

High Vacuum Tube Furnace - HVTT

General Information

The HVTT high vacuum turbo-molecular tube furnaces are available in three standard sizes. A range of tube lengths and diameters is available.

The HVTT high vacuum tube furnaces at 1500 °C are available with two work tube diameters.

These high vacuum furnaces are often the starting point for additional customisation such as automated control of gate valves, gas purge, back-fill systems and co-ordinated control of roughing pump with the turbo-molecular high vacuum pump.



Standard features

- 1200 °C or 1500 °C maximum operating temperature
- Capable of 10-5 mbar vacuum in a clean empty work tube
- Supplied with work tube inner diameters of 50, 60 and 80 mm (HVTT 12) or 50 and 75 mm (HVTT 15)
- Heated lengths of 450, 550 mm or 700 mm
- Vacuum provided by oil-free scroll pump & turbo-molecular pump
- Cooling water failure alarm
- Manually operated roughing / backing valve
- Pirani gauge low vacuum monitor
- Penning gauge high vacuum monitor
- Work tube connects to the vacuum system via stainless steel connection
- Access to the work tube is via a removable stainless steel vacuum flange
- Radiation shields at both ends of the work tube maintain uniformity without reducing pump speeds
- All controls are mounted within the base unit

Options (specify these at time of order)

- Over-temperature protection (recommended to protect valuable contents & for unattended operation)
- A range of sophisticated digital controllers, multi-segment programmers and data loggers is available. These can be fitted with RS232, RS485 or Ethernet communications
- Custom built models including a variety of gas backfill systems, automatic & semi-automatic vacuum systems and 3-zone control for improved uniformity is available

Technical Specifications

High Vacuum Tube Furnace - HVTT

HVTT 12/50/550

| | |
|--|-------------------|
| Max temp (°C) | 1200 |
| Dimensions: Worktube inner diameter (mm) | 50 |
| Dimensions: Heated tube length (mm) | 550 |
| Dimensions: External H x W x D (mm) | 1450 x 1700 x 600 |
| Max power (W) | 2000 |
| Holding power (W) | 1600 |
| Thermocouple type | N |

HVTT 12/60/700

| | |
|--|-------------------|
| Max temp (°C) | 1200 |
| Dimensions: Worktube inner diameter (mm) | 60 |
| Dimensions: Heated tube length (mm) | 700 |
| Dimensions: External H x W x D (mm) | 1450 x 1700 x 600 |
| Max power (W) | 3000 |
| Holding power (W) | 1800 |
| Thermocouple type | N |

HVTT 12/80/700

| | |
|--|-------------------|
| Max temp (°C) | 1200 |
| Dimensions: Worktube inner diameter (mm) | 80 |
| Dimensions: Heated tube length (mm) | 700 |
| Dimensions: External H x W x D (mm) | 1450 x 1700 x 600 |
| Max power (W) | 3500 |
| Holding power (W) | 2800 |
| Thermocouple type | N |

High Vacuum Tube Furnace - HVTT

HVTT 15/50/450

| | |
|--|-------------------|
| Max temp (°C) | 1500 |
| Dimensions: Worktube inner diameter (mm) | 50 |
| Dimensions: Heated tube length (mm) | 450 |
| Dimensions: External H x W x D (mm) | 1565 x 1700 x 600 |
| Max power (W) | 5500 |
| Holding power (W) | 4800 |
| Thermocouple type | R |

HVTT 15/75/450

| | |
|--|-------------------|
| Max temp (°C) | 1500 |
| Dimensions: Worktube inner diameter (mm) | 75 |
| Dimensions: Heated tube length (mm) | 450 |
| Dimensions: External H x W x D (mm) | 1565 x 1700 x 600 |
| Max power (W) | 5500 |
| Holding power (W) | 4800 |
| Thermocouple type | R |

Please note:

- Holding power is measured at continuous operating temperature
- Maximum continuous operating temperature is 100 °C below maximum temperature