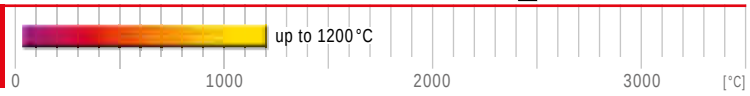
CTF, TZF – Large Tube Furnaces



The CTF single zone and TZF 3-zone wire wound tube furnaces use a wire element that is wound directly onto a fixed diameter integral ceramic work tube.

This simple and economical design of both the CTF and TZF provides a furnace that can be used without the need to purchase an additional work tube. However, should vacuum or a modified atmosphere be required, it is necessary to use a separate additional slide-in work tube in order to provide the required length needed to fit end seals. Similarly, in some circumstances a work tube that has different physical or chemical properties to the fixed work tube may be required.

The TZF heated length is divided into three zones. An extended uniform zone in the mid-section of the work tube is achieved with the use of end zone controllers which track the centre zone for temperature and compensate for the loss of heat from the tube ends. The use of an additional slide-in work tube protects the integral work tube for the TZF and heating element.

CTF 12/65/550 with 3216P1 programmer option

Standard features

- 1200 °C maximum operating temperature
- Carbolite Gero 301 PID controller single ramp to setpoint and process timer
- 65 mm, 75 mm or 100 mm work tube inner diameters (CTF)
- Accepts work tubes with outer diameters of 23 mm to 90 mm (TZF)
- 450, 550, 700, 850 or 900 mm heated length (varies with model)
- Integral wire wound work tube
- Delayed start / process timer function as standard (CTF)
- Horizontally mounted on control module base
- TZF provides a longer uniform zone than can be achieved in the CTF single zone tube furnace

Options (specify these at time of order)

- A range of sophisticated digital controllers, multi-segment programmers and data loggers is available. These can be fitted with RS232, RS485 or Ethernet communications (see pages 94–97)
- Over-temperature protection (recommended to protect valuable contents & for unattended operation)
- Alternative mounting options are available (see page 51)
- Optionally configured for 2 phase electrical supply
- A range of additional work tubes (pages 98-99) and end seals (page 102) or work tube packages (pages 100-101) are available
- Insulation plugs & radiation shields to prevent heat loss & improve uniformity
- Retransmission of Setpoint‘ control configuration to facilitate programmed cooling (TZF)

Technical data

CGH Model	Max. temp. [°C]	Heat-up time [mins]	Max. continuous operating temperature [°C]	Dimensions: Fixed tube inner diameter [mm]	Dimensions: Heated length [mm]	Dimensions: External H x W x D [mm]	Dimensions: Furnace body length [mm]	Uniform length ±5°C [mm]	Max. power [W]	Holding power (W)	Thermocouple type	Weight [kg]
Single Zone Large Tube Furnaces CTF												
CTF 12/65/550	1200	45	1100	65	550	525 x 625 x 360	600	230	2000	600	N	25
CTF 12/75/700	1200	45	1100	75	700	525 x 775 x 360	750	265	3000	800	N	28
CTF 12/100/900	1200	90	1100	100	900	525 x 975 x 360	950	640	4500	1000	N	35
3-Zone Large Tube Furnaces TZF												
TZF 12/38/400	1200	25	1100	38	400	430 x 450 x 375	450	305	1300	300	N	20
TZF 12/38/850	1200	–	1100	38	850	430 x 900 x 375	900	-	2850	-	N	27
TZF 12/65/550	1200	45	1100	65	550	525 x 625 x 360	600	390	2000	600	N	38
TZF 12/75/700	1200	45	1100	75	700	525 x 775 x 360	750	540	3000	800	N	46
TZF 12/100/900	1200	120	1100	100	900	525 x 975 x 360	950	754	4150	1000	N	54

Please note:
- Heat up rate when using an optional ceramic work tube must be limited to 5 °C/min
- Heat up time is measured to 100 °C below max, using an empty tube & insulation plugs
- Uniform length ±5°C (mm): Uniform temperature lengths are measured with insulation plugs fitted
- Maximum power and heat up time based on a 240 V supply
- Holding power is measured at continuous operating temperature