

**LABINDIA**  
**EQUIPMENTS**  
WHERE COMMITMENT IS CULTURE

**LABTHERM**  
laboratory *furnaces*

**450°C up to 2000°C**

## STF Series Tube Furnaces



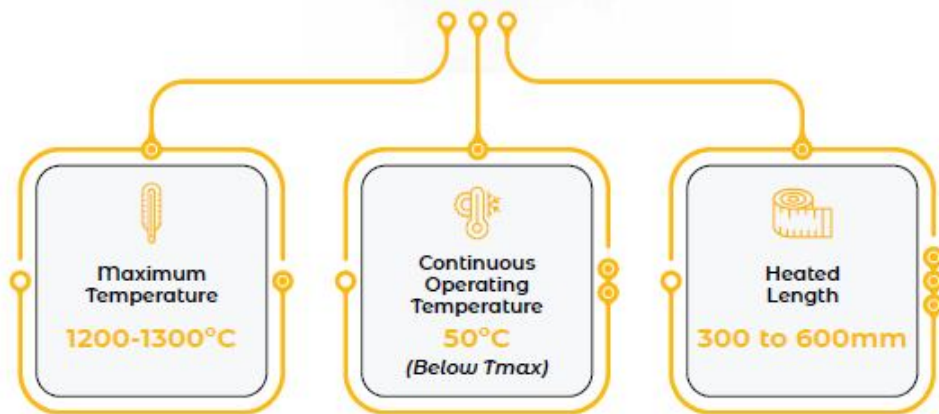
**LABTHERM STF series tube furnaces** are tube furnaces that could be used when laboratory experimentation is performed horizontally or vertically. Standard STF series furnaces cover a range from 1200°C to 1300°C, using only wire heating elements for the process.

STF series enable the user to heat up to 1300 Degrees Celsius, as well as to operate the furnace with multiple zones of different lengths. STF series ensure perfect temperature uniformity with quick and easy replacement of the reactor used.

STF series (1200-1300) are tube furnaces, suitable for heat treatment processes which are performed under controlled atmospheric conditions. Wire heating elements located around the hot-zone enables the easy replacement of the tube. Operator can utilize any type of tube/reactor and easily change as required STF series enable the user to heat up to 1300°C as well as operate the furnace with multiple zones of different lengths

### System Features

- Dual skin housing for low external temperatures and high inner temperature stability
- Phosphate coated, and epoxy painted steel body outer case Wire heating elements located on the insulation of the furnace body
- Multiple heat zone option on request
- Flexibility of using different tube diameters and reactors Optimized surface load of elements for high durability and longer lifetime
- Silent SSRs providing low-noise operation
- Leak current circuit breaker providing additional operator safety
- Over temperature alarm relay for furnace protection
- Easy maintenance design
- Removable tube and/or reactor made from ceramic, quartz or NiCr



Model	Maximum Temperature (°C)	Continuous Operating Temperature (°C)	Heated Zone (mm)	Stable Zone Length (mm)	Suitable Tube IDø (mm)	Suitable Tube Type	T/C Type	Power (kW)	Phase
STF 12/50/300	1200	1150	300	100	50	Mullite-C610	S	1.5	1
STF 12/60/300	1200	1150	300	100	60	Mullite-C610	S	1.5	1
STF 12/75/300	1200	1150	300	100	75	Mullite-C610	S	1.7	1
STF 12/105/300	1200	1150	300	100	105	Mullite-C610	S	4	3
STF 12/50/450	1200	1150	450	150	50	Mullite-C610	S	1.6	1
STF 12/60/450	1200	1150	450	150	60	Mullite-C610	S	1.6	1
STF 12/75/450	1200	1150	450	150	75	Mullite-C610	S	1.8	1
STF 12/105/450	1200	1150	450	150	105	Mullite-C610	S	4	3
STF 12/50/600	1200	1150	600	200	50	Mullite-C610	S	1.7	1
STF 12/60/600	1200	1150	600	200	60	Mullite-C610	S	1.7	1
STF 12/75/600	1200	1150	600	200	75	Mullite-C610	S	2	1
STF 12/105/600	1200	1150	600	200	105	Mullite-C610	S	4	3
STF 12/50/300	1200	1150	300	100	50	Mullite-C610	S	1.6	1
STF 12/60/300	1200	1150	300	100	60	Mullite-C610	S	1.6	1

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STF 12/75/300	1200	1150	300	100	75	Mullite-C610	S	2.6	1
STF 12/105/300	1200	1150	300	100	105	Mullite-C610	S	5	3
STF 13/50/450	1300	1250	450	150	50	Mullite-C610	S	1.7	1
STF 13/60/450	1300	1250	450	150	60	Mullite-C610	S	1.7	1
STF 13/75/450	1300	1250	450	150	75	Mullite-C610	S	2.8	1
STF 13/105/450	1300	1250	450	150	105	Mullite-C610	S	5	3
STF 13/50/600	1300	1250	600	200	50	Mullite-C610	S	1.8	1
STF 13/60/600	1300	1250	600	200	60	Mullite-C610	S	1.8	1
STF 13/75/600	1300	1250	600	200	75	Mullite-C610	S	3	1
STF 13/105/600	1300	1250	600	200	105	Mullite-C610	S	5	3

## 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

**Furnace properties:**

Non-sliding feet pads for safer 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 vacuum formed, low thermal mass insulation on ceiling, floor, front and rear sides.  
Light refractory brick sides for higher durability against wear and tear, due to diameter flexible replaceable tube.  
Low energy consumption insulation utilized for a greener product.

**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 switch-gear components

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

Flexibility of using different tube diameters and reactors  
Interchangeable tubes

**Heating System:**

Wire elements placed at sides.  
Optimized surface voltage of elements for high durability and longer lifetime Heating element locations for prime temperature uniformity.  
Straight forward and user-friendly installation, with simple, convenient maintenance and exchange of parts possibility  
Multiple heat zone option on request

**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.

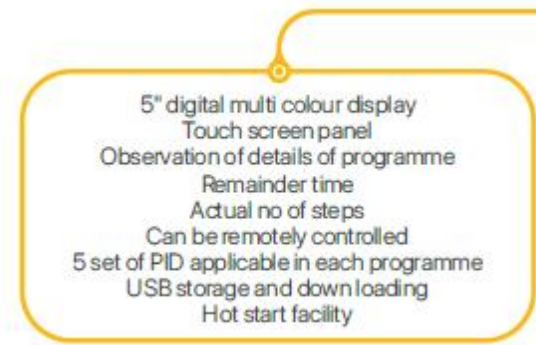


## Temperature Control System Properties

- 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	TouchScreen	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

## 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	Communication
50 x 50 x 75	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.



Available 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

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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.