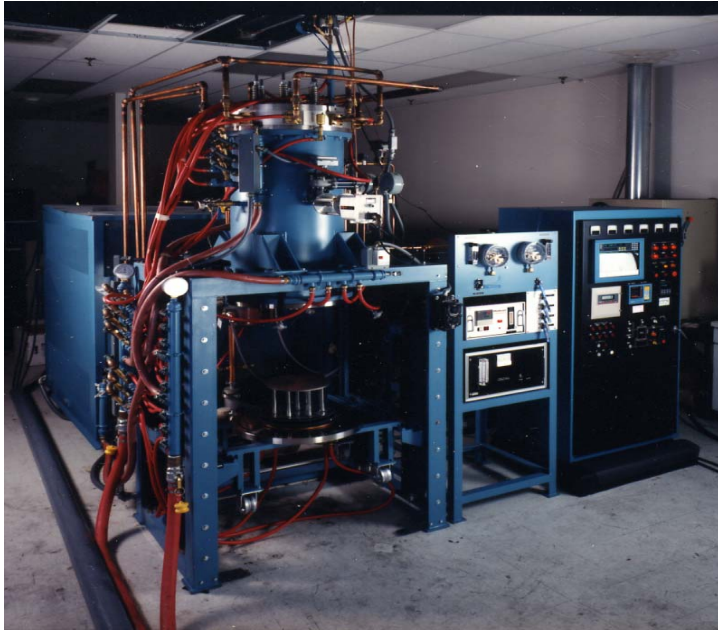
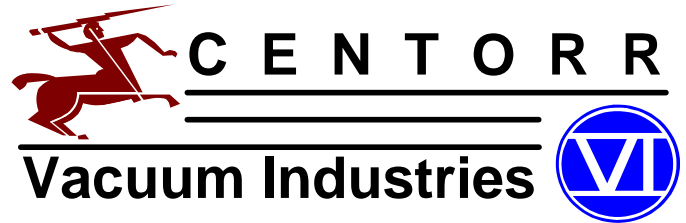


PRODUCT INFORMATION



Series 17 Bottom Loading Vacuum Furnace

HIGH TEMPERATURE VACUUM OR CONTROLLED ATMOSPHERE REFRACTORY METAL HEAT ZONE FURNACE

APPLICATIONS

Brazing	Heat Treating
Crystal Growth	Melting
Ceramic Firing	Sintering
Degassing	Thermocouple Calibration

MAIN FEATURES

- Low initial cost
- Efficient, inexpensive to use
- Uncomplicated design, easy to operate
- Clean, compact, vacuum tight construction
- Use in vacuum, inert, nitrogen atmosphere
- Low thermal mass – rapid heating and cooling
- Accurate and uniform temperature control

GENERAL

The Series 17 High Temperature High Vacuum or Controlled Atmosphere, Bottom Loading, Cold Wall, Refractory Metal Heat Zone Furnaces are simple and easy to operate.

A Furnace System typically consists of the Basic Furnace Chamber Assembly, the High Vacuum System or Evacuation System, the Process Gas System, the Power Supply, the Temperature Control Instrumentation, and the Furnace Mounting System.

HEAT ZONE SIZE:

3" Dia. x 4" to 12" High
4" Dia. x 5" to 18" High
5" Dia. x 6" to 18" High
6½ Dia. x 8" to 20" High
8" Dia. x 10" to 20" High
10" Dia. x 10" to 24" High
12" Dia. x 12" to 24" High
14" Dia. x 12" to 24" High

TEMPERATURE:

Up to 1000°C
1650°C
2000°C
2500°C
2750°C
3000°C

PRESSURE VACUUM:
2 PSIG TO 10⁻⁶ Torr

These Furnaces can be built having Heat Zone sizes of 3" dia. x 4" high to 14" dia. x 24" high, and capable of operating up to 3000°C. It is possible to operate in High Vacuum, in Inert Gas, in Reducing or in Oxidizing Atmospheres. The Vacuum System is capable of attaining 10⁻⁶ torr. The Furnace Chamber may be backfilled to 2 PSIG.

The Furnace is mounted on an open frame with the Vacuum System immediately behind (or to one side) for maximum efficiency. The Power Supply and Control Console are also located as close as possible to the Furnace Chamber. (In the case of small systems, the power supply is housed inside the control console).

The Unit is ready to operate as soon as power is connected to the main circuit breaker, and water inlet and drain connections are made.

The Furnace is completely assembled and thoroughly tested prior to shipping. A copy of test results will accompany shipment.



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SERIES 17

BASIC FURNACE CHAMBER ASSEMBLY

The Basic Furnace consists of a double wall all stainless Steel (304L), water-jacketed chamber inside of which is The Heat Zone. The heat zone is resistance heated. The Heating Element is made of Refractory Metal (or Kanthal A). The Heat Shields are also all Metal. Heat zone Components are easily accessible for inspection or maintenance. A Hearth is provided for work support. The entire inside of the furnace chamber is designed to Conform to the best High Vacuum Practice. Particular attention is given to the choice of heat zone materials and to surface finishes. Ports are provided for Sighting, Thermocouples, Evacuation, Inert Gas Inlet and exit, Gauges, etc. Centorr Vacuum Industries' proprietary Rotatable Sight Window is included as standard equipment.

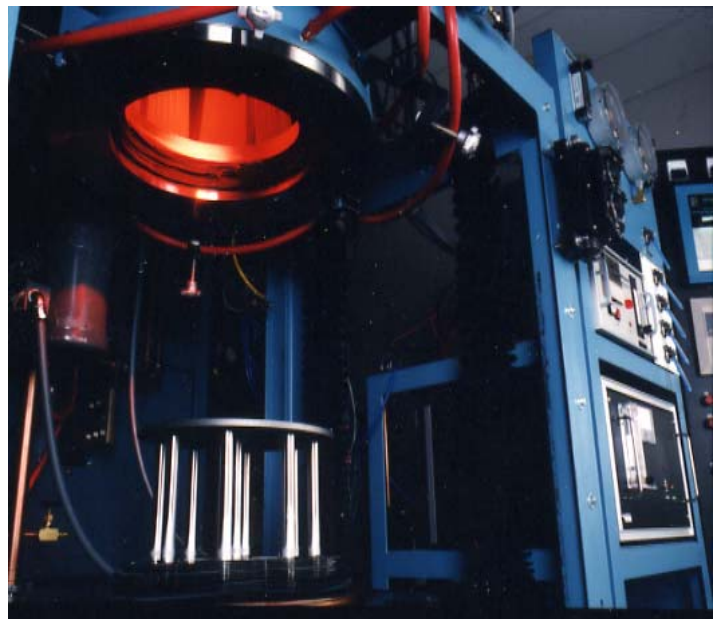
Loading is done by means of the remotely operated Furnace Base. Work is placed on top of the hearth and Raised up into the heat zone. Clamps are provided for Operation to slightly above ambient pressure.

HIGH VACUUM SYSTEM

Standard High Vacuum Systems consist of High Vacuum Elbow; Diffusion Pump with Cold Trap; Mechanical Pump; Manual, Semi-Auto, or Full Auto Valve System; all Copper Manifold; Viton "O" rings; and Combination Ion Gauge & Two Station T.C. Gauge Vacuum Instrument.

EVACUATION SYSTEM

For operation in the 10-50 microns range of vacuum or for evacuation prior to backfilling with Inert Gas or Nitrogen, we include an Evacuation System. This includes a Mechanical Vacuum Pump, Vacuum Valve, and Manifold. Line Filter ahead of the vacuum pump, and Thermocouple type Vacuum Instrument are optionally available.



PROCESS GAS SYSTEM

Process Gas System consists of vacuum tight Gas Inlet Valve and Relief Valve, Bourdon type Pressure Vacuum Gauge, and Manifold.

POWER SUPPLY SYSTEM

Power Supply Systems consist of Silicon Controlled Rectifier Power Controller (Saturable Core Reactors also available) with Current Limit, Step-down Transformer, Circuit Breaker, Contactor, Control Transformer, Ammeter, Voltmeter, Push Buttons, Indicator Lights, Water Interlocks, all completely wired and packed in an attractive floor standing cabinet.

Utility requirements are given in KVA at customer's Primary Voltage, Single or Three Phase, and 50 or 60 Hertz.

TEMPERATURE CONTROL INSTRUMENTATION

Centorr Vacuum Industries can supply from the simplest Manual Power Control to the most elaborate Instrumentation. This can include Automatic closed loop control utilizing Thermocouples, Power Transducers, or Optical Pyrometers for sensing; and incorporating Indicator-Controllers, Recorders, and Programmers. Various types of Micro-Processor Programmers are now available and are extremely popular.

FURNACE MOUNTING ASSEMBLY

The Furnace Chamber is mounted on an open support frame. Legs are provided with Leveling Pads. It is also possible to lag the support frame to the floor.

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