

# *What we do?*

*Standard and unique solutions for various heat treatment processes.*

***Furnaces and Ovens up to 1600 ° C for laboratories and industry.***

- ✓ Relevant international standards;*
- ✓ Excellent quality and reliability;*
- ✓ Individual solutions for each needs at an affordable price.*

# Laboratory heat treatment equipment

## High temperature electric furnaces



Muffle furnaces  
Chamber furnaces  
Ceramic chamber furnaces  
Ashing furnaces

## Low temperature electric ovens



Chamber ovens up to 200 C°  
Chamber ovens up to 350 C°  
Multi-chamber ovens

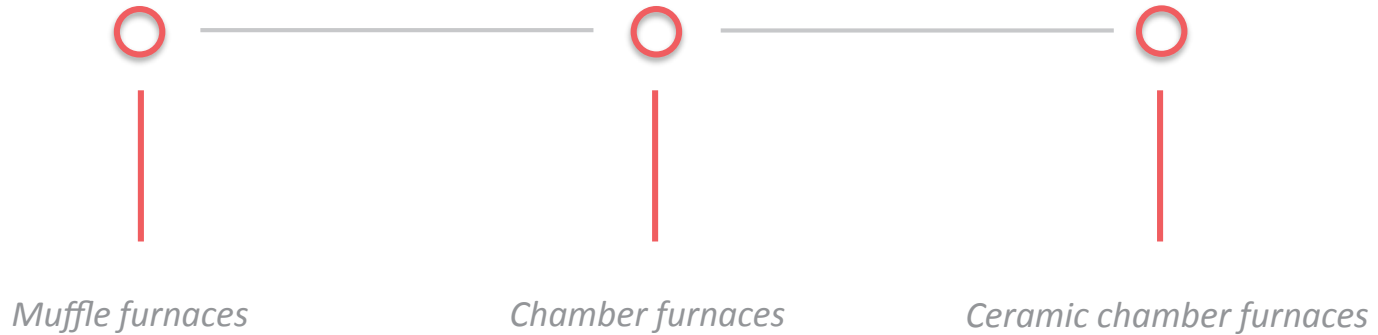
## Other thermal processing equipment



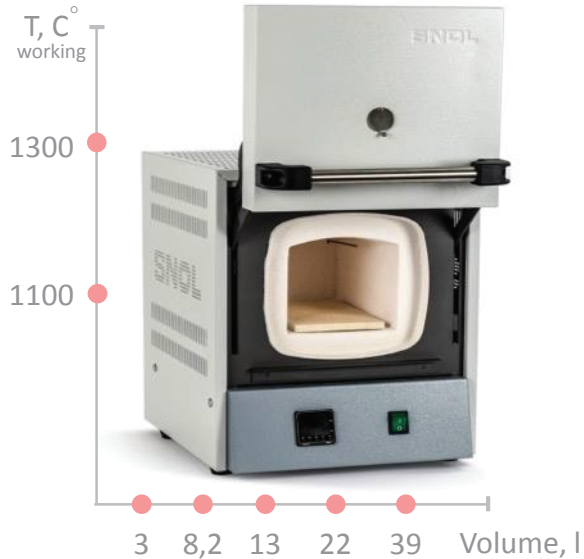
Tube furnaces  
Shaft furnaces  
Protective atmosphere ovens

# *Laboratory heat treatment equipment*

## *High temperature electric furnaces*



# High temperature: *Muffle furnaces*



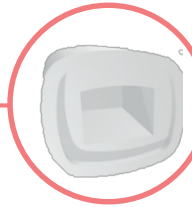
## Door opening optional:

- ✓ Top
- ✓ Bottom
- ✓ Sided



## Chamber:

- ✓ Heating elements vacuumed in to high quality ceramic fiber
- ✓ Heating from 4 directions
- ✓ Ceramic bottom plate



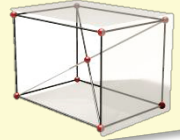
For 1300°C  
Heating  
elements  
exposed

## Control:

- ✓ PID electronic regulator, double digital display
- ✓ Microprocessor temperature controller Omron/ Eurotherm



- ✓ Fast heating time
- ✓ Low power consumption
- ✓ Good stability  $\pm 1^\circ\text{C}$
- ✓ Uniformity  $\pm 2^\circ\text{C}$  - temperature measured in 9 points



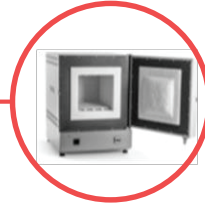
**APPLICATION: SINTERING TEMPERING**

# High temperature: *Chamber furnaces*

- ✓ Fast heating time
- ✓ Low power consumption
- ✓ Uniformity  $\pm 2^{\circ}\text{C}$
- ✓ Heating elements are in blocs and easy to change

## Door opening optional:

- ✓ To the right



## Chamber:

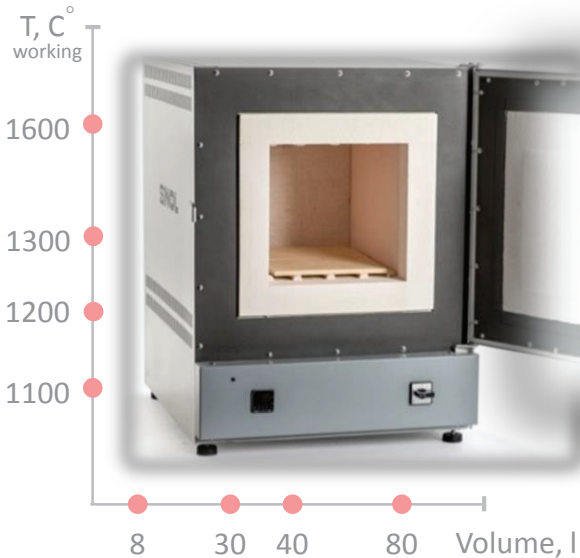
- ✓ Fiber plates with heating elements:  
1100 C vacuumized in fiber  
1300C in groves  
1300C on tubes
- ✓ Ceramic bottom plate



Heating  
from 2 to 6  
sides!

## Control:

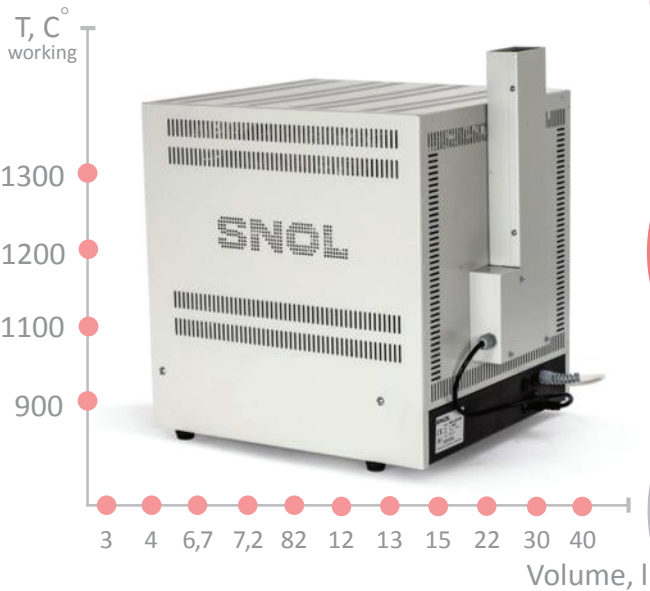
- ✓ PID electronic regulator  
double digital display
- ✓ Microprocessor  
temperature controller  
Omron/ Eurotherm



**APPLICATION: SINTERING TEMPERING**

# High temperature: *Ashing furnaces*

✓ Continuous air change in the chamber!



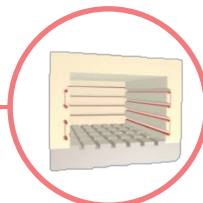
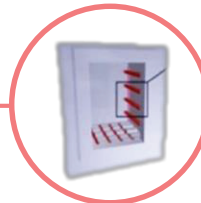
## Door opening optional:

- ✓ Top
- ✓ Bottom
- ✓ Sided



## Chamber:

- ✓ Solid ceramic, muffle or fiber chamber
- ✓ Fan-assisted chimney for smoke and humidity extraction



## Control:

- ✓ PID electronic regulator double digital display
- ✓ Microprocessor temperature controller Omron/ Eurotherm



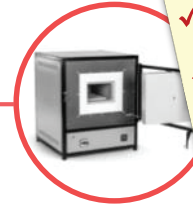
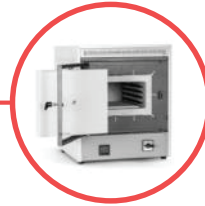
**APPLICATION: *ASHING BURN-OFF***

# High temperature: *Ceramic chamber furnaces*



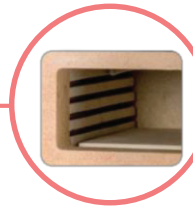
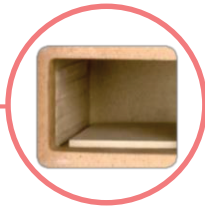
## Door opening optional:

- ✓ To the right
- ✓ To the left



## Chamber:

- ✓ Solid ceramic chamber with heating elements :  
900, 1200 °C enclosed  
1100, 1300°C exposed
- ✓ Ceramic bottom plate



For 1300°C  
Heating  
elements  
exposed

## Control:

- ✓ PID electronic regulator  
double digital display
- ✓ Microprocessor  
temperature controller  
Omron/ Eurotherm



- ✓ Low power consumption
- ✓ Uniformity  $\pm 2^\circ\text{C}$
- ✓ Robust construction –  
strong and durable
- ✓ Perfect for aggressive  
environment

**APPLICATION: ANNEALING HARDENING  
SINTERING TEMPERING**

# *Laboratory heat treatment equipment*

*Low temperature  
electric ovens*



*Chamber ovens*

*Multi-chamber ovens*



# Low temperature: Chamber ovens 300°C



## Door opening optional:

- ✓ To the right/ two doors
- ✓ Hermetically closed
- ✓ **Double mechanical door lock**



## Chamber:

- ✓ Stainless steel (AISI 304)
- ✓ Horizontal air circulation
- ✓ 2 standard shelves or more



The air is drawn in in the back and blown out at the front.

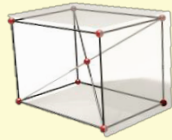
Adjustable valve in the back of the oven.

## Control:

- ✓ PID electronic regulator, double digital display
- ✓ Microprocessor temperature controller Omron/ Eurotherm



- ✓ OTP and buzzer
  - ✓ Fan speed controller
  - ✓ **Uniformity  $\pm 1 - \pm 5$  °C**
- temperature measured in 9 points



# Low temperature: Chamber ovens 350°C



## Door opening optional:

- ✓ To the right
- ✓ Hermetically closed



## Chamber:

- ✓ Stainless steel (AISI 304)
- ✓ Economical version with mild steel
- ✓ Forced/ natural air circulation
- ✓ 3 standard shelves



## Control:

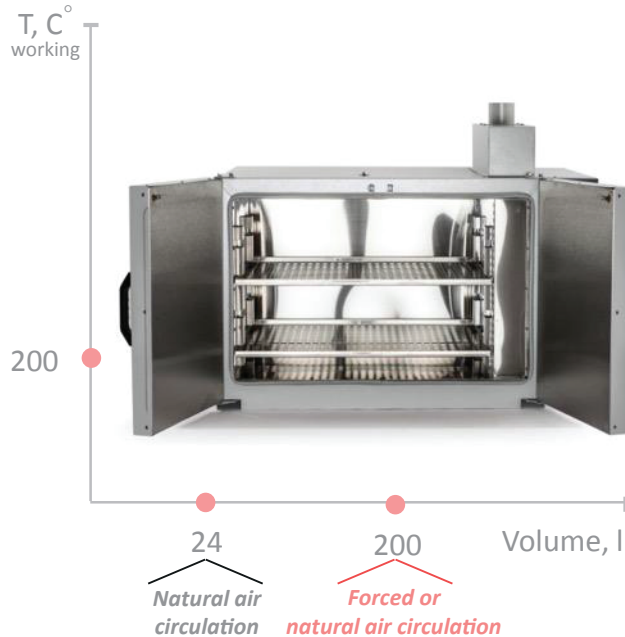
- ✓ PID electronic regulator, double digital display
- ✓ Microprocessor temperature controller Omron/ Eurotherm



- ✓ Fast heating time
- ✓ Low power consumption
- ✓ Economical low-cost version with mild steel!

**APPLICATION: DRYING**

# Low temperature: Chamber ovens 200°C



## Door opening optional:

- ✓ To the right/ two doors
- ✓ Hermetically sealed



## Chamber:

- ✓ Stainless (AISI 304)
- ✓ Economical version with mild steel
- ✓ Forced/natural air circulation
- ✓ 2 standard shelves or more



## Control:

- ✓ PID electronic regulator, double digital display
- ✓ Microprocessor temperature controller Omron/ Eurotherm



- ✓ Fast heating time
- ✓ Low power consumption
- ✓ Economical version with mild steel!

**APPLICATION: DRYING**

# Low temperature: **Multi-chamber ovens**



## Door opening optional:

- ✓ 2 or 4 doors;
- ✓ Hermetically sealed.



## Chamber:

- ✓ Stainless/ mild steel;
- ✓ Forced/ natural air circulation;
- ✓ 4 standard shelves.



## Control:

- ✓ PID electronic regulator, double digital display
- ✓ Microprocessor temperature controller Omron/ Eurotherm

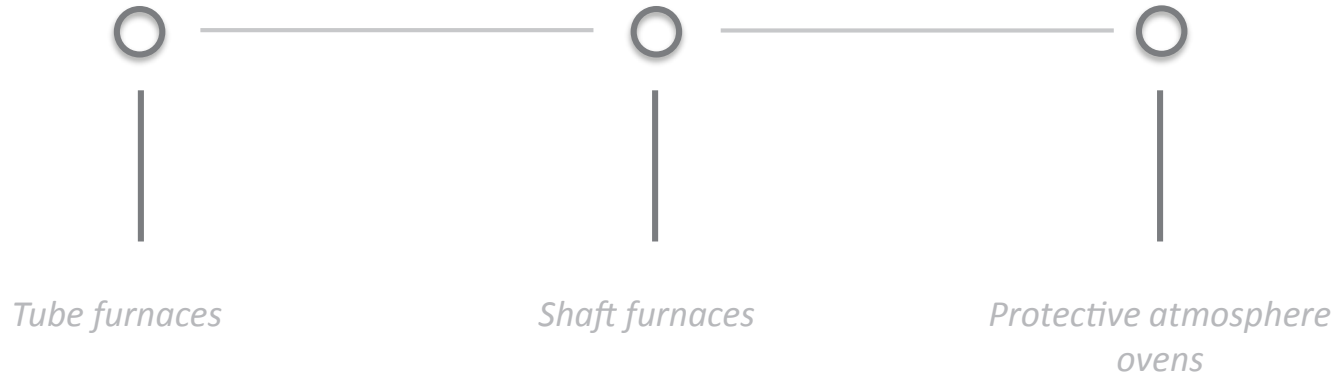


- ✓ Fast heating time
  - ✓ Low power consumption
  - ✓ Customization according to clients needs:
- 2, 3, 4... Separate chambers with a individual controllers!

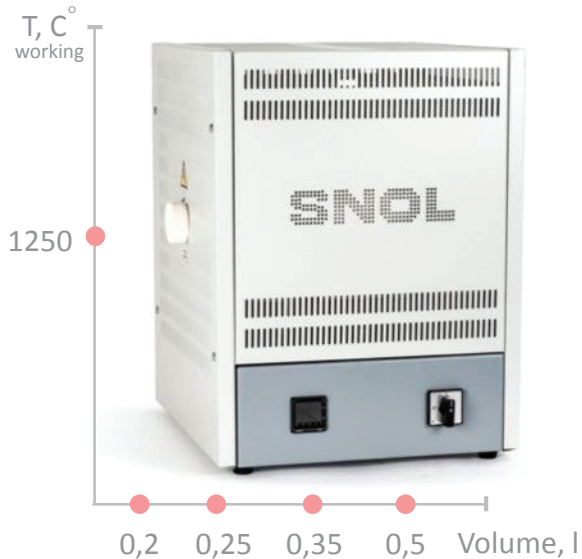
**APPLICATION: DRYING**

# *Laboratory heat treatment equipment*

## *Other thermal processing equipment*



# Other: *Tube furnaces*



## Closure:

- ✓ 2 plugs for both sides



## Tubes:

### Diameters:

- ✓ 35 mm
- ✓ 40 mm
- ✓ 48 mm
- ✓ 58mm



## Control:

- ✓ PID electronic regulator, double digital display
- ✓ Microprocessor temperature controller Omron/ Eurotherm

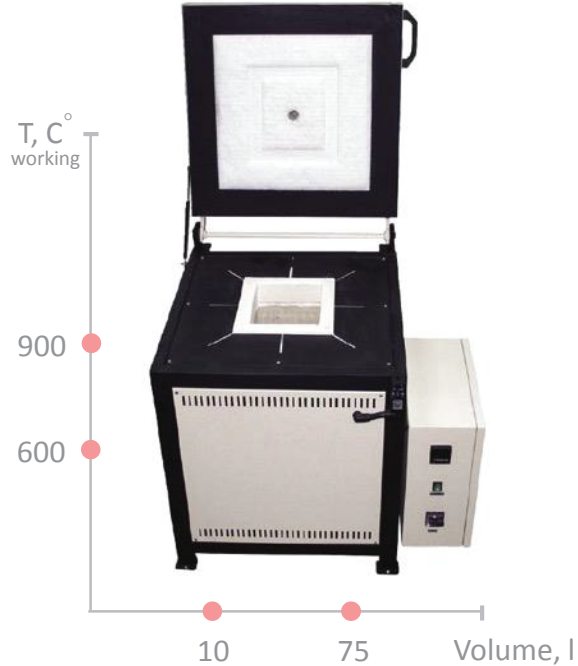


- ✓ Fast heating time
- ✓ Low power consumption
- ✓ High degree of accuracy



**APPLICATION: DETERMINATION OF CARBON**

# Other: *Shaft furnaces*



## Door opening optional:

- ✓ From the top.



## Chamber:

- ✓ Solid ceramic or stainless steel chamber;
- ✓ Heating elements – enclosed;
- ✓ Ceramic heat plates.



## Control:

- ✓ PID electronic regulator, double digital display
- ✓ Microprocessor temperature controller Omron/ Eurotherm



- ✓ Fast heating time
- ✓ Low power consumption
- ✓ High degree of accuracy

**APPLICATION: TEMPERING ANEALING MELTING**

# Other: *Protective atmosphere ovens*

- ✓ Fast heating time
- ✓ Low power consumption
- ✓ High degree of accuracy

**Door opening:**

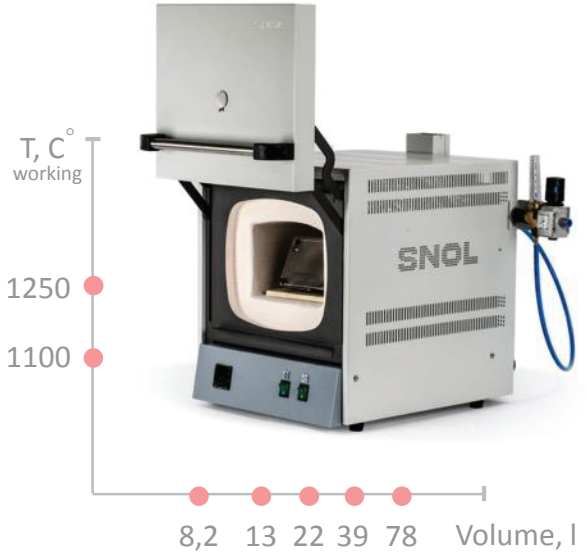
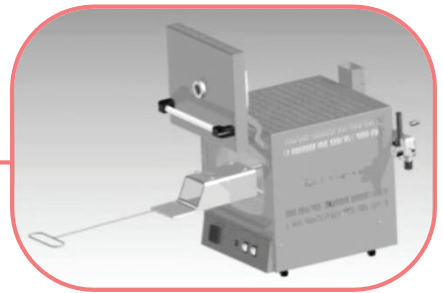
- ✓ Optional

**Chamber:**

- ✓ Protective gas box & equipment for gas inlet ;
- ✓ Gas: Nitrogen or argon.

**Control:**

- ✓ PID electronic regulator, double digital display
- ✓ Microprocessor temperature controller Omron/Eurotherm



**APPLICATION: *PROTECTIVE ATMOSPHERE***



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