Designation
e.g. LG 09/12 – laboratory furnace with precision laboratory scale volume in liters/abbreviated maximum temperature

Marketing text (intended for catalogue, website etc. presentations)

Gravimetric furnace LG to 1200 °C
Chamber furnace for measuring the weight loss of a charge

The LG gravimetric furnace is a combination laboratory furnace, precision laboratory scale and software for the identification and evaluation of decreases in the charge weight. Measurements are output as a thermogravimetric curve documenting the weight loss of samples as correlating to temperature and time.
The LG furnace can test different biomass as well as certain types of waste such as RDF, plastics and paper, etc.

Icons: comprehensive measurement output, measurement of weight decrease, weighing precision: 0.01 grams, simple installation and operation, custom adjustments, dispatch in as little as three weeks, silent operation, 24 month warranty, prompt customer support



Batch processing technology (S=suitable PS=partially suitable)
The LG laboratory furnace is suitable for these laboratory applications, among others.

- Testing of materials (S)
- Ashing, combustion, annealing loss (PS)
- Enamel firing (PS)
- Sintering; solid state, liquid phase, powder sintering (PS)
- Heat treatment of metal materials (PS)

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Benefits of the device

- well-proven furnace design combined with a high-quality, high precision laboratory scale
- heating elements built into ceramic insulation panels for protection from mechanical damage
- compact space-saving dimensions (desktop design)
- convenient servicing; simple heating element change or replacement of damaged insulation (furnace design taken from the popular L series)

What to be aware of

- Regular inspection of the position of the scale is necessary in order to ensure that the results are not corrupted by the ceramic tubes having come into contact with the furnace insulation.
- Air flow in the furnace changes as the temperature increases, and this affects the scale measurement. Therefore it is necessary to adjust the measured values according to the processing temperature.

Sales arguments

- Heating elements built into ceramic panels guarantee protection from mechanical damage, as well as temperature uniformity due to heat transfer throughout the panels
- user-friendly service

Furnace construction

Compact desktop design with a stand for scale placement. Heating done with heating spirals built into ceramic panels on the furnace sides. The furnace is designed for desktop placement and has adjustable feet so as to ensure a level surface. The door opens downwards and may be used as a loading ledge for charge manipulation. When closed, the door insulation seals tightly onto the door portal insulation. The scale feet are also adjustable.

Frame and jacket

The furnace has a frameless design. The furnace jacket is made of patterned bent stainless steel sheets. There is a separate compartment for electro components on the right side of the furnace, and the furnace jacket is perforated to facilitate sufficient flow of cooling air through the furnace jacket.

Door

The door is made of a stainless steel-shaped tray and opens downwards on a simple hinge. The door mechanism is set on springs to ease door opening and also to create downward pressure upon closing. The door is opened using the large handle on the front side of the door.

Furnace and door insulation

The furnace installation is multilayered and consists of mineral fiber plates combined with microporous installation. The furnace installation is built into its own separate frame. The furnace door installation is also affixed to its own frame allowing for the possibility of tilt adjustments to ensure uniform insulation pressure on the furnace door portal.

Scale

The scale is designed for connection to a PC using an RS232 interface. The maximum scale load is 0.2kg. Scales capable of handling larger loads of up to a maximum 3 or 7kg are available as optional accessories for additional cost.

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Heating
Resistance heating wires are embedded into the ceramic plates on the sides of the working chamber of the furnace. In the case of heating wire damage, it is necessary to replace the complete heating panel.

Electrical design
The main regulating components are located in a separate compartment on the right side of the furnace. After removing the back cover, the entire compartment can be taken out, greatly facilitating service. The furnace door is equipped with a safety limit switch which automatically shuts off all power upon opening the door. Natural ventilation cools the electro compartment, regulator and furnace jacket. Air is pulled in through the bottom of the furnace and blown out through the upper part of the furnace jacket. The main circuit breaker is installed on the back side of the furnace. The furnace is single-phased, and a flexible power cable is supplied with the furnace.

Measurement and regulation
The temperature in the furnace is scanned by a type S thermocouple. An HT40P controller regulates and controls the furnace. The furnace regulator has auxiliary output for connection to a single phase fan. The fan can be regulated in each step of the controller program. The furnace is equipped with a contactless solid state relay SSR. The furnace is not equipped with a limit unit.

Warranty
- 24 months

Standard design of furnace includes:
- Ht40P controller (10 programs of 15 steps each) including convertor
- digital scale RADWAG WLC 2/A2 with precision 0.01g, weighing 0.2/3/7 kg
- PC software to display and record temperatures and weights as relative to time
- manual door opening downwards
- door limit end switch for safe opening of the furnace
- mineral fiber insulation panels
- heating elements in ceramic panels
- ventilation chimney for ventilation of the furnace chamber
- sliding lever for controlling air supply
- type S thermocouple
- contactless solid state relay for silent operation
- power cable with single phase plug
- desktop design

Optional accessories for additional charge:
- ejector with exhaust fan and draft diverter for the extraction of fumes
- protective atmosphere inlet (manual or automatic regulation of gas flow)
- calibration of controller input measurement

Atypical accessories for extra charge (more complicated than standard accessories)
- presently not available

Note that combining accessories may change the technical parameters of the equipment.

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Order No.	LAC Type	T max	Tmax for long-term use	Inner volume	Outer dimensions (wxhxd)*	Inner dimensions (wxhxd)*	Heating power	Weight	Protection*	Voltage
		°C	°C	l	mm	mm	kW	kg		V
01000977	LG 09/12	1200	1100	9,4	490x720x515	190x170x290	2,8	34	16/1	230

*Protection may vary according to the optional accessories selected.
Subject to technical changes.

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Change index	Change/revision by	Description of change/revision and no. of revised section/page	Date, signature	Change approved by
1	Diblík	Creation of the data sheet	18.7.	Názler
2	Patschová	Checking and addition of marketing section	1.8.	Názler

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