

Three-zone Tube Furnaces

Models PTF 12, 15 and 16

These units have a maximum operating temperature of 1200°C, 1500°C and 1600°C.

For units at 1200°C, heating is by a resistance wire element wound on to the ceramic work tube which is an integral part of the furnace. At 1500°C and 1600°C, silicon carbide rod elements are mounted parallel to the tube.

The end zone controllers are coupled to a centre zone thermocouple enabling the centre zone temperatures to be closely linked. This system provides a longer uniform zone temperature than that achieved by the use of single zone furnace of the same length. Independent control of each zone is also available.



Model	Maximum temperature (°C)	Maximum continuous temperature (°C)	Tube inside diameter (mm)	Heated length (mm)	Maximum power (kW)	External dimensions (mm - including console) h x l x d	Optional separate work tubes (mm - ID x length)
PTF 12/38/500	1200	1150	38	500	1.5	565 x 560 x 300	25 x 750
PTF 12/50/610	1200	1150	50	610	2.0	565 x 670 x 300	38 x 900
PTF 12/75/750	1200	1150	75	750	2.75	565 x 810 x 300	60 x 1000
PTF 12/100/940	1200	1150	100	940	4.2	625 x 1000 x 400	75 x 1500

• Other heated lengths can be made to special order

Model	Maximum temperature (°C)	Maximum continuous temperature (°C)	Tube inside diameter (mm)	Heated length (mm)	Maximum power (kW)	External dimensions (mm - including console) h x l x d	Work tubes (mm - ID x length)	
							Short	Long
PTF 15/50/450	1500	1450	50	450	5.0	640 x 830 x 420	50 x 900	50 x 1200
PTF 15/75/450	1500	1450	75	450	5.0	640 x 830 x 420	75 x 900	75 x 1200
PTF 15/50/610	1500	1450	50	610	8.0	640 x 1130 x 420	50 x 1200	50 x 1500
PTF 15/75/610	1500	1450	75	610	8.0	640 x 1130 x 420	75 x 1200	75 x 1500
PTF 16/50/450	1600	1550	50	450	6.0	640 x 830 x 420	50 x 900	50 x 1200
PTF 16/75/450	1600	1550	75	450	6.0	640 x 830 x 420	75 x 900	75 x 1200
PTF 16/50/610	1600	1550	50	610	9.2	640 x 1130 x 420	50 x 1200	50 x 1500
PTF 16/75/610	1600	1550	75	610	9.2	640 x 1130 x 420	75 x 1200	75 x 1500

Temperature uniformity

Temperature variation within the uniform zone is typically $\pm 5^{\circ}\text{C}$, with a significant proportion of the uniform zone length within $\pm 1^{\circ}\text{C}$. To improve the uniform zone length within a tube furnace, it is necessary to use multi-zone furnaces; the usual configuration is 3 zones.

Temperature uniformity will depend on the tube diameter and heated length.