


Est 1964

**ADCOCK**

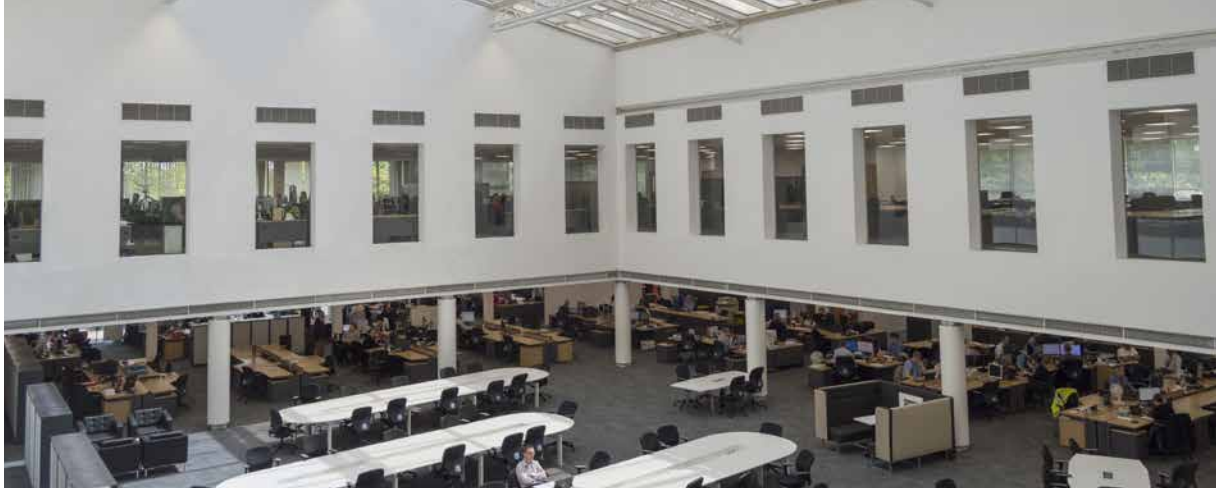
REFRIGERATION  
AIR CONDITIONING



# Adcock and E2 team up to replace Fujitsu Services' air conditioning systems and air handling units

By Adcock Refrigeration and Air Conditioning Ltd

**E2** ENERGY MANAGEMENT



Due to its detrimental impact on the environment, on the 1st January 2015 it became illegal to use R22 refrigerant within any air conditioning or refrigeration system. This resulted in an extensive phase out, requiring many businesses currently operating R22 systems to replace various parts of their systems or pipework. For some, this meant replacing their entire system altogether in order to comply with the new EC Ozone Regulation (No. 1005/2009).

Fujitsu Services was one of the businesses affected by the new legal requirement and so the company decided to take immediate action and to launch a tender process for the project at hand. E2, a leading provider of bespoke energy management, was invited to tender for the project through Turner & Townsend following a successful project they'd previously completed for Microsoft®. E2 operates a team of engineers in order to provide demand side energy management and energy cost reduction programmes throughout the UK and with Adcock's experience in design, installation and system services for large scale projects, both companies teamed up to undertake the project.

### The Building

Fujitsu Services deliver over 500 services from this single 145,000 square foot building, from warehousing and repairs through to light engineering. Due to the multi-office design layout of the building a new heat recovery system was specified. The system would need to be capable of supplying and extracting air throughout the entire two-storey building which provides a bright, modern working environment to the Fujitsu Services personnel.



Despite being originally built in 1944, the building has since been modified to provide a large open plan area on the ground floor which benefits from lots of natural light from its full height glass ceiling. The ground floor has been designed to allow staff to work in different zones which include open plan working areas, a cafeteria, a data centre and also various kitchen areas.

Adjacent to the main reception is a central working area which houses dozens of 'hot-desks'. These allow employees who often work remotely to continue to work flexibly when on site. There are also two large open plan working areas on the first floor, along with multiple meeting rooms and small 'privacy rooms' designed specifically for individual who wish to make private phone calls or simply prefer to work in a quiet environment.

### Data Protection

In addition to the open plan working areas, works had to be carried out in the main server room, one of the most secure areas of the building. This meant that permission had to be sought daily by contractors in order to gain access. Previously, Fujitsu Services had to increase the cooling capacity with additional cassette type systems in order to compensate for additional equipment being installed.

The data room is critical to the business and therefore had to remain fully operational at all times. Careful planning was therefore required before work commenced to ensure that the data systems were kept dust free, whilst keeping the temperature controlled with temporary air conditioning throughout the changeover.





## The Replacement Project

The replacement project began in August 2015 and was phased over an eight month period due to the building being fully occupied. There were 6 phases in total which required individual working areas of the building to be relocated temporarily during the fit-out, allowing contractors to have sufficient access to each area whilst ensuring that staff were not disrupted. Works took place over a 30 week period which included the decommissioning of the existing server room.

For better efficiency, the fit-out teams and contractors worked alongside one another, refurbishing the interiors and installing the replacement ductwork and fresh air ductwork at the same time. This meant that both teams could complete each individual phase as they went along, allowing business to resume as normal as soon as each phase was complete.

The internal system design had to allow for easy access for maintenance and servicing which is essential for guaranteeing that the system remains fully up and running at its best at all times, without the need to disrupt staff working in the area. Through efficient team planning this was easily achieved.



## The New System

In total 11 Fujitsu VR-II Heat Recovery systems were installed, along with 27 condensing units and 120 ducted fan coils and 2 split systems. The systems are fully managed via a BACnet® Gateway and Lite touch panel system control. The server room systems were replaced with a heat recovery close control system comprising three DencoHappel modular heat recovery units which automatically share the cooling output equally over a six week period whilst monitoring the temperature, keeping it constant and controlled through a single control unit. Being far more proficient, the systems provide precision cooling within one degree Celsius and offers highly efficient heat recovery of up to 85% energy savings which is highly advantageous.



## The outcome

It was particularly important for E2 to find a service provider that would be able to manage all aspects of the R22 replacement project, from the safe disposal of the R22 refrigerant through to the complex design phase which plays a huge part in determining whether the entire system will offer the very best levels of performance and heat efficiency. Adcock's extensive design knowledge meant that the correct heat recovery system was selected, one that suited every characteristic of the building but also one that remained in line with regulations and requirements. Through thoughtful planning and careful deployment, the correct amount of fresh air is delivered in to the building, whilst both climate control and energy efficiency have both improved significantly.

The entire project was completed both within specified timeframes and to the very high standard promised. As a result of the quality of work delivered, Fujitsu Services have subsequently awarded Adcock the contract to service and maintain the new systems over the coming years.

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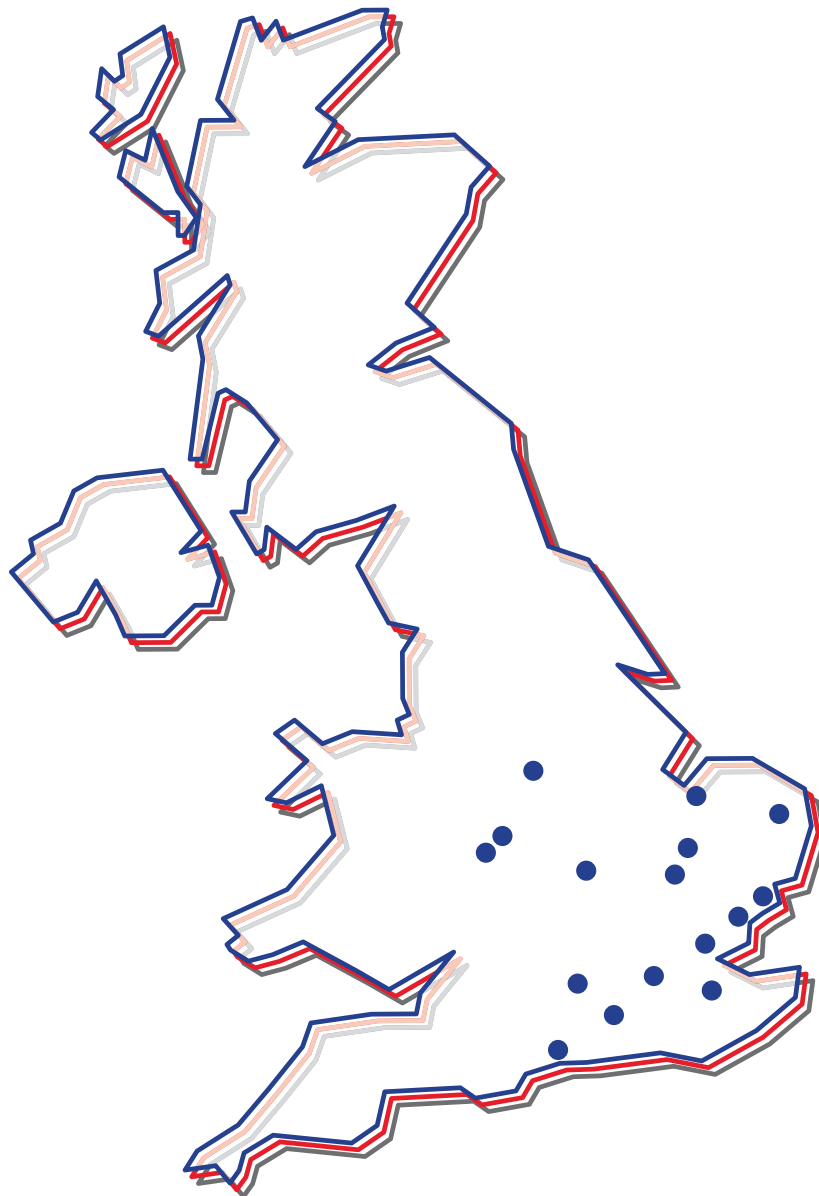
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**REFRIGERATION  
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## About Adcock

Adcock Refrigeration and Air Conditioning was established in 1964. Still family owned, we design, install, service and care for systems in commercial, industrial and individual residential premises right across the UK.

Adcock has a network of 12 fully serviced branches across England, employing over 250 staff, over half of whom are specialist engineers. We have built a reputation of providing complete industry services and solutions made by world class manufacturers which are then fully supported throughout their life cycle.



## Regional Offices

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