

Fully Automatic Loss on Ignition Tester (LOI) - VLOI-FA



1.0 Product Information:

1.1 General Information

VLOI is a fully automatic Loss on Ignition (LOI) tester for routine quality control of foundry sands, bentonites/pre-blends, and resin/oil-bonded sand samples. The system automates the weigh-fire-cool-weigh sequence and calculates %LOI with traceable records.

The test is performed as per AFS 5100-12-S conditions with optional drying at $225^{\circ}\text{F} \pm 5^{\circ}\text{F}$ ($107^{\circ}\text{C} \pm 3^{\circ}\text{C}$) when required, and firing at $1800^{\circ}\text{F} \pm 10^{\circ}\text{F}$ ($982^{\circ}\text{C} \pm 6^{\circ}\text{C}$) and automatic result computation.

1.2 General Usage

LOI indicates weight change on firing due to volatilization of organics, removal of chemically bound water, gas-forming dissociation reactions, and oxidation effects. LOI is used to monitor and control carbonaceous additives, binders, and reclaimed sand quality, supporting stable mould/core performance.

1.3 Product Data

Product Name:	Fully Automatic Loss on Ignition Tester (LOI) - VLOI
Product Code:	VLOI
Order Reference Code:	V0000195
Electrical Supply Required:	230v 50Hz A.C. (Default) 110v 60 Hz A.C (Optional) Single Phase, Stabilized with Over/ Under Voltage cut-off.

Electrical Plug:	M type: 15 Amp Plug (Default)
Typical Maximum Current:	15 A @ 230V
Compressed air Supply:	Not Required (If optional facility of air purge/cleaning is required: 4 Bars)
Communication:	Ethernet/Wi-Fi (optional)
Dimensions:	780x760x410mm (WxBxH)
Packing Dimensions:	725x575x480mm (WxBxH) Typical
Net Weight:	Approximately 26 kg
Gross Weight:	Approximately 32 kg
Colour:	Factory Default
Measuring Range:	LOI: 0 to 5 % (Application dependent)
Traceable to:	National standards
Least Count:	+/-0.005 g (integrated balance)
Specimen Requirements:	Typical sample mass: 25 $\pm$ 5 g (sand). 8 $\pm$ 3 g (bentonite/pre-blends)
Operating Temperature:	Ambient: 10–40°C; Furnace: up to 982°C (AFS) / 1000°C max
Testing Standards:	AFS 5100-12-S (Loss on Ignition, LOI)
Calibration Frequency:	Minimum once in year; routine verification as per QMS / SOP

2.0 Scope of Supply

2.1 Inclusions in Supply Scope

- Main unit: VLOI with integrated furnace and weighing mechanism.
- Automated weigh-fire-cool-weigh program with timer.
- Auto-test completion setting based on real-time feedback from burn rate.
- Set of refractory crucibles suitable for firing at 982°C. (Quantity: 3nos.)
- Tongs

2.2 Exclusions in Supply Scope

- Items/services not explicitly listed in Scope of Supply (e.g., external fume hood/ducting, consumables beyond initial set, calibration weights etc.).

3.0 Recommended Pre-requisite Equipment

Stable vibration-free table/bench, exhaust/ventilation provision, and sample preparation tools (Riffle splitter, Grinder/cutter for bonded sand).

Calibration weight set (Class F1/E2), temperature verification kit/thermocouple, additional crucible sets.

4.1 Calibration Kits

Calibration weight set (Class F1/E2), temperature verification kit/thermocouple, additional crucible sets.

4.2 Attachments

NA

5.0 Alternative Equipment

- a. Manual LOI setup
- b. Semi-automatic LOI system (manual loading with automatic furnace cycle).
- c. Laboratory muffle furnace with external analytical balance (with SOP-based calculation).

6.0 Installations Instructions

Place on a stable bench, ensure adequate ventilation/exhaust for fumes, provide dedicated electrical supply with earthing, and allow warm-up/temperature stabilization before use.

7.0 Consumables

Boats and Crucibles for testing

8.0 Hazards

High temperature burns risk and potential respiratory hazards from fumes during firing. Use heat-resistant gloves/tongs and operate with adequate ventilation/exhaust.

9.0 Additional Information

Maintenance instructions, preventive maintenance checklist, and spare parts list.

Link to Web-Page 

Link to Demo Video 

Disclaimer: Specifications and design of equipment may change without prior notice.