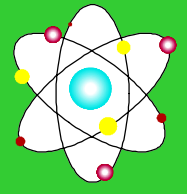


HiTech

# A HiTECH SYSTEM PROVIDES AN ACCURATE CONTROL OF HUMIDITY



HiTech



HiTech was approached by Hypoguard Ltd, a member of the Medisys Group, for an ISO Class 7 cleanroom with an internal room condition of 20°C at 5%Rh. The maximum condition to be 8%Rh with an alarm at 10%Rh at 20°C. Hypoguard were very pleased with the final result and recommended HiTech to one of their suppliers who required an identical facility.

In both cases we built an ISO Class 7 cleanroom using our standard modular panels and a static dissipative vinyl flooring that was covered up the walls to provide a complete vapour barrier. When working at very low moisture conditions such as

these, the structural vapour seal is of primary importance if close control of the room humidity is to be achieved and in order to limit the number of penetrations through the building fabric, light and electrical fittings were surface mounted and rated not less than IP65.

The heart of the air conditioning system is a desiccant dehumidifier operating in a modulating manner in response to a dewpoint sensor located in the return air ducting. A dewpoint sensor was used because humidity sensors do not give the accuracy of control at the extremes of their operating range. The dry air from the dehumidifier is then passed through a cooling coil to cool the air to a usable temperature before it enters the cleanroom. The cooling medium is chilled water supplied by an air cooled liquid chiller operating on R407c refrigerant.

A computerised building management system provides data logging for quality assurance and quality control; alarm handling and logging and remote control of the plant from the production manager's office and our office in Bury St Edmunds. Should there be a problem with the cleanroom suite, at any time, the control system will automatically dial and transmit the alarm to the duty maintenance engineer's home or mobile telephone.



The cleanroom suites and their associated systems were independently validated by Hypoguard Ltd and we are assured that they are likely to be out of condition for no more than 17 seconds per year. Both facilities have been granted a licence by the US Food and Drug Administration (FDA) and are controlling to within one half of one percent relative humidity during peak summer ambient conditions.



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