

LABINDIA
EQUIPMENTS
WHERE COMMITMENT IS CULTURE

LABTHERM
laboratory *furnaces*

450°C up to 2000°C

ELV Series Elevating, Lift Bottom Furnaces



LABTHERM ELV series Elevating, Lift Bottom Furnaces are designed for bottom loading operations and for quick charging and discharging procedures in laboratories.

Available with brick and fiber insulation elements, with a wide variety of options, ELV series is used for glaze fritting, glass melting and applications requiring quick removal of products from the furnace.

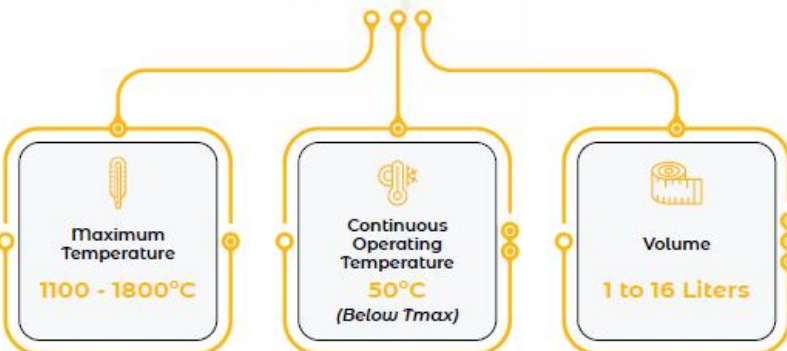
Standard ELV series furnaces cover a range from 1100°C to 1800°C, all of which have dual skin housing for low external temperatures and high inner temperature stability uniformity. Multi-layers of products could be fitted into the furnace, enabling the experimentation of several samples at a time. Gas feed-in with this series is a standard and various applications of gas-controlled atmospheres is made possible.

This series equip a galvanized coating covered epoxy painted structure, providing a longer lifetime and aesthetics.

ELV series are electrically lift bottom furnaces, available with brick and fiber insulation materials. These models provide easy loading of samples and optimal temperature uniformity within the hot zone. ELV series are mainly used for melting and thermal shock tests.

System Features:

- Customized controller option
- High-quality fiber material
- Exceptional temperature uniformity.
- Tabletop or self-standing design.
- Hand fitted brick-on-brick seal.
- High level temperature uniformity.
- Short heating times
- High quality heating elements ensuring a long service life.
- Electrical protection
- Precise, electric spindle drive with push button operation
- Working Temperatures of up to 1800°C
- System operation with solid-state-relays.
- Intuitive controller user interface



Model	Max. Temp (°C)	Continuous Operating Temp (°C)	Inner Dimensions (cm)			Volume (L)	External Dimensions (cm)			Power (kW)	Phase
			H	W	D		H	W	D		
ELV 110/8	1100	1050	20	20	20	8.0	122	63	81	2.0	1
ELV 120/8	1200	1150	20	20	20	8.0	122	63	81	2.0	1
ELV 130/8	1300	1250	20	20	20	8.0	122	63	81	2.0	1
ELV 140/8	1400	1350	18	18	23	7.5	122	63	81	4.9	3
ELV 160/8	1600	1550	18	18	23	7.5	190	62	77	5.2	3
ELV 160/8	1600	1550	20	20	20	8.0	190	62	77	7.2	3
ELV 160/16	1600	1550	25	25	25	15.6	205	66	84	11.3	1
ELV 170/8	1700	1650	20	20	20	8.0	190	62	77	7.2	3
ELV 170/16	1700	1650	25	25	25	15.6	205	66	84	11.3	1
ELV 180/8	1800	1750	20	20	20	8.0	190	62	77	7.8	3
ELV 180/16	1800	1750	25	25	25	15.6	205	66	84	11.3	1

Optional Features:

- Over-temperature limiter for thermal protection
- Exhaust air opening in the of the furnace roof
- Adjustable air inlet through the floor
- Data logger with the software
- RS422/485 communication
- Protective Gas System and Connection



Furnace properties:

Heavy-duty swivel casters with individual brakes

Dual shell, floor-standing casing; low external temperatures and high inner temperature stability, additional cooling fan is included for cooling.

components and the outer surface

Outer case: phosphate coated, and epoxy painted steel body.

Inner case: Galvanize coated. High quality vacuum formed low-mass fiber insulation all around.

Low energy consumption insulation utilized for a greener product.

Chimney: positioned at the ceiling of the inner chamber for the natural ventilation of the furnace interior.

Over temperature alarm relay; preventing over heating of the furnace, protecting the insulation material and the heating elements.

(Purpose for this alarm is not for the protection of the sample and is not user configurable.)

Gas feeding from bottom (protective gas connection with Analog Rotameter)

Power Driver Unit using Thyristor Module.

Top quality switchgear components.

Type B (Platin-Platin/Rhodium) ceramic sheathed corrosion resistant thermocouple.

1 pc of heart (base) plate included with the unit.

Lift-Bottom properties:

Electrically driven lift-bottom; rises into the furnace chamber carrying the load, enabling easy charging of samples. The lift-bottom protects the operator from the chamber's radiant heat as well as providing fast heating and cooling cycles by raising and lowering the hearth.

Compact buttons on the furnace, suitable for convenient usage with gloves.

Lift-bottom safety switch; disabling current to heating elements when the lift-bottom is down; protects the operator from possible electric shocks.

Heating System:

High-quality molybdenum disilicide heating elements positioned around the hot zone with the best possible protection against chemical interaction between the sample and heating elements.

Optimized surface load of elements for high durability and longer lifetime.

Heating element locations for prime temperature uniformity

Straight forward and user-friendly installation and possible exchange of parts

Quality Certificates:

CE marked.

ISO 9001

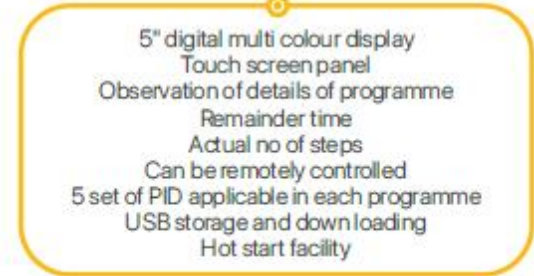
The furnace will be thoroughly tested and provided with a QA report.

Controllers

LABTHERM Furnaces provide a wide range of temperature controller options. All controllers provided by LABTHERM Furnaces have built in sockets and are easy to replace, for faster and quicker servicing.

LABTHERM Furnaces brand controllers are rugged, durable and have a user-friendly utilization. Standard controller brands provided are Eurotherm, Omron and LABTHERM PDC 100, as well as other brands on request.

Together with this catalogue our new controller PDC-100 is arriving into our set of controllers as the most sophisticated one PDC-100 has a touch screen, multi-language capability, multi stage PID definition to sensitive control and is capable of remote controlling. It arrives in 5 language as standard but also possible to upload almost any language for End User's convenience.



Temperature Control System Properties

- High durability membrane & buttons for input
- High candela screen brightness
- Compact controllers with large screen area
- Intuitive controller interface
- Multi-programmable & simple controller optionality

* For other controller brand inquiries, please contact us

No	Model Name	Control Type	Display	Program Option	Extra Features	Set/Actual Value
1	PC442T	PID Controller	Dual Display with Clear & Large Text	Auto Shut Down Function with Timer Adjustable Upto 9999 Minutes	"Hot Start" & "Delay Timer"	Set & Actual Value Compatibility
2	PC442/MP20	PID Controller	Dual Display with Clear & Large Text	20 Programs with 40 Programmable Segments	"Hot Start" & "Delay Timer"	Set & Actual Value Compatibility
3	Omron E50C	PID Controller	Dual Display with Clear White & Large Text	Non Programmable	"Hot Start" Function	Set & Actual Value Compatibility
4	Omron E5EC-T	PID Controller	Dual Display with Clear White & Large Text	8 Programs with 32 Programmable Segments	"Hot Start" & "Delay Timer"	Set & Actual Value Compatibility
5	Eurotherm3208	PID Controller	Dual Display with Clear & Large Text	5 Programs with 8 Programmable Segments	"Hot Start" Function	Set & Actual Value Compatibility
6	Eurotherm3508	PID Controller	Dual Display with Clear & Large Text	50 Programs with 100 Segments	"Hot Start" Function	Set & Actual Value Compatibility
7	PDC-100	PID Controller	Touch Screen	30 Programs with 50 Segments		Set & Actual Value Compatibility

RETORT BOX

Retort box is an economical solution for enabling controlled atmosphere environments within the chamber furnace. Usable up to 1150 °C of working conditions, the Protherm Furnaces retort boxes can be customized depending on the customer requirement.



Furnace Volume (L)
6
<10
<30
<60
<100

OVER TEMPERATURE PROTECTION

PC 442 T Model is used as an external over temperature protection controller as a standard. For more information regarding the unit please examine the Controller Manual.



Dimensions (LxWxD mm)	Power Supply	Construction
50x50x75	AC 85-265V 50/60Hz	Stainless Steel

EXHAUST JET FAN

Exhaust Jet Fan is used for the removal of heated air faster from the chamber in order to provide both uniformity and exchange of air.



Power (W)
2.5
4
6

WAGON

The wagon is an optional accessory providing the operator to remove the bottom of the furnace out, for easy replacement, and observation procedures.



Available Furnace Volume
45
50
60
≥100

ROTAMETER

Available for multiple flow rates, the Acrylic Flowmeter has a Dual Direct Reading Scale with yellow background for easy viewing. Provided with a valve and stainless steel float for operators utilization.



Measurement Range	Connection	Fitting
1000 Nl/h	1/8" FNPT	Stainless Steel

CRUCIBLE TRAY

Crucible tray is provided for different sizes for different crucibles. Please make sure to check the inner dimensions of the furnace before ordering from your authorized dealer.



Dimensions (WxD cm)
18x18
18x24
20x29
26x37
28x48

QUARTZ OBSERVATION HOLE

Observation holes are provided for operator to analyze the reactions taking place during the heating process. The standard hole sizes are provided below.



ID of hole (mm)
40
50
75

GLOVES, TONGS AND MASKS

Furnace accessories such as heat resistant gloves, glasses, masks and tongs are available for your utilization from Protherm Furnaces.



Size
Small
Medium
Large

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EQUIPMENTS

WHERE COMMITMENT IS CULTURE

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Striving to become the best individuals, we endeavour to foster the best team. Performing sensibly, we try to achieve the best efficiency. Working innovatively, we seek to make the best products. Listening patiently, we excel to offer the best service. So, no matter what you needs are, come to us, **GET THE BEST**

LABINDIA reserve the right to change specification without notice as part of its continuous programme of product development.