Thermogravimetric Analyzer TGA Thermostep ML

General Information

Thermogravimetry is a standard method to analyze organic, inorganic and synthetic materials. Thermogravimetric analysis in general means the measurement of the weight loss during a user-defined temperature or heating process.

ELTRA's TGA Thermostep ML is a thermogravimetric analyzer which determines various parameters such as moisture, volatiles and ash at user-defined temperatures and atmospheres in a single analysis.

The TGA Thermostep ML simultaneously analyzes up to 19 samples with sample weights up to 5 g and can be operated at temperatures up to 1000 °C.

Application Examples

coal, coke, food, limestone, plastics

Product Advantages

- short heating rates, high temperature constancy
- simultaneous measurement of 19 samples
- sample weight in macro range (multiple gram)
- crucible covers to be placed and removed manually during analysis
- precise, accurate and reliable determination of moisture, volatile, ash content
- wide range of materials can be analyzed
- programmable furnace temperature can be set up to 1000 °C in steps of 1 °C
- powerful software (multilingual, customized display, export of results)
- two thermocouples for precise temperature control
- balance with 0,0001 g resolution
- low maintenance
- robust design allows usage in production control and laboratory

Features

Measured elements: ash content, moisture, volatiles

Samples: inorganic, organic, synthetic

Field of application:
- agriculture, biology, chemistry / plastics, coal / power plant,
- construction materials, environment / recycling, food, geology / mining,
- glass / ceramics, medicine / pharmaceuticals

Furnace: resistance heated ceramic furnace,
- programmable in 1 °C steps from 50 °C up to 1000 °C

Detection method: balance

Max. number of samples: 19 crucibles + 1 reference crucible
**Thermogravimetric Analyzer TGA Thermostep ML**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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<tbody>
<tr>
<td>Balance resolution</td>
<td>0.0001 g</td>
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<tr>
<td>Balance precision</td>
<td>0.02 % RSD</td>
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<tr>
<td>Gas required</td>
<td>depends on application: oxygen 99.9 % pure (2 - 4 bar) and, or nitrogen 99.9 % pure (2 - 4 bar) and air 99.5 % (5 - 6 bar)</td>
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<tr>
<td>Power requirements</td>
<td>230 V, 50/60 Hz, max. 32 A</td>
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<tr>
<td>Dimensions (W x H x D)</td>
<td>55 x 52 x 62 cm</td>
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<tr>
<td>Weight</td>
<td>~ 65 kg</td>
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<tr>
<td>Required equipment</td>
<td>external exhaust (exhaust diameter: 100 mm / blower with 4m3/min), monitor, PC</td>
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**Function Principle**

Operation of the TGA Thermostep ML is simple and convenient. The measurement process has to be defined once regarding the used temperatures, atmospheres and heating ranges. To start the analysis, a predefined process simply has to be chosen in the software and the sample has to be weighed into the crucible. All data processing, control of the measurement process and calculating of the result is done by an external PC with Windows®-based software. The determination of moisture, volatile and ash content needs about 4 hours.