Essa® Fire Assay Multiload and Multipour Systems

Designed to assist fire assayers to move multiple samples into and out of high temperature furnaces, these systems promote high productivity and worker safety.

Complete range of fire assay products
- Weigh benches and bench grids
- Flux bins and flux mixers
- Pot loaders
- Pouring trolleys
- Pot pouring tongs
- Pot trays and racks
- Hot pot trolleys
- Pouring moulds and mould covers
- Cupel forks
- Cupel cooling racks
- Knock-up benches
- Button trays
- Furnace brushes, rakes and shovels
- Manual single pot and cupel tongs
- ROJAN™ crucibles and cupels
- Fire assay furnaces
Purpose-built components for safe, user-friendly crucible handling

A rare innovation in fire assay technology
Working closely in conjunction with fire assay operators, FLSmidth pioneered the development and engineering of these systems over 20 years ago.

The pyro-metallurgical recovery of gold from precious metal ores has been practised for over two thousand years. The basic fire assay technique for gold determination has changed little over the centuries. These efficient handling systems are one of the few recent innovations to benefit this age-old assay technology. Many laboratories seek productivity advances to keep pace with the growing demand for fire assay determinations. The Essa systems are a completely integrated set of apparatus to facilitate multiple crucible loading and pouring, reducing both turnaround times and energy consumption.

They are specifically designed to suit your particular requirements and cater to such variables as crucible and cupel type, furnace manufacture and crucible layout configuration in the furnace.

Safe and user-friendly
In the potentially hazardous environment of a fire assay laboratory, the Essa Multiload and Multipour Systems offer peace of mind regarding worker safety. The design of the trolleys and integrated tools offers the handler a safe distance from the furnace at all times. The streamlined integrated system significantly reduces manual handling. This minimises operator exposure to heat and decreases costs of personal protective equipment.

Ease of operation and accuracy stem from features such as the hydraulic height adjustment on the loading trolley and the easily manoeuvrable large-diameter cast iron wheels.

Typical fire assay multiload and multipour system

1. Pot tray
2. Cupel fork
3. Knock-up bench
4. Furnace brush
5. Furnace rake
6. Furnace shovel
7. Hot pot trolley
8. Mould cover
9. Pot loader
10. Pot rack
11. Pouring trolley
12. Bench grid
13. Pouring mould
14. Pot tong
15. Weigh bench
Essa® Multiload & Multipour System
Information Request

Contact details
Laboratory/Company name
Contact name
Email

Fire Assay Fusion Furnace System

Fusion furnace make and model:

Furnace chamber internal dimensions: _______________ x _____________ x_____________ mm
width depth height

Height from assay room floor to furnace chamber floor _____________ mm (include height of any hearth tiles etc. if applicable)

Distance from front (steel) face of furnace body to back wall of furnace chamber _____________ mm

Describe furnace door operation (eg: pneumatic upwards, manual downwards) and whether it may impede trolley access to the front of the furnace

Fusion furnace energy source: ☐ Electric ☐ LP Gas ☐ Natural Gas ☐ Distillate

Fire Assay Fusion Crucible (Pot)
Crucible make and model/size:

Crucible outside dimensions

Base diameter mm
Top diameter mm
Height mm

Number of crucibles per furnace

Crucible configuration in furnace
How many wide?
How many deep?

Fire Assay Cupellation System
Cupel make and model/size:

Cupel dimensions

Base diameter mm
Top diameter mm
Height mm

Number of cupels per furnace

Cupel configuration in furnace
How many wide?
How many deep?

Furnace chamber (muffle) dimensions
width depth height
<table>
<thead>
<tr>
<th>Pot loader</th>
<th>Pot rack (with 5 pot trays)</th>
<th>Mould (5 depression)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pot pouring tong (5 place)</td>
<td>Hot pot trolley</td>
<td>Pouring trolley</td>
</tr>
<tr>
<td>Button tray (50 place)</td>
<td>Cupel fork</td>
<td>Mould cover</td>
</tr>
<tr>
<td>Bench grid</td>
<td>Various tools</td>
<td></td>
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</tbody>
</table>