



## THE CUSTOMER

Founded in 1937, Building Design Partnership (BDP) are a major international practice of architects, designers, engineers and urbanists.

Based in Clerkenwell, London, their building consists of six floors mainly open plan office space with approximately 140 fan coil units and several air handling units providing climate control.

## THE CHALLENGE

As the maintenance contractor to BDP, Birdsall identified that the existing chillers were no longer performing to design due to FGAS and component failures and general age wear and tear. The buildings air conditioning requirements could therefore no longer be met with the ageing chillers, leaving an uncomfortable environment throughout the building.

In addition, Birdsall determined that the chillers manufacturer no longer supported parts for the two water chillers due to their age, at approximately 25years old. A number of remedial works were completed to prolong the life of the chillers on BDPs request. However, the age, poor efficiency and lack of parts for the water chillers had resulted in high costs for BDP to keep the chillers in operation.

A solution had to be sought to provide the building with a reliable air conditioning system, that also provided high efficiency and minimal maintenance requirement. This was also highlighted by the TM44 Assessment, which prompted action to be taken.

“

...WE WE'RE REALLY HAPPY WITH THE PROJECT.

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FACILITIES MANAGER AT BDP

"BIRDSALL DELIVERED A FIRST-CLASS PROJECT SERVICE FROM THE INITIAL DESIGN DISCUSSIONS RIGHT THROUGH TO COMMISSIONING AND INSTALLATION, WE WERE VERY HAPPY WITH THE PROJECT."

FACILITIES MANAGER - AT BDP

## THE SOLUTION

The solution in terms of reliability, operation and energy efficiency was to replace both of the chillers with state of the art chillers.

The minimum requirement was to provide a cooling system that met the building load, reduced energy consumption, provided longevity and utilised latest green low GWP potential refrigerants.

Birdsall worked closely with BDP, selecting two Daikin Bluevolution R-32 refrigerant water chillers. The Global Warming Potential is 675, which is only one third of the commonly used refrigerant R-410A. The Daikin controls provide a number of advanced functionalities including remote monitoring and system optimization which are compatible with Birdsall's preventative maintenance model.



The chiller being craned up and over the building.

## THE OUTCOME

Birdsall successfully replaced the two water chillers with high efficient low GWP r32 refrigerant.

Birdsall organised and managed all aspects of the chiller replacement project. This included crane selection, road closure, haulage, pipework modifications, electrical modification and the inclusion of a 1500L buffer tank.

Commissioning of the water chillers was successfully completed alongside the manufactures, with no defects detected, in August 2020. Works were also completed under the challenge of COVID-19 19 restrictions placed in June, which resulted in additional H&S precautions being put in place.

Following completion and hand over of this project Birdsall also provided maintenance services to support the chillers and ensure that BDP can take advantage of the full warranty.



The Birdsall team ensuring safe descent of the chiller.



The chiller in position.



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