Air Conditioning

Case Study Guy's and St Thomas' NHS Trust





Guy's and St Thomas' continues to lead the way

One of the country's leading Hospital Trusts has begun a widespread upgrade of its air conditioning system with a significant replacement programme for the now banned R22 refrigerant.

Guy's and St Thomas's NHS Foundation Trust has led the way in a host of medical breakthroughs in its long history, and its air conditioning facilities are now being advanced to ensure both regulatory compliance and comfort for patients remain at the highest standards.



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Hundreds of individual air conditioning systems have been replaced across the hospital complex to ensure a comfortable environment for staff and patients.



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Making a World of Difference

Under regulations that came into force in 2015, air conditioning systems cannot be topped-up with R22, and any replacement air conditioning systems must also avoid its use. This has led to Mitsubishi Electric's R22 Replace technology being chosen as the way forward for the two sites under the Trust's stewardship: the 144,137m² Guy's Hospital and the 165,599 m² St Thomas' site.

The full project will see Mitsubishi Electric supply somewhere in the region of 215 systems, including 133 DX split systems, 12 City Multi VRF systems and packaged rooftop units, plus Chillers from the new NX range.

Senior compliance manager for the Trust, Peter Handley, explains: "The Trust made funds available for the work to be carried out, and we identified a master list of the R22 units across both sites. This covers clinical areas, offices, administrative spaces and teaching areas, so it's a programme that goes right across the board in terms of the types of areas we need to address."

The key challenge for appointed installer and Mitsubishi Electric partner JC Watson was to be able to work whilst causing minimum disruption to the critical patient areas. The programme began in April and is expected to continue until December this year.

JC Watson managing director, John Lyman says: "We have got to undertake work as seamlessly as possible, which means arranging access to certain areas at certain times and making sure we get in and get out quickly."

"In the patient areas, privacy is a big issue," adds Handley, "so knowledge of the site and being flexible in our approach to the work is vital. The clinical and administrative areas are the places where our staff come into contact with the public, and this is where the privacy and flexibility of working has to come into effect."

Under such circumstances, Mitsubishi Electric has been chosen thanks to its ability to supply equipment on the timescales required and in the quantities needed, says Lyman.

"We have got to have the right equipment delivered when we order it, on time, in the right place, in the right configuration, so we can get in and get out across all these different project spaces."

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Installation Summary

There are more than 215 different systems being installed on the 144,137m2 Guy's Hospital and 165,599m2 St Thomas' sites.

12 City Multi VRF outdoor systems serve a variety of indoor units that will replace the bulk of old R22 systems throughout the buildings.

133 Mr Slim split systems will also be installed to deliver energy efficient cooling or heating to individual offices and examination rooms.

The project also includes the installation of packaged rooftop air handling units and CV Chillers from the Climaveneta range which will supply heating, cooling and fresh air to many of the communal spaces throughout the hospitals.

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"We chose Mitsubishi Electric because we had confidence that they could deliver what we need when we need it."

Handley adds: "On a site like this there may be short-notice changes to work plans and there is limited space for storage, so the flexible Just-In-Time approach is very suitable for this sort of site."

This programme will ensure the client is removing the risk of failure of its old equipment in critical locations and also avoiding the problem of unavailable spare parts for outdated equipment in the future. Replacing inefficient equipment with modern technology will also reduce the Trust's carbon footprint.

In harness with the Trust, JC Watson developed a five-tier priority list. Tier one encompassed all critical units known to be troublesome, but critical to the operation of the hospital, with the level of urgency then cascading down a further four tiers.

"All systems have been identified and prioritised and we're working through a programme of access and replacements for all five stages," says Lyman.

"Flexibility of delivery and huge availability of stock are vital. If we place an order for something and we need it tomorrow, we need confidence that our supplier has the stock, and that's something Mitsubishi Electric's competitors don't have."



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