

Laboratory Ovens



This series of ovens have been designed and engineered using the latest computer aided design to facilitate production of all metal components on the latest CNC controlled production equipment.

The bench top ovens are available in four sizes with a maximum operating temperature of 300°C, whilst the two larger floor standing models are available with a maximum operating temperature of 250°C.

The ovens are constructed for long term reliability and depending on the choice of control system can perform simple drying processes or more complex and demanding heat treatment processes and long term stability testing of materials or components.

Stylish and robust

The outer cases are fabricated from corrosion resistant zinc coated mild steel and finished in two tone hard wearing stoved epoxy/polyester coating. The inner case is constructed from polished stainless steel. All units are provided with non-tilt bright nickel wire plated shelves with multi-position settings for convenient loading and unloading.

Adjustable air ventilation

The chamber ventilation and exhaust vent are easily adjustable from the front control panel, on all bench top models.

Digital temperature control

The control module is able to house many variations of digital instrumentation with simultaneous display of measured and set temperature. Microprocessor based on/off controllers are fitted as standard. Where precise temperature control is more critical, a PID microprocessor based controller is available, also with digital temperature indication.

Economy and efficiency

Insulation around the oven chamber utilises totally encased fibre material. This material has a very low thermal mass and thermal conductivity, ensuring very efficient insulation.

This also ensures reduced holding power, making the units economical to operate once set temperature has been reached.

	Bench Top				Floor Standing		
Model	PF30	PF60	PF120	PF200	PF400	PF800	
Max Temp (°C)	300	300	300	300	250	250	
Chamber Dimensions (mm)	(H) 300 (W) 292 (D) 320	400 392 420	500 492 520	750 592 520	1500 605 510	1500 1200 510	
External Dimensions (mm)	(H) 470 (W) 665 (D) 470	570 765 570	670 865 670	920 965 670	1970 980 720	1720 1585 1000	
Chamber Capacity (litres)	28	66	128	230	400	800	
Weight (Kg)	30	45	60	75	200	280	
Shelves							
(number supplied)	2	2	2	2	3	3	
(max. possible)	3	5	9	15	30	30	
(max dist load/shelf kg)	10	10	10	10	10	10	
(max load kg)	20	30	40	50	75	100	
PERFORMANCE							
Power Rating at 240 V (watts)	1000	1400	2150	2700	6000	9000	
Holding Power * at max. temp (watts)	350	600	800	1100	2200	3500	
Temperature Uniformity * (at max temp as a %)	± 1.4	± 1.4	± 1.5	± 2.0	± 2.0	± 2.0	
Temperature Stability on/off control (°C)	± 1.0	± 1.0	± 1.0	± 1.0	± 1.0	± 1.0	
Temperature Stability PID control (°C)	± 0.2	± 0.2	± 0.2	± 0.4	± 0.2	± 0.2	
Heat Up Times * (mins)	100°C 200°C 240 V 300°C	4.5 12 23	6.0 15 27	4.0 11 22	4.0 11 22	15 40 85	17 45 100
Recovery Times * (mins)	100°C 200°C Door Open 60secs 240 V 300°C	1 2.5 4	1 2.5 4	1 2.5 4	1 2.5 5	10 12 25	12 15 30
Air Exchanges vol (l/h) @ 100°C	(a) 1400 (b) 10,000	1400 10,000	1400 10,000	1400 10,000	12000	12000	
Air Exchanges Exchanges / Hour	(a) 50 (b) 360	21 153	11 79	6 44	30	15	

Note: A uniformity of $\pm 1\% = \pm 1^\circ\text{C}$ at 100°C .

* With vents closed

a) With standard fan

b) With optional exhaust fan

Design Environmental Limited

32 Rassau Industrial Estate

Ebbw Vale, Gwent, NP3 5SD South Wales UK

Telephone: +44 (0)1495 305 555

Facsimile: +44 (0)1495 303 595

E-mail: sales@designenvironmental.co.uk

Website: www.designenvironmental.co.uk

This modern range of ovens provides a combination of excellent performance and reliability.

Options:

- Stoving and Curing option
- Moisture Extraction option
- Trolley
- Viewing window
- Interior light
- Cable port
- Stand
- Extra shelves
- Overtemperature protection - either analogue or digital

All ovens have forced air circulation with a wide choice of control options allowing the most critical performance criteria to be met. Where processes involve the liberation of flammable vapours, a stoving and curing option is available (viewing window and interior light can not be included with the stoving and curing option).. Also, where processes involve large amounts of water, a moisture extraction option is available.

Control Options

The 301 is a three term PID controller, with a large wipe clean display. It has a single ramp to set-point facility and incorporates a process timer function.

Eurotherm 3216 P1 / P5. These are advanced set-point programming temperature controllers, with either one or five eight segment pair programmers. In which each segment pair is a ramp followed by a dwell (the dwell can be set to zero).

Eurotherm 3508 P1 / P10 / P25. This range comprises of enhanced programmers with more display information as well as other addition features that allow for greater control, including at least 16 fully programmable segments.

RS232 (all models) and RS485 (not 301) two-way communications may be fitted as an option at the time of order.

