

# Healthcare

## Clean air solutions



### Experts by experience

Daikin Applied UK is the main supplier of HVAC equipment to healthcare facilities. We have supplied over 1000 hospitals in the UK and internationally.

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# Daikin Applied

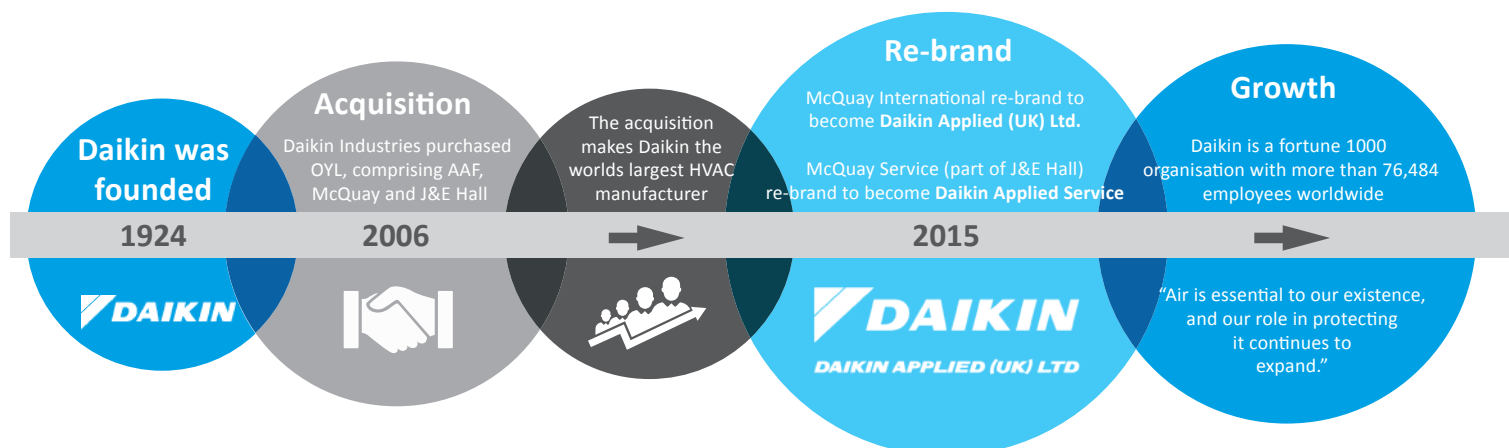
*Technically better...*

Daikin Applied UK is the market leader in the design and manufacture of efficient heating and cooling systems for healthcare. Our standard and bespoke products including air handling units, chillers and heat pumps offer precise temperature and humidity control with zone-by-zone comfort settings and intelligent energy savings; Ideal for complex healthcare environments.

Exceptional indoor air quality (IAQ) is just one of the prerequisites that healthcare facilities can expect from Daikin Applied HVAC equipment. Our products also ensure low noise level, reliability, and low running costs; achieved without compromising on performance.

## Daikin Industries

As a global company, Daikin has over 76,000 employees, with a turnover of over £35 million within Europe. Daikin is the only manufacturer involved in all facets of air conditioning products; including Daikin's own market leading compressor and inverter technologies.



# Specialist solutions

for healthcare facilities

## Expertise

Daikin Applied UK have supplied over 1000 AHUs to healthcare facilities nationally and internationally, giving us a wealth of knowledge and expertise.



Daikin Applied UK continue to sit on the HEVAC committee for the Health Technical Memorandum HTM 03-01 standard. Not only do our solutions comply with the regulation, but also lead the way on innovation for specialised ventilation equipment for healthcare premises.

## Sustainable products

We design products that take the entire product life-cycle into account; to minimise carbon emissions, energy usage and running costs, offering high seasonal efficiencies and surpassing environmental targets set by the European Union. We have manufactured our chillers to use lower GWP and reclaimed refrigerants, complying with environmental and F-Gas legislations.



## Service, maintenance and rental solutions p12

Daikin Applied Service offers a comprehensive service packages tailored to your needs. Our expert engineers provide a rapid response on maintenance, repairs, upgrades, refurbishments and support, covering Air Handling Units, chillers, split air conditioning, VRV and heat pumps. Including ALL brands of HVAC systems and applied system solutions.



Daikin Rental UK delivers reliable temporary heating and cooling rental solutions and responsive support 24/7. Whether that be for planned outages or unplanned emergencies. Our complete support includes everything you need – from chillers and Air Handling units to heat and power.

## Active remote monitoring p14

Daikin on Site (DoS) is an intelligent remote monitoring system that collects complex operational data from the AHU or chiller control system 24/7/365. The data is used to report useful information to the user via a web platform. This platform allows Daikin professionals to remotely optimise and schedule maintenance of the equipment to reduce energy consumption and running costs and to increase the lifespan of your equipment.



# Trust in Daikin's experts

## Research and development

Our in-house research and development team ensures we stay at the forefront of technology used in HVAC in line with new and developing legislation, including the Health Technical Memorandum (HTM). More importantly it allows us to offer our customers the flexibility of bespoke design and development to suit individual building specifications.

## Design

Our Engineering and R&D teams are made up of highly skilled mechanical and electrical engineers, specialising in the healthcare estate sector, who are experienced to help you meet complex specifications and requirements. All projects are supported with SolidWorks 3D models and BIM files for precise design, fast execution and improved computational analysis.



## Manufacture



We have over 30,000m<sup>2</sup> of manufacturing and testing facilities across our dedicated plant for AHU manufacturing located in Northumberland.

With recent investment of £1.5million into our manufacturing machinery, we have been able to further improve the quality of our products and increase production capacity to over 1000 units per year.

## Witness testing

Our state of the art factory testing facilities are located in Northumberland (AHUs) and Rome (chillers) offering full performance witness tests, simulating design conditions. Our testing procedures are compliant with industry standards ISO 3744/5136 and BS EN1886:2007; offering a comprehensive report of product performance before delivery, ensuring ultimate peace-of-mind.



# Air handling units General overview

## Why choose Daikin Applied Air Handling Units?

### Made in the UK

› Manufacturing and testing facilities from our dedicated AHU plant in Northumberland



### Design

- › Bespoke designs with inherent flexibility. All our AHUs can be configured to meet the specific needs of any building or application.
- › The most energy efficient on the market
- › Each AHU is customised to maximise technical output in the smallest physical footprint.

### Shipping

- › Flexible shipping options available. As standard all AHUs are shipped in modular sections and bolted together on site.
- › Dependant on size we can ship units fully assembled in a single piece for easy on site install.
- › For spatially restrictive projects, we offer shipping of units flat packed/kit-form to be built up on site by our engineers.

### Panels

- › As standard our outer panel is pre-painted with Corrosion Class RC5
- › As standard our inner panel made from Aluzinc with Corrosion Class RC4
- › Option is available for inner panels to be pre-painted as per outer panels.
- › Options available for SS304 or SS316 panel skins where required.

### Gasket

- › Liquid gasket technology drastically reduces air leakage

### Frame

- › All anodized aluminium with the highest corrosion resistance C5
- › Unique Daikin thermal break (35mm or 27mm thermal break). Polyamide bars enhance thermal break unit performances
- › Distinctive section to section thermal break profile to ensure thermal break design on the whole unit (see image)
- › Rounded profile for increased ease of cleaning

### IAQ

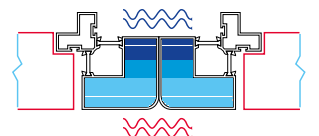
- › Flush internal surface and rounded corner flush surface to avoid the retention of dirt and to be easily cleanable
- › Wide filtration possibility to reduce pollution

### Plug & Play Controls

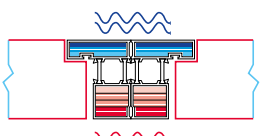
- › Pre-commissioned and factory-tested control for quicker on site commissioning
- › Sole manufacturer to provide a complete AHU DX solution from a single manufacturer available for connection of AHU to VRV or ERQ (everything factory-mounted)

### Certifications

- › **Eurovent certified performances**
- › Exceeding 2018 ErP - ECODESIGN requirements
- › Certified according to the Hygiene Directive VDI 6022 (Modular L and Professional ranges)
- › Certified according to the Hygiene Directive DIN 1946 (Professional range)
- › RLT certified performances



Conventional design



Daikin design





# Air handling units

## Our professional range

Our fully HTM compliant Professional air handling units give you ultimate flexibility. They can be configured and combined to meet the exact specification of your healthcare requirements.



### D-AHU Professional

- › HTM 03-01 compliant
- › Air flow up to 39.5 m³/s
- › Plug and play design
- › Unlimited flexibility in size (Professional range)
- › Anodised frame (Class up to C5M corrosion & D1 deflection)
- › High efficiency EC motors as standard
- › Thermal bridging/transmittance (T2/TB2)
- › AHU casing with leakage rate L1

## Filtration - indoor air quality

We offer a wide range of high efficiency bag, panel, carbon and HEPA grade filters that meet the latest ISO 16890:2016 and ISO 10121-2:2013 standards - supplied by our sister company AAF (p11). We aim to use air filters that have up to 99.9% removal efficiency of PM1 to prevent microbiological contamination and eliminate infectious airborne contaminants. In all applications, we utilise (at a minimum) 2 stages of filtration (pre filter and final bag filter) to satisfy HTM requirements.

Filter class	PM1	PM2.5	PM10
M5	<20%	<40%	>50%
M6	<40%	50-60%	>60%
F7	50-75%	>70%	>80%
F8	75-85%	>80%	>90%
F9	>85%	>90%	>95%

\*Typical efficiencies of air filters against particulate matter PM1 and other fine dust mass concentrations.

## N+1 system redundancy backup

As standard, our HTM AHU's utilise EC fan technology which offer the highest efficiencies without the need for external VSD's (inverters). The lightweight construction & typical mounting installation allows for the easiest on-site maintenance of any fan technology on the market. For critical applications we also offer duty/standby EC fan configurations. This allows for N+1 system redundancy with continuous operation where each fan plenum is isolated through the use of gravity fed back draught dampers.

## Air pressure and air leakage tests

Air-pressure and air-leakage tests on ventilation ducting are carried out in accordance with the methods set out in the BESA DW143 - 'Ductwork leakage testing' to ensure leakage rate under 3% (results recorded in the commissioning manual)

## High efficiency

Our AHU's consist of low pressure drop mechanical components and low consumption electrical components, to ensure high efficiency and low operation cost.

High quality and durable materials used in the construction of our units ensure endurance and longevity - all of our units have expected life cycle in excess of 20 years. Plus our units satisfy low thermal transmittance (T2), low thermal bridging effect (TB2) and the lowest deflection rates (D1).

We also ensure maximum recyclability and limited landfill waste in the production and life-cycle of our products.

Our state-of-the-art manufacturing facilities and equipment ensure the premium quality of our products, achieving the lowest leakage rate (L1).

## Noise

We offer a range of attenuators (splitter units) and acoustic-weather louvres manufactured from a range of materials to meet your specific noise level requirements with no limitations on size and material. We also offer an on-site noise survey prior to design, as well as factory noise acceptance tests prior to delivery.



## Warranty

Daikin Applied offer a comprehensive 12 month warranty on all AHU's and chillers. This will be extended by a further 12 months warranty on parts when you take out service and maintenance with Daikin Applied Service (chillers only). We also offer a range of extended warranty packages tailored to your requirements.

## Cleanliness and cleaning procedures

Our units meet standard BS EN 15780 which applies to both new and existing ventilation and air-conditioning systems and specifies the assessment criteria of cleanliness and cleaning procedures.

In addition our units conform to the principles set out in HSE Approved Code of Practice HSG274 - 'Legionnaires disease: the control of Legionella bacteria in water systems' and HTM 04-01 - 'Safe water in healthcare premises'.

## Internal corridor for external units

An internal corridor is a complete weatherproof solution which addresses access requirements for service and maintenance and allows the AHU to be housed externally.



# D-AHU range

## Key features of HTM 03-01



### Bespoke design

Configured to meet your exact specification.

External units housing internal corridor for service and maintenance optional.

All AHU construction can be tailored to the application i.e. whether coastal consideration to be taken into account alongside HTM.

### Coil features

As standard, fog/frost coils are installed to adequately protect both sides from low temp/high humidity.

Heating coils as standard come complete with Cu Tube/Cu Fins & SS304 casing with minimum 2.0mm fin spacing. .

Cooling coils as standard come complete with Cu Tube/ Aluminium Vinyl Fins & SS304 casing with minimum 2,5mm fin spacing. All cooling coils include for SS304 removable eliminators to prevent moisture carry-over.

DX solutions complete with expansion valves & paired condensing units are also available.

All coil materials can be bespoke & tailored to suit the needs of the application or the trusts requirements.

### Access doors

Access to all elements that require routine servicing via secure and lockable 500mm wide hinged doors before and after every mechanical component. Optional access from both sides of the AHU unit is also available. All access doors include for two stage opening sequence and viewing porthole with internal illumination.

### UV system

Ultra violet (UV) system to control microbiological growth, available as optional extra to be installed across heating, cooling and heat recovery systems.

### Heat recovery

We offer a range of high efficiency heat recovery systems in line with EU regulation No 1253/2018. PHX & RAR coils in stacked/ side by side configurations. RAR coil units can have independently isolated supply & extract decks. All our heat recoveries are protected by an ISO course  $\mu$ 60% filter mounted upstream, and come complete with drainage system. A variety of heat exchanger materials are available to suit your application needs i.e. epoxy coating for a corrosive environment.

### Colour coding and labels

Casing available in a variety of colour. Standard RAL 9002. Permanent identification label for air flow and test points.

### EC Fans

All EC fans come complete with IE5 motors & high efficiency impeller as a single assembly. There is no need for external VSD as they include for on-board VSD which runs off a 0-10v signal..

Where single fan solutions are proposed (generally <1m3/s duty) a spare will also be provided.

For critical applications and larger airflow requirements, N+1 fan arrangements are available through the utilisation of duty/ standby or multiple fan arrays. All EC fans are installed in a bulkhead arrangement complete with plug & play power connections which facilitates quick changeover within 20 minutes in the event of fan failure.



### Thermal wheel

If a thermal wheel is selected, brush seals should not be used. We offer enhanced airtightness seals, able to reduce bypass leakage down to 2% or even 0% using plates.

### Attenuator units

Attenuator modules of varying sizes can be integrated into the AHU providing suitable sound absorbing properties for the application. All attenuator modules come complete with suitable infill to prevent any fibrous particles entering the air-stream.

### Controls

Our package controls include for all necessary control ancillaries and control panel to facilitate monitoring of airflow/temperature/ pressure as expected from a package controls system.

All wiring complies with BS7671 and is tailored for HTM applications via steel trunking/conduit, providing effective cable protection which also facilitates cleaning.

### Frame, panel and base construction

Fully anodised and internally rounded aluminium frame joined with bolted composite corner blocks for improved sealing effect, in line with HTM 03-01, VDI 6022 and DIN 1946-4 standards.

Panels are based on our standard construction, 1.0mm thickness complete with mineral wool insulation adhering to latest HTM-03-01 regulations with a class 0 fire rating. 300mm integral base frame to cater to traps to all drain connections.

All components and Inner skins feature ultra-smooth surface finish to prevent water and dust ingress for efficient cleaning.

### Filters

All filter categories securely mounted in fully sealed frame with additional vertical supports to seal filter joints.

Easy access via withdrawal slip and hinged access door. All selected filters are either front withdrawal or side withdrawal via slide rails. Mounting arrangement is determined by specification/ size of AHU.

Filters grades are carefully selected dependant on application and specification.

### Drainage trays

All drain trays are manufactured from stainless steel with a glass trap (supplied loose) as standard. All drain pans feature a 4 way 1:20 slope and are extended for ease of access and maintenance from both sides..

# Eurovent certification

## Production performance guaranteed

Daikin Applied UK Limited participates in the Eurovent Certified Performance program for Air Handling Units - certified under 14.05.003

Check ongoing validity of certificate: [www.eurovent-certification.com](http://www.eurovent-certification.com) or [www.certiflash.com](http://www.certiflash.com)

### What is Eurovent?

Established in 1993, Eurovent Certita Certification is recognized as a world leader in third-party product performance certification in the Heating, Ventilation, Air Conditioning, and Refrigeration fields.

Eurovent Certification is accredited as a certification body compliant with ISO/IEC 17065:2012 standard by COFRAC (Accreditation Nb 5-5017). This accreditation is internationally recognized by the signatories of the International Accreditation Forum (IAF).

### Main certified characteristics

Mechanical characteristics:

- a - Casing strength (CS)
- b - Casing air leakage (CAL)
- c - Filter bypass leakage (FBL)
- d - Thermal transmittance of the casing (TT)
- e - Thermal bridging factor (TBF)
- f - Acoustical insulation of casing

Performance characteristics:

- a - Air flow - Available static pressure - power input
- b - Octave band in-duct sound power level
- c - Airborne sound power level
- d - Heating capacity\*
- e - Cooling capacity\*
- f - Heat recovery\*
- g - Pressure loss on water side\*



Result for D-AHU Professional (Energy Termic° S2&F2)		Eurovent Classification according to EN1886				
<b>D1(M)</b>	Casing strength (CS) Max. relative deflection mm x m <sup>-1</sup>	D1 4.00	D2 10.00	D3 EXCEEDING10		
<b>L1(M)</b>	Casing air leakage (CAL) at -400 Pa Max. leakage rate (f <sub>400</sub> ) l x s <sup>-1</sup> x m <sup>-2</sup>	L1 0.15	L2 0.44	L3 1.32		
<b>L2(M)</b>	Casing air leakage (CAL) at +700 Pa Max. leakage rate (f <sub>700</sub> ) l x s <sup>-1</sup> x m <sup>-2</sup>	L1 0.22	L2 0.63	L3 1.90		
<b>F9(M)</b>	Filter bypass leakage (FBL) Max. filter bypass leakage rate k in % of the volume flow rate	F9 0.50	F8 1	F7 2	F6 4	G1 TO F5 6
<b>T2</b>	Thermal transmittance of the casing (TT) (U-value) W x m <sup>-2</sup> x K <sup>-1</sup>	T1 U <= 0.5	T2 0.5 < U <= 1	T3 1 < U <= 1.4	T4 1.4 < U <= 2	T5 No requirements
<b>TB2</b>	Thermal bridging factor (TBF) (kb)	TB1 0.75 < K <sub>v</sub> <= 1	TB2 0.6 < K <sub>v</sub> <= 0.75	TB3 0.45 < K <sub>v</sub> <= 0.6	TB4 0.3 < K <sub>v</sub> <= 0.45	TB5 No requirements

# Filter range

## From our sister company



AAF has an in-depth understanding of the challenges for healthcare facilities, making them our preferred partner for air filtration. AAF products are designed to offer the highest efficiencies with the lowest energy requirements.

### HEPA and ULPA filters

HEPA and ULPA filters are the most efficient air filters commercially available and are used in applications requiring ultra-clean air. AAF HEPA filters are available in a variety of efficiencies.



### Pleated panel filters

High performance, high capacity filters, including specialty and standard capacity options. offers consistent air quality, improved process performance and optimised Total Cost of Ownership. Pleated filters can be used as pre-filters to protect and extend the life of higher efficiency, more expensive final filters.



### High efficiency extended surface filters

ideal for use in all high efficiency applications, including ICU, treatment rooms, laboratories and minor surgical suites.



### ISO16890 - The standard for air filter testing and rating

The world's leading health-related organisations consider PM10, PM2.5 and PM1 fine dust fractions as the most dangerous for humans. Their official documentation to the public refers to these PM levels. It is therefore logical that filter test methods and classifications follow this approach to demonstrate filtration performance.

**ISO International Standards Organization** issues a new standard for filter testing and rating

**ISO coarse**

ISO coarse – filters allocated to this range capture less than 50% of PM10 particles.

**ISO ePM<sub>10</sub>**

PM10 – Refers to the particle size fraction in the range from 0,3 µm up to 10 µm.

**ISO ePM<sub>2,5</sub>**

PM2,5 – Refers to the particle size fraction in the range from 0,3 µm up to 2,5 µm.

**ISO ePM<sub>1</sub>**

PM1 – Refers to the particle size fraction in the range from 0,3 µm up to 1 µm.

The precise definition of PM10, PM2,5 and PM1 is quite complex and not simple to measure. Public authorities, like the US EPA or the German Federal Environmental Agency (Umweltbundesamt), increasingly use in their publications the simpler denotation of PM10 as being the particle size fraction less or equal to 10 µm. Since this deviation to the above-mentioned complex "official" definition does not have a significant impact on a filter elements particle removal efficiency, the ISO 16890 documents refer to this simplified definition of PM10, PM2,5 and PM1.



# Service & Maintenance

on all brands of HVAC systems and solutions

## ✓ Service capabilities

- › Flexible maintenance contracts tailored to your needs
- › Maintenance of ALL brands of HVAC equipment
- › 24/7/365 emergency call out service
- › Up to four hour response time
- › Qualified site service engineers (F-Gas Registered)
- › Active remote monitoring with Daikin On Site (DOS)
- › On-site training for front-line personnel
- › Tailored Service Level Agreement (SLA)
- › Full chiller running logs taken on every service visit
- › Comprehensive spare parts & support on all brands
- › Retrofitting & refurbishment

## ✓ Benefits of a maintained system

- › Lower operation costs and energy usage
- › Extended life-cycle of assets
- › Fast and reliable remote diagnostics with Daikin On Site
- › Reduced equipment downtime and costly repairs
- › Improved indoor air quality

# Daikin PROtect

Daikin PROtect is a three year maintenance package (option to extend to five years) designed to protect and optimise your HVAC equipment. Because your maintenance is directly from the manufacturer, you can have peace of mind knowing that your assets are in the hands of the experts.

With a Daikin PROtect maintenance package:

- ✓ Fast and reliable remote diagnostics with Daikin On Site active monitoring
- ✓ Rapid fault identification and resolution
- ✓ Protected three year parts warranty (option to extend to five years) plus labor in the first year
- ✓ Up to four hour response time for emergency callouts
- ✓ Factory trained technicians (F-gas registered)

Conforms to SFG20 maintenance standard	✓
F-Gas leak test	✓
Oil Analysis	✓
Daikin on Site active monitoring	✓
Four visits per annum (1 major / 3 minor)	✓
3 years parts warranty	✓
1 point vibration analysis	Optional extra



# Daikin Rental

weather the unexpected

Whether you have long or short-term cooling needs, Daikin Rental UK delivers reliable rental solutions, applications expertise, and responsive support. As a building owner, facilities engineer or manager, you are always planning for "what ifs." Not to mention grappling with actual building emergencies. Daikin rental UK equipment and temporary heating/cooling capabilities are at your service 24/7 throughout the UK. We offer complete support that includes everything you need – from chillers and Air Handling units to heat and power.

## ✓ We've got your back - Emergency rentals

We supply everything you need with your rental including pumps and other equipment:

When your equipment fails, limiting downtime is mission critical. That's why Daikin Rental UK provides quick delivery and installation of reliable rental products to help you weather the outage. We're here to help get you back up and running, and can provide a full turnkey solution.

- ✓ Industry-leading efficiency and proven technology
- ✓ 24-hour turnaround on available inventory
- ✓ 8-hour average set up with on-site experts
- ✓ A comprehensive package, including pumps, flexible water piping connections, and electrical hookups



## ✓ Temporary pre-planned rentals

Forming a contingency plan for an outage can help you quickly get operations back to normal, limit financial loss, and help you breathe easier when the unexpected happens. Selecting the right-sized equipment is just one part of the process. The best contingency plans start by assessing and understanding your financial risk and then using this information to drive the rest of your plan. Our Rental Solutions experts can specify the supplemental cooling system required to support any situation you're experiencing.

- ✓ System maintenance
- ✓ Building expansion
- ✓ Heat generation from server rooms and IT equipment
- ✓ Seasonal load swings from weather or staff changes
- ✓ Contingency plans

# Daikin on Site

## active remote monitoring



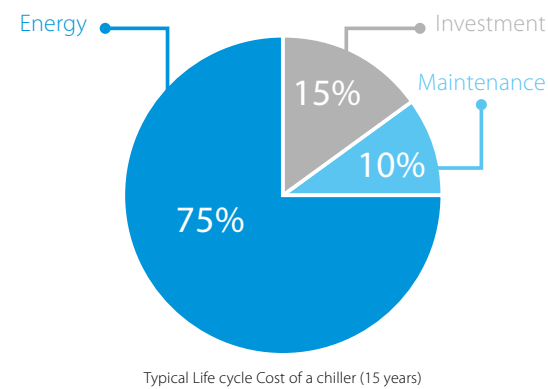
### What is Daikin on Site?

Daikin on Site (DoS) is a web-based 24/7/365 active remote monitoring system that collects complex operational data from the AHU or chiller control system.

Daikin's Smart Centre turns the operational data into useful information that allows the user to remotely monitor performance. It also allows Daikin professionals to remotely optimise and maintain the equipment.

### The lifetime cost of your system

Energy costs and maintenance typically account for 85% of the system's total lifetime cost. With DoS we can provide a preventative maintenance schedule to ensure maximum efficiency and reliability of your equipment, preventing costly downtime and major repairs and keeping your energy costs to a minimum.



### What you get with Daikin on Site

**Active monitoring and assistance**

- › 24/7/365 automated alarm via email
- › Remote diagnostic support from Daikin experts
- › Quick site assessment
- › Smart mobilisation of service personnel to site if necessary

**User friendly**

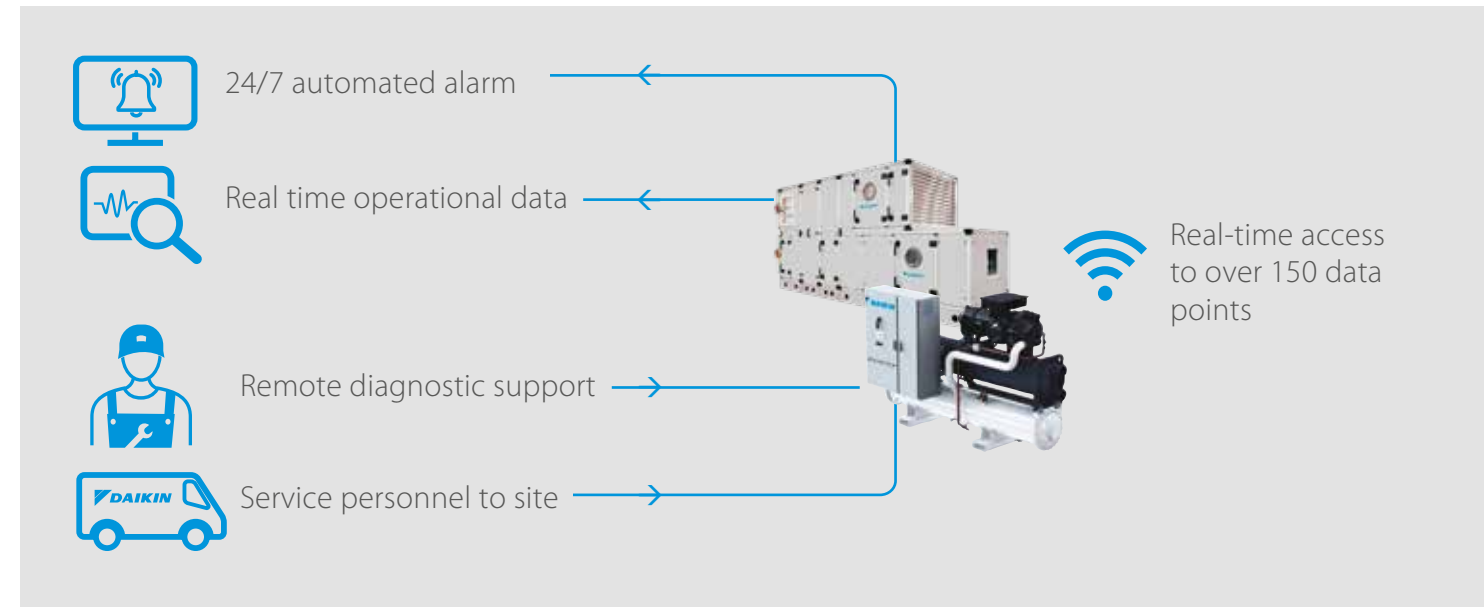
- › Access to DoS web app
- › Remote software upgrades
- › Interactive personalised dashboards

**Control and measuring**

- › Master / slave functionality
- › Real time operational data and trend insights 24/7/365
- › Lifecycle data log
- › Automated and tailored reports

**Efficiency and reliability**

- › Reduced operational costs
- › Optimised energy efficiency
- › Reduced waste
- › Reduced carbon footprint
- › Enhanced system reliability
- › Reduced system downtime



### How it works

**Cloud technology to hand**

Using cloud technology, process data is collected automatically in real-time and stored centrally.

**Simple, effective connection**

Most Daikin Applied Chiller and AHU controllers allow connection through LAN or with a wireless modem.

**Insight into operational data for enhanced control and reliability**

Through enhanced operational data, Daikin engineers are able to remotely monitor system performance, run diagnostics and software upgrades. If an on-site visit is required, the service engineer will arrive already informed of the issue, reducing system downtime.

**High security**

Secure in all aspects such as data privacy, data storage security and data transport.

- › All connections are encrypted (HTTPS) to prevent wiretapping and man-in-the-middle (MITM) attacks
- › CSA security attestation - security level 2.





# Case study

## Royal Papworth Hospital

Cutting-edge technology and unprecedented sustainability underpin one of the UK's biggest health sector construction projects.

### The Challenge

Daikin Applied UK successfully bid to work with Skanska on the design and build of 60 Air Handling Units (AHU) plus 3 water cooled chillers, totaling 1MW of cooling for one of the biggest health sector construction projects in the UK. The contract included design, build, on-site installation, commissioning and maintenance.

### Solution

The early appointment of Daikin Applied as the specified manufacturer allowed our engineering team to custom design each AHU unit to provide a bespoke solution and satisfy multi-space air conditioning requirements.

Daikin Applied's unique modular design has provided complete design flexibility with no restrictions to satisfy a bespoke solution to meet tight building and plant space limitations internally and externally.

To provide 1MW of cooling, Daikin Applied Engineers collaborated with the Skanska design team to modify the original design of air cooled installation, achieving a lower cost and improved efficiency water cooled solution.

Spatial restrictions are always an issue for plant rooms, particularly in hospitals where strict HTM maintenance requirements must be met.

Use of the latest high efficiency EC motor, low pressure drop and low maintenance components were the key features of the proposal by Daikin Applied. This was adopted by the Skanska design team as it exceeded the clients' expectations in unit size, performance, efficiency and budget.

During the commissioning period, further design restrictions imposed by the site mechanical installation have created additional challenges for our site commissioning team.

Our highly qualified site team responded to these issues by modifying the AHU designs in collaboration with our manufacturing facilities located in the UK, while our experienced project manager ensured the delivery and commissioning of the units were completed within the original time scale and budget.



**60 D-AHU Professional range (various air volumes)**  
**42 Internal units**  
**18 External Weather-proof Units**

**3 Water Cooled Chillers - EWWQ 430 L SS (360kW)**





# Case study

## UK hospital

D-AHU Professional air conditioning units with integrated internal corridor used for service and maintenance

At Daikin Applied UK, the D-AHU Professional can be configured to meet the exact specification of your premises. Opened in 2021, this spacious, state-of-the-art UK hospital had a requirement to house its air handling units on the roof of the building, negating the need for additional plant room space.

Daikin Applied UK supplied 9 x fully HTM compliant D-AHU Professional units with an integrated internal corridor used for service and maintenance, addressing access requirements and allowing the AHU units to be housed externally. Each internal corridor is 2000mm wide, with access doors at each end and internal lights.

The fully packaged plug-and-play units were shipped to site in one section and fitted with BMS controls, pitched roof gutters and down pipes.



11 x HTM compliant D-AHU Professional  
2 x internal units  
9 x external units with internal corridor



# Case study

## Grange University Hospital

Specialist and critical care centre opened its doors four months ahead of schedule to respond to winter pressures and Covid-19

This new £350 million state-of-the-art hospital has 560 beds within 55,000m<sup>2</sup> to provide complex specialist and critical care for over 600,000 people in South-East Wales. Construction by the main contractor, Laing O'Rourke began in 2017 with the hospital originally due to open in Spring 2021. The project team were asked to accelerate delivery due to covid-19, and the hospital was handed over, able to take patients four months early.

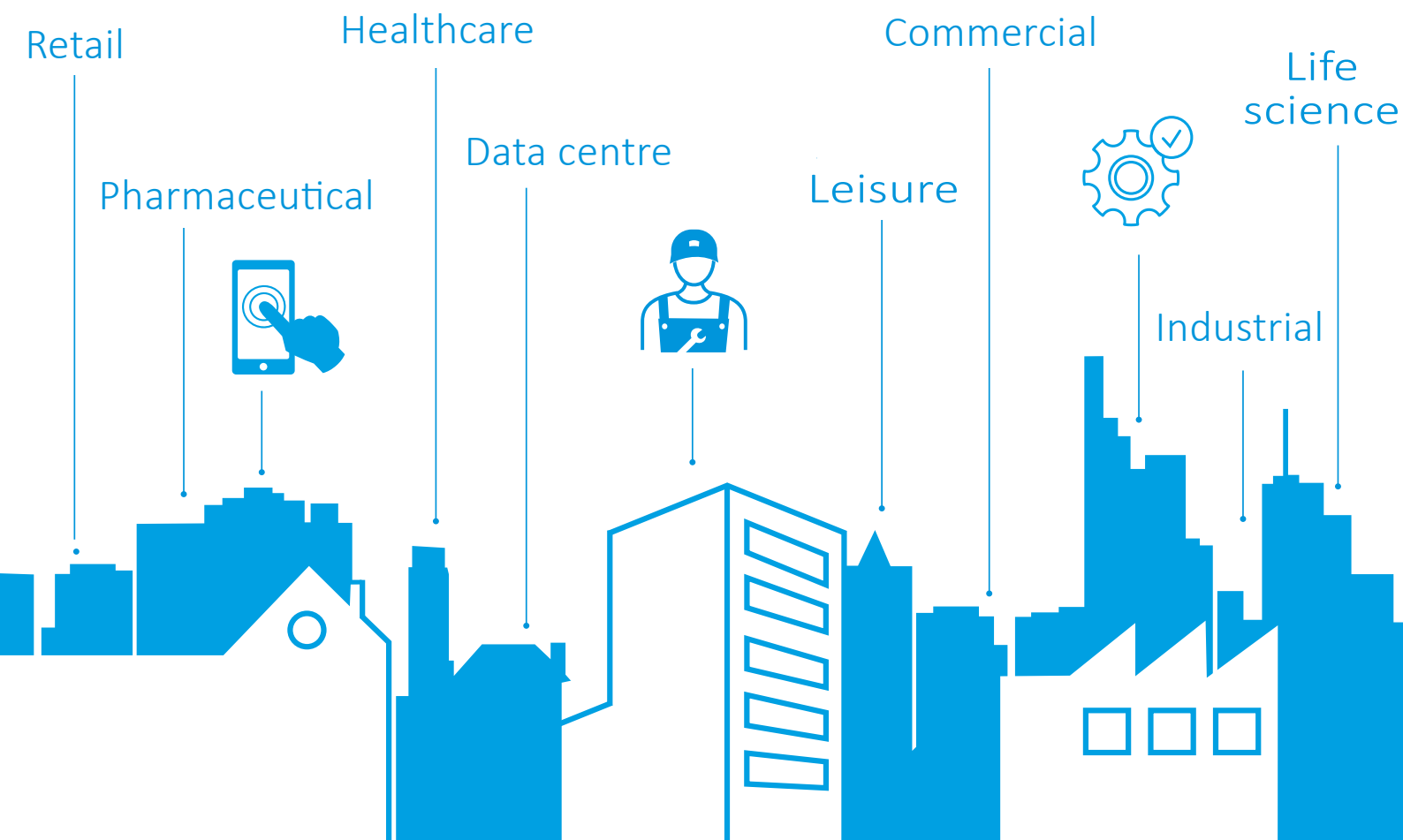
Mike Lewis, Laing O'Rourke Project Director said: "Early hand over was possible because we used Modern Methods of Construction (MMC) from the outset and in doing so were able to deliver 50% of the building to Aneurin Bevan University Hospital Board back in April – a year earlier than originally scheduled. This project marks a pivotal point in healthcare delivery, paving the way for future hospital builds."

He went on to thank all those involved in the successful delivery saying: "I am extraordinarily proud of the team of people who have delivered GUH four months ahead of schedule amidst a global pandemic."

Daikin Applied UK was contracted to supply 57 HTM compliant, packaged Professional air handling units, each designed and delivered on one common base, meaning less on-site work and lifting equipment and a subsequent cost saving for the client.

57 x HTM compliant  
D-AHU Professional





For more information email [info@daikinapplied.uk](mailto:info@daikinapplied.uk) or visit [www.daikinapplied.uk](http://www.daikinapplied.uk)

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