

# Laboratory for sintering and heat treatment

(sintering and heat treatment of materials by conventional and innovative procedures)  
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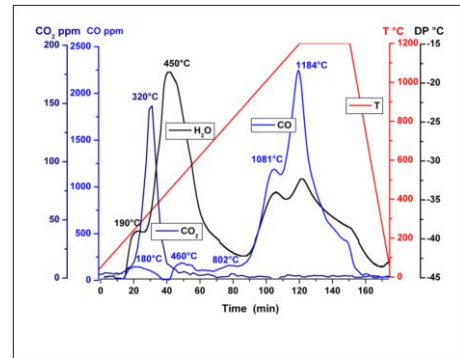


## Tube muffle furnace for sintering CARBOLITE

- Electrical furnace with SiC heating cell up to  $T_{max.} = 1500\text{ }^{\circ}\text{C}$
- Sintering in vacuum (to 8 mbar), inert ( $\text{N}_2$ , Ar) and reducing atmosphere ( $\text{H}_2$ ,  $\text{H}_2\text{-N}_2$ )
- Tube diameter 90 mm
- Length of uniform heating 450 mm
- PID regulator (8 segments with its own temperature ramp with own timer)

### Applications /also with use of accessories:

- Sintering of metallic and non-metallic powders
- Monitoring of the quality of atmosphere at the entrance of furnace, analysis of  $\text{O}_2$  (0-10 000 ppm), measurement of dew point ( $-100 - +20\text{ }^{\circ}\text{C}$ )
- Continual monitoring of active components of atmosphere during the whole sintering cycle NDIR analyser  $\text{CO}_2$  (0-5000 ppm), CO (0-3 % obj.) a  $\text{O}_2$  (0-10000 ppm)



Continual monitoring of process atmosphere during the sintering cycle

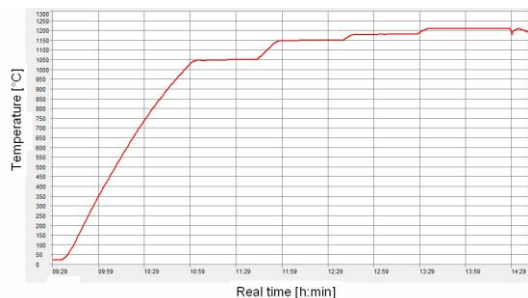


## Chamber quenching furnaces LAC with programming regulator

- Electrical resistance furnaces,  $T_{max.} = 1280\text{ }^{\circ}\text{C}$
- PID regulator (10 programs with 10 steps)
- Excellent thermal-insulating properties
- High homogeneity of temperature field
- Output from regulator to PC (temperature recording)

### Applications:

- Heat treatment of metallic and non-metallic materials without protective atmosphere
- Quenching and tempering of Fe based alloys
- Post-weld heat treatment
- Long-term thermal expositions
- Conducting of complex thermal cycles



Temperature record during heat treatment