

Chamber Furnaces

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Batch Heat Treatments



\ Chamber Furnaces provided with sliding front door.



Insertec manufactures and supplies chamber furnaces for batch heat treatment, specially aimed at industrial sectors, such as:

- . Aeronautical
- . Metalworking.
- . Energy (Wind, Hydraulic, etc.).
- . Oil & gas.
- . Railway.
- . Heat Treating.

and combined with our own professional technical assistance on site.

Chamber furnaces can be mainly divided into the following series:

- . TCG series are directly gas fired furnaces.
- . TCE series are electrically heated furnace.
- . Being technically designed depending on the type of load to be heat-treated.

Available Heat Treatments:

- . Hardening.
- . Tempering at low and high temperature.
- . Annealing.
- . Normalising.
- . Austenitising.
- . Stress relieving.
- . Preheating prior to hot forging.



\ Detalle constructivo interior cámara horno.

General Description:

Chamber furnaces are provided with one only sliding type front door for batch loading and unloading. Door support structure is also provided with electromechanical or hydraulic driving system, being supplied by request the door tightening system in order to improve the sealing against the heating chamber frame.

Pieces to be heat-treated, placed over metallic trays or inside of baskets, are charged into the Furnace by means of a charging machine which leaves them upon the existing load supports, made of refractory concrete pre-shaped pieces, or heat-resistant alloy steel, in accordance with process technical requirements.

WHERE ENGINEERING BECOMES HEAT

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Heat insulation of furnace is usually made of pressed ceramic fiber for roof, sidewalls and front door, and refractory concrete and insulating bricks on floor.

The heating system of furnace consists of:

- Gas fired open burners operating under different combustion control modes depending on process temperature range, such as, sequential pulsating or combustion air fixed gas regulating modes.
- Heating elements by means of wire or strip type electric resistances, depending on the total electric power required for process.

Available types of furnaces:

Depending on both available space on site and operating requirements of Installation, other possible solutions for furnace lay-out could be proposed:

- Tilting bell type chamber furnace capable of revolving around one fixed pivoting axis.
- Vertical bell type chamber furnace provided with bell lifting system or specially designed bell for being handled by existing bridge crane on site.
- Travelling bell type chamber furnace provided with a double driven-head bridge crane.



\ Charging machine.



\ Forced air cooling chamber.



\ Travelling bell type chamber furnace provided with two load-unload bases.



\ Quenching tank (water, oil or polymer).

Etzerre Kaminoa 21 \
48970 Basauri \ Bizkaia \ Spain

Tel.: +34 - 944 409 420 (Furnaces)
+34 - 944 409 450 (Refractories)

insertec@insertec.biz

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