



# SNOL 1100°C Laboratory Furnaces

#### The Fibre Muffle 1100 series from TMS Europe are a range of precision laboratory electric muffle furnaces, with a counter balanced lift-up door, for use up to 1100°C.

They are designed for materials testing, heat treatment, ceramic and stoneware samples firing and ashing (models with chimney). And are used in laboratories, educational institutions, ceramic studios and in industry for thermal processing.

The chamber is made of high thermal efficiency vacuum-formed ceramic fibre, with heating elements embedded in four sides and a ceramic tile to protect the fibre base from wear.

An Omron E5CC digital PID temperature controller is fitted as standard and provides precise temperature control with good stability and minimal over-shoot. Other options are available, see the following page.

By default TMS offers these furnaces without over-temperature protection, as a product to compete with equivalent models from other suppliers. Provided the furnace is not left unattended, this is acceptable. However, the Health and Safety Directive mandates that where units are left unattended they must have over-temperature protection fitted. We offer two types of overtemperature protection as optional extras (see following page).

A chimney is optionally available at extra cost, fitted to the rear of the furnace, and is recommended for processes producing fumes or giving off carbon (e.g. ashing or burn-off operations).



- Lift-up door for efficient use of work space and better safety
- · Good stability and uniformity
- Fast heating and cooling time due to low thermal mass construction
- Low power consumption for reduced running costs and energy savings

A metal tray is optionally available for each model and is recommended to protect the furnace from spills or debris produced by some processes.

Our furnaces are available with optional UKAS (ISO17025) calibration of the temperature control system or also with a 5-point thermal survey of the chamber volume.

TMS Europe offers models customised to meet AMS 2750E (aerospace & automotive specification). For customisation to this specification or others please contact us.

| Model<br>TMS Stock Code                   | Capacity<br>(WxDxH in mm)     | External Size<br>(WxDxH in mm) | Voltage / Power /<br>Connector            | Weight |
|---|-------------------------------|--------------------------------|---|--------|
| SNOL 3/1100 LHM01<br>FCESNOL3/1100LHM01   | 3 Litres<br>125 x 200 x 115   | 340 x 470 x 430                | 230Vac / 1.7kW /<br>UK 13A style Plug     | 18kg   |
| SNOL 8.2/1100 LHM01<br>FCESNOL8/1100LHM01 | 8.2 Litres<br>200 x 300 x 133 | 440 x 620 x 510                | 230Vac / 1.8kW /<br>UK 13A style Plug     | 28kg   |
| SNOL 13/1100 LHM01<br>FCESNOL13/1100LHM01 | 13 Litres<br>225 x 360 x 180  | 500 x 700 x 550                | 230Vac / 1.8kW /<br>UK 13A style Plug     | 38kg   |
| SNOL 22/1100 LHM01<br>FCESNOL22/1100LHM01 | 22 Litres<br>275 x 500 x 155  | 600 x 890 x 610                | 230Vac / 3kW /<br>Blue Round 16A Plug     | 58kg   |
| SNOL 39/1100 LHM01<br>FCESNOL39/1100LHM01 | 39 Litres<br>315 x 515 x 225  | 650 x 900 x 740                | 400Vac (3P+N) / 6kW<br>Red Round 16A Plug | 74kg   |

Note: At least 1/10<sup>th</sup> of the chamber volume should be left unused. External Size not including optional chimney. If used below 200°C these units (especially larger models) may over-shoot the set temperature, depending on load. Weights exclude options and transportation packaging.

Prices Exclude VAT and Delivery and are correct at the time of writing. Specification and price subject to change without notice. All trade marks acknowledged. Appearance may vary from images shown.

# **Temperature Controller Options for Furnaces**

| Omron E5CC  | Eurotherm 3216   | Eurotherm 3216<br>Programmer, 1 Program   |  |  |  |
|---|--|---|--|--|--|
|   |  |   |  |  |  |
| 1/16 <sup>th</sup> DIN Size<br>Run/Stop Modes<br>Settable Heating Ramp Rate<br>Basic Timed Program:<br>Ramp, Dwell, Stop. | 1/16 <sup>th</sup> DIN Size<br>Run/Stop (Auto/Off) Modes<br>Settable Heating Ramp Rate<br>Basic Timed Program:<br>Ramp, Dwell, Stop. | 1/16 <sup>th</sup> DIN Size<br>Run/Stop (Auto/Off) Modes<br>Settable Heating Ramp Rate<br>8 Segment Timed Program:<br>4 Ramp+Dwell pairs, Stop. |  |  |  |
| Fitted as standard.   | Optional at extra cost.  | Optional at extra cost.   |  |  |  |
|   |  | Eurotherm 3216<br>Programmer, 5 Program   |  |  |  |
| Evenness of the timed programs  | Optional at extra cost   |   |  |  |  |
| Examples of the timed programs:   |  |   |  |  |  |
| Basic Timed Program 8 Segment Timed Program   |  |   |  |  |  |
| Temperature °C  |  |   |  |  |  |
| Ramp Dwell Stop   | R1 D1 R2 D2  | R3 D3 R4 D4 Stop  |  |  |  |

Other instruments can be fitted to order, to give features such as timed programs with more segments, audible alarms, remote communications and data recording. Please contact us for details.

## **Over-temperature Protection Options for Furnaces**

By default TMS offers these furnaces without over-temperature protection as a product to compete with equivalent models from other suppliers. Provided the furnace is not left unattended, this is acceptable. However the Health and Safety Directive mandates that where units are left unattended they must have over-temperature protection fitted.

| OTP 1 | An internally fitted self-resetting temperature limit controller, which users cannot access or change the temperature setting. Protects the furnace from exceeding its maximum safe temperature.  |
|-------|---|
| OTP 2 | A digital temperature limit controller mounted in the front panel. Displays its temperature reading and can be set by the user to protect their load from exceeding their desired temperature. If the furnace temperature exceeds the temperature set on the over-temperature protection controller, the furnace will be prevented from heating until the user resets the over-temperature protection controller, by pressing a button. |

## <u>Chimney</u>

Highly recommend for any process giving off vapour, fumes or carbon. Fitted at the rear.

Whilst most models are normally available from stock, options normally take longer. Please contact us for a quote.

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## <u>Trays</u>

Metal trays are available for all models, manufactured from 310 stainless steel with a maximum temperature of 1100°C. Note that these trays are liable to thermal distortion and degradation under the maximum temperature and so are considered a consumable item. Lower heating rates and temperatures will result in less distortion and aging.

#### Other options

The range is also available with stainless steel exterior (pictured). The lead time is typically 6 - 8 week and the price of the unit and some options are higher. Please contact us for a quote.

We may be able to assist with other bespoke requirements, please contact us for further details.



#### After Sales Service & Warranty

TMS Europe has been stocking and selling the SNOL range since 2008. We hold UK stock of a wide range of spares and accessories and can offer service and repairs at our factory if required at a later date. On-site service and repairs may be available subject to location and the nature of the repair. We also offer a range of on-site calibration services, see our website or contact us for more details.

Each unit has a 1 year return to base warranty from the date of purchase from TMS Europe and covers normal use of the unit in accordance with its instruction manual. It does not cover excessive 'wear and tear' to the soft fibre muffle or damage caused by careless use of the spring assisted door.

On receipt of the unit it is important to check for any transport damage and report it to TMS Europe and note it on the carrier's paperwork. It is recommended to keep the original wooden packaging in case the unit ever needs returning.

Under the warranty any manufacturing defects will rectified by TMS Europe as the agent of the manufacturer at no charge. 'Return to base' means the customer is responsible for return of the unit to TMS Europe's site (Derbyshire, UK) for assessment with a view to repairing under warranty. Or, if necessary, we can provide collection at a cost, provided the unit is suitably packaged. For any work performed that is solely covered by the warranty TMS Europe will provide return shipment of the unit within the UK and Republic of Ireland at no charge. Whilst TMS Europe stocks a range spares and aims to resolve any warranty repairs quickly, typically within 3 - 8 working days, the warranty does not guarantee this or any provision of a loan unit while the customer's unit is with us.



TMS Europe Ltd is a UKAS accredited calibration laboratory No. 0461. We are accredited for calibration on site and in our laboratory.

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Pricing on any accessories shown can be found by keying the part number into the search box on our website. The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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Please contact us if this literature doesn't answer all your questions.