

## Compact Vertical Tube Furnace - EVA / EVC

### General Information

The compact vertical tube furnace range EVA / EVC uses free radiating wire elements embedded within the insulation of the furnace body.

The benefit of this design is its flexibility with the use of tube adapters the same tube furnace can be used with a variety of tube diameters.

The EVA are single zone furnaces and the EVC are three zone furnaces.

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 eg for use with modified atmosphere or vacuum. The use of a separate work tube has the advantage of protecting the heating elements from damage or contamination.



### Standard features

- 1200 °C maximum operating temperature
- Carbolite Gero 301 controller, with single ramp to set-point & process timer
- Heated lengths, single zone 150, 300, 450 or 600 mm (EVA)
- Heated lengths, 3-zone 450 and 600 mm (EVC)
- Accepts work tubes with outer diameters up to 60 mm
- Wire elements in high quality vacuum formed insulation ensure fast heat up, excellent temperature uniformity and short cool down times
- Vertical configuration (can also be used horizontally)
- Control module with 2 metre conduit to furnace
- Outer mesh guard ensures operator safety

### 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
- Over-temperature protection (recommended to protect valuable contents & for unattended operation)
- A range of additional work tubes, end seals and work tube packages is available for use with modified atmosphere and/or vacuum
- Vacuum packages with a choice of rotary vane pump or turbomolecular pump are available for furnaces with tube inner diameters of 60 mm and above
- Angle adjustment option allows horizontal and multiangle configuration
- Wide choice of tube diameters and materials is available: eg quartz, ceramic, metal
- Insulation plugs & radiation shields to prevent heat loss & improve uniformity

### Technical Specifications

## Compact Vertical Tube Furnace - EVA / EVC

### EVA 12/150

Max temp (°C)	1200
Number of heated zones	Single zone
Heated length (mm)	150
Heat-up time (mins)	--
Max outer ø accessory tube (mm)	60
Tube length for use in air (mm)	300
Tube length for use with modified atmosphere (mm)	600
Dimensions: External H x W x D (mm)	710 x 545 x 545
Uniform length ±5°C (mm)	75
Max power (W)	750
Thermocouple type	N
Weight (kg)	20

### EVA 12/300

Max temp (°C)	1200
Number of heated zones	Single zone
Heated length (mm)	300
Heat-up time (mins)	58
Max outer ø accessory tube (mm)	60
Tube length for use in air (mm)	450
Tube length for use with modified atmosphere (mm)	750
Dimensions: External H x W x D (mm)	1040 x 545 x 545
Uniform length ±5°C (mm)	180
Max power (W)	1480
Thermocouple type	N
Weight (kg)	27

### EVA 12/450

Max temp (°C)	1200
Number of heated zones	Single zone
Heated length (mm)	450
Heat-up time (mins)	52
Max outer ø accessory tube (mm)	60
Tube length for use in air (mm)	600
Tube length for use with modified atmosphere (mm)	900
Dimensions:	1040 x 545 x 545

## Compact Vertical Tube Furnace - EVA / EVC

External H x W x D (mm)	
Uniform length $\pm 5^{\circ}\text{C}$ (mm)	--
Max power (W)	2000
Thermocouple type	N
Weight (kg)	29

### EVA 12/600

Max temp ( $^{\circ}\text{C}$ )	1200
Number of heated zones	Single zone
Heated length (mm)	600
Heat-up time (mins)	49
Max outer $\varnothing$ accessory tube (mm)	60
Tube length for use in air (mm)	750
Tube length for use with modified atmosphere (mm)	1050
Dimensions: External H x W x D (mm)	1160 x 545 x 545
Uniform length $\pm 5^{\circ}\text{C}$ (mm)	370
Max power (W)	2520
Thermocouple type	N
Weight (kg)	33

### EVC 12/450

Max temp ( $^{\circ}\text{C}$ )	1200
Number of heated zones	Three zone
Heated length (mm)	450
Heat-up time (mins)	58
Max outer $\varnothing$ accessory tube (mm)	60
Tube length for use in air (mm)	600
Tube length for use with modified atmosphere (mm)	900
Dimensions: External H x W x D (mm)	1040 x 545 x 545
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 800 $^{\circ}\text{C}$ (mm)	--
Max power (W)	2000
Thermocouple type	N
Weight (kg)	30

## Compact Vertical Tube Furnace - EVA / EVC

### EVC 12/600

Max temp (°C)	1200
Number of heated zones	Three zone
Heated length (mm)	600
Heat-up time (mins)	58
Max outer ø accessory tube (mm)	60
Tube length for use in air (mm)	750
Tube length for use with modified atmosphere (mm)	1050
Dimensions: External H x W x D (mm)	1160 x 545 x 545
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 800°C (mm)	490
Max power (W)	2520
Thermocouple type	N
Weight (kg)	35

### Please note:

- Heat up rate when using an optional ceramic work tube must be limited to 5 °C/min
- Heat up rate is measured to 100 °C below max, using an empty tube & insulation plugs
- Holding power is measured at continuous operating temperature
- Maximum continuous operating temperature is 100 °C below maximum temperature
- Dimensions excluding control box (225 x 370 x 390 mm)