

STF, TZF – High Temperature Tube Furnaces



STF 16/180



STF 15/610 with 3216P1 programmer and L stand option

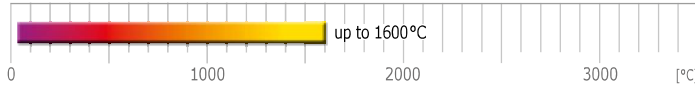
The Carbolite Gero STF single zone and TZF 3-zone high temperature tube furnaces are available at 1500 °C and 1600 °C with both models using silicon carbide heating elements.

This range of tube furnaces does not include an integral work tube and one must be selected as an additional item. The work tube length is dependent on the application e.g. for use with modified atmosphere or vacuum. This information can be found on pages 112–113.

The TZF 3-zone high temperature tube furnace has heated lengths of 450 and 610 mm. 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 temperature and compensate for the loss of heat from the tube ends.

Standard features

- 1500 °C & 1600 °C maximum operating temperatures
- Single zone models fitted with Carbolite Gero 301 PID controller with single ramp to setpoint and process timer
- 3-zone models fitted with 1 x programmable 3216P1 and 2 x 3216CC end zone controllers, with retransmission of setpoint
- Accepts work tubes up to 60 or 90 mm outer diameter depending on model
- Heated lengths, single zone 180, 450 or 610 mm (STF)
- Heated lengths, 3-zone 450 or 610 mm (TZF 15, TZF 16)
- Silicon carbide heating elements
- Horizontal configuration



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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 106–111)
- Over-temperature protection (recommended to protect valuable contents & for unattended operation)
- Alternative mounting options are available (see page 57)
- Optionally configured for 2 phase or 3 phase electrical supply (depending on model)
- A range of additional work tubes (pages 112–113), end seals (page 116) and work tube packages (pages 114–115) is available for use with modified atmosphere and/or vacuum
- Vacuum packages with a choice of rotary vane pump or turbomolecular pump are available (page 118)
- Insulation plugs & radiation shields to prevent heat loss & improve uniformity
- Control module with 2 metre conduit to furnace (TZF 15, TZF 16)
- Hook and strap work tube support (see page 116)

View inside



TZF 15/610 with CC-T1 programmer

- | | |
|--------------------------------|-------------------------------|
| 1) Centre zone heating element | 4) Thermal insulation |
| 2) End zone heating elements | 5) 3-zone temperature control |
| 3) Control thermocouples | 6) Work tube |

Technical data

Model	Max. temp. [°C]	Heat-up time [mins]	Dimensions: Max. outer Ø accessory tube [mm]	Dimensions: Heated length [mm]	Recommended tube length		Dimensions: External H x W x D [mm]	Dimensions: Furnace body length [mm]	Uniform length ± 5°C [mm]	Max. power [W]	Holding power [W]	Thermo-couple type	Weight [kg]
					for use in air [mm]	for use with modified atmosphere [mm]							

Single Zone High Temperature Horizontal Tube Furnaces STF

STF 15/180	1500	-	60	180	600	900	625 x 600 x 375	600	80	2500	1600	R	29
STF 15/450	1500	-	90	450	900	1200	655 x 875 x 430	875	350	5500	3000	R	34
STF 15/610	1500	-	90	610	1200	1500	655 x 1080 x 430	1080	400	6000	4000	R	45

STF 16/180	1600	48	60	180	600	900	625 x 600 x 375	600	80	2500	1760	R	29
STF 16/450	1600	46	90	450	900	1200	655 x 875 x 430	875	350	6000	3300	R	40
STF 16/610	1600	-	90	610	1200	1500	655 x 1080 x 430	1080	400	7000	4500	R	50

3-Zone High Temperature Horizontal Tube Furnaces TZF

TZF 15/450	1500	-	90	450	900	1200	655 x 875 x 430	875	375	5060	3000	R	39
TZF 15/610	1500	75	90	610	1200	1500	655 x 1080 x 430	1080	450	8000	4000	R	70

TZF 16/450	1600	78	90	450	900	1200	655 x 875 x 430	875	393	6800	3300	R	39
TZF 16/610	1600	-	90	610	1200	1500	655 x 1080 x 430	1080	450	8000	4500	R	70

i 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, with no work tube fitted and with end plugs fitted

- Maximum continuous operating temperature is 100°C below maximum temperature
- Uniform length measured with insulation plugs fitted.