Wolf Laboratories
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Carbolite High Temperature Ovens

- Maximum operating temperatures of 400°C, 500°C & 600°C
- Chamber capacities of 30, 60 & 120 litres
- Good temperature uniformity
- Fast heat up and recovery times
- Polished stainless steel interior
- Stainless steel shelves with multi position settings
- Choice of controllers & programmers

Options for temperature control or monitoring

Controllers & programmers

All oven products have the choice of on/off control or three term (PID) control for very accurate and stable temperature response, and have the option of a choice of programmers

- **Carbolite 200**
- A low cost on/off version of the 201.
- No ramp to setpoint.
- Limited control stability.

- **Carbolite 201**
- This three term (PID) microprocessor based temperature controller includes an adjustable ramp rate to setpoint, either up or down, and a process timer for either a controlled process duration or a delayed start
- It is a high precision instrument jointly designed by Carbolite and Eurotherm
- The measured temperature is displayed by large LED's in a wipe clean membrane panel
- The temperature setpoint, ramp rate and countdown time are adjusted at the touch of a button

- **Eurotherm 3216P1**
- Made exclusively for Carbolite by Eurotherm.
- An advanced setpoint programming temperature controller with 8 segment pairs, each a ramp and a dwell.
- This configuration of a ramp followed by a dwell cannot be altered.
- Provides precise control with an advanced PID control algorithm giving stable straight-line control of the process.
- Power feedback is used to stabilise the output power and henced the controlled temperature against supply voltage fluctuations.
- The controller continually corrects for drift and this gives high stability and rapid response to process changes.
- **Eurotherm 3216P5**
- Like the Eurotherm 3216P1, except that 5 different programs may be stored for later retrieval.
- The programs cannot be linked.
- Also made by Eurotherm for Carbolite.

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- **Eurotherm 3508P1**
- An advanced setpoint programming temperature controller with twenty segments, any of which may be a ramp, a step or a dwell.
- Housed in a quick release 1/8 din size measuring 48 x 96mm high.
- Features large numeric and text displays to provide additional information of current status to the user.
- Provides the same precise control as the 3216P1 model.
- **Eurotherm 3508P10 & 3508P25**
- Like the 3508P1, but has 10 programs with a total of 50* available segments and 25 programs of 100* respectively.
- Example : a single program of 50 segments could be created.
- The programs may be linked.
- * - The number of segments in the multi-segment models will be increased during 2005.

Overtemperature protection

- Eurotherm 2132 or integrated into 201
- Recommended for use on any unit left unattended overnight
- Housed in a compact 1/32 din size measuring 24 x 48mm wide or integrated into the 201 control panel
- The additional control unit uses a separate thermocouple and operates a contactor to shut down the furnace in the event of the set temperature being exceeded
- The adjustability of the limiting temperature means that the system may be set to protect either the furnace itself, or at a lower temperature a valuable load inside

Calibration certificates

- Various calibration certificates can be provided at the time of the units' manufacture
- For the thermcouple, at three points of your choice
- The certificate is issued by an independent UCAS/NAMAS accredited laboratory, traceable to UK national standards
- For the controller, at three points of your choice
- The certificate is issued by the controller manufacturer
- For thermocouple and controller combined
- The certificate is issued by an independent UCAS/NAMAS accredited laboratory, traceable to UK national standards

Communications & software

- Digital communications can be fitted using
- RS232
- RS485
- or RS485/RS422 via converter
- Data tranmission or data logging can be achieved using software from the iTools range

Chart recorders and DAQs

- A wide range of chart recorders can be fitted
- Single channel
- Dual channel
- or six channel
- A wide range of DAQs are also available, complete with software for reviewing off-line, via a remote computer
- Six channel
- or twelve channel
- Recorders can be provided with calibration certificates

Technical specification information for Carbolite LHT high temperature ovens

Model	400°C 500°C 600°C	LHT 4/30 LHT 5/30 LHT 6/30	LHT 4/60 LHT 5/60 LHT 6/60	LHT 4/120 LHT 5/120 LHT 6/120
Chamber dimensions (mm – h x w x d)		300 x x 300 x 305	400 x 400 x 405	650 x 480 x 405
External dimensions (mm – h x w x d)		570 x 830 x 570	670 x 930 x 670	920 x 1030 x 670
Usable volume (litres)		30	60	120
Heat up time @ 240V (minutes)	400°C 500°C 600°C	50 75 120	50 75 120	50 75 120
Recovery time (minutes)	400°C 500°C 600°C	10 16 20	10 16 20	10 16 20
Temperature stability: On / off control PID control		 ± 1.5°C ± 0.5°C	 ± 1.5°C ± 0.5°C	 ± 1.5°C ± 0.5°C
Temperature uniformity measured @ 600°C		± 5°C	± 5°C	± 5°C
Power (kW)	400°C 500°C 600°C	1 2 2	1.5 2.25 2.0	2.25 3.0 3.0
Number of shelves supplied		2	2	2
Weight (kg)		73	99	179