

BBC Earth Experience



Creating a Perfect Climate for BBC Earth Experience

On 30th March 2023, the BBC Earth Experience opened its doors for the first time. The immersive experience, set within The Daikin Centre, welcomed visitors into an extraordinary space. Filled with giant digital video screens from floor to ceiling, it showcases the natural world in all its spectacular glory. The experience offers visitors an opportunity to visit the seven continents of the world, all within the comfort of one remarkable setting.

As sponsors of the venue, Daikin worked with Moon Eye Productions to create a venue that was suitable for a visitor experience where hundreds of thousands of visitors would be attending. And crucially, one that delivered a perfect indoor climate.

Three aims: comfort, sustainability and control

The Daikin Centre has been designed by Moon Eye Productions to have the lowest possible carbon footprint. As the sponsor of The Daikin Centre, Daikin was commissioned to install climate control systems throughout the building.

Engineered to minimise environmental impact, our aim was to deliver the highest levels of comfort and healthy indoor air for every visitor, all while ensuring minimal carbon emissions.

There were further considerations to take into account as well. Along with visitor comfort and sustainability, Daikin also needed to ensure a constant temperature for the high-tech screens in use.

"At The Daikin Centre, we manage the internal temperature with precision, maintaining a tolerance of just plus or minus a degree or two, regardless of external weather conditions. This measure ensures optimal video resolution on our screens, a crucial element for the success of our show"
Georgina Povey, Moon Eye Productions

Innovative technology for a unique building

The Daikin Centre is a unique purpose-built structure consisting of a 2,400 sq.m auditorium, 15 metres in height. There is also a 600 sq.m, double-storey element forming the entrance, and a shop with offices and staff facilities above.

In order to efficiently control the climate of this challenging space, Daikin installed 18 VRV units throughout the building. Behind the scenes, keeping the indoor climate perfectly controlled at all times, are two Daikin VRV 5 heat recovery systems and 16 Daikin VRV IV+ heat pumps. The units serve different zones throughout The Daikin Centre, ensuring maximum visitor comfort, and a regulated source of fresh, healthy air.

Year of installation

› 2023

Project requirements

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

Installed systems

- › VRV 5 Heat Recovery
- › VRV IV Heat pumps
- › VRV Roundflow cassettes
- › VRV Concealed ceiling units
- › R32 Split Outdoor units
- › Split wall mounted units
- › Fully Flat Cassettes
- › Madoka controllers



"Installation from start to finish was about four weeks, due to a very tight completion programme, and we didn't encounter any issues on installation or commissioning. This has been one of the biggest and most high-profile Daikin projects our company has undertaken."

Steven Roper, Managing Director

VRV5 Heat Recovery systems

Two VRV 5 Heat Recovery systems serve the main entrance, the staff room and the two classrooms upstairs, delivering a low-carbon solution to daily comfort levels. VRV 5 systems are designed for maximum flexibility and peace of mind in commercial buildings, providing year-round air-conditioned comfort for visitors, staff and systems.

The VRV 5 systems use ground-breaking technology based on R32 refrigerant – which has a much lower global warming potential than R410A systems. R32 systems also require a 15% lower refrigerant charge. This combination of performance developments and technologies means that Daikin's VRV 5 Heat Recovery is the ideal solution for projects where environmental impact is a priority, including those aiming to achieve BREEAM, LEED or WELL accreditation.

VRV IV+ heat pumps

Daikin's VRV IV+ heat pumps are designed to respond rapidly to changing conditions. They deliver precisely accurate temperature control, ensuring the highly sensitive digital screens in the main auditorium continue to operate perfectly at all times.

Each of the 16 VRV IV+ systems serves direct expansion coils in the air handling units that provide warm or cool ventilation for the auditorium area. Their efficiency is enhanced with just two energy transfer steps, and they have an excellent track record in a wide range of applications, providing around-the-clock comfort and reliability. These systems use R410A refrigerant – using gas that has been reclaimed and reprocessed to 'as new' condition, helping to meet the sustainability demands of the project.

Seamless installation

Both Daikin's VRV systems are designed for quick and easy installation – especially where space is limited. This proved true for Zircon AC Group, who installed the VRV units at The Daikin Centre. They found it to be a seamless and trouble-free install.

Raising awareness of sustainable home heating

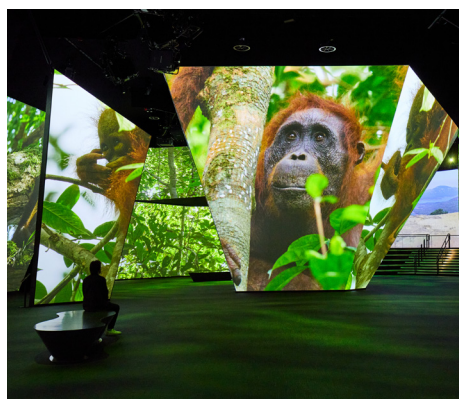
Just outside The Daikin Centre itself is the Daikin Climate Zone. This exciting space gives Daikin an opportunity to connect with every visitor and raise public awareness of the sustainable heating options now available.

The Climate Zone offers an answer to that crucial question, 'what can I do to make a difference to the environment?' The zone houses examples of domestic heat pumps – including the Daikin Altherma H High Temperature and the Daikin Altherma monobloc – along with a range of interactive digital tools to help visitors discover how they can reduce their carbon footprint.

It's a great opportunity for visitors to learn more about heat pumps – what they look like, how they work and how they can make a real difference to the natural world around us.

Kit List

Code	Description	No of units
REYA -A	Daikin VRV 5 heat recovery	2
RYMQ-U	Daikin VRV IV+ heat pump	16
FXFA-A	VRV Roundflow cassettes with standard decoration panel	6
FXSA-A	VRV Concealed ceiling unit	11
BRC1H52W	Madoka Remote Controller - White	21
RXM-R	R32 Split outdoor unit	6
FTXM-R	R32 Split wall mounted unit	4
FFA-A	Fully Flat Cassette with decoration panel	2



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