



**CLAISSE**  
THE FIRST AND FINEST IN FUSION®

# KEEPING AHEAD THROUGH CLAISSE EXPERTISE IN SAMPLE PREPARATION BY FUSION

**The standard in sample preparation by fusion**



# HOW TO REACH EFFICIENCY WITH CLAISSE EXPERTISE?



Claisse offers a global solution in sample preparation by fusion to improve efficiency in the laboratory. Our knowledge and experience combined with the reputation of PANalytical allow us to constantly innovate to fulfill our customers' needs as well as to help them obtain accurate and precise analytical results.



Consumables



Services



Expertise





# CLAISSE

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The M4™ fusion instrument has three fusion positions and is heated by gas. Being used to prepare glass disks for XRF analysis and solutions for AA and ICP analysis, this fully automatic instrument ensures uniform heating for reproducible and accurate results. The M4 instrument is the best in terms of low maintenance cost.

## PROCESSES

- Mining and geological samples
- Bauxites, alumina
- Chromites, cobaltite, dolomite, ilmenite, rutile, molybdenite
- Rare earth elements
- Potash, phosphates, fertilizers
- Cements, lime, limestone, carbonates, clay
- Catalysts, zeolites
- Cosmetic, pharmaceutical and environmental samples
- Sulfides, fluorides
- Hematite, magnetite, iron ores
- Refractories, silica, silicates, glass, ceramics
- Coal, ashes
- Steel, ferroalloys, slags
- Pure metals, non-ferrous alloys, silicon carbides
- Polymers, pigments, synthetic rubbers



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# WHY INVEST IN THE M4 FUSION INSTRUMENT?

## HIGH ANALYTICAL PERFORMANCE

- Inter-burner repeatability at each fusion cycle
- Stable oxidizing flames leading to excellent repeatability
- High accuracy
- Consistent temperature and flame control
- Superior homogenization of the melt (the crucibles rotate while inclined)
- Specially designed burners

## PROGRAMMABLE FUSION PARAMETERS

- Gas flow
- Duration
- Mixing speed and amplitude
- Crucible angle
- Agitation speed and angle
- Cooling air flow
- Magnetic stirring speed

## OPTIMIZED METHOD DEVELOPMENT

- Visualization of the entire fusion process to facilitate the method development

## ULTIMATE SAFETY

- Fully automated pouring
- No manipulation of hot vessels (cold-to-cold operation)
- Automatic ignition and flame watching system
- Safety cabinet

## EASY TO USE

- Fully automatic one-touch operation
- Library of predefined fusion methods

## QUICK RETURN ON INVESTMENT (ROI)

### Low cost of ownership

- 2 preparation modes in 1 instrument
- Easy installation
- Simple and efficient mechanism made of long-lasting parts
- Molds and crucibles can be washed and replaced

### Minimal infrastructure required

- Small and compact: fits in limited space
- No burner calibration requested
- No compressed air or O<sub>2</sub> needed



# TECHNICAL SPECIFICATIONS



## PRODUCTIVITY

- Produces up to 3 samples simultaneously
- Prepares glass disks for XRF analysis
- Prepares borate solutions for AA and ICP analysis

## HEATING

- Liquefied petroleum gas (LPG) and natural gas

## ELECTRICAL

- Voltage: 115 VAC 115-230 VAC
- Current: 1 A
- Frequency: 50-60 Hz
- Power: 120 VA

## GAS REQUIREMENTS

- Gas type: Propane, other LPG or natural gas
- Input pressure for other LPG:  $62 \pm 7$  kPa ( $9 \pm 1$  psi)
- Input pressure for natural gas:  $69 \pm 7$  kPa ( $10 \pm 1$  psi)
- Max. input pressure regulator: 1 720 kPa (250 psi)
- Mean consumption\* (propane):  
50 g/sample (2 oz./sample)
- Max. calorific power per burner (propane):  
9.6 kW (33 000 BTU/h)
- Number of burners: 3

\*The gas consumption depends on the fusion program

## DIMENSIONS

- Height: 45 cm (17.7 in.)
- Depth: 41 cm (16.1 in.)
- Width: 52 cm (20.5 in.)

## WEIGHT

- 23 kg (51 lb.)

## PROGRAMMABLE FUSION PARAMETERS

- Gas flow
- Duration
- Mixing speed and amplitude
- Crucible angle
- Agitation speed and angle
- Cooling air flow
- Magnetic stirring speed

## CONTROL AND OPERATION

- One-touch operation
- Can be controlled through a computer
- Easily adaptable software
- Alarm when the cycle is completed

## SAFETY

- User operation levels are protected by a password
- Safety cabinet
- No O<sub>2</sub> required
- Certified CE CSA



Scan this QR code to obtain more information on the M4 instrument.



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