

Compact Modular Tube Furnace (E-Series: EHA, EVA, EST, EVT)

General Information

Each tube furnace of Carbolite's new E-series 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 furnace can be used with a variety of tube diameters.

The furnaces are available with horizontal or vertical, split and non-split configuration.

The models EST and EVT comprise a furnace body which is hinged and split into two halves along its length. This makes exchange of work tubes easier and also enables the furnace to be used with reactors or work tubes where end flanges would make insertion into a non-split furnace difficult.

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
- 150, 300, 450 or 600 mm heated lengths
- 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
- Models EST, EVT: Furnace splits into two halves and accommodates tubes or samples fixed into a test rig
- Models EHA, EST: Horizontal configuration
- Models EVA, EVT: Vertical configuration (can also be used horizontally)
- Models EVA, EVT: Control module with 2 metre conduit to furnace
- Carbolite 301 digital PID controller with single ramp to setpoint, digital display and process timer
- Outer mesh guard ensures operator safety

Options (specify these at time of order)

- EVA models: Angle adjustment option allows horizontal and multi-angle configuration
- A range of sophisticated digital controllers, multi-segment programmers and data loggers is available. These can be fitted with RS232, RS485 or Ethernet communications
- Wide choice of tube diameters and materials is available: eg quartz, ceramic, metal
- Over-temperature protection (recommended to protect valuable contents & for unattended operation)
- Insulation plugs, gas tight end seals and vacuum connections available



EHA 12/150



EST 12/300



Compact Modular Tube Furnace (E-Series: EHA, EVA, EST, EVT)

Technical Specifications

EHA 12/150

Configuration	Non-split / horizontal
Max temp (°C)	1200
Heated length (mm)	150
Heat-up time (mins)	85
Max outer ø accessory tube (mm)	60
Tube length for use in air (mm)	300
Tube length for use with modified atmosphere (mm)	600
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 800°C (mm)	
Max power (W)	750
Thermocouple type	N
Weight (kg)	15

EHA 12/300

Configuration	Non-split / horizontal
Max temp (°C)	1200
Heated length (mm)	300
Dimensions: External H x W x D (mm)	560 x 465 x 390
Heat-up time (mins)	55
Max outer ø accessory tube (mm)	60
Tube length for use in air (mm)	450
Tube length for use with modified atmosphere (mm)	750
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 800°C (mm)	185
Max power (W)	1480
Thermocouple type	N
Weight (kg)	17



Compact Modular Tube Furnace (E-Series: EHA, EVA, EST, EVT)

EHA 12/450

Configuration	Non-split / horizontal
Max temp (°C)	1200
Heated length (mm)	450
Heat-up time (mins)	55
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: External H x W x D (mm)	560 x 615 x 390
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 295 800°C (mm)	
Max power (W)	2000
Thermocouple type	N
Weight (kg)	19

EHA 12/600

Configuration	Non-split / horizontal
Max temp (°C)	1200
Heated length (mm)	600
Heat-up time (mins)	55
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)	560 x 765 x 390
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 460 800°C (mm)	
Max power (W)	2520
Thermocouple type	N
Weight (kg)	23



Compact Modular Tube Furnace (E-Series: EHA, EVA, EST, EVT)

EVA 12/150

Configuration	Non-split / vertical
Max temp (°C)	1200
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:	710 x 545 x 545
External H x W x D (mm)	
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 800°C (mm)	91
Max power (W)	750
Thermocouple type	N
Weight (kg)	20

EVA 12/300

Configuration	Non-split / vertical
Max temp (°C)	1200
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:	1040 x 545 x 545
External H x W x D (mm)	
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 800°C (mm)	196
Max power (W)	1480
Weight (kg)	27

EVA 12/450

Configuration	Non-split / vertical
Max temp (°C)	1200
Heated length (mm)	450
Heat-up time (mins)	58
Max outer ø accessory tube (mm)	60
Tube length for use in air (mm)	600
Tube length for use with modified atmosphere (mm)	900



Compact Modular Tube Furnace (E-Series: EHA, EVA, EST, EVT)

Dimensions:	1040 x 545 x 545
External H x W x D (mm)	
Thermocouple type	N
Weight (kg)	29

EVA 12/600

Configuration	Non-split / vertical
Max temp (°C)	1200
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:	1160 x 545 x 545
External H x W x D (mm)	
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 370 800°C (mm)	
Max power (W)	2520
Thermocouple type	N
Weight (kg)	33

EST 12/150

Configuration	Split / horizontal
Max temp (°C)	1200
Heated length (mm)	150
Heat-up time (mins)	85
Max outer ø accessory tube (mm)	60
Tube length for use in air (mm)	300
Tube length for use with modified atmosphere (mm)	600
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 800°C (mm)	
Max power (W)	750
Thermocouple type	N
Weight (kg)	16



Compact Modular Tube Furnace (E-Series: EHA, EVA, EST, EVT)

EST 12/300

Configuration	Split / horizontal
Max temp (°C)	1200
Heated length (mm)	300
Dimensions: External H x W x D (mm)	560 x 465 x 390
Heat-up time (mins)	55
Max outer ø accessory tube (mm)	60
Tube length for use in air (mm)	450
Tube length for use with modified atmosphere (mm)	750
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 800°C (mm)	185
Max power (W)	1480
Thermocouple type	N
Weight (kg)	18

EST 12/450

Configuration	Split / horizontal
Max temp (°C)	1200
Heated length (mm)	450
Heat-up time (mins)	55
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: External H x W x D (mm)	560 x 615 x 390
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 800°C (mm)	330
Max power (W)	2000
Thermocouple type	N
Weight (kg)	20



Compact Modular Tube Furnace (E-Series: EHA, EVA, EST, EVT)

EST 12/600

Configuration	Split / horizontal
Max temp (°C)	1200
Heated length (mm)	600
Heat-up time (mins)	55
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)	560 x 765 x 390
Quartz tube uniform length ±5°C @ 800°C (mm)	460
Max power (W)	2520
Thermocouple type	N
Weight (kg)	24

EVT 12/150

Configuration	Split / vertical
Max temp (°C)	1200
Heated length (mm)	150
Heat-up time (mins)	
Max outer ø accessory tube (mm)	60
Tube length for use in air (mm)	600
Tube length for use with modified atmosphere (mm)	600
Dimensions: External H x W x D (mm)	740 x 545 x 545
Quartz tube uniform length ±5°C @ 800°C (mm)	91
Max power (W)	750
Thermocouple type	N
Weight (kg)	21



Compact Modular Tube Furnace (E-Series: EHA, EVA, EST, EVT)

EVT 12/300

Configuration	Split / vertical
Max temp (°C)	1200
Heated length (mm)	300
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)	750
Dimensions: External H x W x D (mm)	1040 x 545 x 545
Quartz tube uniform length $\pm 5^{\circ}\text{C}$ @ 800°C (mm)	196
Max power (W)	1480
Thermocouple type	N
Weight (kg)	28

EVT 12/450

Configuration	Split / vertical
Max temp (°C)	1200
Heated length (mm)	450
Heat-up time (mins)	58
Max outer ø accessory tube (mm)	60
Tube length for use in air (mm)	900
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°C (mm)	295
Max power (W)	2000
Thermocouple type	N
Weight (kg)	30



Compact Modular Tube Furnace (E-Series: EHA, EVA, EST, EVT)

EVT 12/600

Configuration	Split / vertical
Max temp (°C)	1200
Heated length (mm)	600
Heat-up time (mins)	58
Max outer ø accessory tube (mm)	60
Tube length for use in air (mm)	1050
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 $\pm 5^{\circ}\text{C}$ @ 370 800°C (mm)	
Max power (W)	2520
Thermocouple type	N
Weight (kg)	34

Please note:

- 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
- Models EVA and EVT dimensions excluding control box (225 x 370 x 390mm)



Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



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Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.