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Installation Case Study: Listed Building in Bath

*Aesthetic air conditioning
installation to listed building*



An unusual installation.

Our small works team come across a number of challenges when installing a new system to a listed building in Bath.



Although we have decades of experience in the installation of heating, air conditioning and ventilation systems for complex projects, it is sometimes the simpler, smaller projects that give us the most challenges!



When one of our contracted maintenance clients asked us to tender for the air conditioning installation to a large number of their stores, of course we jumped at the chance. Following a competitive tender process, due to the quality of our workmanship, we were successful in becoming their approved installer.



Due to the recent down-turn in the economic climate, the programme did not quite go as planned. However, we were asked, as a matter of priority, to continue with an installation to their store in Bath. But this building, is not your regular grocery store!



Read on to find out more...

The Store

In 1973, our clients first location opened in Ludwigshafen, Germany. With only three employees and around 500 products, this tiny store was the humble beginning of their global expansion. Now, they operate in 32 countries and employ more than 341,000 people globally.

In the UK, their first store opened its doors in 1994. Now, they have nearly 1,000 stores and 13 regional distribution centres across Britain, employing over 28,000 people.

When our client first purchased the site where their Bath store stands, the structure then laid empty, boarded up and vandalised. The plan was to demolish the single storey, industrial building and construct a new store, however, these plans were thwarted as the building became Grade II listed.

The reason behind this grading, for the 1960's, 57,000 sq ft. structure, was because it was the first example, of the use of the Mero Space Frame, in the UK. This German system, incorporating solid steel tubes of standard length connected by spherical metal nodes, was designed to support the roof with the minimum number of columns. This creates a relatively clutter-free space for manufacture. In this case, for a high-end furniture company (who had Harrods and the Cunard shipping line among their customers), a well-established firm called Bath Cabinet Makers.



Our client worked closely with Bath and North East Somerset Councils conservation officer and English Heritage in the South West region to arrive at an acceptable refurbishment and upgrade plan for the building. The result highlighted the use of the Mero Space Frame, which had stirred such widespread comment in the construction and architectural press, 50 years before.

They finally opened their Bath store in April 2015 and it is now one of their busiest in the UK.

JCW's Mission

Due to the nature of the structure, the store has struggled with the interior temperatures, which can plummet in the winter but rise rapidly when the sun shines. This means that fresh produce ages more rapidly, which causes a lot of food waste. JCW's mission was to install suitable air conditioning, which complied with a strict remit, could have flexible temperature control and remain in keeping with the original colour and structure of this carefully preserved building.

The Challenges

Placing internal units

As there was no ceiling void and because of the honeycomb architectural design, suspending the internal units had to be carefully planned. The clips used to suspend the units also had to be carefully colour matched with the existing paintwork.

Limited external space

The external condensers needed to be placed within the already established, acoustic barrier. However, there was not enough room for split units. Working with our clients' consultant, a decision was made to utilise a Mitsubishi Heavy Industry VRV. This single external unit could then work seamlessly with the 9 internal units. This saved space while still providing the performance and kW output required.

Programming temperature controls

To ensure that each area of the building receives the correct level of heat or cooling, a complicated programming took place to ensure that the correct level of temperature is maintained through the building, that has varying requirements, dependant on usage and footfall.



The Challenges (continued)

Project management

With the store remaining open throughout the installation period and staff on-site 24 hours a day, it was essential that we planned around stocking areas and times, to ensure that the correct scaffolding and equipment was in the right place, at the right time.

We ensured that we caused as little disruption to the workforce as possible, while still being productive with our own time spent on site, through the night.

Strict guidelines

Every unit needed to be carefully placed, and strict guidelines followed to ensure that the structure, of such national importance, was not disturbed, in any way.



Words from our Installation Supervisor:

"This was both an interesting and challenging installation for the team.

We knew we needed to be sympathetic to this unique building and ensure the new system was fitted in such a way to retain the aesthetics, which required a great attention to detail.

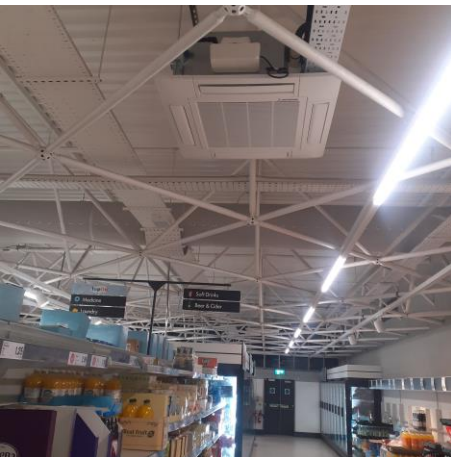
The staff were brilliant and very accommodating as we fitted in around their working pattern, 24 hours a day!"

Conclusion

As we wait for the electrical upgrade to arrive from Germany, our team are very excited to return to site, to commission the system, under the watchful eye of the Mitsubishi team.

Expectations have been understandably high for this unique air conditioning system installation. Our highly experienced and professional Small Works Team rose to the challenge and are very proud of their achievement.

The store can now provide a more stable ambient temperature which, will not only save on their food waste, but also make their customers' shopping experience a far more comfortable one - come rain or shine.



Would you like to read more?

A screenshot of the JCW Publications website. The header features the text "JCW Publications" and "Sharing our industry expertise". Below this is a form for subscribing to newsletters, with fields for Name, Email Address, and a "SUBSCRIBE TO NEW JCW EBOOKS" button. The main content area is titled "Project related eBooks" and lists two eBooks: "A Guide to HVAC Project Planning" and "A Guide to R32 Refrigerant". Each eBook has a "DOWNLOAD HERE" button. The "A Guide to HVAC Project Planning" section includes a list of bullet points: "How you can prepare for your next installation project", "Service provider selection considerations", "Check a few tips and interesting facts", and "Gain a little insight into how your service provider provides their service". The "A Guide to R32 Refrigerant" section includes a list of bullet points: "Current legislation with regard to HFC gases (Hydro Fluoro Carbon)", "The differences in refrigerant available", "The pros and cons of R32", "What the future may hold for HVAC systems", "Features with regard to Project Planning and Service Provider Selection", and "Answer some Frequently Asked Questions".

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