

LABINDIA
EQUIPMENTS
WHERE COMMITMENT IS CULTURE

LABTHERM
laboratory *furnaces*

450°C up to 2000°C

PZF Series Multi-Zone Tube Furnaces



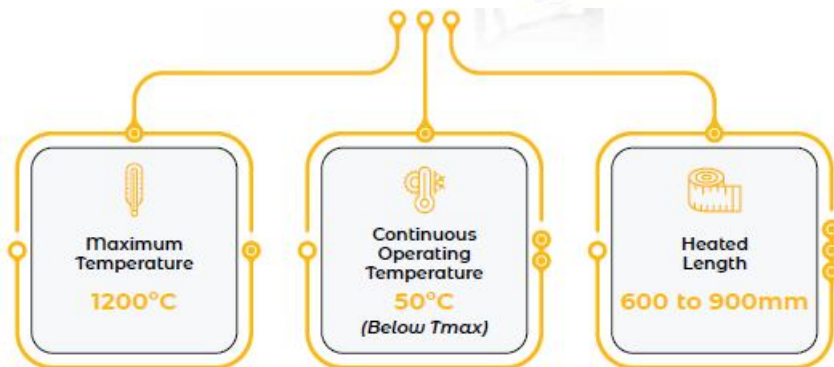
LABTHERM PZF series tube furnaces are multi-zone furnaces that could be used when laboratory experimentation is performed horizontally, vertically, or at specific angles. Configuration of the tilt angle, and the stable temperature working lengths make these furnaces suitable for many possible processes. With an easy to replace working tube as well as additional standard equipment options, these furnaces can be operated with multiple zones of different lengths.

PZF series (1200) are multi zone tube furnaces, suitable for heat treatment processes that are performed horizontally, vertically or at specific angles with controlled atmospheric conditions. Wire heating elements are wound directly onto the fixed tube on this series. With increased stable heated length and the standard tube dimensions applicable to create vacuum or inert gas environment, make these furnaces suitable for many possible laboratory tests.

PZF series are tube furnaces, suitable for heat treatment processes that are performed horizontally, vertically or at specific angles with controlled atmospheric conditions. Wire heating element is wound directly onto the fixed ceramic tube to maintain excellent temperature uniformity within the tube. The stable heated length and the standard tube dimensions applicable to create vacuum or inert gas environment, make these furnaces suitable for many laboratory tests.

System Features:

- Standard working tube of C610
- Separate or integrated control system
- Master and slave controller availability
- Customized controller option
- High-quality fiber material
- High level temperature uniformity
- Multi zone design
- System operation with solid-state-relays
- Standard long working tube protruding from sides suitable for operation with flanges.
- Electrical protection
- Galvanized coating covered epoxy paint structure.
- High quality heating elements ensuring a long service life.
- Intuitive controller user interface



Model	Maximum Temperature (°C)	Continuous Operating Temperature (°C)	Heated Zone (mm)	Stable Zone Length (mm)	External Dimensions (mm)	Tube size (Dø x length) (mm)	Tube Type	Power (kW)	Phase
PZF 12/38/500	1200	1150	500	330	635x650x400	40x800	C610	1.2	1
PZF 12/50/500	1200	1150	500	330	635x650x400	50x800	C610	1.5	1
PZF 12/50/750	1200	1150	750	500	635x800x400	50x900	C610	1.9	1
PZF 12/75/750	1200	1150	750	500	635x800x400	75x900	C610	2.8	1
PZF 12/105/750	1200	1150	750	500	675x800x400	105x1000	C610	3.4	1
PZF 12/105/900	1200	1150	900	600	675x950x400	105x1200	C610	3.5	1

System Features:

- Standard working tube of C610
- Separate or integrated control system
- Master and slave controller availability
- Customized controller option
- High-quality fiber material
- High level temperature uniformity
- Multi zone design
- System operation with solid-state-relays
- Standard long working tube protruding from sides suitable for operation with flanges.
- Electrical protection
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Optional Features

Over-temperature limiter for thermal protection
Display of inner tube temperature with an additional thermocouple
Check valve at gas outlet
Gas supply and blend systems for operation.
Alternative working tubes
Gas and water-cooled vacuum flanges
Universal design for vertical and angular usage
Data logger with the software
RS422/485 communication.

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 languages 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**

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No	Model Name	Control Type	Display	Programm Option	Extra Features	Set/Actual Value
1	PC442T	PID Controller	Dual Display with Clear & Large Text	Auto Shut Down Function with Timer Adjustable Up to 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

Control Method
PID

Size
Compact

5" digital multi colour display
Touch screen panel
Observation of details of programme
Remainder time
Actual no of steps
Can be remotely controlled
5 set of PID applicable in each programme
USB storage and downloading
Hot start facility

Tube Furnace Accessories List

LABTHERM provide a large variety of furnace accessories and equipment for different applications.

LABTHERM Furnace accessories could be used for different brand furnaces, please check with your dealer for compatibility.

HEAT PLUGS

Heat Plugs are used in order to avoid thermal shock and to keep the heat inside the tube. Protherm Furnaces provide standard plug sizes, as well as custom made ones.



Suitable Tube ID (mm)
20
40
50
75
105

CYLINDER PLATE

Cylinder Plate is used to put samples on top of it, in order to avoid spills and damages to the tube. Protherm Furnaces provide standard sample plates, as well as custom made ones.



Suitable Tube ID (mm)
20
40
50
75
105

GAS FLANGE

Gas flanges come in couples, with one end as an input and the other as the output. Ability to withstand a flow of 0.002 bars. Protherm Furnaces provide standard size gas flanges, as well as custom made ones;



Tube ID (mm)	Tube OD (mm)
45	50
50	65
75	85
105	120

Q-LOCK VACUUM FLANGE

With ability to withstand 10-2 atm vacuum, the vacuum flange is used with silicone O-rings and has water cooling. Protherm Furnaces provide standard size vacuum flanges, as well as custom made ones;



Tube ID (mm)	Tube OD (mm)
45	50
50	65
75	85
105	120

INDICATOR DISPLAY AND THERMOCOUPLE

The heat difference between inside the tube and the measured temperature might be a problem for sensitive experiments. Indicator display and thermocouple is used for providing the exact temperature inside the tube to the user, by stretching in the thermocouple inside next to the heat treated sample.



Furnace Hot Zone Length (mm)
≤300
≤600
≤900

GAS BLEND SYSTEM

Gas Blend systems with Rotameter are available for your utilization. Standard production gas blend systems include 2, 4 and 6 separate gas mixture possibilities. For your additional inquiries please contact your authorized dealer.



Measurement Range per Input	Connection	fitting
10.00N/h	1/8" FNPT	Stainless Steel

PRECISE GAS BLEND SYSTEM

Gas Blend systems with mass-flow controllers, provide more precise and accurate mixtures, for your needs. Standard production gas blend systems include 2, 4 and 6 separate gas mixture possibilities.

Measurement Range per Input	
0 – 0.5 sccm Full Scale through 0 – 4000 sccm Full Scale	
Connection	Mechanical Dimensions
1/8" NPT Female	4.1"H x 2.4"W x 1.7"D
1/4" NPT Female	4.4"H x 4.0"W x 1.6"D
1/2" NPT Female	5.0"H x 4.0"W x 1.6"D
3/4" NPT Female	5.0"H x 4.0"W x 1.6"D

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EQUIPMENTS

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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.