

SNOL Chamber Laboratory Furnaces

Precision laboratory electric furnaces, for use up to 1100, 1200, or 1300°C, from TMS Europe.

Designed for materials testing, heat treatment, ceramic samples firing and ashing/burn-off. Used in laboratories, educational institutions, workshops and in industry for thermal processing.

The chamber is made of high thermal efficiency ceramic fibre, with heating elements both sides and a ceramic tile to protect the fibre base from wear. This construction provides good stability and thermal uniformity, whilst offering low power consumption for reduced running costs and energy savings.

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 pg. 4).

TMS offers these furnaces with a choice of over-temperature protection options, which prevents them exceeding their maximum safe temperature. This feature is recommended if the furnace will be run while unattended (e.g. overnight); to meet Health & Safety and some insurers' requirements.

A natural-convection vent or chimney is fitted as standard at the rear of the furnace. With the option of a fan-assisted chimney being fitted. This is useful for processes producing fumes or giving off carbon (e.g. ashing or burn-off operations).

Our furnaces are available with optional UKAS (ISO 17025) calibration of the temperature control system, and we also offer multi-point thermal surveys of the chamber volume.



We stock a /1100 fibre muffle series with lift-up door, in 5 sizes up 39 litre capacity, for use up to 1100°C.

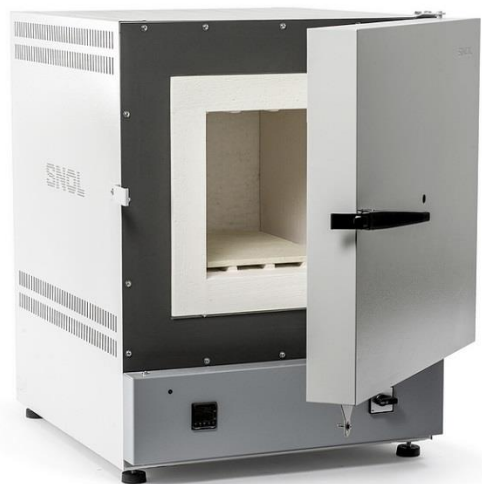
Plus a /1300 fibre muffle series, in 2 smaller sizes for use up to 1300°C.

Many are available for next day delivery or built with options within 1-2 weeks.

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.

SNOL Large Chamber series

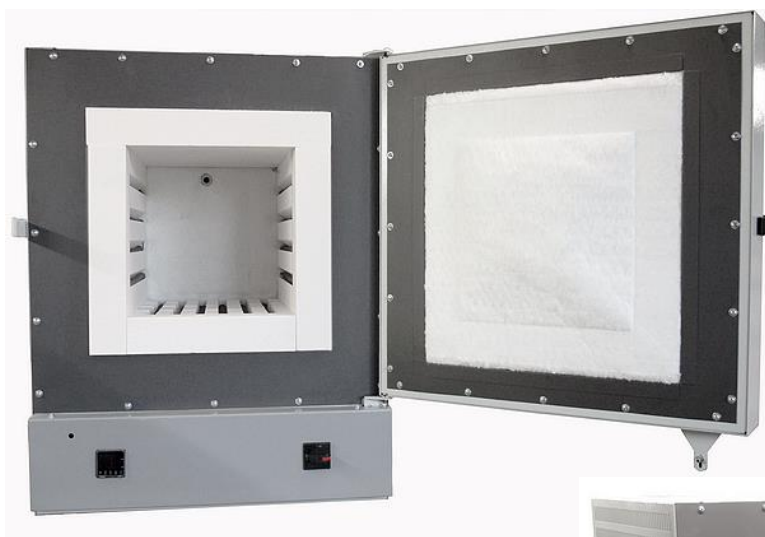
(Relative model sizes between images are not exact.)



30/1100



80/1100



40/1200



30/1300



These units are manufactured in the EU by SnolTherm (Umega Group, AB) to TMS Europe Ltd's specification. Final manufacturing, testing, localisation, customisations, addition of options and after-sale service are performed in the UK by TMS Europe Ltd. TMS was established in 1979 and has offered the SNOL range since 2008.



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SNOL Large Chamber series

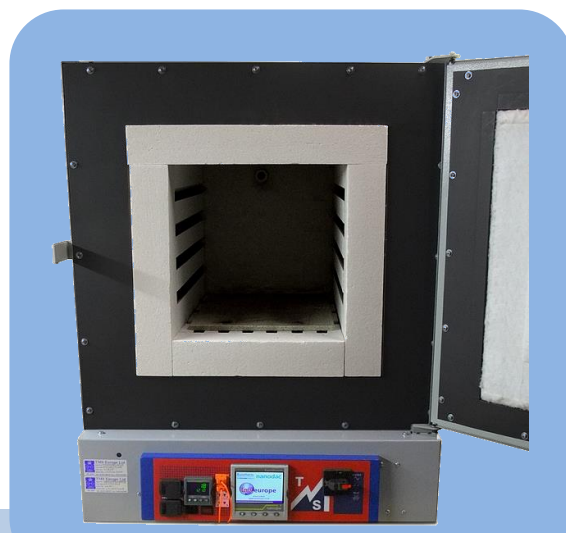
Model	Max. Continuous Temperature, Element Type	Capacity (WxDxH in mm)	External Size (WxDxH in mm)	Voltage / Power / Connector
SNOL 30/1100 LSF01 <i>Bench-top</i>	1100°C <i>Embedded</i>	33 Litres 300 x 405 x 275	640 x 870 x 840	230Vac / 3.4kW Blue 16A Plug
SNOL 80/1100 LSF01 <i>Floor standing</i>	1100°C <i>Embedded</i>	73 Litres 300 x 405 x 600	750 x 870 x 1260	415Vac / 5.4kW Red 16A Plug
SNOL 40/1200 LSF01 <i>Bench-top</i>	1200°C <i>Exposed in grooves</i>	37 Litres 295 x 420 x 295	640 x 870 x 840	230Vac / 3.4kW Blue 16A Plug
SNOL 30/1300 LSF01 <i>Bench-top</i>	1300°C <i>Exposed on tubes</i>	26 Litres 200 x 440 x 290	640 x 870 x 840	230Vac / 4.6kW / Blue 32A Plug

Note: At least 1/10th of the chamber dimensions should be left unused on each side and the load (especially metal parts) must never touch the exposed elements. Capacity Width excludes heating elements. External Size includes chimney. If used below 300°C these units may over-shoot the set temperature, depending on load. WxDxH = Width (Left-right) x Depth (Front-back) x Height (Top-bottom).

Typical these units are built are 'built to-order' models and are available with availability of 4 – 8 weeks delivery. Please contact us for a quote with current lead-times.

Further Specification

	30/1100	80/1100	40/1200	30/1300
Heating Time : (To max temp, no load, no options. Approx.)	150 min	150 min	150 min	150 min
Base Unit Weight :	120 kg	137 kg	120 kg	120 kg
Packaged Transport Weight :	140 kg	174 kg	140 kg	140 kg



We also manufacture an enhanced range of furnaces meeting AMS 2750 and Nadcap compliant. Complete with calibration, under our ISO 17025 (UKAS) accreditation, and thermally surveyed before leaving our factory. With thermal uniformity Furnace Class 2, or better, and Instrumentation Types up to 'A'.

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Temperature Controller Options for Furnaces

1/16 DIN size (~48x48mm) digital PID temperature controllers, with Run/Stop (Auto/Off) modes and settable heating ramp rate. With 1°C display resolution and featuring Autotune which can be used to optimise the control terms for the load, but which is not necessary for most applications. Optional Programmer models allow advanced timed programs (profiles) to be configured.

Other instruments can also be fitted to order, providing additional options, such as audible alarms, remote communications (RS-485 etc) and data logging / recording. Please contact us for further details.



Omron E5CC

(Fitted as standard)

Basic Timed Program:
Ramp, Dwell, Stop.



Eurotherm 3216

Optional at extra cost.

Basic Timed Program:
Ramp, Dwell, Stop.

**Eurotherm 3216 Programmer,
1 Program, 8 Segments**

Optional at extra cost.
(Segments as Ramp+Dwell pairs)

**Eurotherm 3216 Programmer,
5 Program, 8 Segments each**

Optional at extra cost.
(Segments as Ramp+Dwell pairs)



**Eurotherm EPC3016 Programmer,
1 Program, 8 Segments**

Optional at extra cost.

**Eurotherm EPC3016 Programmer,
10 Program, 24 Segments each**

Optional at extra cost.



**Eurotherm EPC3016 Programmer,
with RJ45 Ethernet PC Network Port,**

Optional (when OTP is also fitted) at extra cost:

**1 Program, 8 Segments
10 Program, 24 Segments each**

Connection to a laptop or PC network via Ethernet RJ45 port on front panel. Includes PC software for easier creation, editing and backup of timed programs.

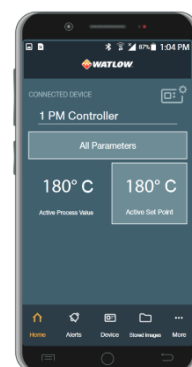


**Eurotherm nanodac Recorder, 1/4 DIN,
with RJ45 Ethernet PC Network Port,
Programmer option**

Contact us for full details and pricing.



Watlow EZ-LINK

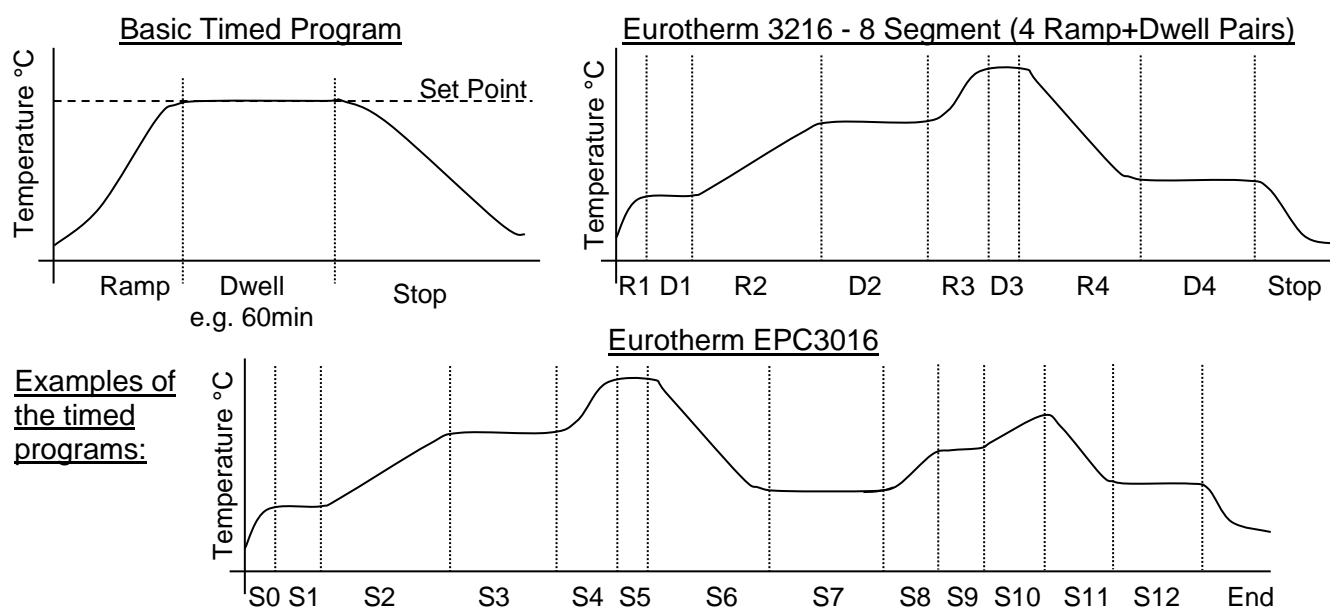


**Watlow PM Plus Programmer,
4 Programs, 10 Segments each,
with Bluetooth for wireless phone app connection**

Optional (when OTP is also fitted) at extra cost.

Contact us for full details.

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Over-temperature Protection Options for Furnaces

TMS offers these furnaces with a choice of over-temperature protection options, preventing it exceeding its maximum temperature. It therefore meets the Health and Safety Directive, which mandates that where units are left unattended they must have over-temperature protection fitted. Additionally over-temperature protection type 'OTP2' can have the maximum temperature set by the operator to protect the load as well as the furnace.

OTP 1	An internally fitted temperature limit controller, which users cannot access or change the temperature setting. Protects the furnace from exceeding its maximum safe temperature. Fitted as standard on 30/1300.
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.

Chimney

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

Natural Convection Vent	Fitted as standard on /1100 & /1200 models. Air is drawn through the chamber, out through a ceramic tube by natural convection. With basic hand guard cover.
Natural Convection Chimney	Fitted as standard on 30/1300. Paid option for others. Air is drawn through the chamber, out through a ceramic tube and up the stainless-steel chimney casing by natural convection. (With stainless steel casing.)
Fan-assisted Chimney	Paid option. A greater amount of air is drawn through the chamber, out through a ceramic tube and up the stainless-steel chimney casing. Air is forced up the chimney casing by a fan blower at the base, increasing the air draw. (With stainless steel casing.)

A suitable fume extraction system or fume cupboard is also required. The cross section of the chimney casing is up to 80x60mm. If using a small extraction hood or tube directly above the chimney, we recommend a few inches of space are left to allow a mixture of ambient air and chimney air to be drawing into the extractor. Also consider some fumes may escape around the door or if it is opened while hot. If the chimney is no longer needed, it can be blocked with suitable high temperature insulation wool (a small amount is supplied).

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Cable Entry Port

A 15mm inside diameter ceramic tube at the rear into the chamber for putting in thermocouples* or other sensor cables.

Suitable high temperature rated material is provided to block the Entry Port. Flanges and objects passing through the Entry Port may get hot and conduct heat outside the chamber. Excessive thermal loading or insufficient insulation in the entry port can have a negative effect on thermal uniformity in the chamber. Ceramic dimensions may vary slightly.

**Thermocouples and metal objects must be suitably earthed and should be fitted by a suitably qualified person. Precautions must be taken to prevent contact with the exposed electric heating elements.*



Accessible Thermocouple Connections

We can fit accessible thermocouple connections (at the rear) to save time with regular calibrations.

Consisting of inline miniature size thermocouple connectors. For use by a suitably qualified person, allowing direct electrical injection onto the instrument(s) sensor input. Units with OTP 2 will have connections for both systems when this option is ordered.

Other options

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

We also stock a /1100 series of 5 sizes for use up to 1100°C and /1300 series of 2 smaller sizes for use up to 1300°C. Some are available for next day delivery or built options in 1-2 weeks.



Calibration of Furnace Systems

UKAS calibration of instrument(s) and thermocouple(s), as a system, at your choice of temperature(s). A calibration certificate is issued reporting the tested system's measurement at each temperature.



TMS Europe Ltd is a UKAS accredited calibration laboratory No. 0461. We are ISO 17025 accredited for calibration on site and in our laboratory, as defined in our Schedule Of Accreditation (see www.tmseurope.co.uk/soa).

Operation & Preparation Notes

- Heating is stopped whilst the door is opened (for safety).
- Before first use of the new furnace a 'burn-off' procedure must be performed which takes 5-8 hours to cure the fibre insulation.
- The low thermal mass insulation fibre of the muffle chamber provides excellent energy efficiently, but it can be worn away if repeatedly rubbed by abrasive items or dented by pointed objects or excessive force. The ceramic hearth tile is intended to stay in the chamber to protect the base against wear. So it shouldn't be regularly slid in and out like a tray, as this may wear the fibre.

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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 rough handling.

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 be 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 of spares and aims to resolve any warranty repairs quickly, 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 ISO 17025 accredited for calibration on site and in our laboratory, as defined in our Schedule Of Accreditation (see www.tmseurope.co.uk/soa).



*Part of a range of
thermal solutions from
TMS Europe*



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