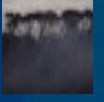
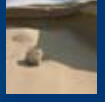




Controlled Environment Rooms

For over 35 years, Vindon Scientific has specialised in the design, development, manufacture and installation of purpose-built controlled environment solutions.

Pioneering such advances as Complete System Harmony and the associated benefits of low power consumption, greater system efficiency and "no defrost" requirements, we continue to provide customers in the pharmaceutical, food, medicine and research industries with highly cost-effective solutions in controlled environment technology.



Vindon
scientific

DESIGN

Good design is at the very heart of every Vindon controlled environment room. Our airflow technology systems, for example, have been created to deliver the ultimate in environmental stability. Indeed, from a simple ceiling mounted coldroom chiller to a more sophisticated application demanding ducted airflow or even a laminar flow system, you can rely on us for the optimum solution.

BUILD

All Vindon rooms are constructed from pre-fabricated panels and insulated with either 60mm or 100mm CFC-free, self-extinguishing insulating polyurethane foam. Floors are finished with a layer of anti-slip polyester. All internal and external surfaces are either stainless steel or corrosion-inhibited, epoxy-coated mild steel. Our standard, lockable, hinged door – with internal release – has a clear opening of 650mm x 2000mm.

VERSATILITY

A full range of vision panels, access ports, door sizes, benching, internal plumbing, lighting and shelving options can be specified. We also offer rooms that are "sparkproof" as well as options using only certified "flameproof" components.

RELIABILITY

We design and build validatable controlled environment room systems that provide the climatic conditions specified in the ICH Tripartite guidelines, simulating the conditions of all 4 climatic zones for long-term, intermediate and accelerated testing. Individual design specification will determine the operating temperature within the normal limits of 0°C and +50°C.



Certificate No. Q615
1991



Total humidity control is key and our design specification will determine the operating humidity range within the normal limits of 40% and 90% RH. Humidity is generated "on demand" by our own high efficiency humidifier featuring ultrasonic transducers and offering many benefits over traditional systems. With no heat output from the system, the need for extra cooling is reduced, whilst the use of low voltage, energy-efficient solid-state transducers ensures silent operation. Humidity cycling and fully programmable systems are available. De-humidification to 15%RH and below is possible.

REFRIGERATION

For applications requiring operating temperatures above 10°C, indirect refrigeration is recommended. Unlike a direct system, where the refrigerator evaporator is located in the room and runs at sub-zero temperatures, the indirect evaporator is located in a reservoir of fluid which is cooled by thermostatically cycling the

refrigeration system. This fluid is then used as the cooling medium for the room.

Benefits include:

- No ice up and, therefore, no need for defrost cycles
- Close matching of surface temperature to dew point of internal air for greater humidity control
- System assembly and pre-testing without need for refrigeration engineer

For applications requiring temperatures below +10°C but above 0°C, the type of refrigeration system will be selected to suit the particular requirement.

SAFETY

Vindon systems benefit from the very latest over and under temperature and humidity protection and failsafe technology. Walk-in rooms also feature emergency lighting and an internal personnel alarm directly linked to an external siren/xenon beacon. Remote transmission of all alarm signals can also be provided via volt-free contacts.

Controlled Environment Rooms

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VALIDATION

The ability to demonstrate precise data logging and recording is essential to ensure your controlled environment installations meet all necessary legislation. Through certificated validation procedures, we will provide the necessary documentary evidence to show that your rooms are performing as specified and fully meet User-Requirement Specifications.

For single parameter recording, a simple chart recorder will normally suffice. For multi-parameter systems a validatable data recorder – such as our VOLMACS (Vindon On-Line Monitoring And Control System) – will provide up to 32 channels for logging environmental parameters at a user-definable scan rate.

Using 21CFR part11 compliant and UKAS calibrated equipment, members of the Vindon validation team are available to carry out detailed performance mapping on our own or other manufacturer's chambers. The data acquisition systems meet all requirements such as secured record files, authorised access control, secure computer generated, time-stamped audit trails and electronic signatures.

INSTALLATION

Vindon Scientific can provide a standard controlled environment room or purpose-built complete turnkey solution to meet your most specific requirements. From initial design to final commissioning, all we require is a flat, clear space, adjacent services (including an appropriate power supply) and where necessary, water supply and drainage.

BUILDING LONG-TERM RELATIONSHIPS

Renowned for the highest levels of personal service, true experts in our field, and with Quality Systems registered to ISO 9001:2000 for all aspects of the design, manufacture, installation, selling and servicing of Controlled Environment Rooms, we aim to provide solutions that exceed customer requirements.

Having first established your objectives, we will then complete a thorough site survey – ensuring, at the earliest possible stage, that all specific regulations will be adhered to.

Once an order has been placed, an experienced Vindon project manager – acting as your single point of contact – will then supervise the entire manufacturing and installation programme. At the same time, factory visits are encouraged, where you may

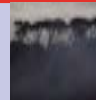
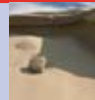
review the progress of your order and discuss any specific matters with our production, technical or sales staff.

CERTIFICATE OF CALIBRATION

As soon as installation and commissioning is complete, we will confirm that the performance complies with the agreed specification and issue a Calibration Certificate. Your project manager will also be happy to assist with your own validation procedures if requested.

COMPLETE PEACE OF MIND

All rooms carry a full 12-month warranty. After this period we offer a preventative maintenance contract or emergency call-out assistance. All service, maintenance and repair work is undertaken by Vindon staff, in accordance with our quality procedures.



Vindon

creating the perfect environment

VINDON SCIENTIFIC LIMITED

Kiln Green, Diggle, OLDHAM, Lancashire, OL3 5JY England

Tel: 01457 876616 Fax: 01457 871355

internet: www.vindon.co.uk email: info@vindon.co.uk



Vindon

a selection of recent UK and European applications

14 temperature controlled walk-in cold rooms and warm rooms for large-volume pharmaceuticals storage.

5 controlled environment rooms for stability storage trials of flammable household-products.

A suite of 11 stability storage rooms for safe pharmaceuticals storage in compliance of ICH Tripartite guidelines.

An incubation room with built-in, failsafe “system resilience” forming part of a pharmaceutical manufacturing process.