

Case study: Education

## MHI air conditioning reduces energy costs at University of Manchester



### Fact file

Project	University of Manchester
Project outline	Replacement air conditioning system for computer science lab
Installer	MITIE Engineering Services (Northern Region) Ltd, Stockport
Products	MHI KX6 VRF system



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A VRF heat pump system from Mitsubishi Heavy Industries (MHI) has put high efficiency climate control on the curriculum at The University of Manchester. Outdated air conditioning equipment serving a computer science laboratory in the Sackville Street Building has been replaced with the latest 2-pipe heat pump system from MHI's KX6 range utilising eco-friendly R410A refrigerant and achieving a CoP of up to 3.4. Supplied by distributor 3D Air Sales Ltd and installed by MITIE Engineering Services (Northern Region) Ltd of Stockport, the new MHI system will increase comfort levels for staff and students whilst reducing energy costs.

of the room. The units' compact design – just 318mm x 1,098mm x 248mm – and straightforward connections made installation possible despite restricted and awkward access in the Victorian red brick buildings. MHI has also made routine cleaning and maintenance of indoor units more convenient with a front panel that can be opened and closed from the bottom for easy access to detachable filters.

“MHI's KX6 heat pump system provides a cost-effective cooling or heating solution for the open plan lab with a high degree of control”

Individual control of the laboratory's new air conditioning units is provided by six RC-E4 wired remote controllers. In addition to normal operational data the MHI RC-E4 LCD display also gives access to service and technical data with simple operating functions. Upper and lower limits can be specified separately within a set temperature range and adjusted as required to ensure energy saving air conditioning by avoiding excessive heating or cooling.



Experts in technical facilities management, MITIE Engineering Services designed the new air conditioning scheme in conjunction with The University of Manchester's Faculty Estates Team. “MHI's KX6 heat pump system provides a cost effective cooling or heating solution for the open plan lab with a high degree of control,” says Paul Bradshaw, Project Engineer for MITIE Engineering Services (Northern Region). The system includes one 56kW externally mounted FDC heat pump unit employing advanced inverter technology, which adjusts compressor output to match cooling or heating demands for consistent temperatures and efficient energy usage. The heat pump unit serves six FDK wall mounted indoor units with nominal cooling / heating capacities of 7.1kW and 8.0kW respectively. The FDK range from MHI adopts an innovative air flow design that achieves uniform air conditioning to the furthest corners