TMS Europe Ltd
Unit 10, Stretfield Mill
Bradwell, Hope Valley
S33 9JT

Tel: 01433 620535
Fax: 01433 621492
Email: sales@tmseurope.co.uk
Web: www.tmseurope.co.uk
www.tmswebshop.co.uk

Cert No. 351
ISO 9001

SNOL 1300°C Laboratory Furnaces

The Fibre Muffle 1300 series from TMS Europe are precision laboratory electric muffle furnaces, with a counter balanced lift-up door, for use up to 1300°C.

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 vacuum-formed ceramic fibre, with heating elements exposed on ceramic tubes on both 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.

TMS offers these furnaces complete with over-temperature protection as standard, 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, we also offer over-temperature protection that can have the maximum temperature set by the operator.

A natural-convection chimney at the rear of the furnace is useful for processes producing fumes or giving off carbon (e.g. ashing or burn-off operations).

These furnaces are available with optional UKAS (ISO17025) calibration of the temperature control system.

- Lift-up door for efficient use of work space and greater safety.
- Over-Temperature Protection as standard, for greater 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.

Model *TMS Stock Code*	**Capacity** *(WxDxH in mm)*	**External Size** *(WxDxH in mm)*	**Voltage / Power / Connector**	**Weight**	**Price**
SNOL 10/1300 LHM01 *FCESNOL10/1300LHM01*	8.6 Litres 180 x 310 x 155	510 x 750 x 640	230Vac / 2.9kW / UK 13A style Plug	39kg	**£2,980**

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. External Size includes chimney. If used below 300°C these units may over-shoot the set temperature, depending on load. Weight is for the standard model and excludes transportation packaging.

Prices Exclude VAT and Delivery and are correct at the time of writing. Specification and price subject to change without notice.

Temperature Controller Options for 1300°C Furnaces

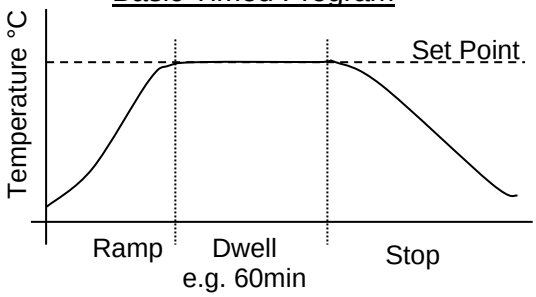
	**Omron E5CC** Fitted as standard.
	1/16th DIN Size Run/Stop Modes Settable Heating Ramp Rate Basic Timed Program: Ramp, Dwell, Stop.

Eurotherm 3216 Optional at extra cost. **+£100**	**Eurotherm 3216 Programmer, 1 Program, 8 Segments** Optional at extra cost. **+£230**	**Eurotherm EPC3016 Programmer, 10 Program, 24 Segments each, RJ45 Ethernet PC Network Port** Optional at extra cost. **+£640**
		
1/16th DIN Size (~48x48mm). Run/Stop (Auto/Off) Modes. Settable Heating Ramp Rate Basic Timed Program: Ramp, Dwell, Stop.	1/16th DIN Size (~48x48mm). Run/Stop (Auto/Off) Modes. Settable Heating Ramp Rate. 8 Segment Timed Program: 4 Ramp+Dwell pairs, Stop.	1/16th DIN Size (~48x48mm). Run/Stop (Auto/Off) Modes. Settable Heating Ramp Rate. 10 Timed Programs with 24 Segments each (Ramp, Dwell, etc). 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 3216 Programmer, 5 Program, 8 Segments each Optional at extra cost. **+£340**	

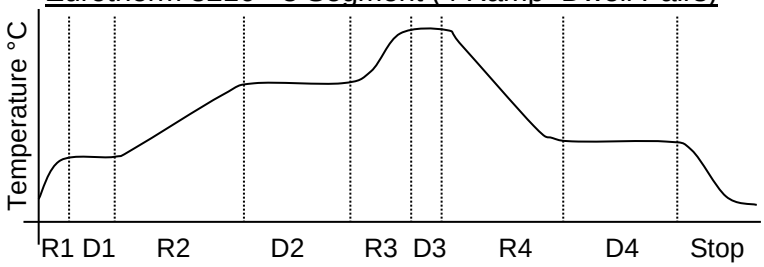
Other instruments can be fitted to order, to give features such as timed programs with more segments, audible alarms, remote communications and data recording. Please contact us for details.

Examples of the timed programs:

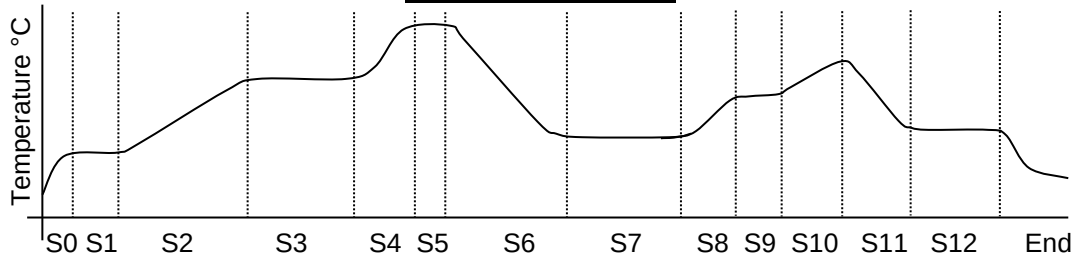
Basic Timed Program



Eurotherm 3216 - 8 Segment (4 Ramp+Dwell Pairs)



Eurotherm EPC3016



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Over-temperature Protection Options for Furnaces

TMS offers these furnaces complete with over-temperature protection as standard, 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 we also offer over-temperature protection that can have the maximum temperature set by the operator.

OTP 1 Fitted as standard.	An internally fitted temperature limit controller, which users cannot access or change the temperature setting. Protects the furnace from exceeding its maximum safe temperature.
OTP 2 +£80	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 Chimney

Natural Convection Chimney Fitted as standard. Air is drawn through chamber, out through a ceramic tube and up the stainless-steel chimney casing by natural convection.
Fan-assisted Chimney +£160 A greater amount of air is drawn through 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.
None -£20

A suitable fume extraction system or fume cupboard is also required. The cross section of the chimney casing is 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).

Cable Entry Port **+£200**

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 **+£60**

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

The range is also available with stainless steel exterior (pictured). The lead time is typically 6 – 8 weeks 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.

Whilst the standard model is normally available from stock, other options normally take longer. Please contact us for a quote with current lead-times.

Larger models are also available to-order (5 – 8 weeks delivery) including a 30 litre 1300°C (pictured) model and a 40 litre 1200°C model with a sideways opening door.

Delivery & Shipping

These units are shipped as a palletised wooden crate, on a courier service which is normally next-day for much of the UK.

Destination	Price	Typical Transit Time
UK Mainland (England, Wales, Scottish Lowlands)	**£85**	1-2 days
UK Scottish Highlands & most UK costal islands	£120	1-3 days
UK Northern Ireland & Republic of Ireland	£120	1-3 days
Other destinations	Please contact us for a quote.	
Collection from our factory (Derbyshire, UK)	£0 (Weekdays, by arrangement.)	

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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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 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, 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.

UKAS CALIBRATION 0461

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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