EHA, EVA, EST and EVT – Compact Modular Tube Furnaces

These universal tube furnaces use 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; this information can be found on pages 92-93. The use of a separate work tube has the advantage of protecting the heating elements from damage or contamination.

EHA 12/150

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 (see page 51)
- 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 88-91)
- Over-temperature protection (recommended to protect valuable contents & for unattended operation)
- Wide choice of tube diameters and materials is available: eg quartz, ceramic, metal. See pages 92-93 for tube materials and dimensions
- Insulation plugs and radiation shields to prevent heat loss and improve uniformity
- Modified atmosphere and vacuum end seal assemblies (see page 95)

EST 12/300

Technical data

Model	Configuration		Max temp (°C)	Heat up time (mins)	Dimensions: Max outer ø accessory tube (mm)	Heated length (mm)	Tube length for use in air (mm)	Tube length for use with modified atmosphere (mm)	Dimensions: External H x W x D (mm)	Quartz tube uniform length ±5°C @800°C (mm)	Max power (W)	Thermo-couple Type	Weight (kg)
EHA 12/150	Non-Split	horizontal	1200	85	60	150	300	600	560 x 370 x 390	–	750	N	15
EHA 12/300	Non-Split	horizontal	1200	55	60	300	450	750	560 x 465 x 390	185	1480	N	17
EHA 12/450	Non-Split	horizontal	1200	55	60	450	600	900	560 x 615 x 390	330	2000	N	19
EHA 12/600	Non-Split	horizontal	1200	55	60	600	750	1050	560 x 765 x 390	460	2520	N	23
EVA 12/150	Non-Split	vertical	1200	–	60	150	300	600	710 x 545 x 545	91	750	N	20
EVA 12/300	Non-Split	vertical	1200	58	60	300	450	750	1040 x 545 x 545	196	1480	N	27
EVA 12/450	Non-Split	vertical	1200	58	60	450	600	900	1040 x 545 x 545	295	2000	N	29
EVA 12/600	Non-Split	vertical	1200	58	60	600	750	1050	1160 x 545 x 545	370	2520	N	33
EST 12/150	Split	horizontal	1200	85	60	150	300	600	560 x 370 x 390	–	750	N	16
EST 12/300	Split	horizontal	1200	55	60	300	450	750	560 x 465 x 390	185	1480	N	18
EST 12/450	Split	horizontal	1200	55	60	450	600	900	560 x 615 x 390	330	2000	N	20
EST 12/600	Split	horizontal	1200	55	60	600	750	1050	560 x 765 x 390	460	2520	N	24
EVT 12/150	Split	vertical	1200	–	60	150	600		710 x 545 x 545	91	750	N	21
EVT 12/300	Split	vertical	1200	58	60	300	750		1040 x 545 x 545	196	1480	N	28
EVT 12/450	Split	vertical	1200	58	60	450	900		1040 x 545 x 545	295	2000	N	30
EVT 12/600	Split	vertical	1200	58	60	600	1050		1160 x 545 x 545	370	2520	N	34

Please note:
- Heat up rate is measured to 100°C below maximum, using an empty work tube and 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 390 mm)