of predefined fusion methods. The crucible, mold and beaker are easy to install on the instrument.

Programmable fusion parameters

Parameters such as temperature, duration, heating rate, crucible rocking speed, cooling airflow, pouring modes and magnetic stirring speed can all be changed depending on your needs.

Ultimate safety

LeNeo has fully automated pouring, and it has a safety door that automatically locks during the entire fusion process. The user does not have to manipulate hot vessels (cold-to-cold operation).

QUICK RETURN ON INVESTMENT (ROI)

Low cost of ownership

- 3 preparation modes in 1 instrument
- Easy routine maintenance
- Optimum uptime guaranteed
- Quick and easy replacement of internal refractory plates.

Easy installation

- Small and compact: fits in limited space
- Simple electrical connection
- No O₂, compressed air or water cooling system needed.



Tailored solutions through expertise

Malvern Panalytical experts are the reference for all steps of the fusion process or development of new applications. Their personalised solutions allow customers to properly manage risks, reach a quick ROI, and benefit from a large database of preparation methods for a broad range of samples.



TECHNICAL SPECIFICATIONS

Productivity

- 1 fusion position
- Prepares glass disks for XRF analysis
- Prepares borate and peroxide solutions for AA and ICP analysis

Heating

- Heating chamber temperature up to 1200°C
- Temperature monitored by a type R thermocouple located inside the heating chamber
- Heating chamber stability monitored by a type N thermocouple located between the refractory layers
- Resistance-based heating system

Electrical

- | | |
|------------|----------------------|
| Electrical | • Voltage: 208-240 V |
| | • Current: 20 A |
| | • Frequency: 60 Hz |

Dimensions

- | | |
|------------|----------------------------|
| Dimensions | • Height: 52 cm (20.5 in.) |
| | • Depth: 55 cm (22.0 in.) |
| | • Width: 55 cm (22.0 in.) |
| | • Weight: 36 kg (79 lb.) |

Control and Operation

- One-touch operation
- Touch screen user interface
- Precise temperature display

Programmable Fusion Parameters

- Temperature
- Duration
- Heating rate
- Crucible rocking speed
- Cooling air flow
- Magnetic stirring speed for solutions
- 4 pouring modes

Software and Communication

- Library of 10 predefined methods
- Programmable preheat and heat shut-off timers
- Remote troubleshooting
- Limitless program storage 8G Compact Flash
- Ethernet external communication link
- 1 USB port

Safety

- User operation levels are protected by a password
- Safety door that automatically locks during the entire fusion process
- Certified CE CSA
- Conformal coated PCB for high corrosion resistance 8G Compact Flash
- Meets UL 94-VO flammability standard
- Meets RoHS requirements



WHY CHOOSE MALVERN PANALYTICAL?

We are global leaders in materials characterization, creating superior, customer-focused solutions and services which supply tangible economic impact through chemical, physical and structural analysis.

Our aim is to help you develop better quality products and get them to market faster. Our solutions support excellence in research, and help maximize productivity and process efficiency.

Malvern Panalytical is part of Spectris, the productivity-enhancing instrumentation and controls company.

www.spectris.com

SERVICE & SUPPORT

Malvern Panalytical provides the global training, service and support you need to continuously drive your analytical processes at the highest level. We help you increase the return on your investment with us, and ensure that as your laboratory and analytical needs grow, we are there to support you.

Our worldwide team of specialists adds value to your business processes by ensuring applications expertise, rapid response and maximum instrument uptime.

- Local and remote support
- Full and flexible range of support agreements
- Compliance and validation support
- Onsite or classroom-based training courses
- e-Learning training courses and web seminars
- Sample and application consultancy



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