



# 1200°C & 1500°C Vacuum Tube Furnaces



HVT 12/60/700

## General Features

- Maximum operating temperatures of 1200°C and 1500°C.
- Choice of 2" or 3" ID work tubes.
- Designed to offer vacuum levels of better than  $1 \times 10^{-5}$  mbar with a clean empty worktube.
- Each vacuum tube furnace system includes a two-stage sliding vane rotary pump and a water cooled oil diffusion pump.
- Every HVT furnace incorporates Pirani and Penning gauges, roughing/backing valves, and a high vacuum baffle valve.
- All vacuum and temperature instrumentation and components, and power controls are housed in a furnace support base cabinet.
- One end of the furnace ceramic process tube is joined to the vacuum system by a stainless steel elbow.
- Access to the tube is through the opposite end which is fitted with a removable stainless steel end seal. (See page 44)
- Radiation shields are provided for both ends of the furnace to ensure reduced temperature on the end seals, and maximum temperature uniformity with minimum loss of pumping speed.
- A number of special options are available including gas systems, automatic/semi-automatic vacuum systems, air cooled diffusion pump, and cooling water failure alarm.
- Long-life free radiating silicon carbide heating elements provide excellent chamber uniformity on 1500°C tube furnaces.
- On 1500°C furnaces, power may be easily increased to heating elements from the temperature controller to compensate SiC element resistance change (aging). This feature assures the furnace's original heat-up characteristics and maximum rated temperature is always achieved.
- Furnaces incorporate low thermal mass ceramic fiber insulation for improved response times and thermal efficiency.
- Safety outer mesh guard surrounds furnace body to provide for low temperature external surface.
- Choice of Model 301 control or programmers.

## 1200°C & 1500°C Vacuum Tube Furnace

Furnace Model	Max. Temp. (°C)	Work Tube Inside Diameter Inches (mm)	Heated Length Inches (mm)	No. of Zones	External Dimensions Inches (mm)			TC Type	Max. Power (kW)	Furnace Voltage	Shipping Weight (lb.)
					Height	Length	Depth				
HVT 12/50/550	1200	2.00 (50)	21.50 (550)	1	57.00 (1450)	67.00 (1700)	24.00 (600)	N	2.0	208/240	583
HVT 12/60/700	1200	2.30 (60)	27.50 (700)	1	57.00 (1450)	67.00 (1700)	24.00 (600)	N	3.0	208/240	596
HVT 12/80/700	1200	3.00 (80)	27.50 (700)	1	57.00 (1450)	67.00 (1700)	24.00 (600)	N	3.5	208/240	596
HVT 15/50/450	1500	2.00 (50)	17.75 (450)	1	61.50 (1565)	67.00 (1700)	24.00 (600)	R	5.5	208/240	610
HVT 15/75/450	1500	3.00 (75)	17.75 (450)	1	61.50 (1565)	67.00 (1700)	24.00 (600)	R	5.5	208/240	610

Specify voltage at time of order.  
Continuous operating temperature is 100°C below maximum temperature.

Furnaces operate on single phase voltage.