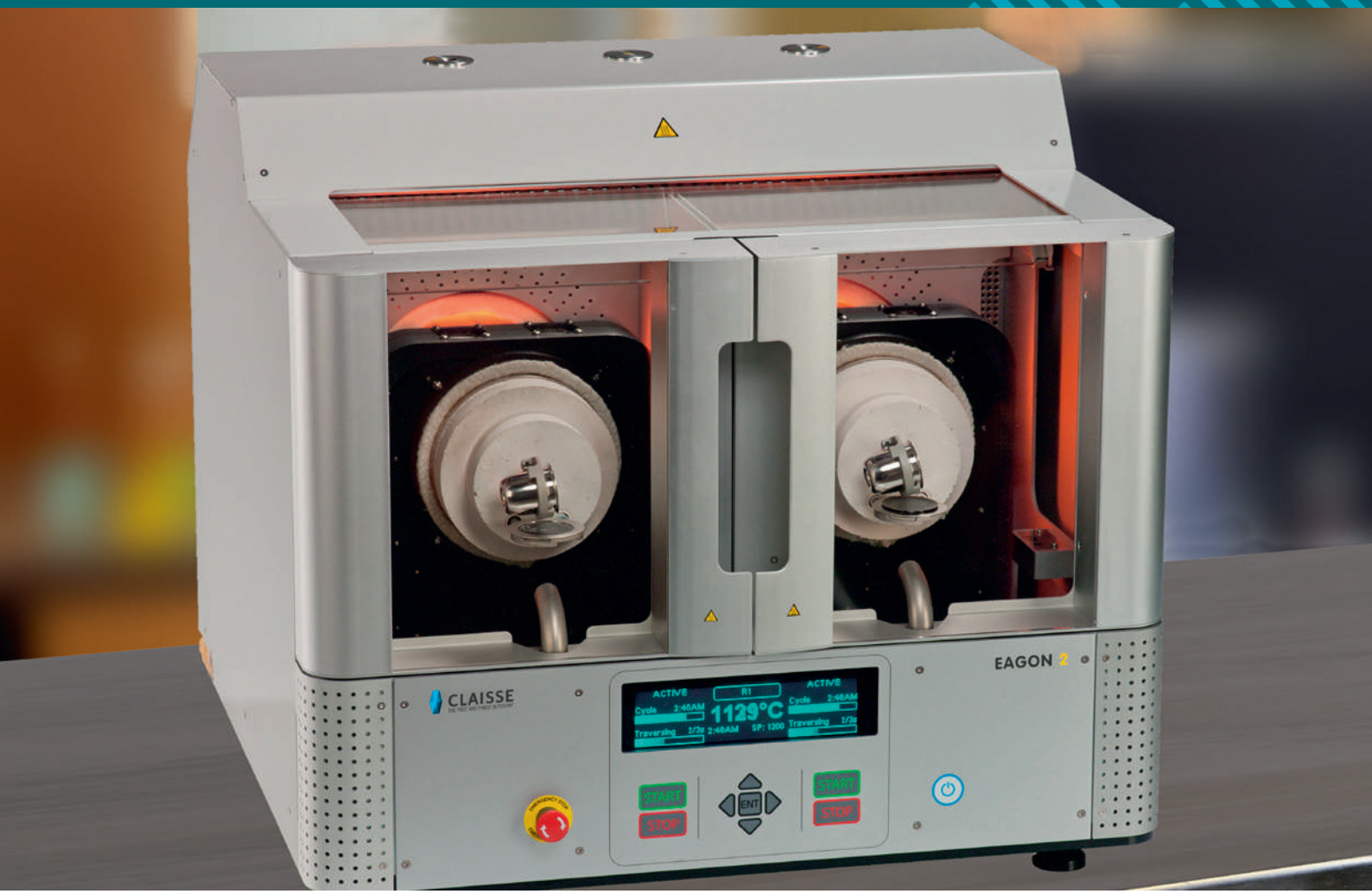
Malvern Panalytical
a spectris company

Claisse® is a Malvern Panalytical brand

EAGON 2® FUSION INSTRUMENT

Keeping ahead through expertise in sample preparation by fusion



SAFE, SIMPLE, **HIGH PERFORMANCE**

The Eagon 2 is a fully automatic fusion instrument that prepares glass disks for XRF analysis. Its innovative patented design ensures performance, operator safety and ease of use. The concept of the Eagon 2 instrument makes fusion and the consequent benefits of accurate XRF analysis easily reachable.

The Eagon 2's value to sample preparation by fusion

- Ultimate safety
- Optional exhaust adapter for minimum infrastructure requirements
- Optimized method development

MINING / MINERALS

The Eagon 2 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 the Eagon 2 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

The Eagon 2 is a great quality control tool leading to very high analytical performance and allowing the obtention of precise and accurate results.

ACADEMIA

The Eagon 2 is a versatile fusion instrument that is easy to use and that requires low maintenance. It's therefore a great choice for universities.

PHARMACEUTICALS

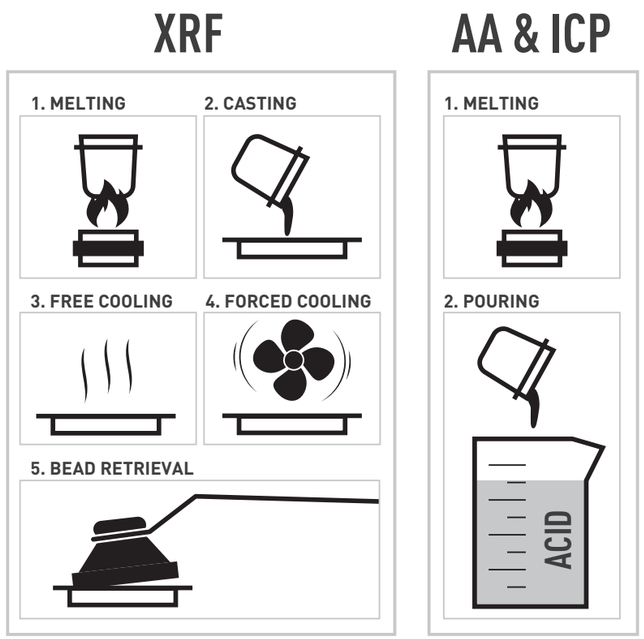
In addition to providing excellent reproducibility, the Eagon 2 instrument is very helpful in analyzing pharmaceutical samples.

ENVIRONMENTAL

The Eagon 2 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.



***The Eagon 2 instrument can't be used to make solutions 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 THE EAGON 2 **FUSION INSTRUMENT**?

High analytical performance

- Reproducible
- Fully automatic operation that guarantees a
- perfect repetition of fusion cycles
- Superior quality ceramic holders for crucibles and molds to ensure the lowest contamination
- Optimized fusion conditions for all materials.

Programmable fusion parameters

- Temperature setting
- Duration
- Oxidation steps
- Non-wetting agent injection
- Agitation
- Cooling.

Optimized method development

- Pause and inspection function to visualize the fusion process during the fusion cycle.

Ultimate safety

- Cold-to-cold operation
- The operator is protected against hot material and surfaces by interlocked doors during the entire fusion cycle.

Easy to use

- One-touch operation
- Library of predefined fusion methods
- Definition of customizable fusion method.

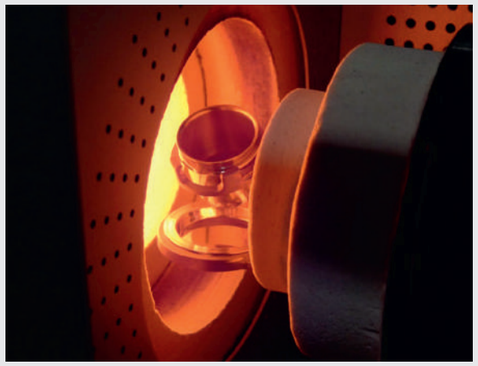
QUICK **RETURN ON INVESTMENT** (ROI)

Low cost of ownership

- Casting dish sensors
- Ensure safe and reliable operation – no possible damage of the instrument related to pouring without the platinum mold
- Crucible and mold holders can easily be dismounted for cleaning
- Platinumware friendly, no damaging temperature gradient.

Minimal infrastructure required

- Simple electrical connection
- No O_2, compressed air or water cooling system needed
- The optional exhaust adapter limits the infrastructural requirements.



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

- Fully automatic fusion instrument that prepares glass disks for XRF analysis
- **Two fusion positions** with independent **synchronous** or **asynchronous** operation

Heating

- Temperature operation range: 300 – 1200°C
- Temperature monitored by a type R thermocouple inside the heating chamber
- Resistance-based heating system

Electrical

Electrical	• Voltage: 220-230 V • Current: 32 A • Frequency: 50-60 Hz

Dimensions

Dimensions	• Width: 64.5 cm (25.4 in.) • Depth: 68.5 cm (27.0 in.) • Height: 56.5 cm (22.2 in.) • Weight: 78 kg (172 lb.)

Programmable Fusion Parameters

- Ramp-dwell steps (temperature /time)
- Full temperature range solid phase oxidation
- Crucible angle and agitation speed
- Non-wetting agent injection
- Crucible pouring angle
- Passive or forced cooling (2 speeds)

Control and Operation

- One-touch operation
- Precise temperature control (± 5°C)
- Full microprocessor control
- **Pause and inspection function** to visualize the fusion process during the fusion cycle
- Alarm when the cycle is completed

Software and Communication

- Front panel operation
- Optional alpha /numeric programming via a PC for additional convenience
- Up to 32 user-defined methods

Safety

- Certified CE and machinery directive 98/37/EC compliant
- **Outer doors are interlocked during fusion cycle to enhance safety**
- Maximum external temperature of 70ºC
- **Casting dish sensors** ensure safe and reliable operation
- User operation levels are protected by password

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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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