

*“Degrees
Ahead in
Quality”*



The EC Series End Loading Tube Furnace is designed to provide years of continuous service while requiring a low investment cost.

Applications for this furnace include:

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



Generally, the basic furnace System includes the following components:

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

The furnace can be rated up to a maximum operating temperature of 2500°C (4532°F) and will operate in vacuum, inert atmospheres, Nitrogen and dry Hydrogen. Ceramic Muffle Tube Kits are available for oxidizing or corrosive atmospheres. The furnace shown has a Glove Box Adapter Kit.

FURNACE ASSEMBLY:

The chamber is double walled, 304L stainless steel construction and electropolished to attain highest vacuum quality. Ports are incorporated in the heat 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 chamber.

HEAT ZONE:

The element and insulation are high grade graphite. Heat zone sizes range from 2" ID to 6" ID x up to 48" long with a muffle tube. Without the muffle tube the size ranges from 2" ID to 12" ID x up to 48" long. Other sizes are available upon request.

POWER SUPPLY:

Power supplies can be provided with any of these characteristics: single or three phase, 208, 380 or 480 volts and 50 or 60 Hertz. A typical power supply incorporates a step down transformer, SCR, circuit breaker, contactor, amp and volt meters. Power supplies 25 kVA and above are housed in a free standing cabinet separate from temperature controls.

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 thermocouple, optical pyrometer or power transducer.

PUMPING SYSTEM:

Fully automatic PLC controlled pumping systems can be provided for the range of 10^{-2} Torr (rough vacuum with mechanical pump) through 10^{-5} Torr (high vacuum with diffusion and mechanical 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 10^{-5} Torr range.

INERT GAS/NITROGEN SYSTEM :

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

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.



INDUSTRIES, INC.

PO Box 40

Epsom, NH 03234-0040 USA

Phone: (603)736-8422

Fax: (603)736-8734

E-mail: sales@oxy-gon.com

Internet: www.oxy-gon.com

For a comprehensive review of your specific requirements, please contact OXY-GON'S technical sales personnel for a customized proposal with specifications.