



CODE GT2997
 MODEL.....GT-OD
 EXTERNAL DIMENSIONS.....1100x280x420 mm
 POWER.....1500 Watt
 VOLTAGE.....220 V – 50 Hz single phase
 WEIGHT......60 Kg



OPTICAL DILATOMETER

DESCRIPTION

The optical horizontal dilatometer is the ideal instrument for measuring sintering behaviour of materials (i.e. raw materials, ceramic bodies, advanced ceramics, tapes and sheets, incoherent materials). The instrument is equipped with a pair of cameras that frames the ends of the sample and follows its movements in both expansion and contraction, without coming into contact with the material. The test specimen consists of a bar with an approximate size of 50x5x5 mm, placed on a sintered alumina plate. In the optical dilatometer, the sample is completely free and a correction curve is not necessary.

APPLICATIONS

- Sintering behaviour of traditional and advanced ceramics, also above the softening point.
- Sintering rate curve.
- Predicting the behaviour of industrial minerals (talca, clays, kaolin, feldspar, wollastonite) during customer processing.
- Evaluating dimensional stability of materials during thermal treatment.
- Identifying problematic minerals that may cause operational issues (bloating, melting, excessive shrinkage).
- Defining the best firing cycle.
- Dilatometric curve of incoherent materials like sands.
- Thin ceramics or other materials tapes and sheets characterization (i.e. Sintering of green tapes from tape casting).

TECHNICAL SPECIFICATIONS

- Sample Shape: parallelepiped
- Sample Length: 46-51 mm
- Sample Width: 1-6 mm
- Sample Thickness: 3-7 mm
- Simultaneous sample testing: 1
- Dimensional Variation Resolution 3.5 µm
- Sensor resolution Total 60 Megapixel
- Light source 480 nm ; 3 W ; Blue led
- Filter: Interferential
- Frame acquisition rate: 1-15 frames per second, user selectable
- Temperature Range On the sample: RT-1400/1600°C depending on the heating element type
- Temperature Range On the furnace: RT-1450/1650°C depending on the heating element type
- Heating rate: 1 to 80°C/min
- Temperature Resolution: 0.1°C
- Atmosphere control: Air, protective atmosphere on demand

THERMAL CYCLE

- Unlimited number of heating/cooling/isothermal segments
- Simulation of industrial thermal cycles
- Maximum heating rate: 80 °C/min

EMBEDDED COMPUTER

- Intel Core i7 Processor
- RAM 16 GB
- Linux Operating System
- Automatic data backup

EQUIPMENT

- Platform, Control and Measurement Software Suite
- Horizontal Furnace, Platinum Heating 1400 °C, Pt/Rh heating element 1600°C
- Dilatometer Module, Dedicated Dilatometer Software
- Element 1400 °C, Pt/Rh heating element 1600°C
- Possible predispositions to be requested at the time of the offer:
Heating Microscope, Fleximeter