

The Vacu-Bake™ Vacuum/Inert Gas Oven

It's versatile, yet still economical.

The TM Vacuum Vacu-Bake Oven Series offers a high-quality and versatile vacuum oven at an economical price.

With temperature capabilities ranging from ambient to 600°C, and capable of incorporating any degree of vacuum environment from atmosphere to 10⁻⁸ torr, the Vacu-Bake oven offers a wealth of possibilities.

The Vacu-Bake oven chamber is a "hot wall" design, which allows full utilization of the inside of the vacuum chamber, maximizing the load capacity. With up to a 4" thick, high-temperature insulation with reflective shield surrounding its heater bank, the oven maintains a stable processing temperature inside the chamber at all times. The Vacu-Bake series vacuum oven offers standard electro-pneumatic inert gas fill and vent valves allowing for various types of part processing using a gas back-filled environment.

The TM Vacuum Vacu-Bake Oven Series comes standard with an automation control package that includes a touch screen, graphic HMI, and data logging, so you can simply load the oven and press the start button! With many options available such as gas stirring fans, quick cool, alternate pumping packages and HMI control systems, the Vacu-Bake makes it simple for you to control your process and its cost!



Above: The Vacu-Bake™ H-3004 with optional multiple shelves



Above: The Vacu-Bake™ H-3004 with stirring fan option.



Left: The Vacu-Bake's Automatic Control Package

HIGH-TEMPERATURE | HIGH-VACUUM SYSTEMS



Temperature Capabilities

- 4 series 400°C (752°F)
- 6 series 600°C (1112°F)

Time to temperature*: 25 minutes under vacuum

Vacuum Pumping System

- 23.3 cfm two-stage mechanical pump (42.2cfm on 48 x 48" chamber)

Available:

- Upgraded pumping systems – Mechanical, dry, diffusion, cryogenic, and turbo-molecular
- Molecular Sieve or Mechanically refrigerated, optically-dense, cold trap in roughing line or liquid nitrogen cryo-trap in high-vacuum line (for prevention of hydrocarbon contamination)

Vacuum Ranges*

| | |
|----------------------------|---|
| Mechanical Pump, Standard | atmosphere to 35 microns |
| Dry Pump (oil free): | atmosphere to 35 microns |
| Mechanical/Diffusion Pumps | atmosphere to 1.0 X 10 ⁻⁶ torr |
| Mechanical/Cryo Pumps | atmosphere to 1.0 X 10 ⁻⁷ torr |
| Mechanical/Turbo Pumps | atmosphere to 1.0 X 10 ⁻⁷ torr |

System Controls

- Color Touch Panel Operator Interface. PLC allows programmable ramps and soaks, vacuum set points, gas back fills, and automatically executes system overhead functions such as pump downs and vents. Capable of data logging
- +/- 1 degree controllability
- Active graphic vacuum map with instant overview of valve status and vacuum pump conditions
- Programmable digital set point temperature control
- Independent programmable digital over-temperature control
- Digital vacuum gauge with a readable range from atmosphere to .001 torr vacuum pressure
- PLC-controlled cycle timers and counters

Available: Automated Control Systems

- Full PC control system, utilizing PLC, PC and HMI software technology. The system affords superior data acquisition and archiving capabilities.
- Multiple survey thermocouples

Operating Pressure Range*

- Atmosphere to 10⁻⁸ torr
- Working pressure at maximum temperature: 10⁻⁸ torr to 1 atmosphere

Inert Gas System

- Standard electro-pneumatic inert gas inlet and vent valve for gas processing applications such as backfill and venting

Available:

- .5 to 5 hp stirring fan for more rapid heating and cooling
- Closed-loop, multi-channel upstream gas flow control with down stream pressure control

Chamber

- All stainless steel construction
- Special shelving arrangement available
- Optional water-cooling of vacuum chamber walls for quick cooling

Available work zones*

| Model # | Work Zone Size | Internal Volume (ft ³) |
|------------|--------------------|------------------------------------|
| H18 series | 18" Dia x 30" Deep | 4.42 |
| H24 series | 24" Dia x 30" Deep | 7.85 |
| H30 series | 30" Dia x 48" Deep | 19.63 |
| H42 series | 42" Dia x 48" Deep | 38.47 |
| H48 series | 48" Dia x 48" Deep | 50.30 |

- Cylindrical "Hot Wall" chamber configuration consists of insulated resistive heater bank attached to the exterior of the chamber
- Working pressure: Atmosphere to 10⁻⁸ torr*
- Chamber and controls are enclosed in a mild steel epoxy painted enclosure

Safety Features

All T-M Vacuum Products, Inc. products are equipped with standard safety features to ensure safe operation.

Please consult T-M Vacuum Products, Inc. at (856) 829-2000 for availability and pricing of these or any other option requirements.

* All times are approximate and dependent on equipment, chamber, starting temperature and length of soak. Temperature, chamber, pressure and liquid pump size are major influencing factors.

