

LABINDIA
EQUIPMENTS
WHERE COMMITMENT IS CULTURE

LABTHERM
laboratory *furnaces*

450°C up to 2000°C

PAF Series Ashing Furnaces



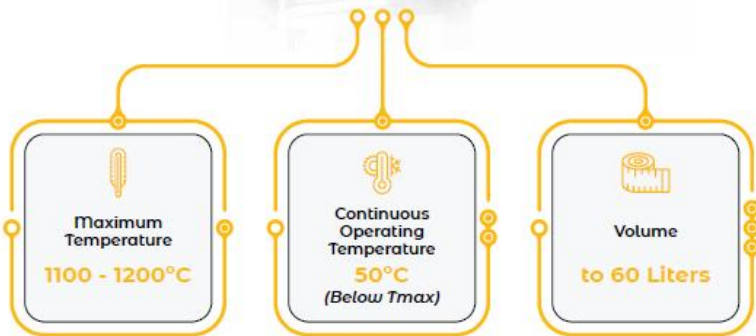
LABTHERM PAF series is recommended for heavy ashing applications, where carbon can deposit during the “firing process” from products such as oil, food and plastic.

PAF series, with preheated air inlet system and sideways opening lid is particularly designed for ashing in the laboratory environment. A special air intake and exhaust system allows air exchange within the furnace. Incoming air is preheated, providing perfect temperature uniformity. PAF series is equipped with extra quartz protected heating elements, providing a longer service life for the furnace.

Custom designed vertical rotational door keeps the heat and the fumes away from the operator, enabling the furnace to fit in to tighter spaces. Standard brick design on the outer skirts of the door and the furnace opening provide protection from possible unwanted damages during loading.

System Features:

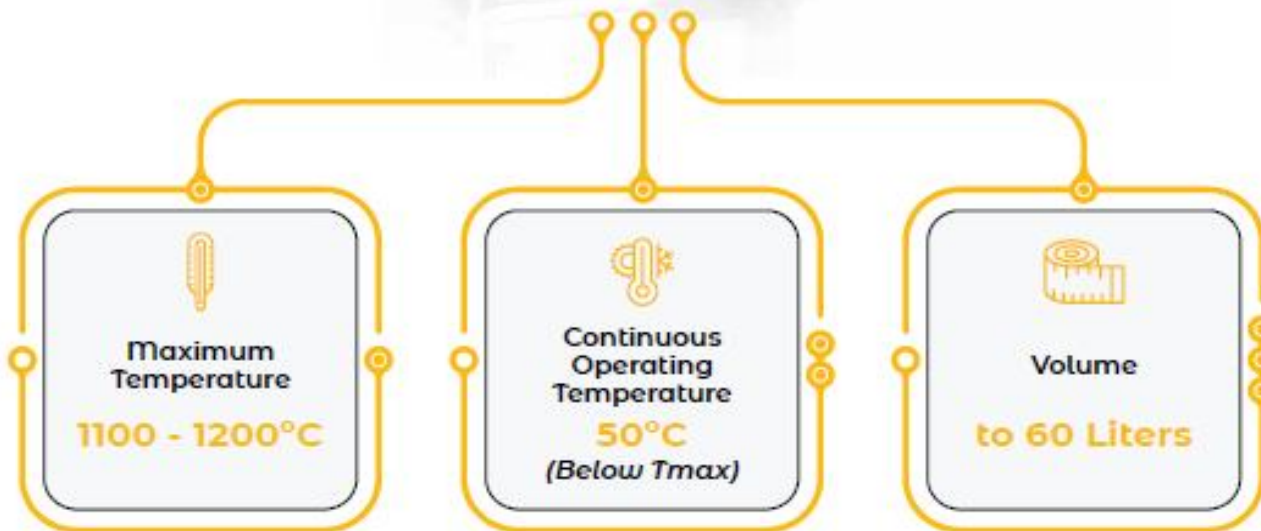
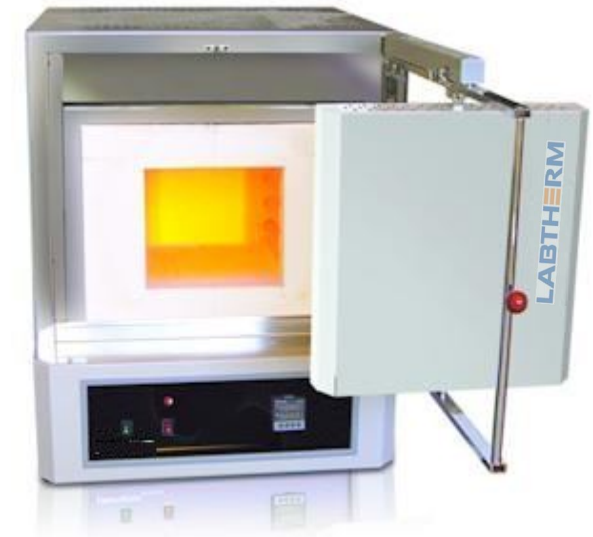
- Standard special design door
- Standard door safety switch
- Customized controller option
- High-quality fiber material
- High level temperature uniformity
- Bottom protection, alumina plates on the floor.
- Rugged and durable design
- High quality heating elements
- Electrical protection
- Dual skin housing for low external temperatures and high stability
- Intuitive controller user interface
- System operation with solid-state-relays



LABTHERM

laboratory *furnaces*
450°C upto 2000°C

Model	Max. Temp (°C)	Continuous Operating Temp (°C)	Inside Measurements (cm)			Volume (L)	Outside Measurements (cm)			Power (kW)	Phase
			H	W	D		H	W	D		
PAF 110/6	1100	1050	14	20	25	7.0	65	55	58	2.0	1
PAF 110/10	1100	1050	20	20	25	10.0	72	56	64	3.6	1
PAF 110/15	1100	1050	23	22	30	15.0	72	56	64	3.6	1
PAF 110/30	1100	1050	28	28	38	30.0	79	59	69	6.0	3
PAF 110/45	1100	1050	30	30	50	45.0	82	66	81	7.5	3
PAF 110/60	1100	1050	30	40	50	60.0	80	76	84	9.6	3
PAF 120/6	1200	1150	14	20	25	7.0	65	55	58	2.0	1
PAF 120/10	1200	1150	20	20	25	10.0	72	56	64	3.6	1
PAF 120/15	1200	1150	23	22	30	15.0	72	56	64	3.6	1
PAF 120/30	1200	1150	28	28	38	30.0	79	59	69	6.0	3
PAF 120/45	1200	1150	30	30	50	45.0	82	66	81	7.5	3
PAF 120/60	1200	1150	30	40	50	60.0	80	76	84	9.6	3



Furnace properties:

Levelling feet pads for table-top usage

Dual shell, bench top casing, low external temperatures and high inner temperatures stability.

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 durability against spills and collisions. Low energy consumption insulation utilized for a greener product.

Chimney: large chimney positioned at the ceiling of the inner chamber for excessive carbon emitting heavy ashing procedures, ensures the maximum air exchange within in the chamber

Preheated air inlet system: preheating of incoming air to the chamber provides good temperature uniformity and increases the air exchange rate within the chamber.

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 Control Unit using silent solid-state relays (SSRs) Top quality switchgear components

Type N Inconel sheathed corrosion resistant thermocouple; with stronger durability compared to type K thermocouple.

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

Door properties:

Parallel swing door: by opening horizontally enabling the furnace to fit into shorter fume hood areas; keeping the hot surface facing away from the operator. 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:

Wire heating elements positioned on both sides of the hot-zone.

Heating elements safeguarded against fumes and splashing, positioned in quartz tubes.

Optimized surface load of elements for high durability and longer lifetime

Heating elements supported by carved insulation beddings, reducing possible damages from spills and providing simple, convenient maintenance.

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.

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 observe the load during the operation
Data logger with the software
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.

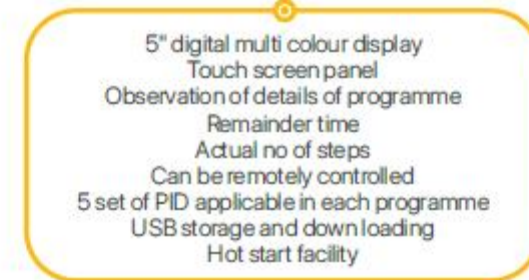
LABTHERM Furnaces brand controllers are rugged, durable and have a user-friendly utilization. Standard controller brands provided are Eurotherm, Omron and LABTHERM PDC 100, as well as other brands on request.

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.



Subtable 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

LABINDIA

EQUIPMENTS

WHERE COMMITMENT IS CULTURE

HEAD OFFICE:

Thane: 201, Nand Chambers, LBS Marg, Near Vandana Cinema, Thane (W) - 400 602. Tel.: +91-22-2598 6000 / 2598 6110 E-mail: sales.mfd@labindia.com

REGIONAL OFFICES:

Delhi: Tel.: +91-11-4330 6001 / 10

Chennai: Tel.: +91-44-2434 7008 / 2432 0352 Kolkatta: Tel.: +91-33-2466 3362

BRANCH OFFICES:

Bangalore: Tel.: +91 80 4565 6200

Lucknow: Tel.: +91-522-2346 535 / 2346 496 Hyderabad: Tel.: 040 4444 3530

Vadodara: Tel.: +91-265-2986 005 / 2986 006

Pune: Tel.: +91-20-2545 3386

Chandigarh: Tel.: +91-172-4090 001-07 / 4090 009

FACTORY 1: Plot No. EL-72, Electronic Zone, TTC Industrial Area, Thane Belapur Road, Navi Mumbai - 400 705. Tel.: +91-22-6107 6666

FACTORY 2: Plot No. W-401, TTC, MIDC Industrial Area, Rabale, Thane-Belapur Road, Navi Mumbai 400 701. Tel.: +91-22-6107 6555

APPLICATION & TRAINING CENTRE: R-909, TTC Industrial Area, Thane Belapur Road, Rabale, Navi Mumbai - 400 701. Tel.: +91-22-6107 6555



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.