

# V/IG Series™ Vacuum/Inert Gas Oven

## It's intelligent in its versatility.

The TM Vacuum V/IG Oven Series offers a high-quality, compact, yet versatile vacuum oven at an economical price. With temperature capabilities ranging from ambient to 600°C, and incorporating any degree of vacuum environment from atmosphere to 10<sup>-8</sup> torr, the V/IG oven offers a wealth of possibilities.

The V/IG 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 V/IG series vacuum oven offers standard inert gas fill and vent valves allowing for various types of part processing using a gas back-fill environment. With the standard touch screen PLC the operation of the system is fully automated with data logging of the process parameters.

A convenient modular design, the V/IG oven incorporates a removable back plate to accommodate an optional double door modification. This enables easy connection and interface with other processing equipment, such as either end of an inert gas environment (glove box) system for pass through applications.

The TM Vacuum V/IG Oven Series features several standard models with many options available, making it simple to control your process and its cost.



Shown above and at right: V/IG multi-oven station and V/IG single oven station.

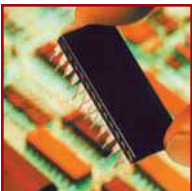


Shown above is the V/IG all stainless steel chamber interior configured for multiple shelving units.



Shown left: Color touch panel allows control of all system functions and parameters.

HIGH-TEMPERATURE | HIGH-VACUUM SYSTEMS



### Temperature Capabilities

- 03 Series: 350°C
- 06 Series: 600°C

Time to temperature\*\*: 25 minutes under vacuum  
35 minutes in atmosphere

### Vacuum Pumping Systems

#### Several options available:

- Basic 7, 11 or 23.3 cfm two-stage mechanical pump packages all with a valve, pump start switch and 0-1000 micron vacuum gauge installed
- Upgraded pumping systems – Mechanical, dry, diffusion, cryogenic, and turbo-molecular
- Mechanically refrigerated, optically dense cold trap in roughing line or Liquid nitrogen trap in high vacuum line (for prevention of hydrocarbon contamination)
- Automated control system with heat control and backfill

### 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 <sup>-6</sup> torr
Mechanical/Cryo Pumps	atmosphere to 1.0 X 10 <sup>-7</sup> torr
Mechanical/Turbo Pumps	atmosphere to 1.0 X 10 <sup>-7</sup> torr

### Operating Pressure Range\*\*

- Atmosphere to 10<sup>-8</sup> torr
- Working pressure at maximum temperature: 10<sup>-8</sup> torr to 1 atmosphere

### System Control

- 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

### Inert Gas System

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

#### Available:

- Closed-loop, multi-channel upstream gas flow control with down stream pressure control

### Chamber

- All stainless steel construction
- Optional second door on opposite side for pass thru capabilities such as attachment to a dry/glove box and/or to any other controlled environment enclosure
- Special shelving arrangement option available
- Optional water-cooling of vacuum chamber walls for quick cooling

#### Available work zones\*

Model #	Work Zone Size	Internal Volume (ft <sup>3</sup> )
800 series	11.5" Dia x 14" Deep	0.84
1200 series	17" Dia x 24" Deep	3.15

- Cylindrical “Hot Wall” chamber configuration consists of insulated resistive heater bank attached to the exterior of the chamber
- Working pressure: Atmosphere to 10<sup>-8</sup> torr\*\*

### Exterior

Chamber and controls are enclosed in a mild steel epoxy, enamel covered enclosure

- All models available in clean room compatible configurations or in all stainless steel enclosures

### 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. (856) 829-2000 for availability and pricing of these or any other option requirements.**

\* Additional chamber sizes and configurations available.

\*\* All times and pressures are for clean, dry, empty, out-gassed furnace, starting from ambient pressure and temperature, and may vary. Times and pressures subject to pump size and maximum temperature. Size and weights are approximate.

