

The new standard in sample preparation by fusion







PREPARES:

- Glass disks for XRF
- Solutions for AA and ICP analysis

PROCESSES:

- Oxides,
- Cement, ceramic, slag, glass, silica, carbonates,
- Mining and geological samples,
- Sulfides, fluorides,
- Polymers, catalysts,
- Pure metals, ferroalloys and other alloys,
- Samples containing high volatile elements.

DISTINGUISHING FEATURES:

- Uses propane, LPG gases or natural gas only
- Can be linked to a computer
- Automatic spark ignition and flame watching system
- Specially designed burners for uniform heating









Look to Claisse® for:

- Further information on Claisse[®] products
- Worldwide sales addresses
- Free flux samples
- Free consultation on sample preparation techniques

Please call the fusion experts or visit our website:

350, rue Franquet, Suite 45 Quebec, QC CANADA G1P 4P3 Tel : 418 656 6453 Fax: 418 656 1169

www.claisse.com

INSTRUMENT SPECIFICATIONS:



Electrical:	100, 115, 230 VAC; 100 W; 50/60 Hz
Gas:	Propane, any other liquid petroleum gas (LPG) or natural gas Input pressure for propane: 62 ± 7 kPa (9 ± 1 PSI) Input pressure for natural gas: 69 ± 7 kPa (10 ± 1 PSI) Number of burners: 3 Maximum gas consumption (propane): 18.4 L/min (39 ft ³ /h) Maximum heat dissipation (propane): 29 kW/h ($98,000$ Btu/h)
Dimensions:	45 x 52 x 41 cm (18 x 20 x 16 in.)

Weight:

INSTRUMENT BENEFITS:

23 kg (50 lb)

Superior analytical accuracy

The crucibles rotate while inclined	 Efficient agitation and superior homogeni- zation of the melt in less time
Specially designed burners	 Stable flame, especially at high and low temperature
Consistent flame and temperature control (100 beating levels)	Uniform heating for reproducible results
No temperature beacter required	Retention of volatile elements
No temperature pooster required	High-performance at high altitudes
 All fusion parameters can be modified: gas flow, mixing speed and amplitude, function duration, crucible angle and cooling air flow 	 Efficient development and optimization of fusion techniques
Air/oxygen injectors in the crucibles (optional)	 Enhanced sample oxidization in the case of carbon-bearing samples
Non-wetting agent injector (optional)	 Prevention of non-wetting agent evaporation during fusion process

User-friendly

- Ten independent and user-customizable fusion programs available
 Assistance with method development.
- Can be linked to a computer
- Easily adaptable software
- Fully automatic
- New sturdy automatic ignition and flame watching system
- Approved CSA Norms

Economical

- Easy installation
- Uses propane, any other liquid petroleum gas (LPG) or natural gas only
- Prepares 3 samples at a time
- One-burner-per-sample design
- Individual burner selection
- No compressed air or oxygen required
- · Allows fusion of a wide variety of samples
- Prepares glass disks and solutions with one instrument
- Reliable
- Compact design

- Low energy consumption
- Low operation costs

Versatile

- Low maintenance and repair costs
- Takes up less space in the laboratory

· Creates, stores and recalls methods, notes

and detailes sample information.

• 999 recipes available via computer.

Operates free of supervision

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Platinum labware... at your disposal







- The new Claisse® Optimix™ crucible can decrease the fusion time when used on a Claisse® M4™ or TheBee™. The three interior indentations at the side produce turbulence that allows a quick and complete homogenization of the melt.
- Available in a variety of sizes and thicknesses, Claisse[®] molds and crucibles are made of 95% platinum alloyed with 5% gold and are of exceptional quality.
- Claisse® offers any precious metal accessory you may need in your laboratory (dishes, electrodes, tongs, tweezers, etc.).
- Claisse[®] accepts used molds and crucibles as partial payment for new platinum labware. This scrap policy applies to all other platinum, rhodium, gold and precious metal accessories.
- All molds should be reshaped prior to polishing, so look for our mold reshapers and polishing kit.







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CRUCIBLES 95% Pt - 5% Au

Cat. Number	Description
P-0130-00	Claisse [®] Flat Bottom Crucible, 26 mL, 30 g *Available from stock
P-0130-03	Claisse [®] Optimix [™] Crucible, 24 mL, 30 g *Available from stock
P-0330-01	Claisse [®] Heavy (1 mm thick) Bis! [™] Crucible, 25 mL, 30 g ^{*Available from stock}
P-0120-00	Claisse [®] Flat Bottom Crucible, 20 mL, 24 g
P-0125-00	Claisse [®] Flat Bottom Crucible, 25 mL, 26 g
P-0325-00	Claisse [®] Bis!™ Crucible, 25 mL, 26 g

All weights are nominal.

MOLDS 95% Pt – 5% Au

Cat. Number	Description	
P-0232-01	Claisse® Heavy (1 mm thick) Mold, 32 mm, 36 g *Available from stock	
P-0235-01	Claisse® Heavy (1 mm thick) Mold, 35 mm, 48 g *Available from stock	
P-0240-01	Claisse® Heavy (1 mm thick) Mold, 40 mm, 48 g *Available from stock	
P-0214-50	Claisse® WideRim™ (1 mm thick) Mold, 14 mm, 45 g	
P-0230-00	Claisse [®] Mold, 30 mm, 18 g	
P-0230-01	Claisse® Heavy (1 mm thick) Mold, 30 mm, 30 g	
P-0230-20	Claisse® Heavy (1 mm thick) Mold, 30 mm, 20° ANGLE, 37 g	
P-0230-50	Claisse [®] WideRim [™] (1 mm thick) Mold, 30 mm, 50 g	
P-0231-00	Claisse [®] Mold, 31 mm, 22 g	
P-0232-00	Claisse [®] Mold, 32 mm, 21 g	
P-0232-20	Claisse® Heavy (1 mm thick) Mold, 32 mm, 20° ANGLE, 42 g	
P-0232-50	Claisse® WideRim™ (1 mm thick) Mold, 32 mm, 50.5 g	
P-0235-00	Claisse [®] Mold, 35 mm, 25 g	
P-0235-20	Claisse® Heavy (1 mm thick) Mold, 35 mm, 20° ANGLE, 47 g	
P-0235-50	Claisse® WideRim™ (1 mm thick) Mold, 35 mm, 51.4 g	
P-0237-00	Claisse [®] Mold, 37 mm, 28 g	
P-0238-00	Claisse® Mold, 38 mm, 29 g	
P-0240-00	Claisse® Mold, 40 mm, 34 g	
P-0240-20	Claisse® Heavy (1 mm thick) Mold, 40 mm, 20° ANGLE, 54 g	
P-0240-50	Claisse [®] WideRim [™] (1 mm thick) Mold, 40 mm, 52.5 g	

All weights are nominal.

ACCESSORIES

Cat. Number	Description
P-0430-00	Zirconium Crucible
P-0530-00	Stainless Steel Mold Reshaper
P-0532-10	Matrix 32 mm
P-0535-10	Matrix 35 mm
P-0540-10	Matrix 40 mm
P-0550-00	Bis!™ Crucible Reshaper
P-0600-00	Claisse [®] Mold Polishing Kit (110V)
P-0600-10	Claisse® Mold Polishing Kit (220V)
P-0600-20	Polishing Recharge 1
P-0600-30	Polishing Recharge 2
V-0120-00	Claisse [®] VortexMixer [™] (110V)
V-0120-50	Claisse [®] VortexMixer [™] (220V)

Claisse offers you a polishing service for your molds to increase their life and to maintain the high quality of your analysis.

Your first choice to fuse samples for XRF, AA and ICP analysis







BORATE FLUXES

- 99.99+% and 99.995+%
- Spherical vitreous particles
- Fused and homogenous
- Granulometry: $100\% < 500\mu m$
- No dust
- High bulk density: 1.4 g / cm³
- Low water content: H₂O < 0.05%
- Non-hygroscopic
- Available with non-wetting agent integrated
- Available in custom blends
- Available from stock
- Certificate of analysis available
- Free samples
- High fluidity





Custom Blends: Claisse® can supply you with a flux that is customized to your application requirements. Contact your Claisse® representative and provide the required ratio for LiT/LiM, non-wetting agent and/or oxidizer.



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FLUXES

All our fluxes are fused, spherical and vitreous particles except when specified otherwise.

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Cat. Number	Description
C-0600-00	LiT, Pure, 1 kg
C-0600-10	LiT, Powder Flux, Pure, 500 g
C-0600-60	LiT/LiBr 99.50/0.50, Pure, 1 kg
C-0600-70	LiT/Lil 99.50/0.50, Pure, 1 kg
C-0601-00	LiT, Ultra Pure, 1 kg
C-0601-10	LiT, Powder Flux, Ultra Pure, 500 g
C-0601-60	LiT/LiBr 99.50/0.50, Ultra Pure, 1 kg
C-0601-70	LiT/Lil 99.50/0.50, Ultra Pure, 1 kg
C-0610-00	LiM, Pure, 1 kg
C-0610-10	LiM, Powder Flux, Pure, 500 g
C-0610-66	LiM/LiBr 98.50/1.50, Pure, 1 kg
C-0611-00	LiM, Ultra Pure, 1 kg
C-0611-66	LiM/LiBr 98.50/1.50, Ultra Pure, 1 kg
C-0620-00	LiT/LiM 50/50, Pure, 1 kg
C-0620-60	LiT/LiM/LiBr 49.75/49.75/0.50, Pure, 1 kg
C-0620-63	LiT/LiM/LiBr 49.50/49.50/1.00, Pure, 1 kg
C-0620-70	LiT/LiM/Lil 49.75/49.75/0.50, Pure, 1 kg
C-0621-00	LiT/LiM 50/50, Ultra Pure, 1 kg
C-0621-60	LiT/LiM/LiBr 49.75/49.75/0.50, Ultra Pure, 1 kg
C-0621-63	LiT/LiM/LiBr 49.50/49.50/1.00, Ultra Pure, 1 kg
C-0621-70	LiT/LiM/Lil 49.75/49.75/0.50, Ultra Pure, 1 kg
C-0630-00	Sodium Tetraborate, Pure, 1 kg
C-0631-00	Sodium Tetraborate, Ultra Pure, 1 kg
C-0640-00	LiT/LiM 67/33, Pure, 1 kg
C-0640-60	LiT/LiM/LiBr 66.67/32.83/0.50, Pure, 1 kg
C-0640-70	LiT/LiM/Lil 66.67/32.83/0.50, Pure, 1 kg
C-0641-00	LiT/LiM 67/33, Ultra Pure, 1 kg
C-0641-60	LiT/LiM/LiBr 66.67/32.83/0.50, Ultra Pure, 1 kg
C-0641-70	LiT/LiM/Lil 66.67/32.83/0.50, Ultra Pure, 1 kg
C-0650-00	LiT/LiM 35/65 (12/22), Pure, 1 kg
C-0650-60	LiT/LiM/LiBr 34.83/64.67/0.50 (11.94/21.89/0.17), Pure, 1 kg
C-0651-00	LiT/LiM 35/65 (12/22), Ultra Pure, 1 kg

LiBr = Lithium bromide, Lil = Lithium iodide, LiT = Lithium tetraborate, LiM = Lithium metaborate

ADDITIVES

Cat. Number	Description
C-0690-00	Lithium Carbonate, Powder flux, Ultra Pure, 500 g
C-0700-00	Potassium lodide, NWA - Crystal, 100 g
C-0700-01	Potassium lodide, NWA - Crystal, 250 g
C-0701-00	Potassium lodide, NWA - Solution, 15 mL bottle
C-0701-01	Potassium Iodide, NWA - Solution, 15 mL bottle (Pack of 10)
C-0710-00	Lithium Bromide, NWA - Crystal, 100 g
C-0710-01	Lithium Bromide, NWA - Crystal, 250 g
C-0711-00	Lithium Bromide, NWA - Solution, 15 mL bottle
C-0711-01	Lithium Bromide, NWA - Solution, 15 mL bottle (Pack of 10)
C-0720-00	Lithium lodide, NWA - Crystal, 100 g
C-0720-01	Lithium lodide, NWA - Crystal, 250 g
C-0740-00	Sodium lodide, NWA - Crystal, 100 g
C-0740-01	Sodium lodide, NWA - Crystal, 250 g
C-0800-00	Lithium Fluoride, Crystal, 100 g
C-0800-01	Lithium Fluoride, Crystal, 250 g
C-0900-00	Lithium Nitrate, 500 g
C-0910-00	Sodium Nitrate, 500 g

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The best results require the best solution







PREPARES:

• Solutions for AA, ICP, and wet chemistry analysis

SPECIALLY DESIGNED FOR:

• Fusing samples in sodium peroxide, sodium carbonate, and potassium pyrosulfate

PROCESSES:

- Highly refractory compounds such as chromite, magnetite, ilmenite, rutile, silicon, and silicon carbide
- Materials with high sulfide contents
- Noble metals









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INSTRUMENT SPECIFICATIONS:

Electrical: Fluxer input pressure:

Heat: Dimensions:

Weight:

115/230 VAC; 150 W; 50/60 Hz $62 \pm 7 \text{ kPa} (9 \pm 1 \text{ PSI}) (\text{propane or LPG})$ $69 \pm 7 \text{ kPa} (10 \pm 1 \text{ PSI}) (\text{natural gas})$ Max. regulator input pressure: 1720 kPa (250 PSI) Mean consumption* (propane): 30 g/sample (1 oz./sample) Max. calorific power per burner (propane): 9.6 kW (33,000 Btu/h) Fluxer: 35 x 63 x 40 cm (14 x 25 x 16 in.) Control unit: 20 x 38 x 12 cm (8 x 15 x 5 x in.) Approx. 32 kg (70 lb)

*gas consumption depends on the fusion program.

INSTRUMENT OVERVIEW:

The Claisse[®] Peroxide[™] Fluxer is a sample preparation instrument used to transform powders of pure metals, alloys, noble metals and high refractory materials into diluted acid solutions. Solutions are prepared for analysis by Atomic Absorption (AA), Inductively Coupled Plasma (ICP) or conventional wet chemistry.

Up to six samples may be placed into zirconium crucibles, clipped over gas burners. Sodium peroxide is typically added to the samples, but a wide variety of fluxes can be used. The Peroxide[™] Fluxer uses propane, any other liquid petroleum gas (LPG) or natural gas to heat the samples while agitating them. An entirely programmable interface is designed to launch each step in proper order to obtain a completely dissolved sample.

The samples can finally rest in still air and be rapidly cooled down by fans. They are then ready to be acidified and analyzed.

INSTRUMENT BENEFITS:

Superior analytical accuracy

- Complete dissolution of the samples
- Flame consistency (new burners specially designed by Claisse®)
- Temperature control (100 heating levels)
- Uniform heating for reproducible results
- Retention of volatile elements
- Reduction of acid impurities
- Efficient agitation and superior homogenization of the melt
- Editable fusion parameters: heating and cooling duration, mixing speed and amplitude, gas flow
- Productive at high altitudes

User-friendly

- Fully automatic
- New automatic spark ignition and flame watching system
- Individual burner selection
- Easy loading of crucibles
- 7 available preset fusion programs
- Remote assistance: Claisse[®] chemists are available to assist you with the maintenance of your instrument and method development

Economical

- Time saving: 5 to 10 minutes to prepare a solution
- High throughput: 6 samples at a time for up to 40-60 samples per hour
- · Increases life length of crucibles
- One-burner-per-sample design
- Uses propane, LPG or Natural gas
- No compressed air or oxygen required
- · Low power consumption and no special outlet required
- Capable of fusing a wide array of samples
- Operates free of supervision
- Low maintenance and repair costs

Good analytical results start with the weighing process







A NEW STANDARD IN WEIGHING ADVANCES THE FUSION PROCESS

TheAnt[™] automatically weighs the sample and dispenses the flux precisely, with an accuracy of up to one-tenth of a milligram.

SPECIALLY DESIGNED FOR:

- Laboratories with high sample throughput for analysis by XRF, AA and ICP
- Laboratories seeking high accuracy and precision

DISTINGUISHING FEATURES:

- Automatic weighing of the sample
- Automatic dispensing of the flux to maintain a constant sample/flux ratio
- Precison of up to 0.1 mg
- Easy to install
- No training necessary
- Low maintenance
- Robotics ready







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INSTRUMENT SPECIFICATIONS:

APPROVED

Electrical: Dimensions: Weight:

100/240 VAC; 50/60 Hz Approx. 45 x 39 x 57 cm (18 x 15 x 23 in.) Approx. 23 kg (50 lb)

INSTRUMENT MODES:

1- Sample/flux ratio mode

TheAnt[™] allows you to obtain the desired sample/flux ratio automatically and with high precision, each and every time. Simply add in an approximate quantity of sample and TheAnt[™] will automatically calculate and dispense the amount of flux needed to reach the required sample/flux ratio.

2- Absolute mode

TheAnt[™] automatically dispenses the desired amount of flux with a precision of up to 0.1 mg.

INSTRUMENT BENEFITS:

Eliminates human error at the weighing step

The global error (e_s) associated with the concentration of an element to be measured is a function of the individual errors relating to the different stages in the analytical process:

$$\%e_{5} = \sqrt{(\%e_{1})^{2} + (\%e_{2})^{2} + (\%e_{3})^{2} + (\%e_{4})^{2}}$$



Since TheAnt^M eliminates weighing errors (e₂), the global error (e₅) is significantly reduced, which consequently improves the accuracy and the reproducibility of the analysis.

Dramatically speeds up the weighing process

- No more loss of time related to the weighing of fluxes.
- No more calculations for determining flux weight in relation to sample quantity.

Eliminates human fatigue from the production process

- High throughput: 30 to 60 samples per hour.
- Operates independently for approximately 200 weighings.



Think: Utility free, reliability, performance and cost of ownership!







PREPARES:

- Glass disks for XRF analysis
- Solutions for AA and ICP analysis

PROCESSES:

- Oxides
- Cement, lime, carbonates, ceramics, glass, slag
- Mining, geological, silica, silicates, clay, ores
- Sulfides, fluorides
- Bauxites, alumina
- Catalysts, polymers, pigments
- Pure metals, ferroalloys, non-ferrous alloys
- Pharmaceutical samples

DISTINGUISHING FEATURES:

- Plug and play instrument
- Precise control of low and high fusion temperatures
- No water cooling
- No compressed air operation system
- Low maintenance costs
- Easy to service
- High temperature capability (1200° C)
- Highest performance, even on difficult samples









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INSTRUMENT SPECIFICATIONS:

Electrical: 208/240 VAC; 50/60 Hz Dimensions: Approx. 48 x 56 x 56 cm (19 x 22 x 22 in.) Weight: Approx. 56 kg (125 lb.)

INSTRUMENT BENEFITS:

High precision

Crucible is rotated while inclined	 Efficient agitation and superior homogenization of the melt, in less time
 Powerful High temperature capability (1200°C) 	Allows fusion of high refractory materials
	 Prepares glass disks from 30 mm to 40 mm in diameter
 Accurate and precise control of high and low fusion temperatures 	Retention of volatile elements
	Superior reproducibility of the analysis
	Efficient oxidation for reduced elements
	 Highest performance, even on difficult samples
No cover for crucibles and molds	No contamination during the fusion process
 All the fusion parameters can be modified: temperature, mixing speed and amplitude, function times, cooling air flow 	• Flexible
	 Efficient development and optimization of fusion techniques

User-friendly

 graphic interface - Keypad operation 10 independent pre-loaded programs 	Create, store and recalls methods, notes and detailed sample information
 Can be operated by a computer Easy to use software 	 Remote access for programming and monitoring Unlimited number of programs Robotics ready
Fully automatic one button operation	Operates without supervision
• Elegant design	Easy loading of crucibles, molds and beakers
Clip-on/Clip-off crucible heating element	 Easy switch from disks to solutions

Low cost of ownership

Very competitive price
Built sturdy and reliable
Low initial cost
Low maintenance
Economical
Easy to service
No water cooling system required
No compressed air required for operation
Compatible with all low tension electrical systems
Bench top size
Uses less space in the laboratory