

The OXY-GON 3000°C Top-Loading Furnace



OXY-GON'S High Temperature Furnace Model **TC200-4x8-G-G-300-EVC** for up to 3000°C in Rough Vacuum or Inert Gas Atmospheres up to 2 psig.

Key Features:

- 3000°C Top Loading Furnace
- Graphite Heat Zone
- Available in Multiple Work Zone Sizes
- Durable Proven Design

Applications

- Annealing
- Brazing
- Diffusion Bonding
- Ceramic Firing
- Degassing
- Glass Processing Studies
- Melting
- Sintering
- Carbon Glass & Ceramic Composites



The basic furnace system includes the following components:

- Furnace Assembly
- Power Supply
- Heat Zone
- Evacuation System
- Inert Gas System

The OXY-GON 3000°C Top-Loading Furnace



FURNACE ASSEMBLY

The chamber, top and bottom cover, and access lid are double walled, 304L stainless steel. Each component is electropolished to attain the highest vacuum quality. Ports are incorporated in the furnace chamber for a sight window, thermocouples and process gas. Power to the heating element is supplied by nickel-plated, water-cooled power feedthroughs located in the bottom cover.

HEAT ZONE

The cylindrical element and insulation packs are fastened inside the chamber to allow easy loading of the fixtures and materials for processing. Heat zones are graphite.

POWER SUPPLY

Power supplies can be provided with any of these characteristics: single or three phase, 208, 380 or 480 volts at 50 or 60 Hertz. A typical power supply incorporates a step down transformer, SCR, circuit breaker, contactor, amp/volt meters.

PUMPING SYSTEM

Fully automatic PLC controlled pumping systems can be provided for the range of 10e-2 Torr (rough pump with mechanical pump only) to 10e-6 Torr (diffusion and turbomolecular pumps). Our standard system is automatic and consists of a diffusion or turbomolecular high vacuum pump, a rotary vane or oil free scroll type mechanical pump, isolation valves and vacuum gauge controller. The system will consistently operate in the 10e-5 /10e-6 Torr range.

TEMPERATURE CONTROL

Programmable process temperature controller and separate over temperature limiter are standard. Recorders and data logging devices specific to the Customer's requirements are available as options. Types of sensors include retractable control thermocouple, over temperature thermocouple, and optical pyrometer.

INERT GAS SYSTEM

To allow operation using inert (Noble) gases, a kit which includes inlet and outlet valves and a pressure/vacuum gauge is supplied.

WET OR DRY HYDROGEN SYSTEM

This is an optional system that can be manual or fully automatic using flow control and variable percent mixing of Hydrogen with other gases. All necessary safety interlocks and devices such as blow-off port, igniter, etc., are included with this system. The system conforms to NFPA 86 Standard for Ovens and Furnaces.

