

EXI-TITE

HVAC SUPPLIER
DESIGN | SUPPLY | SUPPORT

Supporting industry professionals with specialist design services



HEATING
VENTILATION
AIR CONDITIONING
REFRIGERATION

www.exi-tite.com

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Exi-tite HVAC Supplier

Design > Supply > Support

Heating, Ventilation, Air Conditioning, Refrigeration



Exi-tite headquarters.

We are proud partners of:



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| ABOUT US

OUR COMPANY

Founded in 2013 Exi-tite has grown to be one of the leading HVAC solution providers to the construction industry, known for keeping that personal touch in a fast moving environment, supplying dynamic solutions and project management to our customers all across Europe.

With extensive product range, quality and support, we are proud that we are the UK's primary distribution partners for LG, LMF, Lennox and Vectaire, enabling us to provide a reliable supply channel; along with personalised design, specification and after sales care packages.

If you are working with Heating, Ventilation, Air Conditioning or Refrigeration, think of Exi-tite "Design, Supply and Support".

OUR VISION

"A Construction industry with Honesty and Integrity".

"Honesty and integrity provide the foundation of our core values. The relationships with our customers and suppliers should be long term and built on mutual trust and respect. The level of service we provide is linked to our workforce. Our employees are critical to the success of Exi-tite and their development is always a priority to us.

If we can contribute in an honest and sincere manner towards the businesses of our customers whilst providing energy efficient solutions, then this will be the reflection of our success .

"A construction industry with honesty and integrity"



Andrew Robinson- Founder



| CUSTOMER EXPERIENCE

DESIGN

Providing a service to consultant engineers and design & build contractors, we use in-house design capabilities to find a solution to your requirements.

Using the latest in design and selection software including Revit and AutoCAD, we will generate accurate solutions and simulations discussing with you every step of the way.

PREPARATION

Concluding our proposal to you we provide full specification, tender and technical submittal. Minimising your workload and giving you the material you need to deliver the project.

PROJECT MANAGEMENT

Checking logistics, ensuring delivery and liaising with other sectors are critical to ensure a faultless project delivery. Our dedicated teams deliver your project on time through proactive planning and effective communications

COMMISSIONING

Whilst we provide product training to contractors, we do like to be involved in your project and can provide onsite pre commissioning and commissioning to ensure a problem free start up. We can cover all parts of the UK and Ireland and provide a full detailed commissioning report.

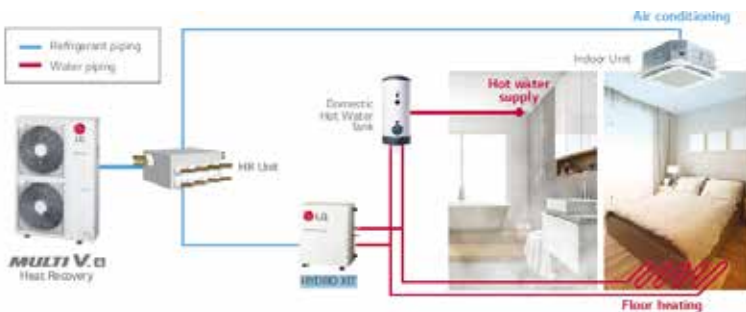
TECHNICAL PRODUCT SUPPORT

Long term partnerships are formed by supporting your requirements after the sale. We do not walk away. Our qualified engineering teams offer dedicated technical support to your clients.

| ABOUT LG ELECTRONICS

LG Electronics is a global leader in the HVAC industry and has a comprehensive, award winning range of air conditioning and air-to-water heat pump systems.

A key partner of Exi-tite since 2013, our design and engineering departments have grown to become experts of LG products. We chose LG due to the flexibility of their equipment, allowing for complex designs to be solved by one manufacturer.



Above: LG Multi V S Heat Recovery System

“We chose LG due to the flexibility of their equipment, allowing for complex designs to be solved”

LG MULTI V VRF TECHNOLOGIES

LG’s Multi V VRF systems offer a diverse range of solutions including:

- Hot water production- hydro kits
- Air handling unit communication kits
- Refrigerant leak detection accessories
- Power consumption distribution controls
- BMS integrated control systems



Above: LG Multi V 5 System with common module

Renowned for their engineering expertise, LG Electronics use of technology within their products is superior, such as the industry first ‘Dual Sensing Control’.

DUAL SENSING CONTROL FEATURE



Dual Sensing Control measures both the sensible and latent temperatures to meet exact load requirements. Consisting of:

Smart Load Control

Measures the changing outdoor ambient temperatures and prepares the Multi V VRF system before the conditions have a chance to change the indoor comfort.

Comfort Cooling

Monitors the outdoor temperature and humidity levels and controls the indoor unit superheat, reducing refrigerant volume flowing through the coil if required.



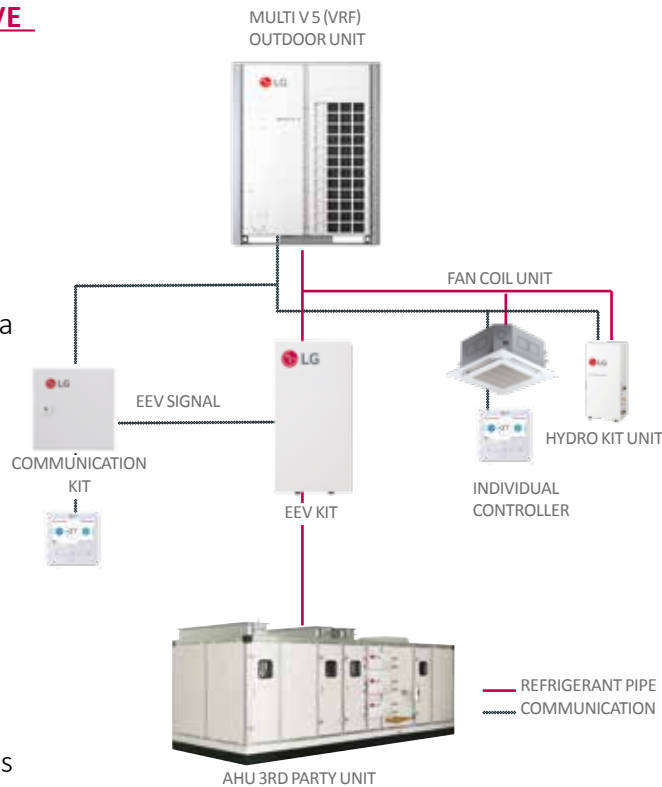
FLEXIBLE COMPREHENSIVE HVAC SOLUTIONS

LG's systems from 1kW to 286kW, design as single or modular set ups. Simultaneous operation allows energy harvesting from multiple areas within a building.

AHU COMMUNICATION

- connect to any DX coil

- Return and supply air temperature control
- Capacity control options
- Integrated BMS capabilities



HYDRO KITS

- for the Production of hot water

- Hot and chilled water
- Up to 80°C hot water
- Connect to heat pump or heat recovery systems
- Full BMS capabilities

INDOOR FAN COIL UNITS

- an array to suit any application

- Ceiling suspended
- Ceiling concealed
- Floor standing
- Floor concealed
- Wall mounted
- Fresh air units

ABOUT LMF CLIMA



Market leaders in air treatment solutions for over 30 years, LMF CLIMA part of the Ferraro Group, design and manufacture products to maximise indoor comfort with minimal environmental impact, creating a perfect balance between quality and price. Offering packaged heat pump systems or complete bespoke products, emphasis is placed on AHU modular design.

Exi-tite and LMF formed a working relationship in 2014 and we have now become LMF's largest European distributor. The flexibility to find solutions where others have failed have cemented our partnership. We are both driven by finding the optimal results for our customers.

Experts in LMF application, the Exi-tite design and support team work to create standalone solutions through use of an extensive list of accessory options or utilise the ease of combining with third parties to form bespoke packages.

Residential, commercial or industrial sector coverage comes at ease with an extensive product range.

THE HPR AIR HANDLING UNIT

Heat Recovery air handling units with built in heat pumps. An invaluable concept offering an all in one solution. Full enthalpy heat exchanger, integrated controls with BMS communications and options for a singular power supply for a quick plug and play installation.

Modular concepts navigate any logistical problems and with LMF's 'Alpha cycle' technology, full conditioning of room air can take place before opening up to any ventilation, reducing energy losses and maximising operational efficiencies.



Above: LMF HPR Air Handling Unit

HPR – High efficiency with Enthalpy Heat Exchanger and built in heat pump

- Hot gas bypass for freeze protection
- 3 module layout (easy logistics), plug and play connections
- Alpha Cycle – preheating air in the building before ventilating
- Heat recovery applications. (dehum kit)
- Night Cycle (low level ventilation / energy saving mode)
- Eliwell Control with open protocol BMS communications
- BISRIA tested
- Optional Sound attenuators
- Single Power connections

“Hotel application is quick and easy with these fantastic all in one products”

ADDITIONAL OPTIONS

DX coil - LTHW coil - Electric heater battery - Attenuators

5.300
m³/h



100
m³/h

THE HRS HEAT RECOVERY UNIT

With up to 91% exchange efficiency this powerful counter-flow heat recovery ventilation unit makes meeting the project specification simple. Internally insulated and equipped with EC fans directly coupled to brush less motors, noise levels are extremely low.

- 100 to 5300 m³/h
- 4.02 to 35.2 kW recuperated heat recovery
- 680mm minimum depth
- CO₂, PIR, BMS control options

“A great fit for educational facilities”

Above: LMF HRS Heat Recovery Unit

THE FLEXIBLE AIR HANDLING UNIT RANGE

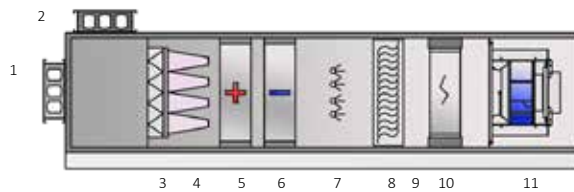
External DX
additions available



Plug & play control options
with BMS interface



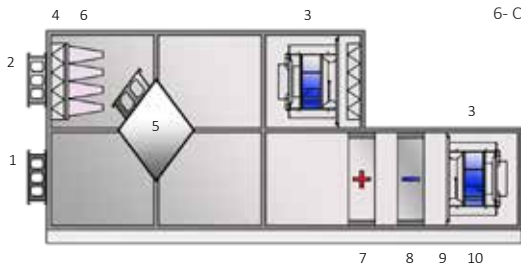
SUPPLY AHU OPTION



- | | |
|-----------------------------------------|------------------------------------|
| 1- Fresh Air Damper | 7- Steam Humidifier |
| 2- Recirculation Damper | 8- Droplet eliminator in PVC |
| 3- Mixing box with 2 dampers | 9- ALUMINIUM condensate drain tray |
| 4- G4 prefilter and F7 rigid bag filter | 10- Post-heating electric heater |
| 5- LTHW - Heating Coil | 11- EC Plug Fan |
| 6- Chilled Water Coil | |

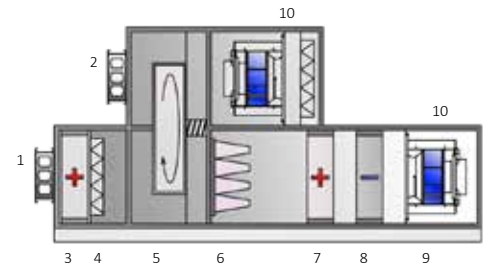
COUNTER FLOW HEAT EXCHANGER OPTION

Flat pack option available



- 1- Exhaust Air Damper
- 2- Fresh Air Damper
- 3- EC Plug Fan
- 4- G4 pre-filter on the fresh air side
- 5- Cross flow heat recovery with built-in by-pass damper for free cooling mode, with fresh air damper and exhaust air damper
- 6- F7 Rigid bag filter
- 7- LTHW heating coil
- 8- Chilled Water cooling coil
- 9- Droplet eliminator in PVC
- 10- ALUMINIUM condensate tray

THERMAL WHEEL OPTION



- 1- Fresh air damper and return air damper
- 2- Exhaust Air Damper
- 3- LTHW Frost Coil Tubes only
- 4- G4 Filter- Return Air Filter
- 5- Thermal wheel heat recovery
- 6- F7 Rigid bag filter
- 7- LTHW - Heating Coil
- 8- DX cooling coil
- 9- EC Plug Fan
- 10- Recirculation Damper

FLEX RANGE OPTIONAL CONFIGURATION

1000 m³/h → 1000,000 m³/h

ABOUT LENNOX



Lennox is a leading provider of climate control solutions for the heating, air conditioning and refrigeration markets and has commitment in providing their customers optimised and sustainable solutions. A global force with research, development and manufacturing within Europe, we chose Lennox because of their innovation, quality and service.

With testing chambers certified by Eurovent we are confident that the high efficiencies quoted are the ones delivered to you.

From 2013 our partnership has grown in strength. Offering an in depth range of products to suit almost every application, supported by our expert teams, you can be sure that the product and service you receive is of the highest quality.



Dry coolers & Condensers



Fan Coils

HIGH EFFICIENCY PACKAGED AIR TREATMENT UNIT

- Energy efficiency
- Accurate control
- Ideal indoor air quality
- Modular designs
- Reduced energy bills
- High comfort levels
- Reliable and flexible



Above: Lennox High Efficiency Packaged Air Treatment Unit



Air Treatment



Close Control



Air / Water cooled Chillers & Heat Pumps

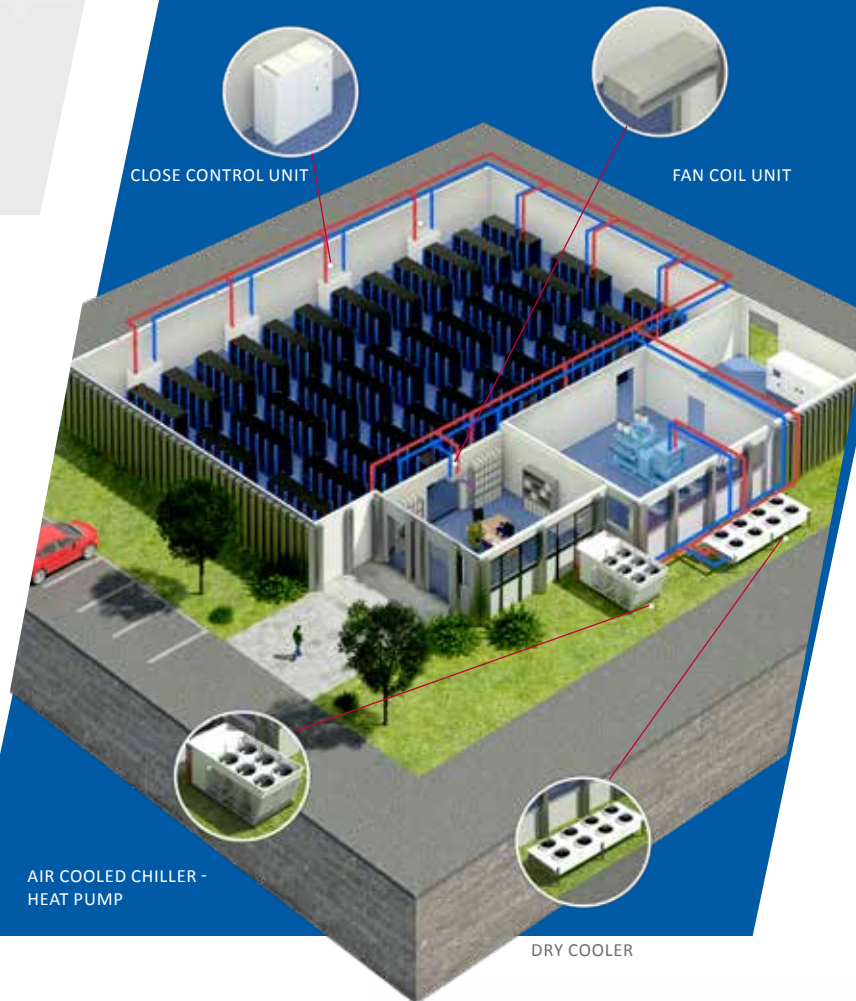
CHILLERS

For heat pump chillers, look no further than Lennox. 20 to 1000kw capacities from a single module. Low profile, small foot print, high performance and complete with heat recovery options to suit. These solutions complete with integrated control options, will keep your buildings at just the right conditions you need whilst maximising your building efficiencies.





“We chose Lennox because of their product innovation, quality and service”



DATA CENTRES

Quality and performance provide you the peace of mind to use Lennox in your data centre applications. Both air and water cooled condensers, with heat recovery and close control options, provide a complete chiller solution. With cooling operation down to -20°C ambient temperatures servicing your data centre in the depths of winter is something you no longer need to worry about.

LENNOX CLOUD

- Energy optimisation
- Maintenance cost reduction
- Visualisation and remote control

The Lennox Cloud is the remote supervision system of Lennox units. Through Lennox Cloud, any unit can be remotely controlled, adjusted or diagnosed. Lennox Cloud can check, optimise and troubleshoot allowing significant energy savings and optimising performances.



ABOUT VECTAIRE



Vectaire Ltd is a market leader in the design, manufacture and supply of ventilation products and systems, with over thirty years' experience in the air movement industry. This has led to an innovative approach to product development eg: intelligent humidity control, silent running, energy efficiency, high performance/energy ratio and more.

Partnered with us since 2014 we have used Vectaire products in an array of applications, due to their silent operation, flexibility and the support we receive as a key supplier.

Manufactured in the UK with over 27,000 square feet of storage space, Vectaire hold significant stocks of finished goods, and pride themselves on the rapid delivery of their products.

SAP approved and compliance to both Part L and Part F of the building regulations makes Vectaire a simple yet comprehensive fit into both specified and design build projects, with or without heat recovery features.

DECENTRALISED EXTRACTION

ELEGANCE, ELIX

- Quiet, Compact and Controllable
- Trickle and Boost energy saving features

Activation by:

- Humidity
- Frost thermostat
- Manual operation
- Holiday mode



Elegance



Elix

OPERATE FOR JUST 64 PENCE PER YEAR

Example taken at 14.5p per kWh operating for 8760 hours per year

CENTRALISED EXTRACTION

MICROBOX

Versatile and easy to install

- One inlet spigot
- One outlet spigot
- Choice of four trickle speeds
- Anti Vibration mounting
- Sound level of 21db(A)
- PIR, Humidistat control options



Microbox

CENTRALISED HEAT RECOVERY VENTILATION

STUDIO, MAXI PLUS, MAXI, MIDI

An efficient, low energy solution to controlling condensation and pollution

- Suitable for wet rooms
- Up to 94% heat recovery efficiency
- Connectible to BMS
- Trickle and boost fan speeds
- Bypass heat exchanger modes
- Specific fan power as low as 0.5W/l/s
- Array of control options available

“The centralised heat recovery ventilation ranges are perfect for student accommodation, hotel application and residential apartments ”



Maxi Unit

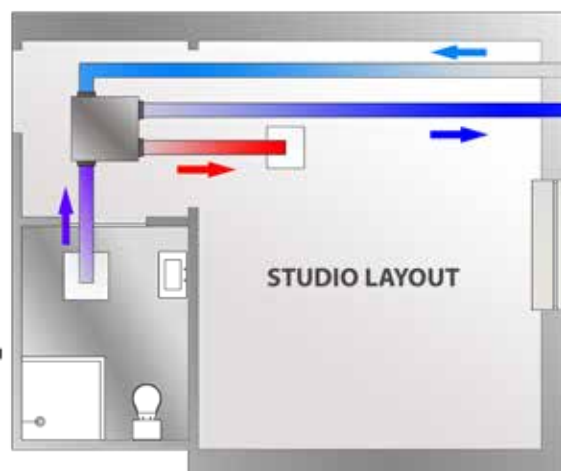
AIR MOVEMENT RATES

Maxi Plus: 238 l/sec
Maxi: 177 l/sec
Midi: 101 l/sec



Studio Unit

- Incoming Fresh Air
- Warmed Fresh Air
- Extracted Warm, Moist Air
- Cooled Outgoing Stale Air



PROJECT - LG EQUIPMENT

WESTMINSTER COURT - LONDON

This project was one of the first in the UK to utilise the new LG Multi V S Heat Recovery unit – for the gym and cinema area of the development. Designed specifically for small to medium-sized spaces, this compact and lightweight model offers simultaneous heating and cooling as well as the production of domestic hot water, with considerable installation flexibility and efficiencies.

EQUIPMENT

Outdoor units

- 21** x Multi V S units
- 8** x Multi V VRF units

Indoor units

- 228** x Low-static ducted
- 3** x Mid-static ducted

The Multi V S heat recovery units provided cooling to all the apartments, cooling for the gym and both heating and cooling to the reception/concierge and cinema areas. Outdoor plant space was extremely restricted here. Multi V VRF offer up to 80Pa external static pressure to help move discharge air.

OFFICE APPLICATION



“We were delighted to be involved in this prestigious development. It’s a perfect example of how LG equipment can be designed and incorporated in even the tightest installation envelopes. Once again the quality of our controls package tipped the balance when specification was decided.”



N060LSS

950

1240

500

760

ARUN160LTE4

ARUN160LTE4



PROJECT - LG EQUIPMENT

THE FLINT HOTEL - BELFAST

Blending in to the high class modern décor of Belfast's Flint Hotel are LG's wall mounted mirror units. Sited in bedrooms and landing units, these slim line, low noise, modern and stylish units maintain full climate control to a comfortable environment for the hotel's clientele.

EQUIPMENT

Outdoor units

8 x Multi V 5 VRF

Indoor units

65 x Multi V Mirror wall mounted

3 x Multi V Mid-static ceiling concealed duct

6 x Multi V Low-static ceiling concealed duct

1 x 4 way ceiling cassette

Complete climate control from LG's industry first 'Dual Sensing Control'

HOSPITALITY APPLICATION



“Using a feature called comfort cooling, the indoor units reduce their cooling impact to the air passing through them. As the room approaches the users set-point, the system produces an air temperature close to that of the room.”

This reduces any draft felt by the user dramatically and really improves their thermal comfort”



PROJECT - LMF EQUIPMENT

MARJORY KINNON AND OAKLANDS EDUCATIONAL FACILITIES

Internal environments are extremely important when considering the comfort and wellbeing of the pupils at both Marjory Kinnon and Oaklands educational facilities. These Middlesex based special educational needs and disabilities (SEND) schools recently both moved into new purpose-built premises offering state of the art facilities capable of delivering quality learning in a safe flexible environment for the 512 pupils that attend.

EQUIPMENT

Outdoor units

- 2** x HRS
- 4** x FLS
- 4** x Flex
- 14** x HPS

In order to provide building preheat, the HPS heat pump system adopts an air recirculation mode and uses the integral heat pump circuit to provide air up to 18°C into the building. LTHW coils mounted in local ductwork provides localised boosts and closer control to individual areas.

EDUCATIONAL APPLICATION

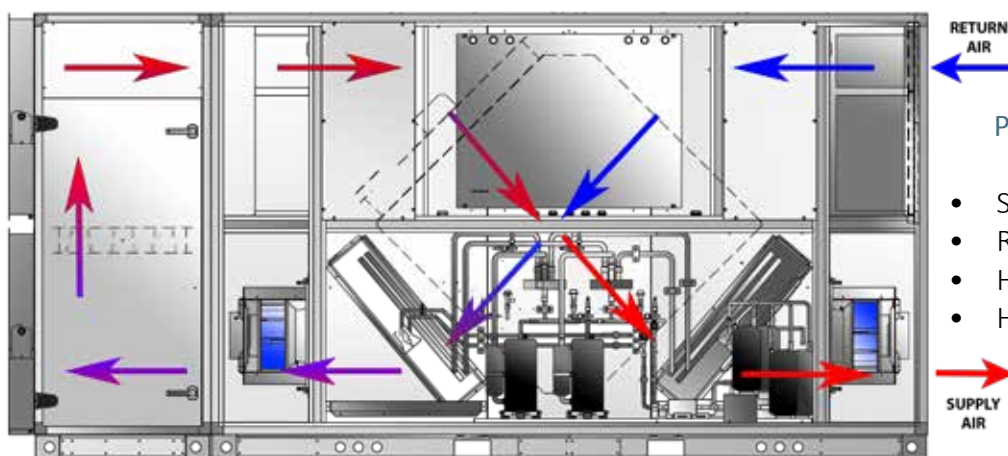


“LMF provides educational facilities thermal comfort and wellbeing so children can blossom”



THE ALPHA CYCLE

Using inverter heat pump technology to preheat from an AHU is now efficient and effective. It removes the use of electric heaters and makes the switch to renewable technology.

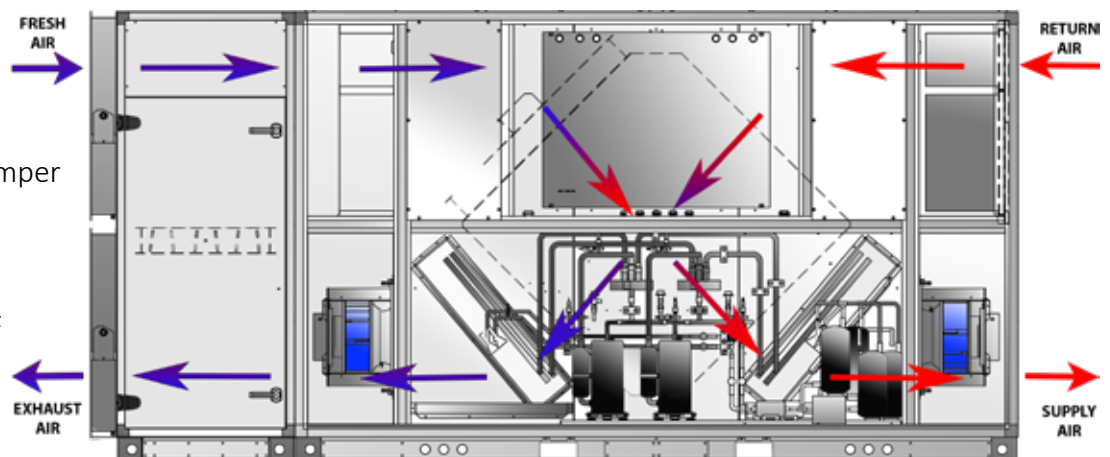


PREHEAT BY DX HEATING

- Supply and extract damper closed
- Recirculation damper open
- Heat pump ON
- Heat pump preheat ON

NORMAL OPERATION

- Supply and extract damper open
- Bypass closed
- Heat pump ON/OFF
- Heat pump preheat OFF



PROJECT - LMF EQUIPMENT

HAMPTON BY HILTON - EDINBURGH

External plant space was very limited on this project and so required a compact, fresh air solution with a high efficiency heat recovery mechanism. LMF's HPR product range provided an AHU with a heat recovery wheel and integral DX heat pump system to temper air as a comprehensive solution. Normally, to maintain the heat pumps operation during a cold morning start up, an electric heater batter is usually placed to add energy to the air being drawn from the building. This means that the temperature of air entering the evaporator coil is enough to maintain operation and prevent it freezing, when the AHU is outside its operational envelope.

To meet the sites power supply limitations preventing the use of multiple electric heater batteries, we developed a method using DX, operating as effectively, but 5 times more efficient than conventional methods

EQUIPMENT

Outdoor units

- 2 x HPR 92
- 1 x HPR 144
- 3 x LG High COP frost protection units

“Reducing power consumption whilst maintaining effective operation.”

HOTEL APPLICATION

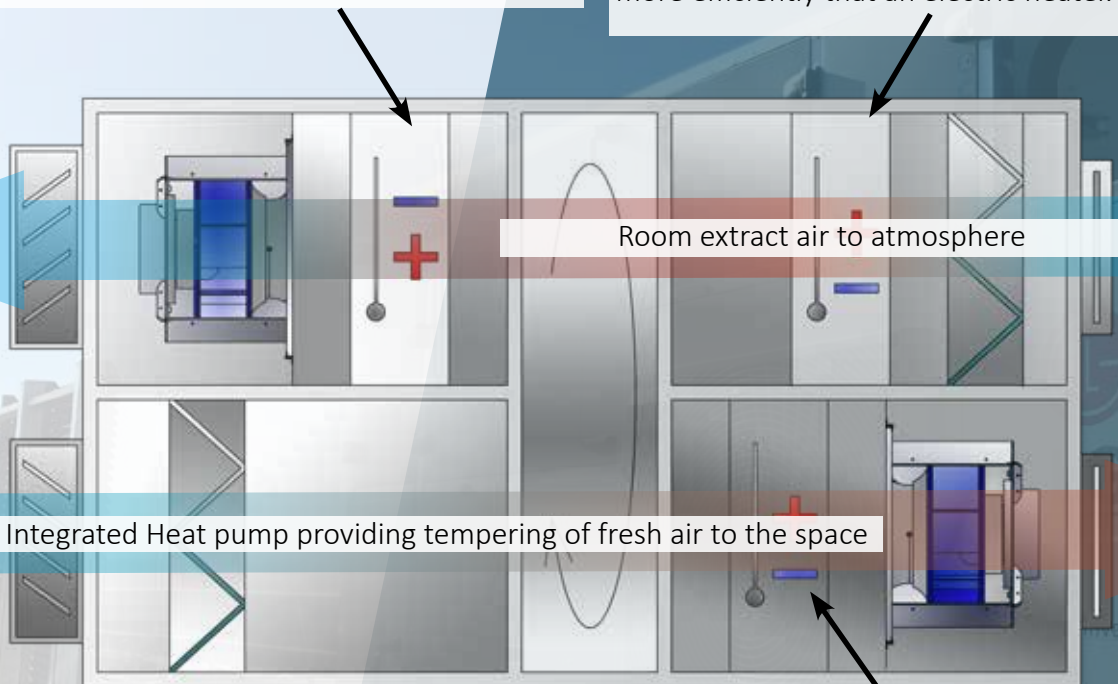


A. INTEGRATED HEAT PUMP EVAPORATOR (WINTER MODE)

Heat energy is transferred from the warm air stream exiting the building to the cold refrigerant, adding heat energy to the refrigerant to pass to the condenser (B)

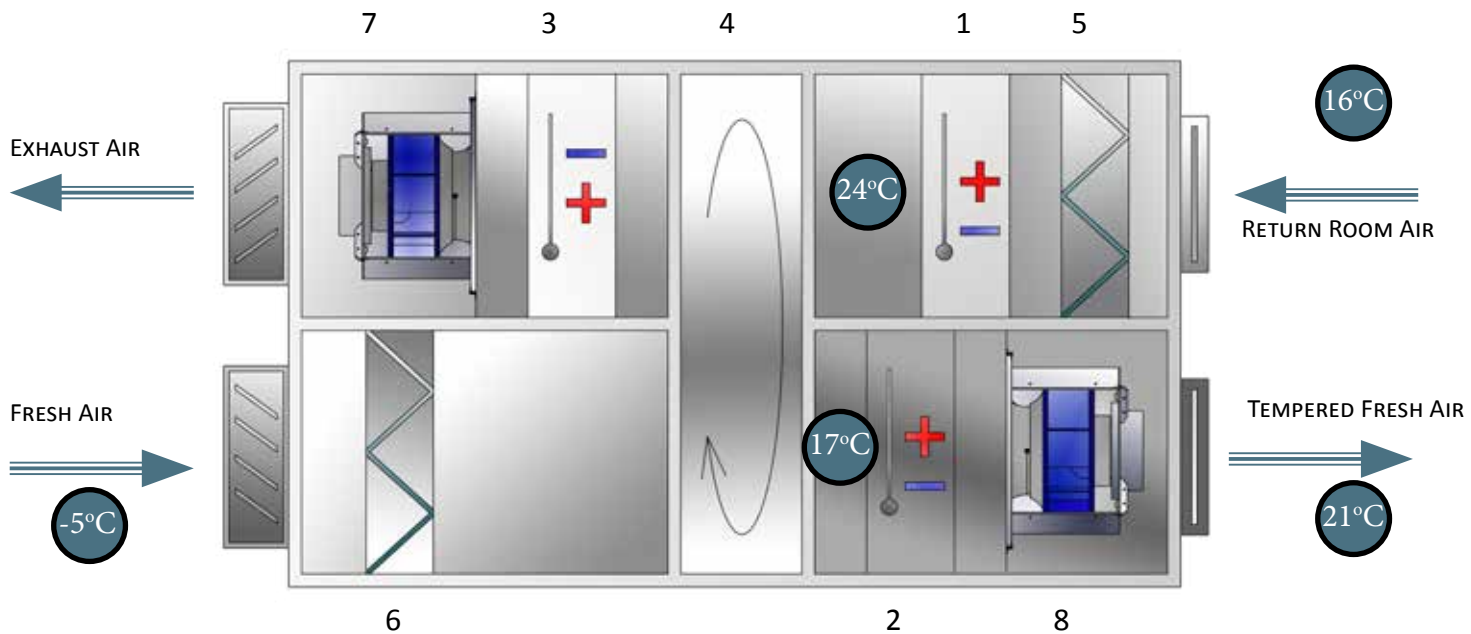
C. EXTERNAL HEAT PUMP CONDENSER (WINTER MODE)

If the air is too cold when reaching the integrated evaporator (a) from a cold building start up then the integrated heat pump will not work effectively. This preheat DX coil adds heat energy to the air much more efficiently than an electric heater.



B. INTEGRATED HEAT PUMP CONDENSER (WINTER MODE)

Heat energy is transferred from the hot refrigerant to the air stream, heating the air entering the building



Winter Mode

- 1- DX External Condenser- Frost Protection
- 2- Internal Heat Pump Heating / Cooling Coil
- 3- Internal Heat Pump Cooling / Heating Coil
- 4- Thermal Wheel

- 5- G4 Filter
- 6- G4 / F7 Filter
- 7- Extract Fan
- 8- Supply Fan

| PROJECT - LENNOX

HAMPTON BY HILTON - BOURNEMOUTH

This Hampton by Hilton is a focal point and a modern landmark for the area, serving 120 bedrooms, 15 luxury penthouses, a restaurant, cafe and bar area. The control factors available from Lennox provided efficient yet effective chilled water services.

EQUIPMENT

Outdoor units

4 x Neosys chillers- 1080kW total chilled water load

Indoor units

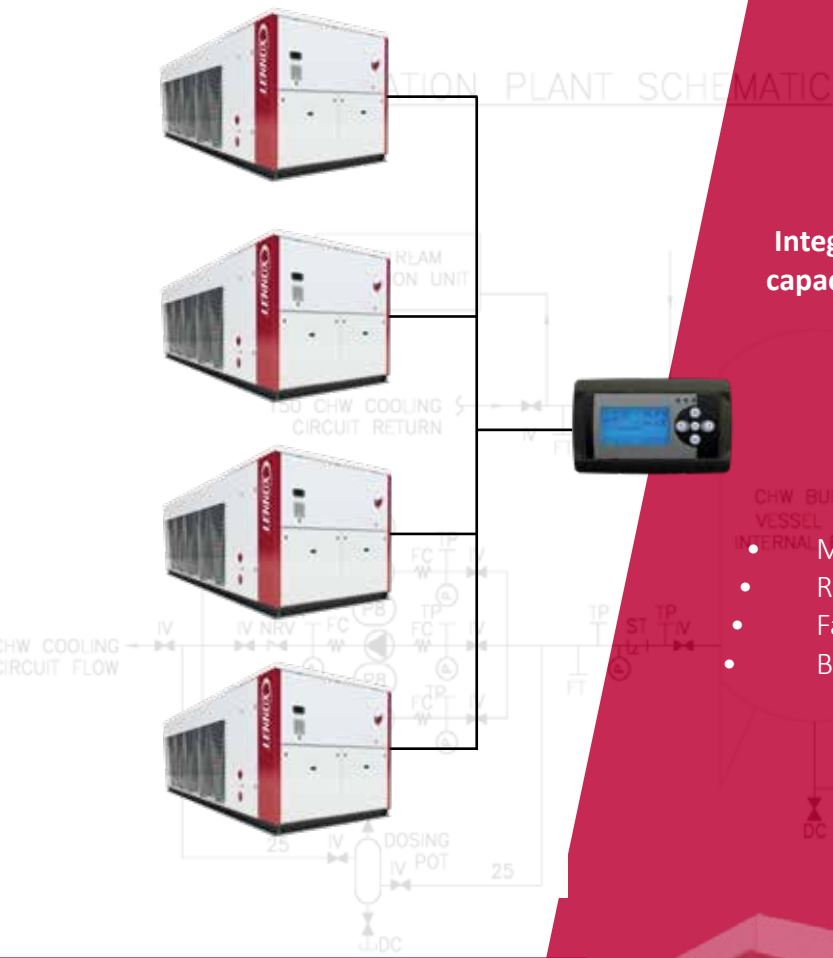
355 x Alegra 4 pipe fan coils

Controlled Via BMS in a master slave configuration and with 28% minimum operation ratio, load control through cascade operation maintains a chilled water header at the desired temperature

HOTEL APPLICATION

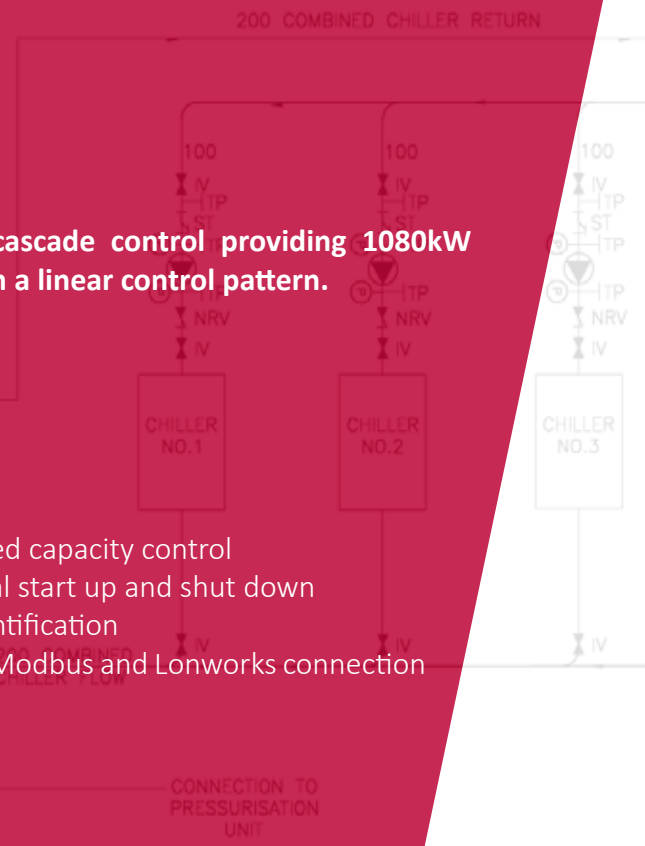
“Modulated control provided this Hospitality application with chilled water comfort cooling”





Integrated cascade control providing 1080kW capacity with a linear control pattern.

- Modulated capacity control
- Rotational start up and shut down
- Fault identification
- BACnet, Modbus and Lonworks connection



PROJECT - CFD ANALYSIS

FULHAM HIGH STREET - LONDON

Just around the corner from the river Thames, sat proud on Fulham High Street is a new development, one of distinctive features compared to its surroundings. With 49 apartments, 4 retail units and 10 Town houses, this development provides high class residential dwellings with prime location for commercial space.

EQUIPMENT

Outdoor units

- 5** x Multi V 5 VRF
- 11** x Multi V S VRF

Indoor units and control solution

- 70** x Multi V Low-static Ceiling Concealed Duct
- 1** x BACnet Gateway
- 1** x Power Distribution Indicator

Designed to NR25 with automatic independent electricity billing using CFD analysis. Thermal comfort was maximised by LG's Dual sensing control and 'Comfort Cooling' technology.

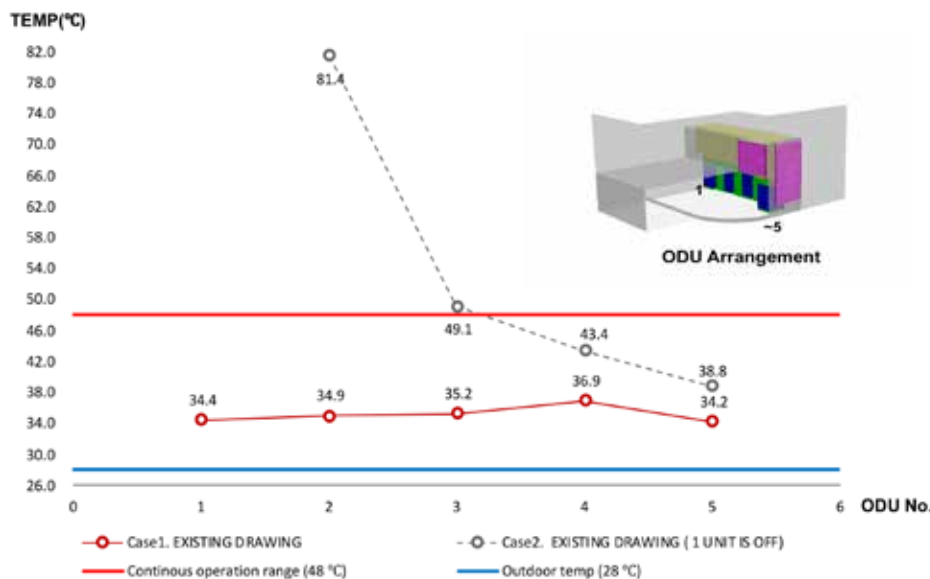
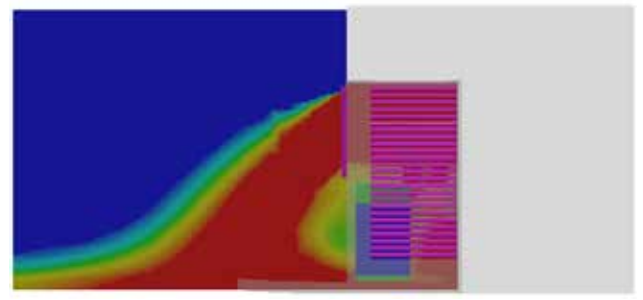
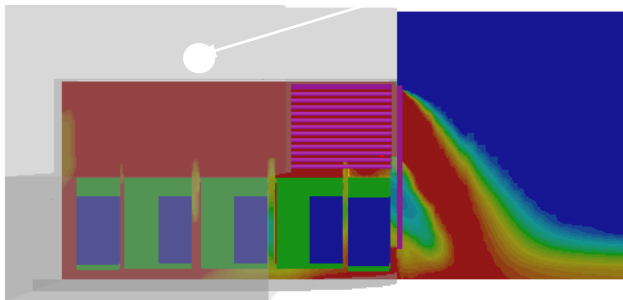
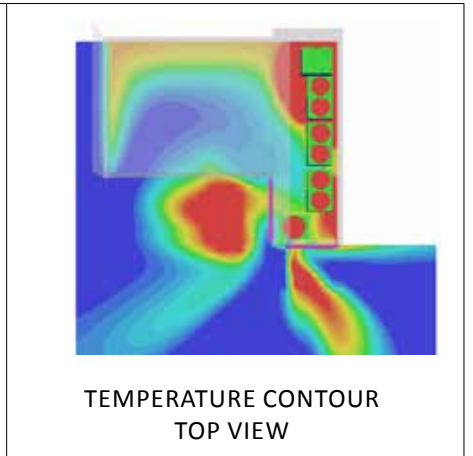
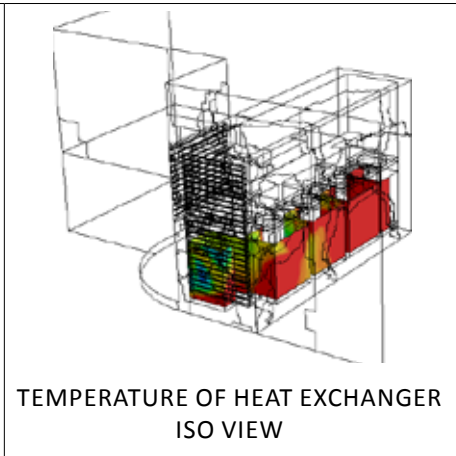
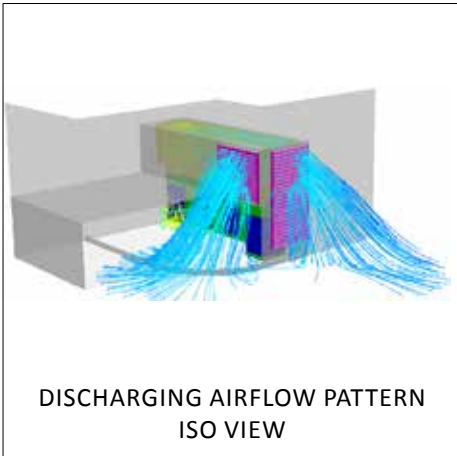
RESIDENTIAL APPLICATION



“Independent billing is essential for residential application where common equipment is being used”



BUILDING MODELLING SIMULATION TO REMOVE DISCHARGE AIR



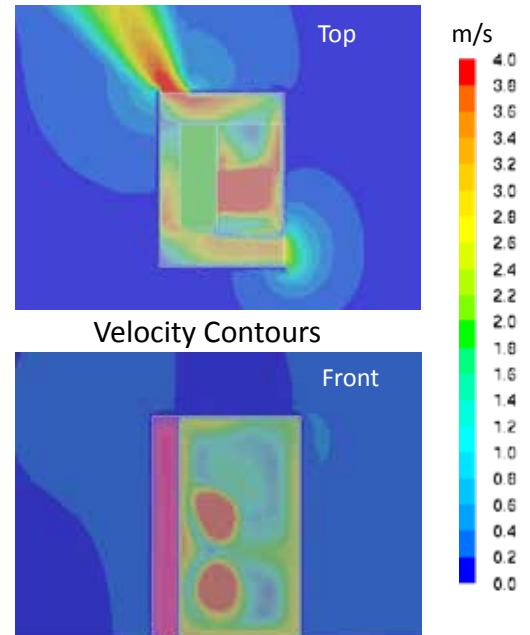
“CFD analysis proved critical here, we had to reposition the whole group of outdoor units to allow the dissipation of heat.”

PROJECT - CFD ANALYSIS

SIMULATION AIR FLOW ANALYSIS

BERNARD MORGAN HOUSE

The centre of London is always difficult to specify products outside, especially with strict noise criteria. Computational fluid dynamics played a big part in designing acoustic enclosures and simulating noise levels for the surrounding premises.

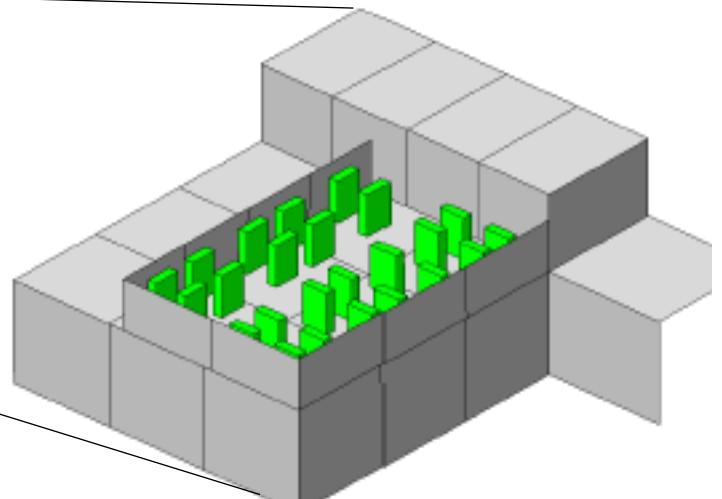
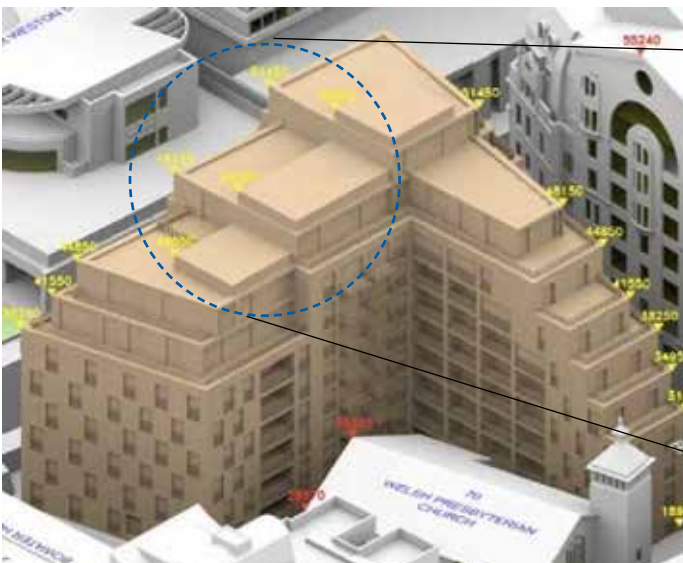


MEETING SPECIFICATION

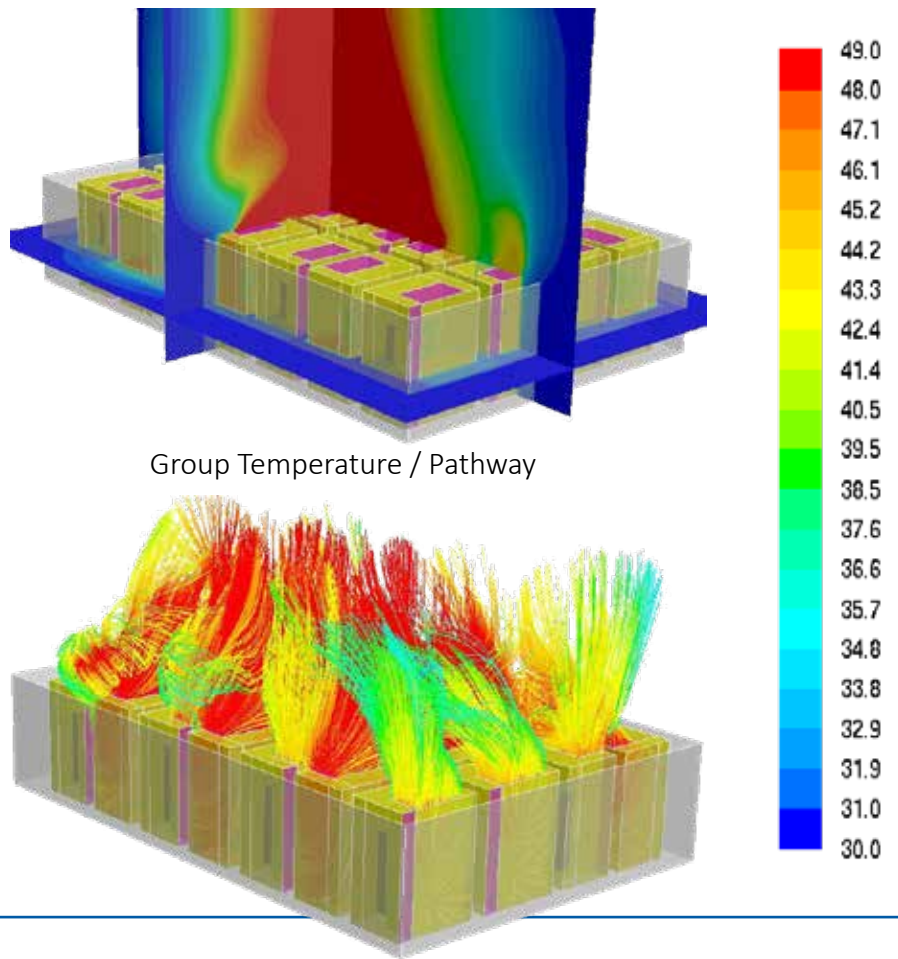
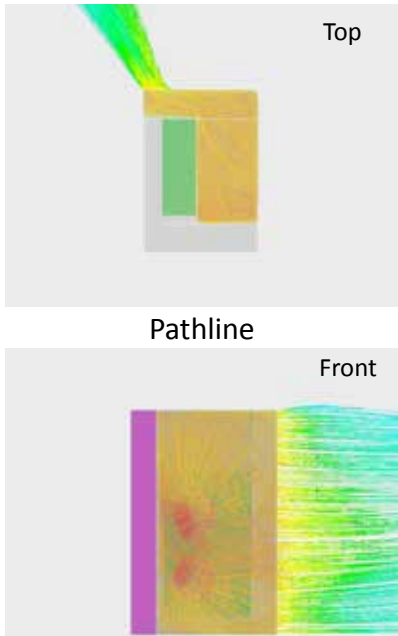
SIMULATION NOISE ANALYSIS

- Background noise : 30dB/A, Operating ratio : 100%,
- Noise source : 35dB/A (reduced by acoustic enclosure)
- The maximum noise is 43.5dB/A on the height of 1.5m from floor

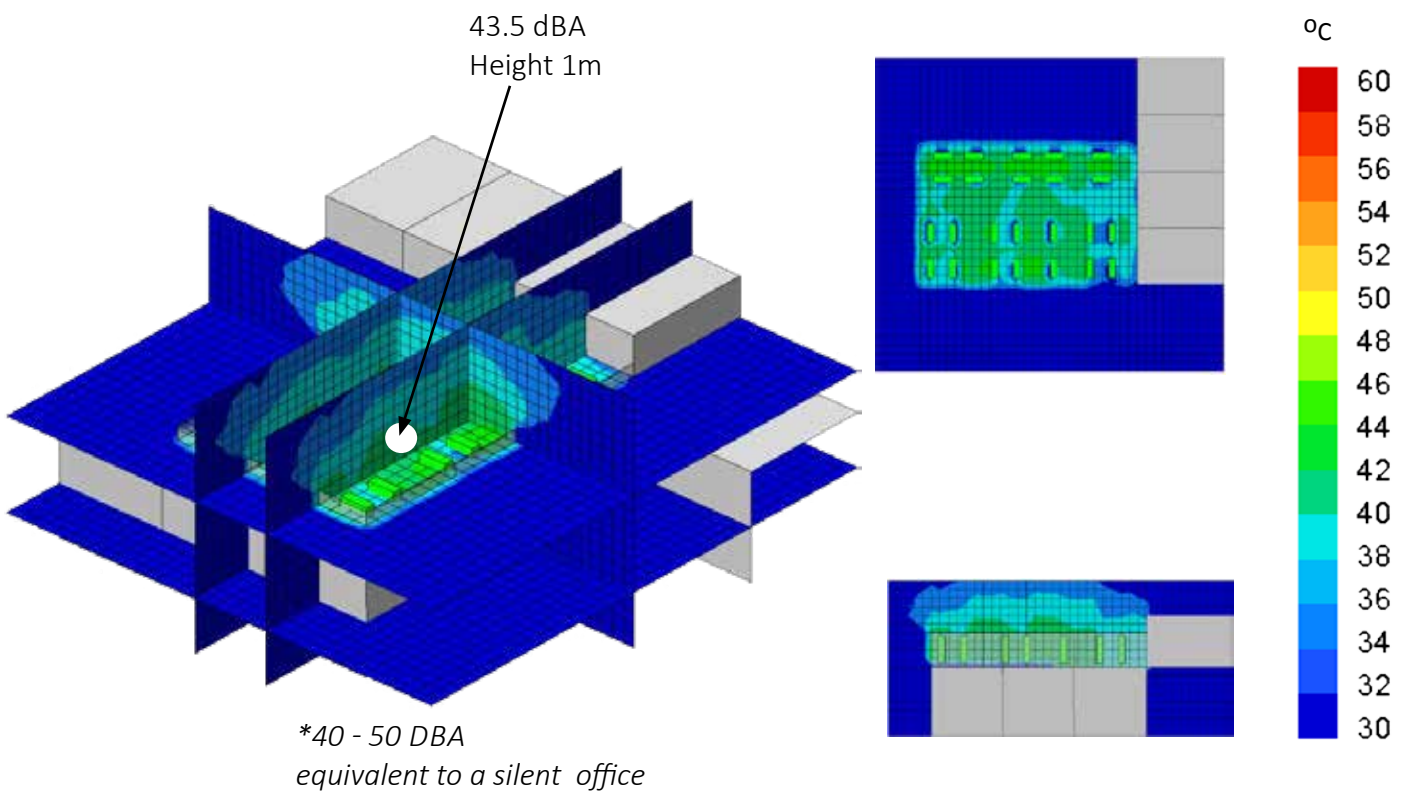
“Noise simulation allows us to meet critical design conditions”



Simulation shows systems operating at 47.8°C resulting in a 22% system capacity loss if installed in this configuration.



ACOUSTIC TESTING TO DETERMINE RESIDENTIAL IMPACT





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