Other Products and Services from LTE Scientific

LTE Cylindrical Chamber Autoclaves
- 40 to 380 litres capacity

LTE Touchclave Autoclaves
- Autoclaves from 150 to 10,000 litres capacity
- Kill tanks
- Washer-disinfector data-archiving

LTE Thermal Products
- Ovens and incubators from 30 to 1,000 litres
- Cooled incubators
- Freeze-dryers (3-18kg ice capacity)
- Environmentally controlled rooms
- Drying cabinets
- Safety storage cabinets.

LTE Service Centre – UKAS Accredited
- Service
- Maintenance
- Calibration/validation/load testing
- Installation/commissioning
- Sterilizer testing to HTM2010/HTM2031
- Washer-disinfector testing to HTM2030
- Sterilizer upgrades
- Spares
- Training

Please call our sales office or visit our web site for more information.

All dimensions and weights are approximate.

As a progressive company, we continually strive to improve our products and reserve the right to make changes without prior notice. E&OE

FM23948

UKAS CALIBRATION 0617

INVESTOR IN PEOPLE

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LTE Scientific Ltd.

Thermal Products

Contents

Thermal and Laboratory Equipment

Established since 1947, LTE Scientific is one of Europe's leading manufacturers of high quality laboratory and process equipment. Our products are renowned for their reliability, utility and outstanding value for money.

LTE is ISO9001:2000 accredited and every product carries the relevant CE mark.

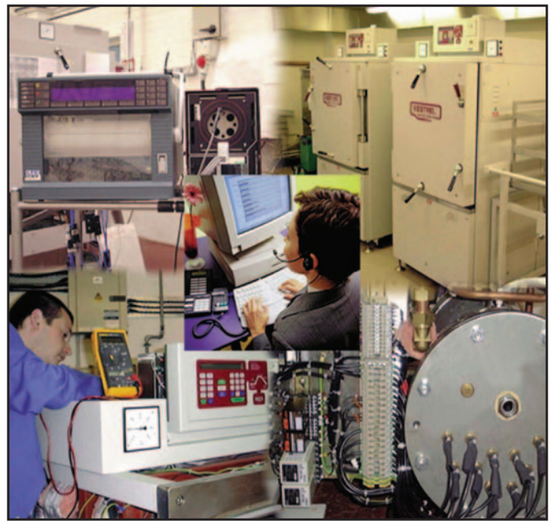
This catalogue lists many of the products that LTE manufactures with the exception of those ranges listed on page 3, such as autoclaves, which are detailed in separate literature.

We have provided as much information as possible in this catalogue, to assist you in selecting the correct product for your application. However, if you require further information or assistance, please feel free to contact our sales office or one of our approved distributors.

Service Centre - *after sales care and support*

LTE Scientific has established its reputation over more than 50 years as a leading European manufacturer of sterilizers, incubators, ovens and other thermal laboratory equipment. Not only does the company place great emphasis on the quality and reliability of its products, it is also committed to providing the highest levels of after sales and customer care.

LTE quality procedures are approved to the ISO 9001:2000 international standard. Our Service Centre is accredited by UKAS as well HTM2010 and HTM2030 for calibration services.



What do we offer?

- The maintainance and calibration facilities.
- LTE employs a nationwide team of skilled Service Engineers, supported by Service Centre Technical Specialists.
- We maintain a large stock of spare parts and pride ourselves on the speed and quality of response.

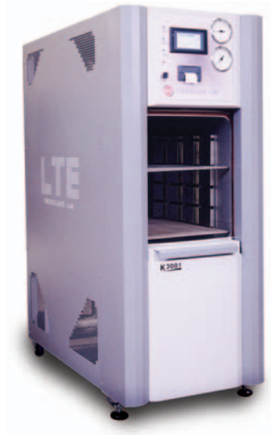
The extensive customer care offered by our Service Centre includes:

- UKAS Calibration covering Temperature, Pressure and Time
- Maintenance Service Contracts
- Installation and Commissioning
- Thermometric Load Tests/Validations
- Spare Part Supply
- Emergency Breakdown Service
- In-House Repair Service
- Training
- Modifications and Upgrades
- Application Support and Helpline

Our track record is your guarantee of the quality and value you will receive as an LTE Service Centre customer. Call our Service Centre or e-mail them direct on service@lte-scientific.co.uk to discuss your requirements.

Other Products

Whilst we have listed most of our major thermal product lines in this brochure, LTE offers a much wider range of laboratory and process equipment, for which separate brochures are available. Below is a brief summary of the other products we can supply.



Autoclaves

LTE Scientific manufactures a wide range of autoclaves for the laboratory, healthcare, pharmaceutical and research markets. The LTE product portfolio is extensive with working capacities ranging from 30 to 10,000 litres. All products meet the latest UK and European standards. In addition, we provide autoclaves that meet the specific requirements of HTM2010, EN285, GAMP4 and 21CFR11.

LTE has enormous experience in providing solutions for high security and clean/pure steam applications.

Both single entry and pass-though models are available.

For the laboratory market, the new Touchclave-Lab™ range has quickly established itself as a market leader thanks to its high level of standard equipment and superb performance. Features of this range include water-jacketed vessels, sliding doors, touch screen controls and internal data archiving.

Brochures are available for all the above product ranges. To receive a copy, please call our sales office.

Safety Storage Cabinets

Designed for the safe storage of acids or flammable liquids. These cabinets are compliant with current COSHH regulations. A number of sizes are available to suit all storage requirements in the workplace.

Solution Warming Cabinets

LTE leads the market with its Kingfisher™ solution and blanket warming cabinets. For use in hospital operating theatres, ICU, SCBU or on the ward. These cabinets will warm irrigation and infusion fluids, filled syringes, ointments and blankets.

Other LTE Products

- Data Acquisition Systems
- Flameproof Ovens
- Dry Heat Sterilizers
- Magnetic Stirrers

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OP Series Ovens

Description

The OP Series™ of ovens offers maximum flexibility and unparalleled performance for the ever-increasing demands of today's laboratory and process facility.

Traditional quality coupled with built-in reliability and outstanding features and benifits means that the OP Series represents excellent value.

Flexibility – The OP Series is available in 5 sizes from 30 to 250 litres. Customers can choose between fan circulated or natural convection options, plus there is a choice of PID control systems to suit most applications as detailed below:

'U' Models: This Uni-program system offers single temperature selection and control at the push of a button. Following a mains power failure, the controller will automatically re-instate. Timers are fitted to all 'U' models.

'M' Models: Our powerful new Multi-program controller will allow up to 8 multiple-step cycles to be stored in the memory at any one time. It also incorporates a selectable temperature ramping function, which allows controlled temperature rise and fall rates to be easily programmed into a cycle. At the end of a program sequence, the controller can be programmed to stop or repeat the sequence again. In addition the repeat function can be programmed for a specified number of repeats or it can repeat continuously until interrupted. Following a mains power failure, 'M' models have three recovery options (cycle hold, start cycle from the beginning or re-start cycle from point of interruption).

RS232 or RS485 communication ports can be added to all 'M' models.

Performance – Fast heat-up times, almost undetectable overshoot and superb accuracy (see table below) ensures the OP Series is ahead in its class.

All OP Series ovens incorporate a manual reset over-temperature cut-out, in line with IEC1010-2-010.

Larger oven capacities available. See page 7

Features

- Choice of PID temperature control systems
- Temperature range 40 to 250°C
- Digital display of set and actual temperatures (and programmed features on 'M' Models)
- Communication port options
- Class 2 Over temperature protection
- Stainless steel radiused interiors
- Removable shelf runners
- Adjustable vent
- Choice of natural convection or fan circulated
- Sizes from 30 to 250 litres

Technical and Ordering Information

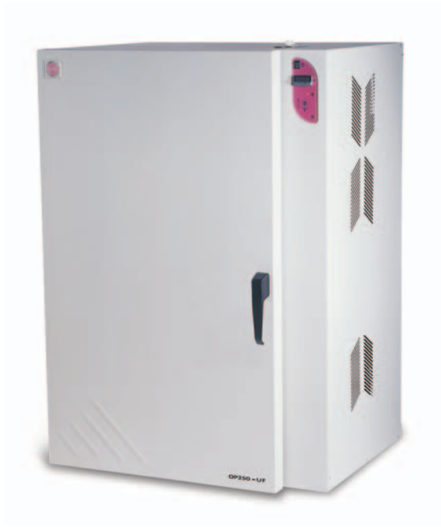
OP Series : 40 to 250°C*

Model & Cat. No 'U' Models	Model & Cat. No 'M' Models	Cap. litres	Air Circulation	Internal Dims. HxWxD (mm)	External Dims. HxWxD (mm)	Fluctuation, ± %	Spatial Variation (empty) ± %*	Shelves/ positions/ mass, kg	Power Rating, (Watts)
OP30-U	OP30-M	30	Natural convection	350 x 300 x 300	540 x 635 x 475	Fan circulation 0.2	3.0	2/5/35	750
OP30-UF	OP30-MF		Fan circulation				1.0		750
OP60-U	OP60-M	60	Natural convection	400 x 400 x 400	590 x 735 x 575		3.5	2/6/50	850
OP60-UF	OP60-MF		Fan circulation				1.0		1000
OP100-U	OP100-M	100	Natural convection	500 x 500 x 400	690 x 835 x 575	Natural convection 0.25	3.5	2/8/60	1000
OP100-UF	OP100-MF		Fan circulation				1.5		1300
OP150-U	OP150-M	150	Natural convection	600 x 500 x 500	790 x 835 x 675		3.5	2/10/80	1500
OP150-UF	OP150-MF		Fan circulation				1.5		1600
OP250-U	OP250-M	250	Natural convection	1000 x 500 x 500	1190 x 835 x 675		4.0	3/18/120	1950
OP250-UF	OP250-MF		Fan circulation				2.0		2500

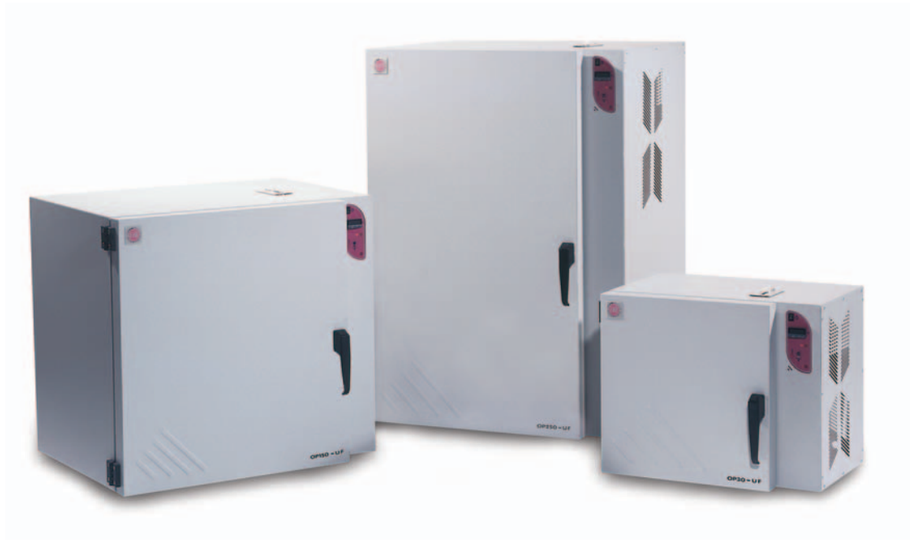
* Performance tests carried out in ambient temperatures of 20 to 22°C

Options and Accessories

Cat. No.	Description
OA002	Independent printer
OA005	Access port, 18mm
OA006	Stacking kit (except 250 litre size)
OA007	RS232 Communication port
OA008	RS485 Communication port
SC001	Calibration certificate
SC002	12-point test certificate
SH001	Shelf for 30-litre models
SH002	Shelf for 60-litre models
SH003	Shelf for 100-litre models
SH004	Shelf for 150-litre models
SH005	Shelf for 250-litre models



OP 250



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Drying Cabinets

Description

LTE offers a wide selection of laboratory drying cabinets. From bench and wall-mounted versions to large floor-standing models. With capacities from 100 to 1000 litres, there will be a model to suit your particular requirements.

Filtered Air Drying Cabinet

- The fine filter on this model reduces the amount of contamination entering the cabinet, thereby ensuring a cleaner environment for freshly washed items.
- The temperature is thermostatically controlled and the system is protected by an over-temperature cut-out device.

Economy Drying Cabinets

- This range of large capacity cabinets provides efficient drying at an economical price.
- All models have heaters situated below a perforated base plate and are vented from the top. Fan extraction models draw the moist air upwards and direct it to the outside.
- Temperature control is by means of an energy regulator. Single or double toughened glass doors are provided, dependent on the model chosen.

Sliding Door Drying Cabinets

For straightforward natural convection drying, this bench or wall-mounted range represents excellent value for money. There is a choice of stainless steel or epoxy coated finish.

Features

Filtered Air

Filtered Air
- Filtered air intake
- Fan circulation
- Safety cut-out

Economy

Economy
- Choice of natural convection or fan extraction
- Choice of two sizes
- Fully adjustable shelving

Sliding Door

Sliding Door
- Stainless steel or epoxy coated exterior.
- Choice of two sizes
- Bench or wall mounted

Technical and Ordering Information

Drying Cabinets

Drying Cabinet Type	Cat. No.	Cap. litres	Air Circulation	Max Temp. °C	Internal Dims. HxWxD (mm)	External Dims. HxWxD (mm)	Shelves/ positions	Mass kg	Power Rating, (Watts)
Filtered Air	322/0105/00	534	Fan circulated	80	1115 x 785 x 610	1380 x 790 x 640	3/6	49	3000
Economy	322/0106/00	545	Natural convection	65	1480 x 625 x 590	1630 x 635 x 610	4/28	73	1500
	322/0108/00		Fan circulated						
Economy	322/0107/00	1000	Natural convection	65	1480 x 1150 x 590	1630 x 1160 x 610	4/28	124	2500
	322/0109/00		Fan circulated						
Sliding Door Epoxy Coated	322/0103/00	100	Natural convection	85	425 x 778 x 302	520 x 780 x 330	2/21	16	650
	322/0104/00	180			555 x 995 x 325	650 x 1000 x 350	2/35	27	1150
Sliding Door Stainless Steel	322/0101/00	100	Natural convection	85	425 x 778 x 302	520 x 780 x 330	2/21	16	650
	322/0102/00	180			555 x 995 x 325	650 x 1000 x 350	2/35	27	1150

Qualivac Vacuum Oven

The LTE Qualivac™ range is manufactured with rectangular vacuum chambers which allow considerably more working space than conventional vacuum ovens.

- The rectangular stainless steel working chambers have capacities of 63 and 125 litres and are constructed to withstand absolute vacuum.
- There is a toughened glass panel in the door giving good visibility into the chamber.
- The ovens are heated by means of electrical heaters clamped on both sides, top and bottom of the chamber, thus ensuring even heat distribution and the elimination of possible cold spots.
- The aluminium shelves conduct heat rapidly to the load. An over-temperature cut-out device is included as standard.

Features

- Stainless steel rectangular chamber
- 63 and 125 litre capacity
- Glass door
- Heated on four surfaces

63 litre Vacuum Oven

Technical and Ordering Information

Vacuum Oven : 50°C to 250°C

Model	Cat. No.	Cap. litres	Vacuum gauge range, mm/Hg	Internal Dims HxWxD (mm)	External Dims HxWxD (mm)	Shelves/ Positions	Mass, Kg	Power Rating (Watts)
Qualivac 63	322/0532/00	63	0-760	400 x 350x 450	575 x 710 x 538	3/5	91	2000
Qualivac 125	322/0533/00	125		500 x 500 x 500	700 x 875 x 650	3/3	140	3000

Options and Accessories

Cat. No.	Description	Cat. No.	Description	Cat. No.	Description
FP/PMP/02/0	2-stage vacuum pump	322/0533/10	Shelf for 322/0533/00	322/0532/10	Shelf for 322/0532/00

Swallow Large Capacity Ovens & Incubators

Swallow™ large capacity ovens and incubators offer precise control and are designed to meet the ever increasing demands of the modern laboratory and process facility.

- Using the latest in microprocessor technology these products are simple to operate and are controlled by means of a microprocessor system, offering precise temperature control, fast heat-up times and almost undetectable overshoot.
- The process timers and delayed start timers are each programmable from 1 minute to 99 hours 59 minutes.
- All models allow up to 3 time/temperature profiles to be programmed within one cycle.
- An RS232 communication port can be added to transfer information to an intelligent receiver.
- Swallow ovens and incubators meet fully the requirements of IEC 1010-2-010 Class 2.

Features

- Touch-pad microprocessor control system
- Watchdog system with display
- Multi-profile as standard
- Class 2 Over-temperature protection
- Radiused stainless steel interiors
- Fan circulated
- Sizes from 480 to 1000 litres

Swallow 480

Technical and Ordering Information

Model/Cat. No.	Cap. litres	Temp range °C	Air circulation	Internal Dims. HxWxD (mm)	External Dims. HxWxD (mm)	Fluctuation ±°C	Variation ±°C	Shelves/ positions	Power, Kw
SWALLOW 480 Oven - LO/SWL/20/1 Inc - LI/SWL/20/1	480	Ovens: 40 to 250 Incs: Amb +5 to 100	Fan Circulated	1000 x 720 x 670	1270 x 870 x 865	0.2	Oven : 4.0 Inc: 1.5	19/3	Oven : 4.0 Inc : 1.5
SWALLOW 750 Oven - LO/SWL/42/1 Inc - LI/SWL/42/1	750			1000 x 1120 x 670	1270 x 1270 x 865		Oven : 5.0 Inc : 2.0	19/3	Oven : 6.4 Inc : 2.0
SWALLOW 1000 Oven - LO/SWL/50/1 Inc - LI/SWL/50/1	1000			1275 x 1120 x 700	1655 x 1270 x 1025		Oven : 6.0 Inc : 2.6	23/3	Oven : 8.0 Inc : 3.0

IP Series Incubators

Description

The IP Series™ of incubators offers maximum flexibility and unparalleled performance for the ever increasing demands of today's laboratory. Traditional quality and modern manufacturing techniques linked with built-in reliability mean that the IP Series represents excellent value.

Flexibility – The IP Series is available in 5 sizes from 30 to 250 litres. Customers can choose between fan circulated or natural convection options, plus there is a choice of PID control systems to suit most applications as detailed below:

'U' Models: This Uni-program system offers single temperature selection and control at the push of a button. Following a mains power failure, the controller will automatically re-instate. Timers are fitted to all 'U' models.

'M' Models: Our powerful new Multi-program controller will allow up to 8 multiple-step cycles to be stored in the memory at any one time. It also incorporates a selectable temperature ramping function, which allows controlled temperature rise and fall rates to be programmed into a cycle. At the end of a program sequence, the controller can be programmed to stop or repeat the sequence again. The repeat function can be programmed for a specified number of repeats or it can repeat continuously until interrupted. Following a mains power failure, 'M' models have 3 recovery options (cycle hold, start cycle from the beginning or re-start cycle from point of interruption).

RS232 or RS485 communication ports can be added to all 'M' models.

All 'M' models are fitted with an inner glass door as standard.

Performance – Fast heat-up times, almost undetectable overshoot and superb accuracy (see table below) make the IP Series a class-leading product.

All IP Series incubators incorporate a manual reset over-temperature cut-out, in line with IEC1010-2-010.

Larger incubator capacities available. See page 7

Features

- Choice of PID temperature control systems
- Temperature range 30 to 100°C*
- Digital display of set and actual temperatures (and programmed features on 'M' models)
- Communication port options
- Class 2 Over-temperature protection
- Stainless steel radiused interiors
- Removable shelf runners
- Adjustable vent
- Choice of natural convection or fan circulated
- Sizes from 30 to 250 litres

Technical and Ordering Information

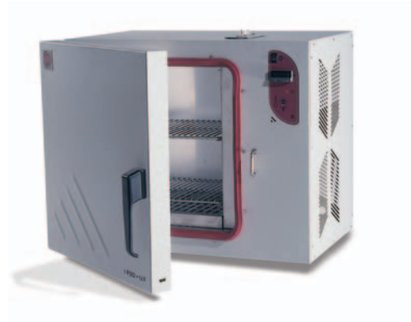
IP Series : 30 to 100°C*

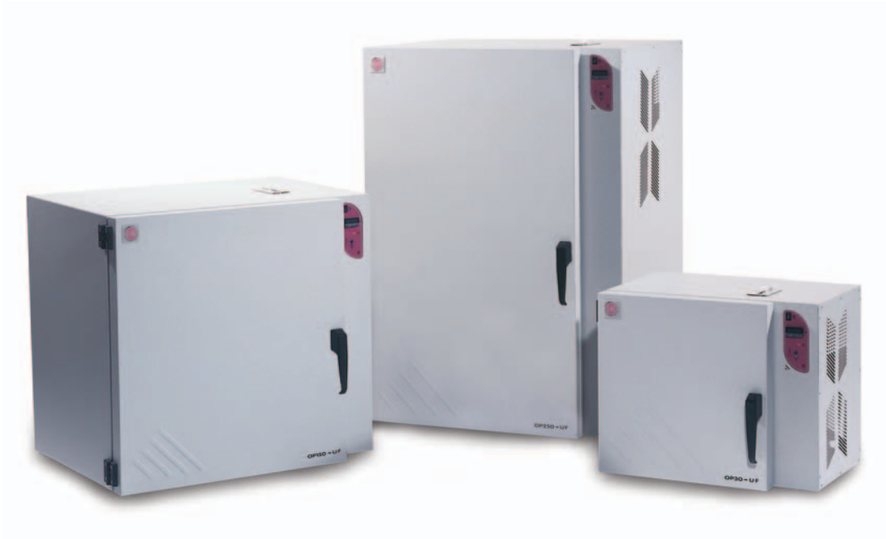
Model & Cat. No 'U' Models	Model & Cat. No 'M' Models	Cap. litres	Air Circulation	Internal Dims. HxWxD (mm)	External Dims. HxWxD (mm)	Fluctuation, ± %	Spatial Variation (empty) ± %*	Shelves/ positions/ mass, kg	Power Rating (Watts)
IP30-U	IP30-M	30	Natural convection	350 x 300 x 300	540 x 635 x 475	Fan circulation 0.25	2.75	2/5/35	200
IP30-UF	IP30-MF		Fan circulation				1.25		150
IP60-U	IP60-M	60	Natural convection	400 x 400 x 400	590 x 735 x 575		2.75	2/6/50	300
IP60-UF	IP60-MF		Fan circulation				1.5		200
IP100-U	IP100-M	100	Natural convection	500 x 500 x 400	690 x 835 x 575	Natural convection 0.50	2.75	2/8/60	375
IP100-UF	IP100-MF		Fan circulation				1.5		250
IP150-U	IP150-M	150	Natural convection	600 x 500 x 500	790 x 835 x 675		4.0	2/10/80	650
IP150-UF	IP150-MF		Fan circulation				1.5		350
IP250-U	IP250-M	250	Natural convection	1000 x 500 x 500	1190 x 835 x 675		5.0	3/18/120	1050
IP250-UF	IP250-MF		Fan circulation				2.0		500

* Performance tests carried out in ambient temperatures of 20 to 22°C

Options and Accessories

Cat. No.	Description
OA002	Independent printer
OA003	Inner glass door ('U' models only)
OA005	Access port, 18mm
OA006	Stacking kit (except 250 litre size)
OA007	RS232 Communication port
OA008	RS485 Communication port
SC001	Calibration certificate
SC002	12-point test certificate
SH001	Shelf for 30-litre models
SH002	Shelf for 60-litre models
SH003	Shelf for 100-litre models
SH004	Shelf for 150-litre models
SH005	Shelf for 250-litre models





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Qualicool Cooled Incubators

Description

The LTE range of Qualicool™ cooled incubators has been designed to meet the most stringent and demanding performance and reliability requirements.

A choice of microprocessor control systems is available to suit most applications.

The uni-profile microprocessor control system offers precise temperature control along with delayed start and process timers. Each timer is programmable from 1 minute to 99 hours 59 minutes.

As an option, a multi-profile upgrade can be fitted to most models offering up to three temperature/time profiles, which can all be programmed within one cycle. Each hold period can be programmed from 1minute to 99hrs 59mins This is particularly useful where resuscitation techniques are being employed, such as with Coliform and E.Coli detection.

A special feature of the multi-profile Qualicool is the unique fridge initiation system which automatically isolates the refrigeration unit when an operating temperature of more than 10°C above ambient is programmed into the cycle, thus avoiding the need for manual intervention

The new Qualicool 70 has been designed to maximise internal sample storage. This has been achieved by use of a unique fan arrangement leaving the interior completely unencumbered, allowing additional shelf space to be utilized. The Qualicool 70 has been found to offer 35% extra storage space when compared to similar products.

An RS232 communication port can be added to all models to transfer information to an intelligent receiver.

Features

- Range of sizes : 70 to 410 litres
- Microprocessor temperature control
- Fan assisted air circulation via pre-mixing chamber
- Over-temperature protection
- Hermetically sealed refrigeration system
- Automatic fridge initiation system on multi-profile models
- Lockable doors
- Doors can be RH or LH hinged
- Temperature range, +2°C to +50°C
- Close temperature control
- Easy to clean, white coated exterior
- High impact ABS interior

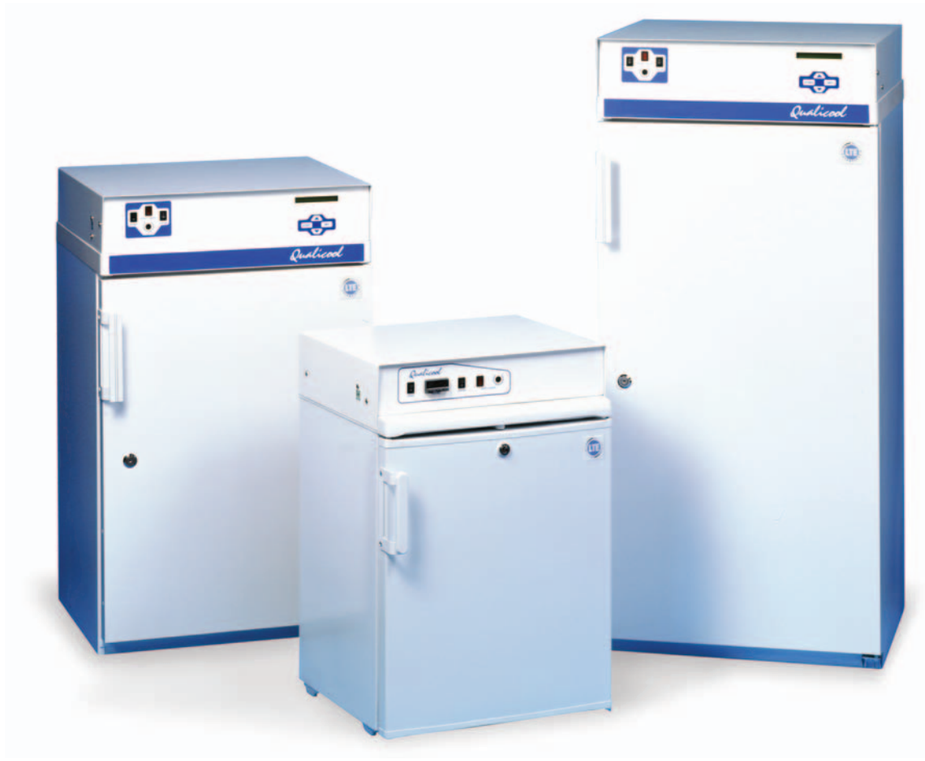
Technical and Ordering Information

Model	Cap. litres	Cat. No	Control System	Working Interior Dimensions HxWxD (mm)	External Dimension HxWxD (mm)	Variation °C	Weight Kg area	No. of Shelves/
Qualicool 70	70	LI/QLC/05/1	Uni-profile	330 x 440 x 345	750 x 495 x 510	At +10°C : ±1 At +37°C : ±0.4	37 (445 x 335)	2
Qualicool 180	133	LI/QLC/01/1	Uni-profile	584 x 513 x 420	1010 x 602 x 600	At +10°C : ±1 At +37°C : ±0.4	42 (510 x 405)	3
		LI/QLC/11/1	Multi-profile					
Qualicool 260	194	LI/QLC/02/1	Uni-profile	897 x 513 x 420	1340 x 602 x 600	At +10°C : ±1 At +37°C : ±0.4	49 (510 x 405)	4
		LI/QLC/12/1	Multi-profile					
Qualicool 360	275	LI/QLC/03/1	Uni-profile	1268 x 513 x 420	1714 x 602 x 600	At +10°C : ±1 At +37°C : ±0.4	64 (510 x 405)	5
		LI/QLC/13/1	Multi-profile					
Qualicool 500	410	LI/QLC/04/1	Uni-profile	1188 x 646 x 503	1640 x 755 x 715	At +10°C : ±1.2 At +37°C : ±0.7	79 (645 x 495)	5
		LI/QLC/14/1	Multi-profile					

Tests at 37°C carried out with refrigeration system switched off

Options and Accessories

Cat. No.	Description
LI/SWL/50/0	RS 232 Interface
FI/QLC/86/0	Interior Illumination c/w 24hr or 7 day timer
FI/QLC/87/0	High/Low Temperature cut-out with alarm
FI/QLC/88/0	Access port (up to 18mm dia)
FI/QLC/90/0	Chart recorder (single pen)
FI/QLC/92/0	Internal splash-proof 13A socket
SH006	Shelf for Qualicool 180
SH007	Shelf for Qualicool 260
SH008	Shelf for Qualicool 360
SH009	Shelf for Qualicool 500



Qualicool 70, 260, & 500

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Freeze-Dryers

Description

Ideal for the majority of laboratory, light process and pilot-scale applications, the Lyotrap™ range provides cost-effective and reliable freeze-drying.

Mini-Lyotrap™
LTE smallest bench-top freeze-dryer still has an ice capacity of 3kg and represents excellent value. Taking up minimal bench space, the Mini-Lyotrap is ideal for all common freeze-drying applications and can be used as a cold trap for single or multiple units.

Lyotrap™
This simple to use, microprocessor-controlled bench-top model is packed with useful features. The Lyotrap incorporates an electric defrost facility, displays temperature and vacuum parameters digitally and incorporates a safety system which prevents the vacuum pump being activated until the temperature has reached -30°C

Lyotrap-Plus™
This unique bench-top freeze dryer has all the features of the Lyotrap, but also incorporates a built-in temperature controllable work chamber complete with three shelves. Four floating temperature probes allow the load temperatures to be monitored, and as an option, the unit can be monitored and controlled via a remote PC.

Lyotrap-Ultra™
The largest LTE freeze-dryer has an 18kg ice capacity. With the same controls and features as the Lyotrap, the Lyotrap-Ultra is ideal for high product volumes and long running times before defrost. It is well suited for multi-user laboratories and pilot-scale applications. The Lyotrap-Ultra includes an integral vacuum pump and is floor standing.

Features

- Choice of 4 models from 3 to 18kg ice capacity
- Large range of accessories
- Compatible with 'Edwards' accessories
- Simple and safe to operate
- Corrosion resistant refrigeration systems
- CFC-Free Refrigerant
- Simple installation
- Stainless steel chamber
- -55°C capability
- Flexible applications
- Built to ISO9001
- CE Marked

Freeze-drying using...

Flasks
The sample in the flask would be pre-frozen before being freeze-dried. A popular method of freezing liquid sample is to rotate the flask in a pre-freezing bath. This has the benefit of providing a thin film of frozen material around the inside of the flask which improves the efficiency and overall speed of the freeze-drying process.

Flasks are usually placed onto a suitable manifold for freeze-drying, many of which are available. Column manifolds are ideal if you are freeze-drying flasks and jars only. Drum manifolds or the acrylic chamber fitted with a manifold lid will allow more flexibility in the type of product to be freeze-dried.

Trays or Shelves
Again, product would be pre-frozen before freeze-drying. Using our standard shelf arrangement, samples would be placed onto the shelves directly. For drying using the tray and support option, samples would be pre-frozen on the trays provided and slotted onto the rack. Up to 6 trays could be freeze-dried at any one time. Temperature-controlled heater mats can be supplied for this application.

Vials
Freeze-drying in vials requires the use of a stoppering shelf arrangement, connected to the required base unit. This stoppering system, which is manually operated, will allow up to 500 vials to be dried at once, with a maximum vial height of 50mm. It is supplied complete with suitable trays and an acrylic vacuum chamber. Optional temperature-controlled heater mats will allow improved drying rates.

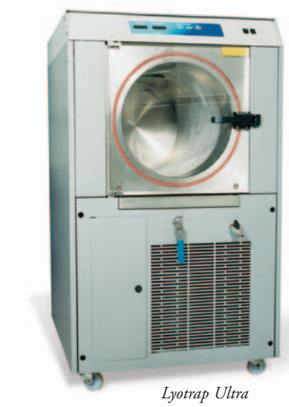
Ampoules
Following pre-freezing the ampoules would be freeze-dried using either a single or double manifold arrangement, each manifold capable of holding 48 ampoules. Following freeze-drying it is then normal to seal the ampoules using a fine flame technique.

The Base Unit

Model/ Cat. No.	Ice capacity	Compressor HP	Heat extraction rate (-40°C)	Min Temp °C	Condenser chamber dims. dia x D (mm)	Overall dims. HxWxD (mm)	Recommended vacuum pump
Mini-Lyotrap LF/LYO/02/1	3kg	0.5	80W	-55	175 x 130	450 x 500 x 400	
Lyotrap LF/LYO/01/1	5kg	0.66	170W		175 x 300	470 x 650 x 535	FP/PMP/01/0
Lyotrap-Plus LF/LYO/03/1	4kg	0.66	220W		200 x 222	580 x 920 x 500	
Lyotrap-Ultra LF/LYO/03/1	18kg	0.5	350W		350 x 655	1180 x 670 x 760	Included

Accessories

Cat. No.	Description
LF/LYO/01/0	Acrylic drying chamber, 240mm internal dia x 300mm high.
LF/LYO/02/0	Stainless steel 4-shelf unit, 220mm dia. Foracrylic chamber.
LF/LYO/03/0	8-port flask manifold lid, including 8 x 3/4′ quickseal valves.
LF/LYO/04/0	Cold trap lid with hose for solvent recovery vacuum pump protection.
LF/LYO/05/0	Drying chamber plain lid, 250mm dia x 20mm thick.
LF/LYO/06/0	16-port drum manifold
LF/LYO/07/0	24-port drum manifold
LF/LYO/08/0	6-tray shelf support to fit inside drum manifold (if LF/LYO/11/0 fitted) or acrylic chamber
LF/LYO/09/0	8-port column manifold
LF/LYO/10/0	24-port column manifold
LF/LYO/11/0	Temperature-controlled heater mat arrangement (6 mats)
LF/LYO/20/0	Stoppering shelf arrangement
LF/LYO/30/0	48-port ampoule manifold
LF/LYO/31/0	Acrylic lid with fitting and clamp to accept ampoule manifold
LF/LYO/32/0	Split manifold plus clamps to allow 2 x LF/LYO/30/0 to be fitted
LF/LYO/45/0	Pre-freeze bath (-40°C)
LF/LYO/50/0	1m vacuum hose and clamp to fit Lyotrap, plus KF25 hose for vacuum pump
LF/LYO/51/0	2-off 'L' section rubber gaskets for drying chamber
FP/PMP/01/0	VRC100 vacuum pump plus oil mist filter.



Lyotrap Ultra

Lyotrap with stoppering shelf arrangement

Mini Lyotrap

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Environmentally Controlled Rooms

Description

From small reach-in chambers to a suite of large modular capacity walk-in (or even drive-in) rooms – LTE designs customised solutions in applications where precise environmental control is a prime requirement. Typical applications are:

- Stability testing for pharmaceutical products
- Shelf life experiments in the food industry
- Packaging research and trials
- Bulk cell culture in biotechnology applications
- Large scale incubation
- BOD tests in water analysis
- Plant growth
- Industrial environmental testing applications

Rooms are typically built to operate at temperatures between –20°C and +70°C. Normally our rooms are supplied within accuracy limits of ±2°C. However, a special roof plenum and floor ducting system can be incorporated where an enhanced performance of ±1°C is required. Humidity is normally controlled within ±5%. Where applicable, LTE rooms comply with the climatic simulation requirements laid down in current ICH guidelines

The control systems encompass precise electronic temperature controllers and indicators, over-temperature protection with alarms and other indicators, temperature recorders (optional), interior lighting, occupancy warning light, internal door release mechanism, and an audible occupancy alarm activated by people within the room. Additional control equipment is included to meet particular humidity specifications.

Optional equipment supplied can include:

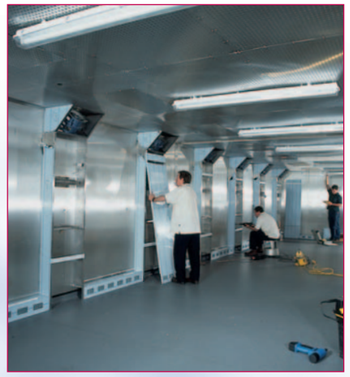
- Data acquisition systems to record temperature and, if required, humidity information and download it to an intelligent receiver or PC
- De-mineralised water systems where humidity control is required.
- Dual-run/back-up systems which ensure constant running of the rooms, even in the event of routine servicing or maintenance – ideal in long-term test applications.

All environmental rooms are built on modular construction principles using panels manufactured from high density polyurethane foam sandwiched within a skin of galvanised sheet steel. The normal finish is white pvc, although stainless steel linings can be incorporated if requested. A range of floor finishes are available – for example, seamless vinyl, galvanised steel, or rigidised aluminium. Rooms may be fitted with shelving manufactured from coated steel, aluminium, stainless steel, or other materials. Electrical fittings, drains, and enhanced lighting are supplied according to specified requirements.

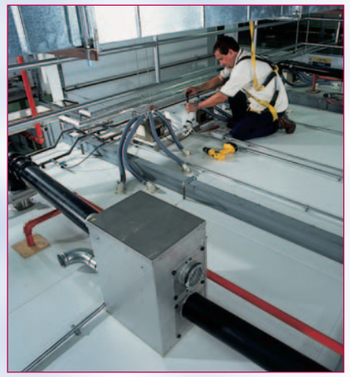
The initial step is for the customer to request us to carry out a site inspection. The survey is without commitment, following which we will submit our proposal for the most cost-effective solution.

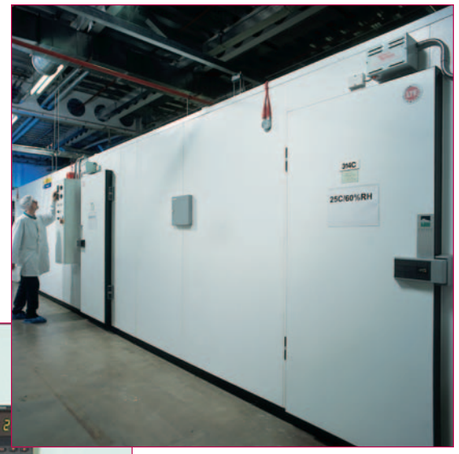
Features

- Custom built to your requirements
- Simple to install - simple to relocate
- Modular construction
- Close temperature and humidity control
- Dedicated project management
- Electrical installations comply fully with current IEE regulations
- Full calibration and validation service

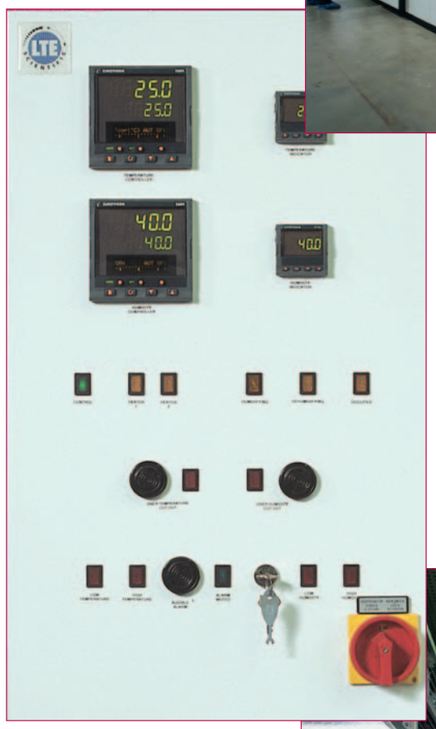


Typical Installation

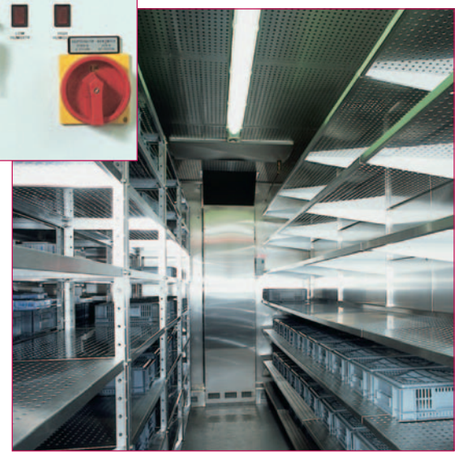




3 Compartment Suite



Temperature / RH Control System



Typical Shelving Arrangement

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Wolflabs

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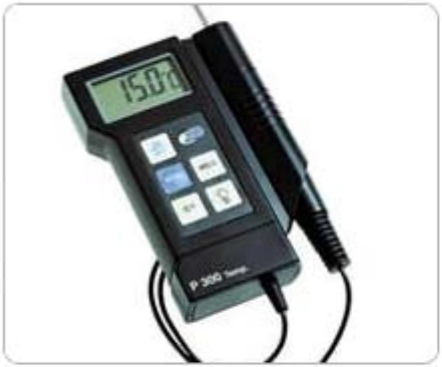

Use the above details to contact us if this literature doesn't answer all your questions.

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.