

LABINDIA
EQUIPMENTS
WHERE COMMITMENT IS CULTURE

LABTHERM
laboratory *furnaces*

450°C up to 2000°C

MoS Series Chamber Furnaces



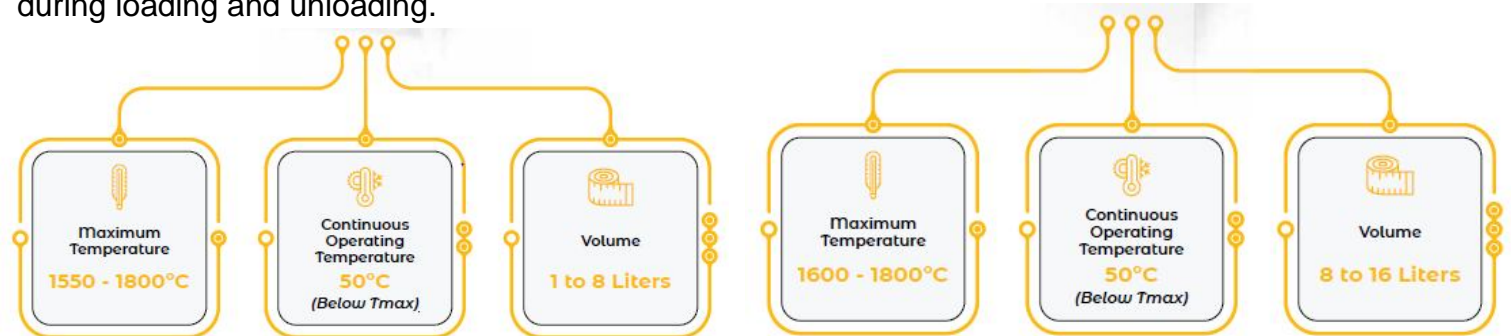
LABTHERM MoS series have been used as trusted professional chamber furnaces for use in laboratories. Available with brick and fiber insulation elements, with a wide variety of options, these models can be optimally used for high temperature procedures.

Standard MoS series furnaces cover a range from 1600°C to 1800°C, all of which have front loading for easy operation and double skin construction to maintain a cooler outer case. Important advantage of the model is that element change is very easy and economic. Furnaces starting from 1800°C use high quality Molybdenum Di silicide heating elements, providing a very long service life. Galvanized coating covered epoxy painted structure, providing longer lifetime and aesthetics. Typical applications for the product is almost all high temperature applications where high level of precision is required; high temperature sintering processes such as Ceramic, Dental and Material Research

System Features

- Vertical counter balanced door
- Standard door safety switch
- Customized controller option
- High-quality fiber material
- High level temperature uniformity
- Bottom protection, alumina plates on the floor
- Standard brick design on the outer skirts of the door and the furnace opening providing protection from possible unwanted damages during loading and unloading.

- Tabletop and Self-Standing design.
- High quality heating elements ensuring a long service life.
- System operation with solid-state-relays
- Short heating times
- Electrical protection
- Working Temperatures of up to 1800°C
- Dual skin housing for low external temperatures and high inner temperature stability
- Easy replacement of heating elements
- Intuitive controller user interface



Model	Maximum Temperature (°C)	Continuous Operating Temperature °C	Inner Dimensions HxWxD (cm)	Inner Volume (liters)	External Dimensions HxWxD (cm)	Approximate Power (kW)	Phase	Supply (V)
MoS-B 150/1	1550	1500	12x12x9	1.3	71x51x47	1.5	1	220
MoS-B 150/2	1550	1500	14x12x15	2.5	77x51x51	3.3	1	220
MoS-B 160/1	1600	1550	12x12x9	1.3	71x51x47	1.5	1	220
MoS-B 160/2	1600	1550	14x12x15	2.5	77x51x51	3.3	1	220
MoS-B 160/4	1600	1550	14x14x20	3.9	66x82x52	4.4	1	400
MoS-B 160/8	1600	1550	18x18x25	8.1	70x92x52	7.2	3	400
MoS-B 170/2	1700	1650	14x12x15	2.5	77x51x51	3.3	1	220
MoS-B 170/4	1700	1650	14x14x20	3.9	66x82x52	4.4	1	400
MoS-B 170/8	1700	1650	18x18x25	8.1	70x92x52	7.2	3	400
MoS-B 180/2	1800	1750	14x12x15	2.5	77x51x51	3.3	1	220
MoS-B 180/4	1800	1750	14x14x20	3.9	66x82x52	4.4	1	400
MoS-B 180/8	1800	1750	18x18x25	8.1	70x92x52	7.2	3	400
MoS-F 160/8	1600	1550	18x18x25	8.1	145x58x61	7.2	3	400
MoS-F 160/12	1600	1550	24x20x25	12	145x62x61	9	3	400
MoS-F 160/16	1600	1550	24x22x30	15.8	145x62x61	11.3	3	400
MoS-F 170/8	1700	1650	18x18x25	8.1	70x92x52	7.2	3	400
MoS-F 170/12	1700	1650	24x20x25	12	145x62x61	9	3	400
MoS-F 170/16	1700	1650	24x22x30	15.8	145x62x61	11.3	3	400
MoS-F 180/8	1800	1750	18x18x25	8.1	70x92x52	7.2	3	400
MoS-F 180/12	1800	1750	24x20x25	12	145x62x61	9	3	400
MoS-F 180/16	1800	1750	24x22x30	15.8	145x62x61	11.3	3	400

Furnace properties:

Levelling feet pads for table-top usage

Dual shell, bench top 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 asbestos-free fiber board insulation at the sides, ceiling of the furnace interior and the lid.

Top grade insulation brick at the furnace frame and floor increasing higher durability against spills and collisions. 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.)

Power Driver Unit :using Thyristor Module Top quality switchgear components.

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

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

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

Optional Features:

Over-temperature limiter for thermal protection

Adjustable air intake opening in the furnace door.

Exhaust air opening in the of the furnace roof

Option of sideways opening door

Observation hole enabling the operator to observe the load during the operation.

Data logger with the software

Door properties:

Up & away counter balanced door; protecting the user from the hot surface of the door.

Robust handles on both sides of the door, designed for convenient grip with gloves.

Specially designed and adjusted door spring system for effortless door movement

Door safety switch: disabling current to heating elements when the furnace door is open; protects the operator from possible electric shocks.

Heating System:

High-quality molybdenum Di silicide heating elements positioned on both sides of the hot zone.

Heating element's locations offer prime temperature uniformity and best possible protection against chemical interaction between charge and heating elements and providing simple, convenient maintenance.

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.

RS422/485 communication

Cooling Fan for faster cooling processes

Jet Fan for faster exhaust of gases.

Movable bottom enabling the operator to remove the sample while the furnace is still hot.

Quartz element protection for heating elements

Protective gas system and connection



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.

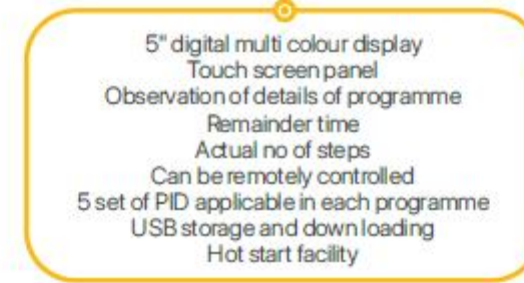
LABTHERM Furnaces brand controllers are rugged, durable and have a user-friendly utilization. Standard controller brands provided are Eurotherm, Omron and LABTHERM PDC 100, as well as other brands on request.

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	TouchScreen	30 Programs with 50 Segments		Set & Actual Value Compatibility

Chamber Furnace Accessories List

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

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

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

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

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

WAGON

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



Subsidiary Furnace Volume
45
50
60
≥100

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)
19x18
18x24
20x29
26x37
28x48

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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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.