

Astor House, Newbury



Newbury office building pioneers Daikin R32 chillers

Plans to replace a pair of chillers at the core of climate control in a two-storey office building at Newbury, Berkshire, were revised to take advantage of a significant development in Daikin refrigerant technology.

The change led to Astor House, in Newbury Business Park, becoming the first UK application of chillers with Daikin's Bluevolution technology, based on R32 refrigerant. The industry-leading EWAT-B units replaced R407c chillers serving chilled water fan coil units and air handling units in the building.

The new units were installed by Daikin D1 Partner Klimatec, which had upgraded a similar installation for a neighbouring building in the business park to Daikin R410A units before the R32 chillers became available.

Klimatec director Adrian Griffiths says: "The Astor House facilities manager, Mark Hogan of Orbit Property Management, and building services Contracts Manager, Aaron Lowe of Integral UK, were keen to accept our proposal and be

the first to adopt the new technology – even though it meant delaying the replacement for a while when the existing chillers were literally on their last legs after nearly 20 years' service.

"We will be monitoring the performance and the operating costs of the two systems – and we expect significant benefits from the R32 technology. The new technology appealed to us because of its increased energy efficiency and reduced refrigerant requirement. It was also an opportunity to future-proof Astor House because of the lower global warming potential of R32 in comparison with R410A."

The R32 chillers were delivered to site and craned into position over a weekend to minimise traffic disruption on the business park's entrance road. The chillers are in a services enclosure that is fenced and partly screened by foliage beside the building.

With the chilled water circuits coupled and electrical connections completed, the new units were commissioned under the watchful eyes of Daikin engineers and connected to Daikin on Site cloud monitoring.

Year of installation

› 2018

Project requirements

- ☒ Air conditioning
- ☐ Air curtain
- ☐ Air purification
- ☐ Control
- ☐ Heating
- ☐ Hot water
- ☐ Refrigeration
- ☐ Ventilation

Installed systems

› R32 Air Cooled Scroll chiller



The EWAT-B units – Daikin's new generation of high efficiency air-cooled scroll chillers – improve seasonal energy efficiency ratios (SEER) by 10% in comparison with the previous R-410A range.

They are available for cooling only and heat recovery applications from 80kW up to 700kW cooling capacity at nominal conditions.

Daikin offers two efficiency versions (Silver and Gold), and three sound configurations (Standard, Low and Reduced) – as well as full customisation on project-specific requirements.

Various options and accessories can be provided – such as refrigerant leak detection, fully integrated hydronic kits for fixed flow or variable flow operation and partial or total heat recovery for sanitary hot water production.

The new series is fully compatible with the Daikin on Site cloud-based platform, which offers a number of advanced remote monitoring functionalities, enabling system optimisation and preventive maintenance.

Master/slave functionality is standard, allowing sequence management of up to four units on one system – without the need for external control devices. The Intelligent Chiller Manager (iCM) option caters for more complex sequencing installations to maximise total plant efficiency.



Following its pioneering work with R32 refrigerant in air conditioning units, Daikin is the first to market with R32-based chillers.

R32 has a global warming potential (GWP) of 675 – compared to the 2088 of R410A (of which R32 is a 50% constituent).

The lower GWP and higher efficiencies of R32 are significant advantages in the swing towards more environment friendly refrigerants. Additionally, as a single component refrigerant, R32 is easier to recycle and reuse.

Daikin has a long history of reducing the environmental impact of cooling and heating products, as well as having the unique expertise of manufacturing both refrigerants and equipment.

Kit List

Code	Description	No of units
EWAT-B	R32 air-cooled scroll chiller	2

