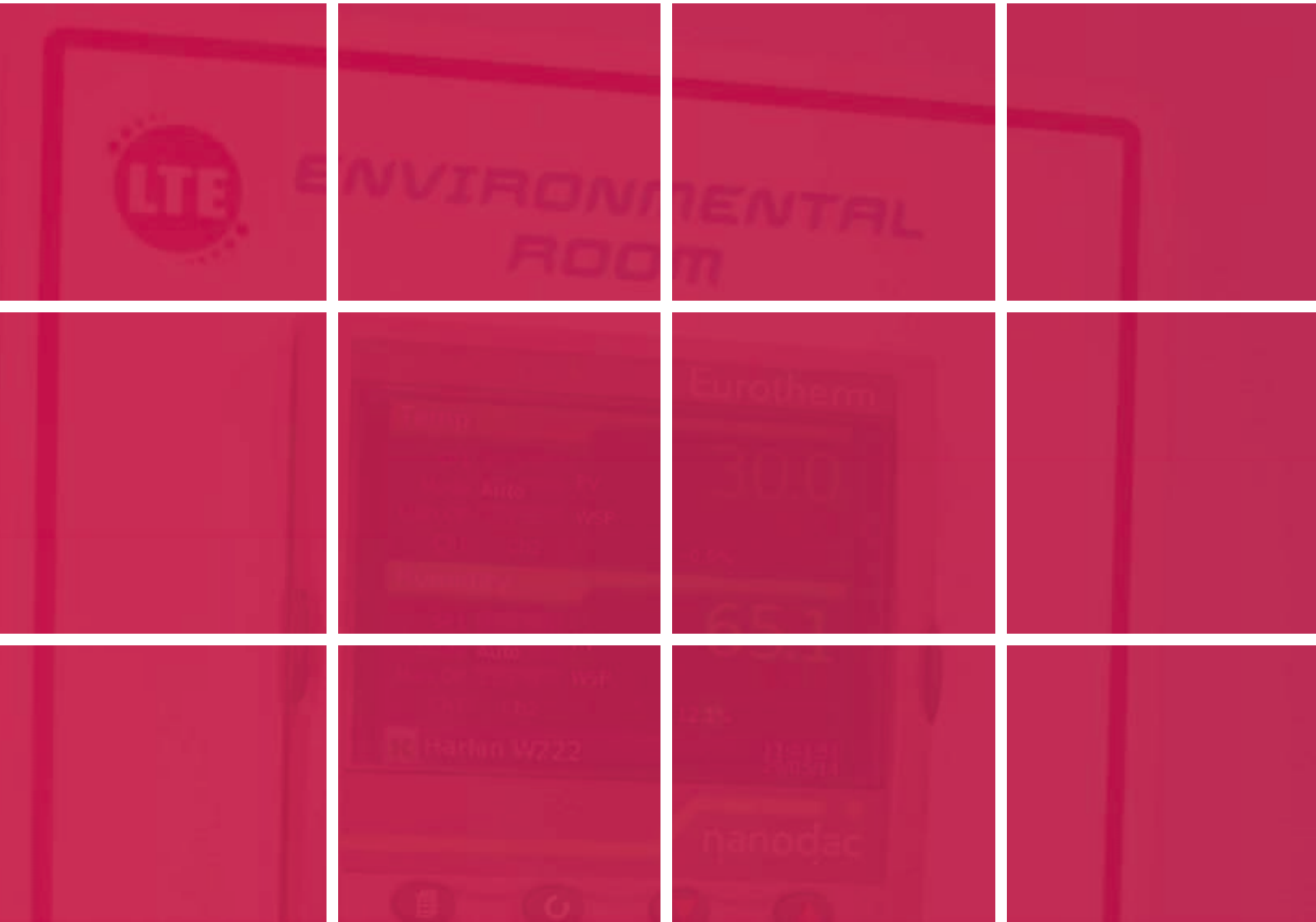




# Environmental Rooms and Chambers



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LTE Scientific is one of the UK's largest manufacturers of environmentally controlled rooms and chambers for the pharmaceutical and scientific sectors. With a range of standard and bespoke solutions, our products are designed to meet the most demanding performance criteria.

## APPLICATIONS INCLUDE:

- Stability testing for pharmaceutical products
- Shelf life testing in the food sector
- Packaging trials
- Large scale incubation
- Large scale BOD testing

## STABILITY TESTING

From reach-in chambers right up to large capacity walk-in rooms, LTE can provide a solution where precise environmental control is a prime requirement.

Rooms are suitable for all ICH Zone II drug stability tests – long term, intermediate and accelerated conditions. Standard operating parameters range from -20°C to +45°C and 20-90% RH +5%. Rooms operating at +5°C and below will typically have a temperature tolerance of  $\pm 3^{\circ}\text{C}$ .

Typical variation tolerances are  $\pm 2^{\circ}\text{C}$  for temperature and  $\pm 5\%$  for RH. For customers who require tighter temperature control we can offer control options which will bring the temperature performance to within  $\pm 1^{\circ}\text{C}$  and RH performance to within  $\pm 3\%$

Our reach-in and walk-in rooms are manufactured from self-supporting modular insulated panels, which are 80mm or 100mm thick depending on size, room operating temperature and room location. Panels are injected with a CFC-free polyurethane foam as standard. Alternatively, where site conditions demand, panels can be Polyisocyanurate injected, making them LPC & FM Approved. Our standard finish is a white foodsafe epoxy coating, however a stainless steel internal finish is also available.

The modularity of the rooms means that almost any shape or size can be accommodated to meet customer-specific requirements.

Our floors are 80 or 100mm insulated panels overlaid with marine ply and finished in a choice of materials including aluminium treadplate and polyvinyl. Floorless rooms can be supplied if required.

All doors are lockable and are fitted with an internal mechanical release system. Doors are hinged as standard and are available in various widths. As an alternative,

sliding doors can be provided where site or loading conditions demand.

A variety of shelving options can be provided to suit individual loading requirements and maximise loading efficiency. This ranges from cantilever shelving to different types of racking. For larger rooms island shelving/racking can also be provided to maximise storage space.

Temperature control is achieved in a number of ways. Rooms operating within the normal ICH Guidelines of +5°C to +40°C would typically incorporate a chilled water system which uses a water/glycol mix to achieve the required conditions. Rooms operating below +5°C would be supplied with a mono-block or split DX-type refrigeration system. Single duty and run/standby systems are available. Run/standby systems are becoming increasingly popular as this system ensures continuity of operation during maintenance and service periods.

RH is controlled by means of a high efficiency ultrasonic nebuliser which provides an efficient means of delivering RH with minimal downtime. These are fed from a tank which is fitted with a timed drain system to ensure there is no standing water in the circuit. All RH system must be fed with a suitable RO or demineralised water supply.

Where required, a desiccant rotor dehumidifier will be provided which requires no periodic emptying .

Conditions are controlled via a PID controller mounted in a control panel which is located adjacent to the door. All indicators and alarms are also located here. Local recording of conditions is achieved via a combined controller/graphic recorder. Specific recorders can be supplied as required.

All recorded information can be stored locally or transferred to a remote location. Various options are available but would require further discussion in order for us to provide a tailored solution.

In addition, we are able to provide recording systems that are compliant with the requirements of 21CFR11.

### Special Applications

We can configure our rooms to suit clients individual needs, which may be required due to the load types being stored. This can include:

- Hazardous materials
- Heavy loads
- Restricted/controlled access

### LARGE SCALE INCUBATION/BOD TESTING

Valuable laboratory space can be freed up by replacing conventional incubators with large capacity temperature controlled rooms. Being built in a modular construction, these rooms can be tailored to fit into any space.

Construction is in line with our Stability Test Rooms above.

The rooms will typically operate within the temperature range of  $+5^{\circ}\text{C}$  to  $+45^{\circ}\text{C} \pm 1^{\circ}\text{C}$ .

For BOD applications, and depending on the room size, the temperature variation can be tightened further to  $\pm 0.5^{\circ}\text{C}$ .

If you feel that we can help you with your current or future requirements, please contact our head office on 01457 876221 to arrange a site visit.





#### Ask about LTE Scientific's other products

- Autoclaves
- Ovens
- Incubators
- Drying Cabinets
- Freeze Dryers

**LTE Service Centre** provides after-sale care on a wide range of autoclaves and laboratory equipment.



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