




CIAT

Our solutions for hospitality






WE DESIGN AND MANUFACTURE WHERE YOU ARE, IN EUROPE



 4 Centres
of Excellence

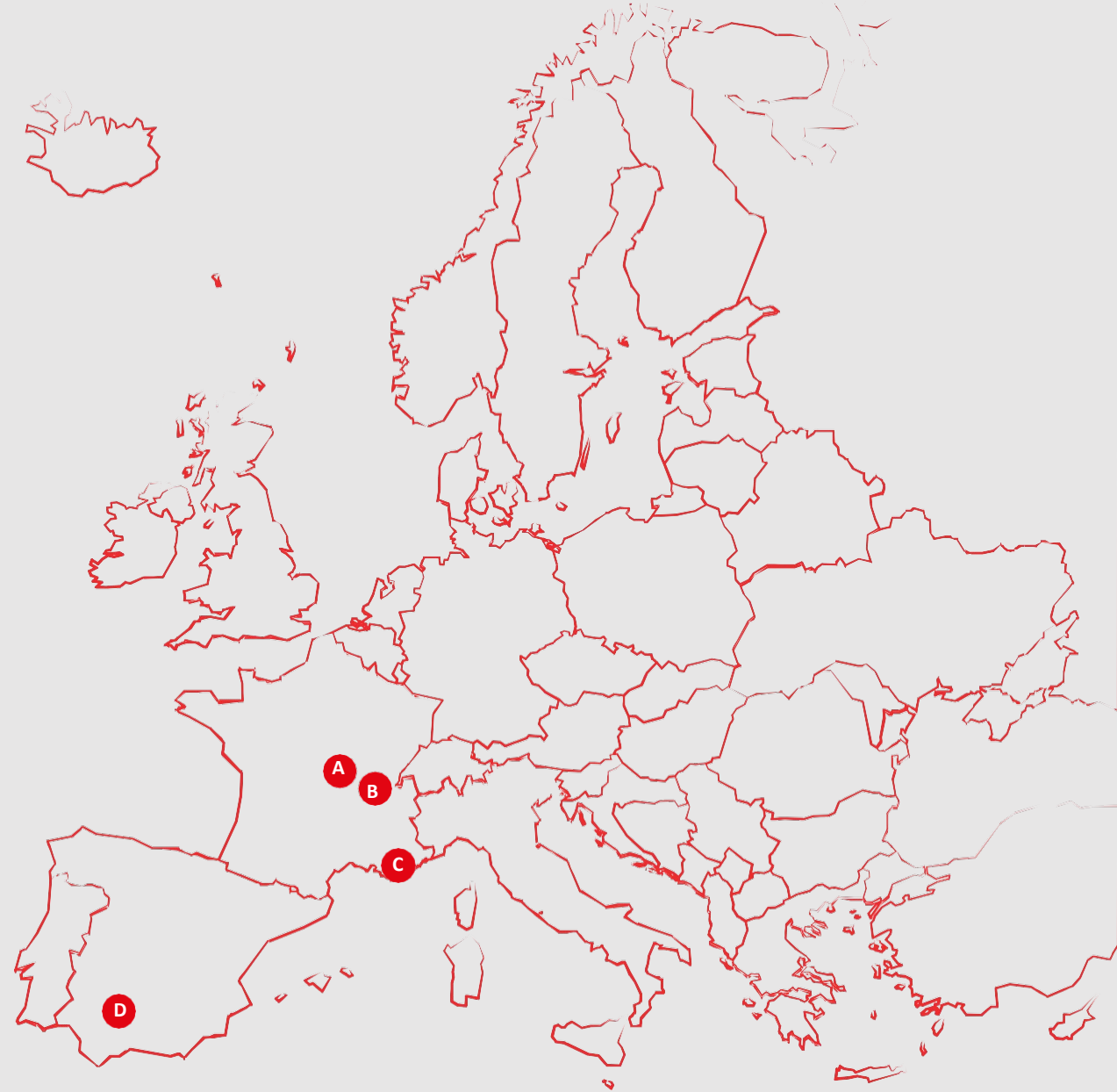
 3 Production Sites

A **Montluel**  
Commercial Chillers

B **Culoz**  
Airside products

C **Vence** 
Cristopia

D **Montilla**  
Rooftop & light
commercial chillers



WORLD CLASS AIRSIDE FACILITIES

Airside expertise

Our research and design center and laboratory has seven innovation platforms, equipped with state-of-the-art test and measurement tools, fully dedicated to airside applications.

Teams at this 3000m² facility in eastern France carry out prototyping and testing for our development teams and ultimately for our customers, who are looking for the best in innovation.

Industrial Excellence

The skills and expertise of our teams are backed by completely integrated powerful production facilities resulting in a fully-mastered industrial procedure.

Our manufacturing sites are certified with ISO 9001, ISO 14000 and OSHAS 8001.



WE ARE AIR QUALITY SPECIALISTS

Heating

Ventilation

Air
Conditioning

Cooling



PROPRIETARY

A Carrier Company

WE TRULY UNDERSTAND EACH VERTICAL SEGMENT



Health
Care



Hotel



Shopping
Centre



Office



Individual
Housing



Collectives
Housing



Cinema



Logistics



Industry



Administration

TAILOR-MADE SOLUTIONS FOR ALL YOUR CHALLENGES



Customers' comfort



COMFORT LINE™



COADIS LINE™



CLIMACIAT®



FLOWAY®

Energy optimisation



DYNACIAT™



AQUACIAT™ & AQUACIATPOWER™



AQUAIR® PREMIUM BCP

Peace of mind



HIGH QUALITY SERVICE



OPERATION



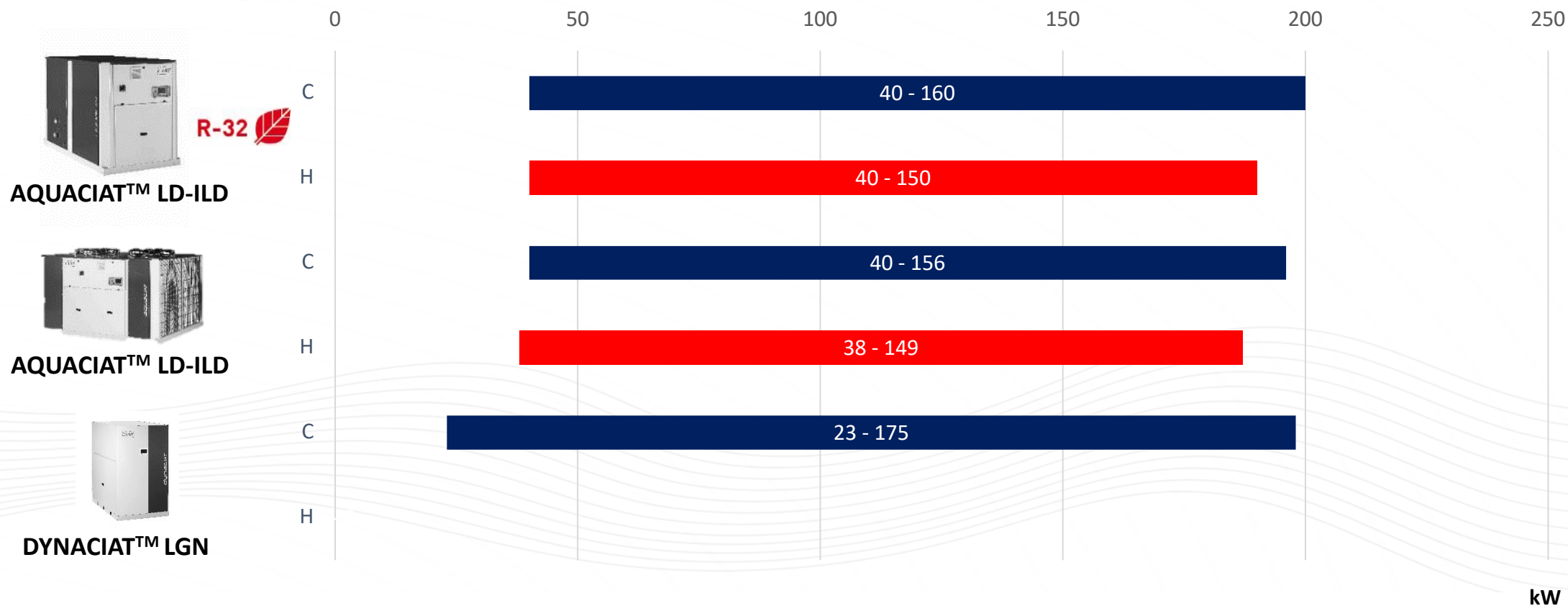
ASSESSMENT



AIR COOLED CHILLERS



HOTELS



kW



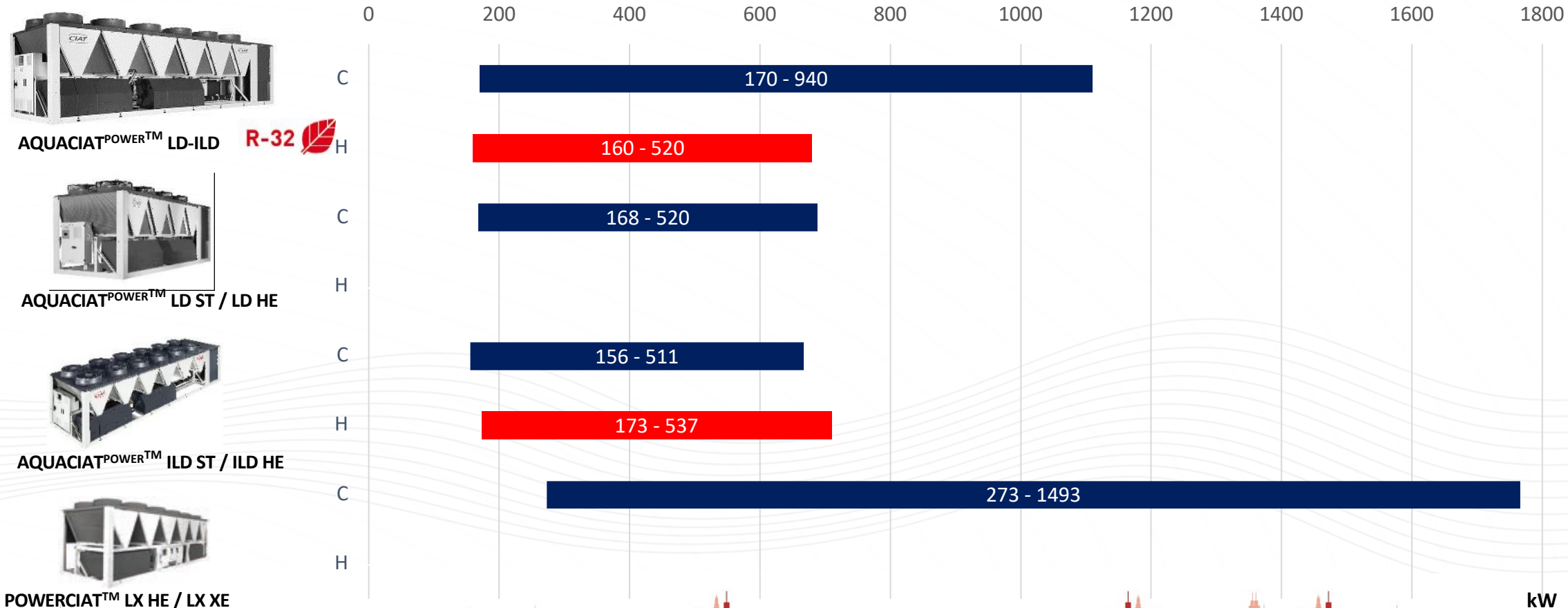
PROPRIETARY

A Carrier Company

AIR COOLED CHILLERS



HOTELS



kW



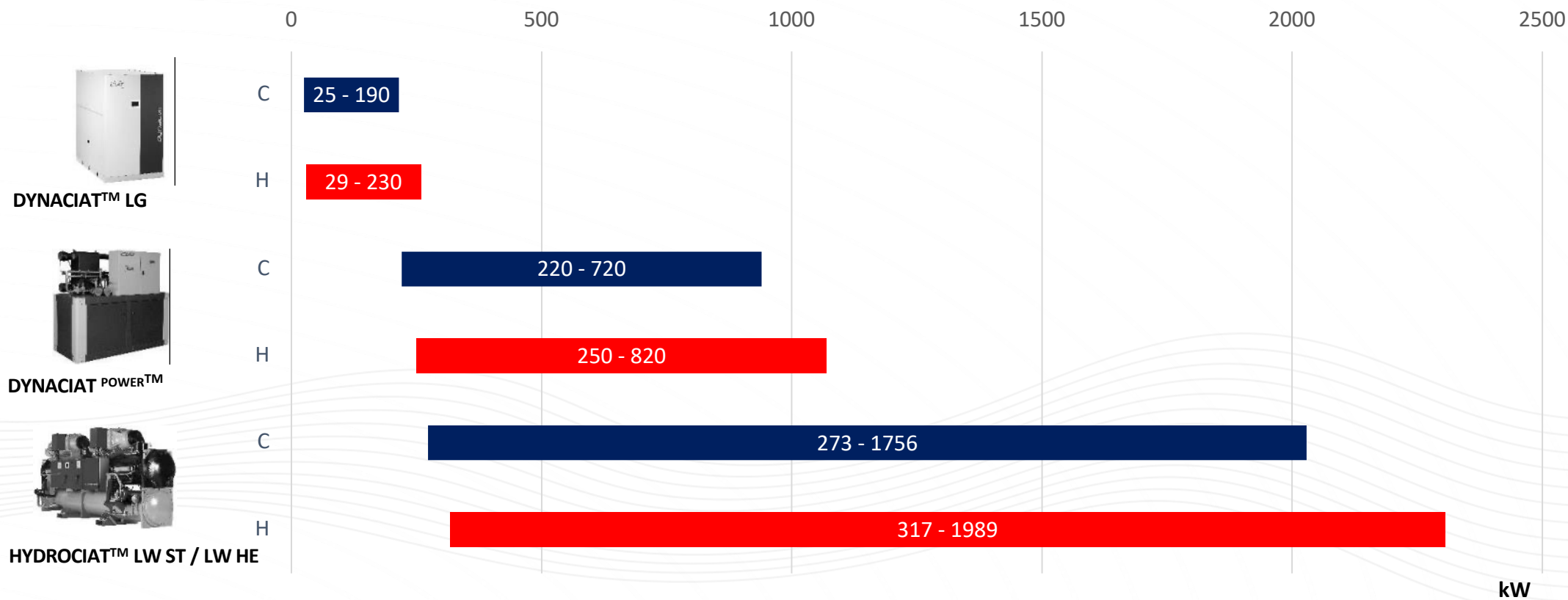
PROPRIETARY

A Carrier Company

WATER COOLED CHILLERS



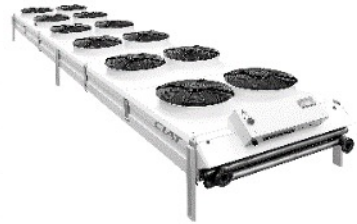
HOTELS



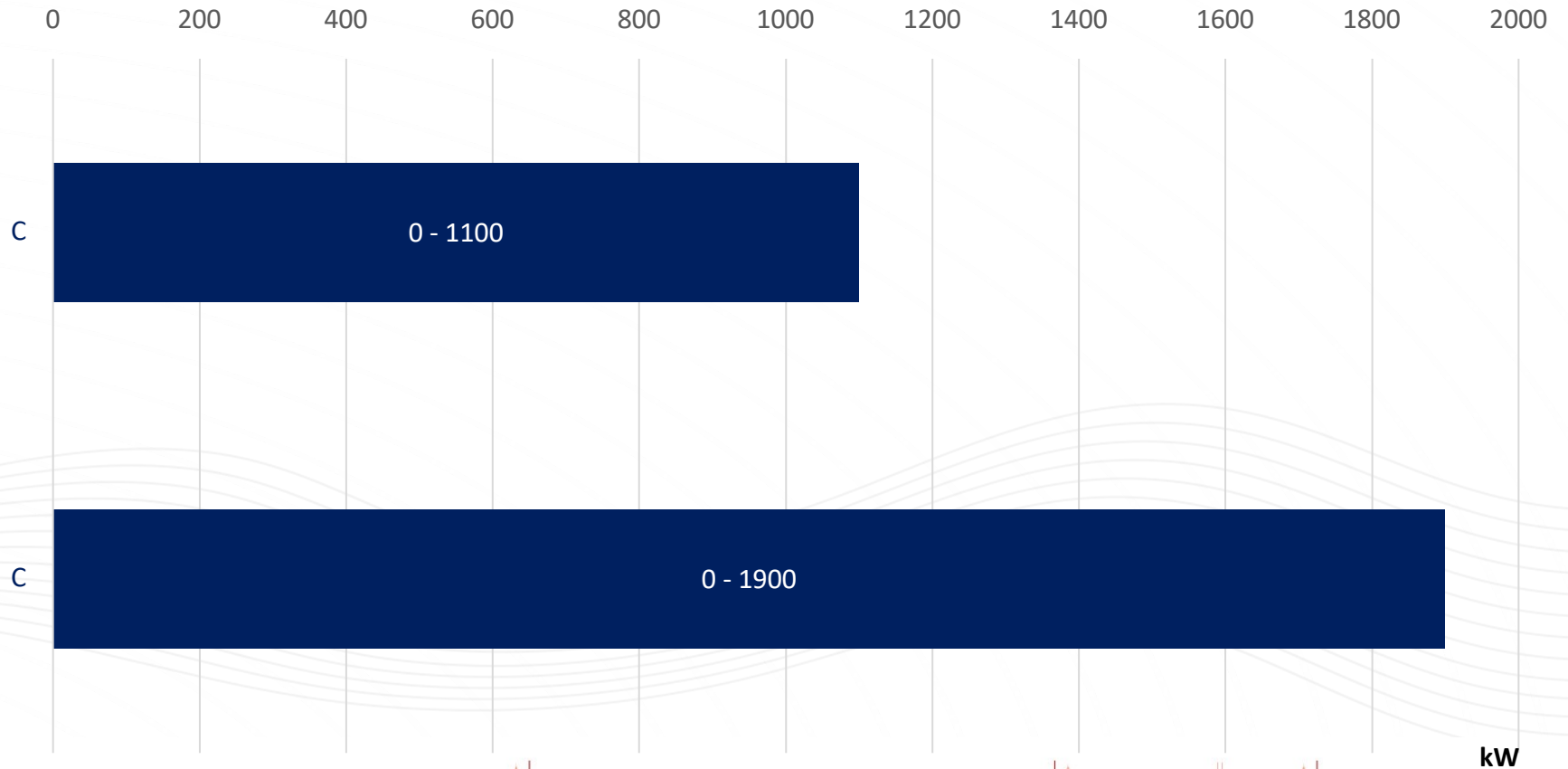
PROPRIETARY

A Carrier Company

DRYCOOLERS & CONDENSERS



OPERA™



VEXTRA™

kW



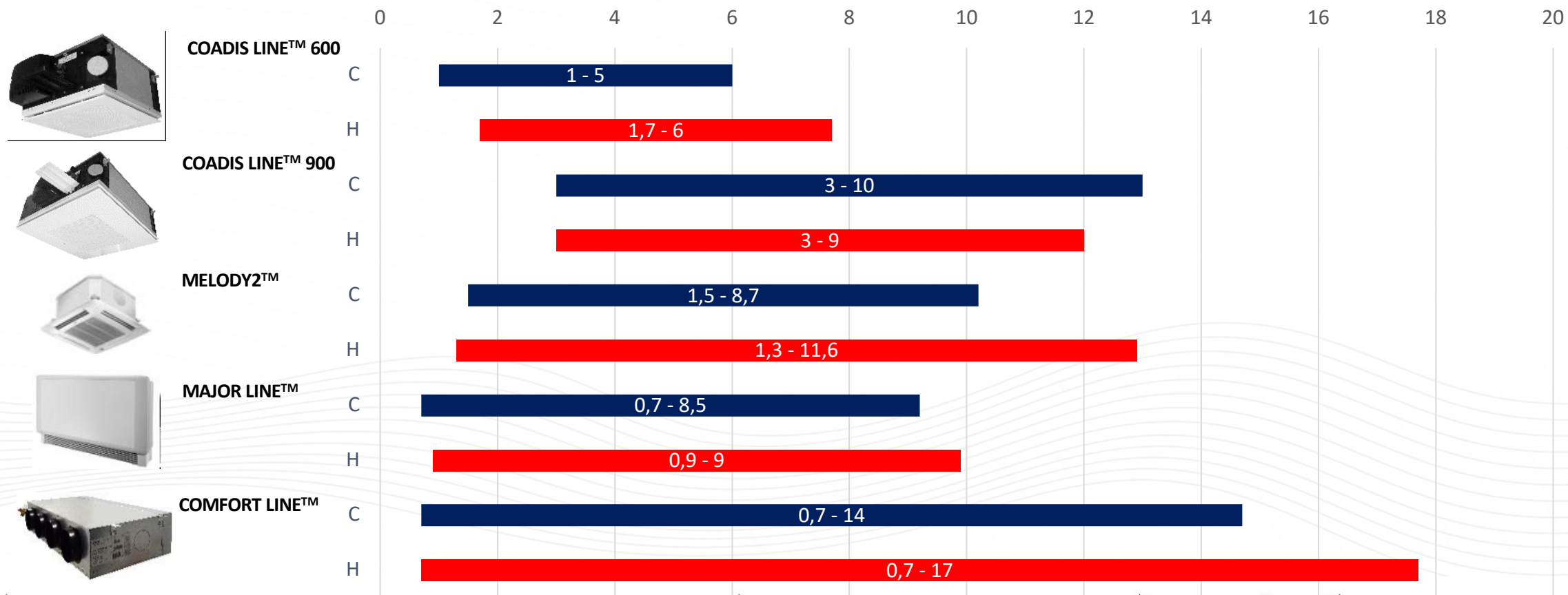
PROPRIETARY

A Carrier Company

COMFORT UNITS



HOTELS



kW



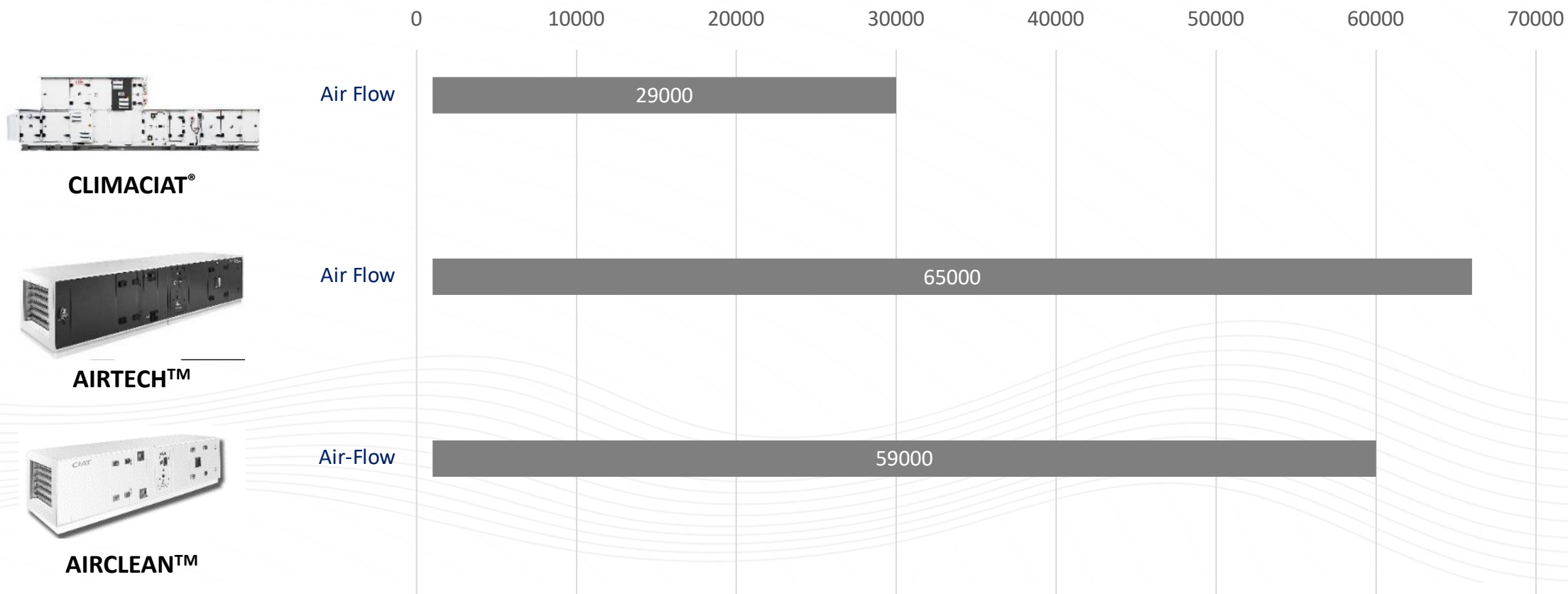
PROPRIETARY

A Carrier Company

AIR HANDLING UNITS



HOTELS



m³/h



PROPRIETARY

A Carrier Company

CLOSE CONTROL UNITS



HOTELS

-10 10 30 50 70 90 110 130



EXPAIR™

C

5 - 50



MAGISTER®

C

10 - 116

kW



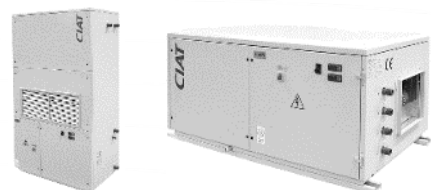
PROPRIETARY

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SWIMMING POOL DEHUMIDIFIERS



HOTELS



JUNIOR™ BCP

Dehumidification capacity

4 - 15



AQUAIR® PREMIUM BCP

Dehumidification capacity

56 - 74



AQUAIR® BCP

Dehumidification capacity

22 - 74

Kg water/h



PROPRIETARY

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CIAT HVAC SOLUTION FOR HOSPITALITY



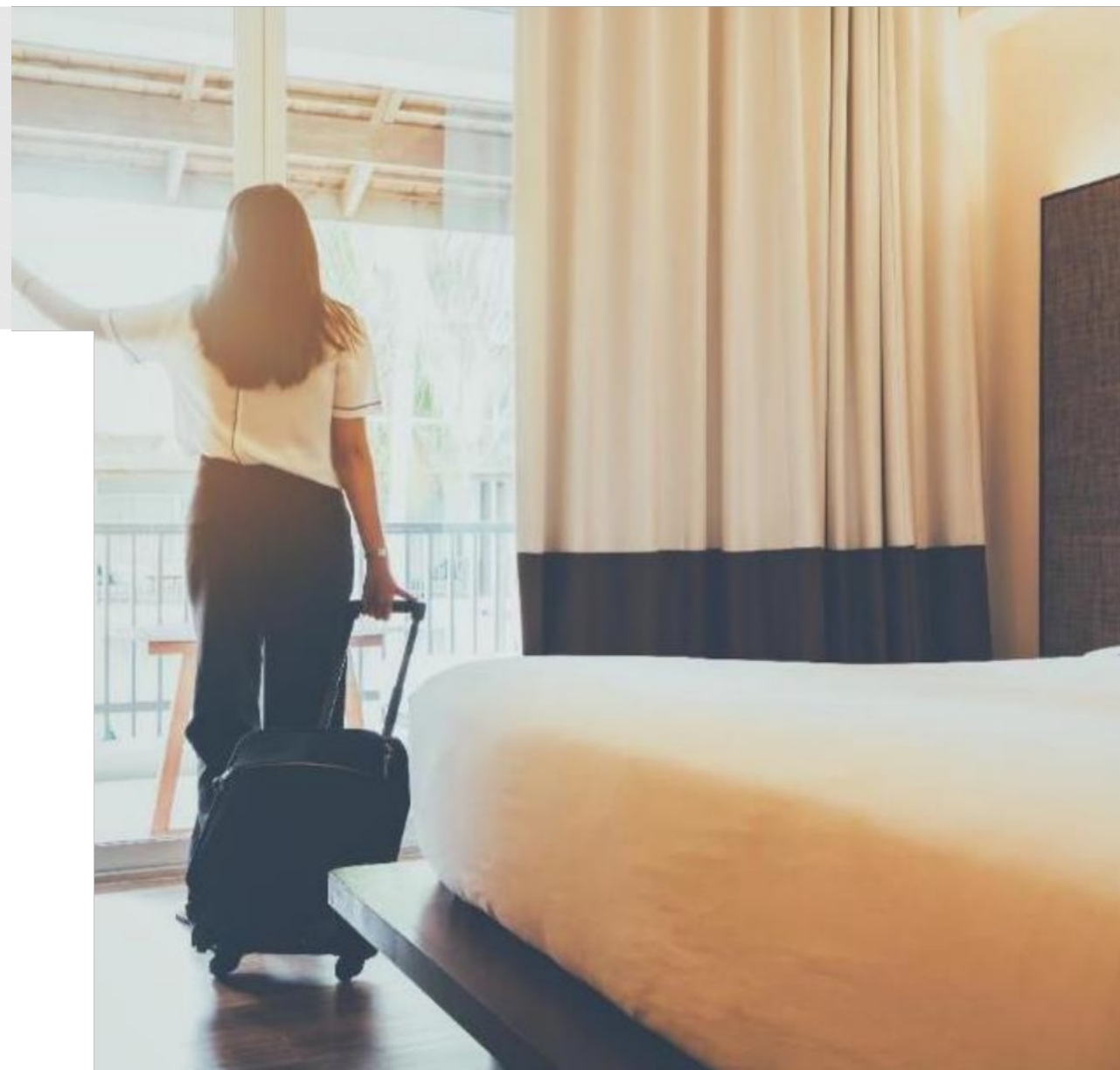
EFFICIENT ENERGY MANAGEMENT



SUPERIOR GUEST COMFORT



CONSISTENT WORLD-CLASS BRAND

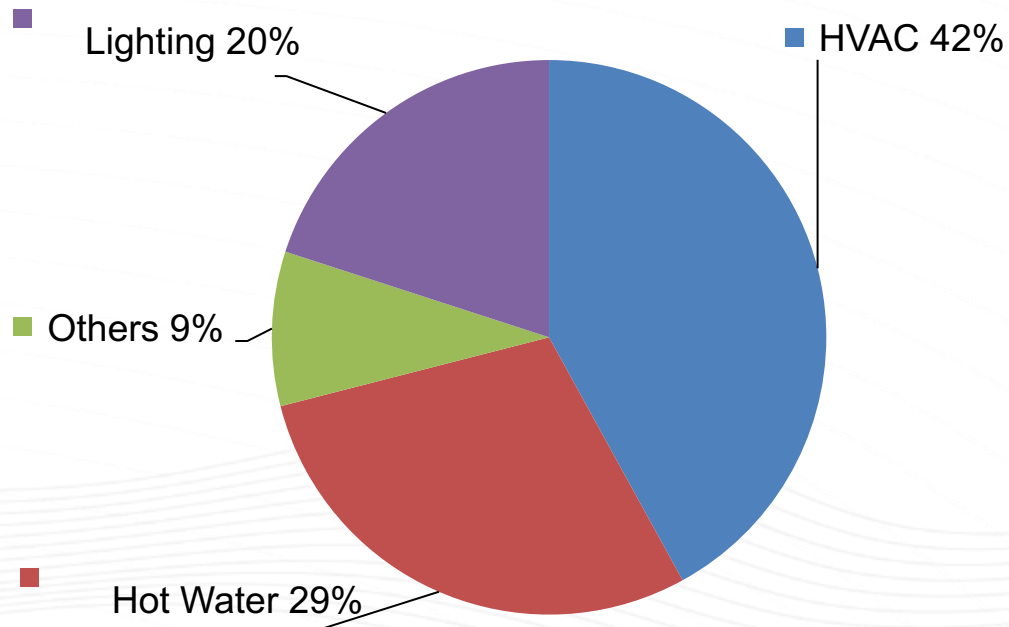


PROPRIETARY

A CARRIER COMPANY

CREATING A HIGH-VALUE MODERN HOTEL

% of energy use



Could be updated by local condition

- 71 % of energy consumed in a typical star-rated hotel goes on HVAC and hot water, with HVAC accounting for up to 42% and hot water up to 29% of the building's total energy use. This presents significant potential for energy saving, with modern hotels now becoming attractive for both economic and sustainability reasons.
- The exemplary hotel offers products and services that make the best use of resources and protect both the environment and the health of guests.
- Ciat have complex HVAC solution for hotels. It combines numerous innovative solutions to help hotels achieve a high-value modern, "green hotel" status while not compromising comfort or luxury.

ENERGY SAVINGS FOR HOTELS



CIAT energy saving solutions

- Different area, different solutions
- High efficiency chiller
- Hotel hot water solution
- Hotel indoor environment optimization
- Chiller plant management optimization

UNIQUE SOLUTIONS



Lobby

- **Special points:**
Quick load changing, Super-high ceiling
- **Solutions:**
Low speed all-air system + FCU



Gym & Pool

- **Special Points:**
Big dehumidifying volume, constant air temp.
- **Solutions:**
Dehumidifying system + special ventilation system



Guest Room

- **Special points:**
individual high air quality.
- **Solutions:**
Low noise FCU + fresh air system + options



Conference room

- **Special Points:**
Low noise, quick cooling
- **Solutions:**
Low noise FCU + all-air system + low noise options



Executive Suite

- **Special Points:**
Luxurious indoor environment
- **Solutions:**
VAV system + heat recovery option



Banquet Hall

- **Special Points:**
Big fresh air and dehumidifying volume,
- **Solutions:**
Low temp/speed all-air system + CO₂ control system

DUCTABLE UNIT

COMFORT LINE™

The COMFORT LINE ductable unit is designed for installation in ceiling voids to heat and cool spaces in hotels. It allows **individual temperature control** in all rooms and is the perfect technology for a **high indoor air quality**, thanks to its **EPURE Dynamics filtering solution**.

Cooling capacity : 0.6 to 9 kW Heating capacity: 1 to 12 kW



FOCUS ON THE COANDA TECHNOLOGY

Coanda effect diffusion which allows a jet of air to follow the ceiling, preventing cold air from dropping into the comfort area. Coanda effect offers **360° coverage** of the surface area of the room to be treated, with no dead zone. It enables a **perfect control of thermal and air phenomena** which cause discomfort.

The “anti draft” system creates **a real comfort** while air is diffused.

Without «anti draft» system



With «anti draft» system



ENERGY PLANT CONFIGURATION

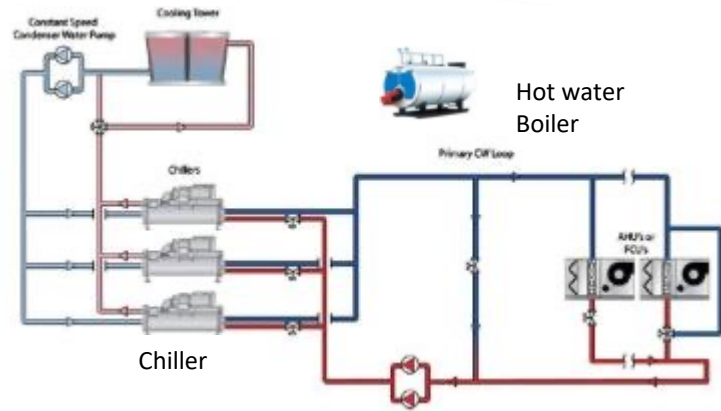


The energy plant needs to fulfill the hotel's peak heating and cooling requirements and also to consider the different load variations within the hotel year-around. Different hotels have different load demands and are best served by different chiller configurations.

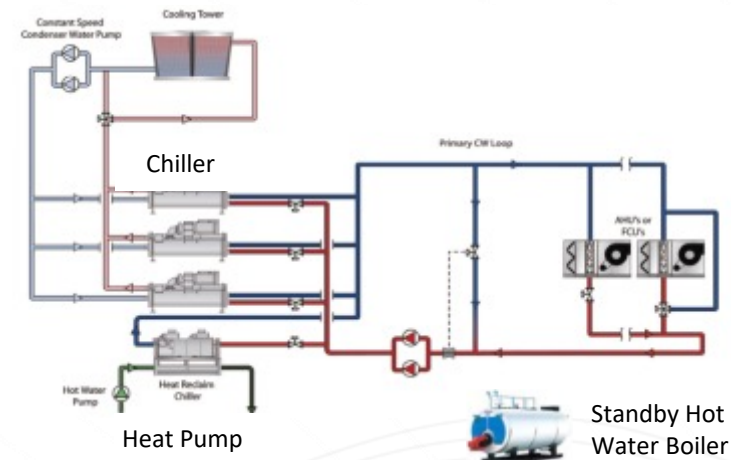
- **High-quality Business Hotel:** For large buildings that operate 24 hours a day, a stable, reliable and highly efficient chiller is recommended to maximize energy savings.
- **Resort Hotel:** Resorts generally have widely dispersed air-conditioned areas operating at loads that fluctuate greatly between peak and off-peak seasons. The load variation can be huge, with peak-time loads as much as ten times higher than off-peak periods.
- **Budget Hotel:** Limited by small building size, budget hotels generally have a small cooling load.

ENERGY RECOVERY SOLUTIONS

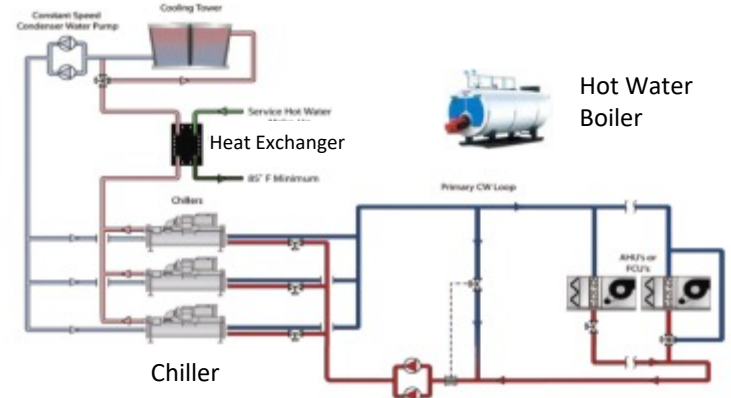
Traditional: Chiller + Boiler



Option1: Heat Pump Energy Recovery



Option 2: Pre-heat with condensing water



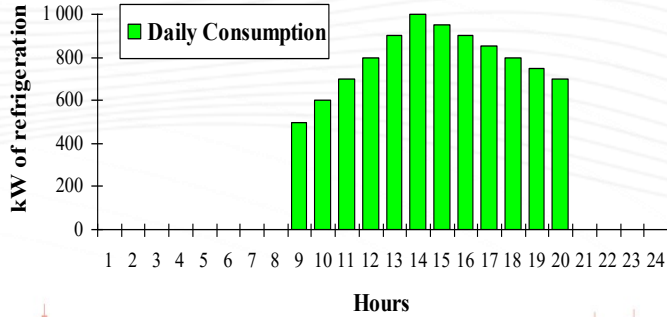
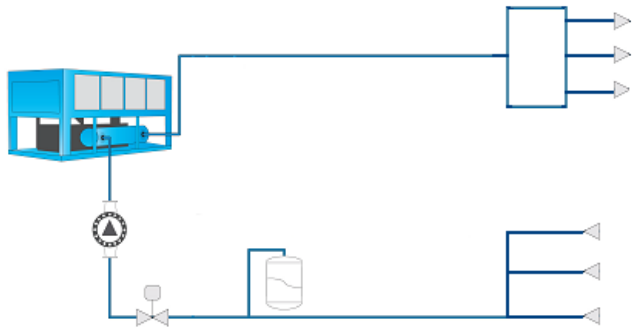
Advantages:

1. Reduce boiler size and operation time
2. Reduce CT size and waste heat
3. Improve system efficiency

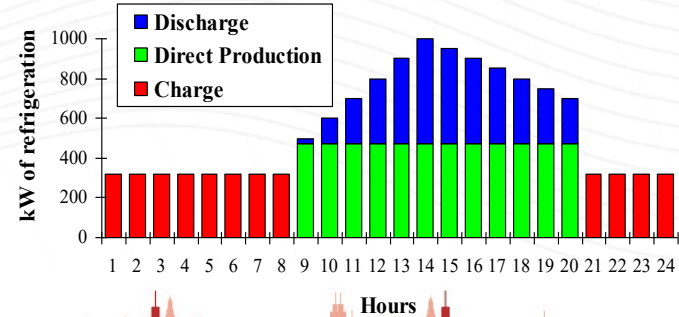
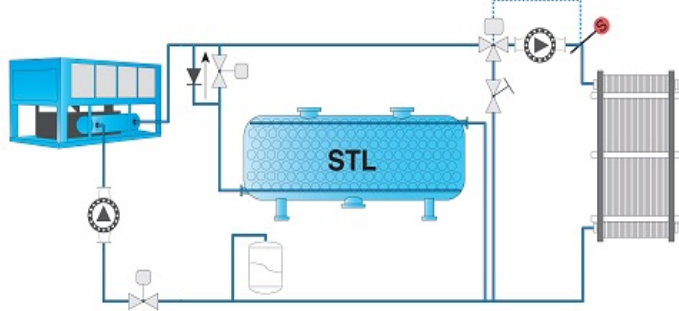
Pay Back: 0.5~5 year

THERMAL ENERGY STORAGE CRISTOPIA SYSTEMS

Traditional scheme



Scheme with STL Peak shaving



CRISTOPIA SYSTEMS

REDUCE

- Chiller size up to 70%
- Installed KW including chillers
- Peak Demand / Connecting KW
- Refrigerant Usage in Plant Room
- Transformer size// Electrical Infrastructure

ENHANCE

- Delivered capacity from existing chillers capacity/retrofit.
- Chiller's lifetime - need not to run at max load in max OAT
- Overall System COP - night operation
- Reliability for mission critical applications

GREENER

- Less refrigerant-Ozone friendly solution
- Help power-plant operate at better efficiency
- Lower CO2 emission
- Lower Plant Room Noise

CRISTOPIA SYSTEMS

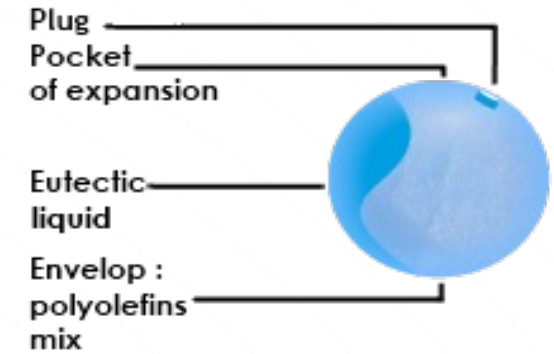
Nodules:

PCM: large range of temperatures

Encapsulation of PCM in small elements: spheres

Spheres manufactured with plastic material by blow moulding

Nodules easy filling in the tank: reduced manpower

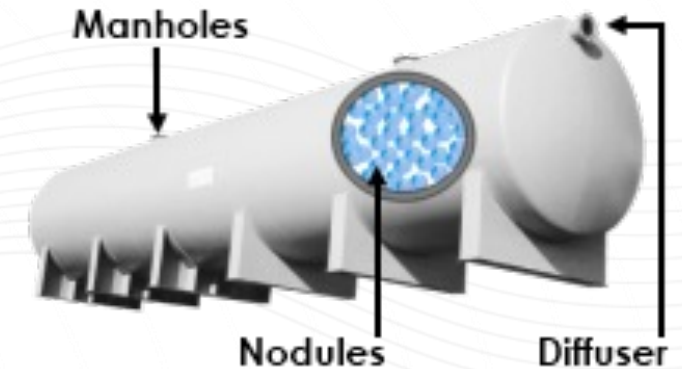


Customized tank:

Standard tank: black steel or concrete

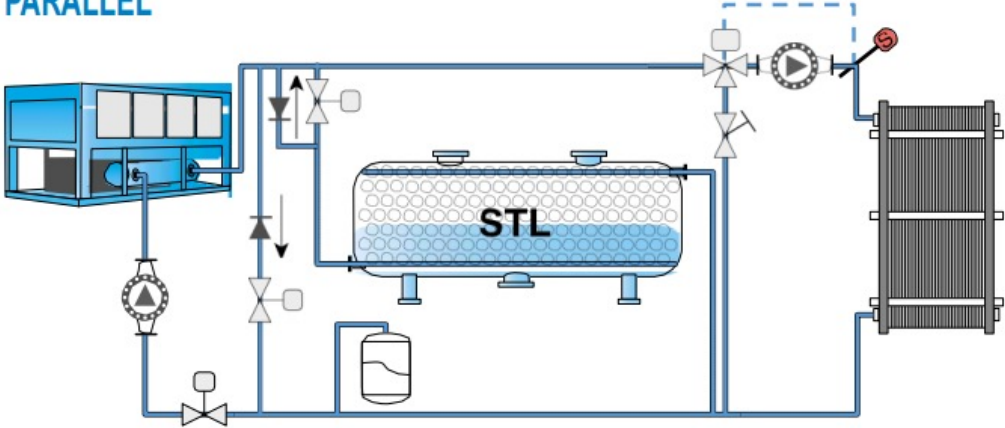
Tank designed according to site requirements

Tank can be manufactured locally

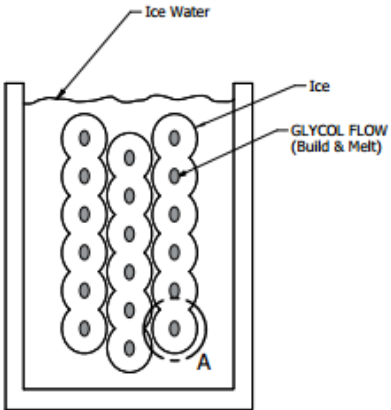


CRISTOPIA SYSTEMS

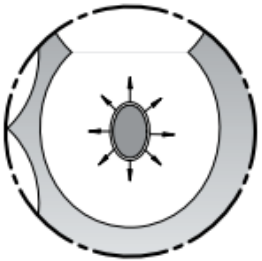
PARALLEL



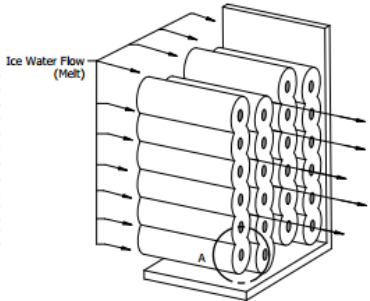
STL Nodules



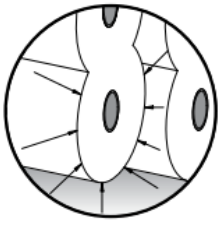
Internal Melt



DETAIL A
Ice Melt Direction



External Melt



DETAIL A
Ice Melt Direction



AIR-COOLED CHILLERS AND HEAT PUMPS

AQUACIAT & AQUACIAT^{POWER} with R-32

The AQUACIAT & AQUACIAT^{POWER} range is now available with **R-32 refrigerant** for a lower ecological footprint, **up to 77% less**, while improving even further its **energy performances +10%** and preserving its acoustic level and its installation simplicity.



R-32 

AC HEAT RECOVERY SOLUTION



With the AC heat pump heat recovery solutions for hotel, as high as 60 °C free hot water can be supplied as service hot water. Ciat AC heat pump can offer 4 operation mode:

1. Cooling Mode
2. Heating Mode
3. Cooling & Heat Recovery Mode
4. Heating & Heat Recovery Mode

R-32 



AQUACIAT™ & AQUACIATPOWER™ WITH R-32



ENERGY SAVINGS

We develop energy efficient solutions allowing substantial savings to be made without compromising on your customers' comfort nor your environmental impact.

The recovery of the partial heating capacity supplied by the chiller enables the unit to produce free additional hot water up to 60°C. This free heat is used for domestic hot water or distributed to spaces where it is needed, such as swimming pools, spas and whirlpool baths.

30%
energy



100% Chilled or Hot Water Production



25% Domestic Hot Water Production

AQUACIAT™ & AQUACIATPOWER™ WITH R-32



PLUG & PLAY SYSTEM

We provide all-in-one yet flexible solution.

With the AQUACIAT and the AQUACIATPOWER ranges you can choose among a variety of versions:

- Integrated hydraulic module with or without buffer tank.
- Wide choice of pumps.
- A wide selection of hydraulic couplings to fit site configuration.



BRIEFLY TECHNICAL COMPARISON

Chillers + fcu's/AHU's

• Bill of materials:

- ❖ Water Piping
- ❖ Insulation

• Labour work

- ❖ Brazing
- ❖ Water charge
- ❖ Leak detection

Simplicity

VRF

• Bill of materials:

- ❖ Refrigeration Piping
- ❖ Insulation
- ❖ Nitrogen
- ❖ 40% silver brazing rod
- ❖ Refrigerant

• Labour work

- ❖ Brazing (with nitrogen)
- ❖ Vacuum
- ❖ test pressure (24/48 hours)
- ❖ Refrigerant Leak detection
- ❖ Refrigerant charge

Complexity

Leading UK Nursery Invests in High-Efficiency 1.9MW CIAT Ground-source Heat Pump System

A 1.9MW heating system powered by highly efficient CIAT ground-source heat pumps is providing low-cost, low-carbon renewable heating for Coletta & Tyson, one of Europe's largest independent nurseries.

Coletta & Tyson are a major grower of garden bedding plants with nurseries covering 400 acres in East Yorkshire. The company commissioned Ebtech Energy Systems, a leading specialist in large water-source heat pump projects, to investigate options to replace an existing oil-fired boiler used for heating its main growing site near Beverley, Hull.

Options considered included biomass boilers, biomass-fuelled combined heat and power (CHP) and ground-source and air-source heat pumps. A ground-source heat pump system based on CIAT units was chosen as the most efficient and cost-effective option to provide for the year-round heating requirements of the centre's growing areas.

Ebtech's design is based on three DYNACIAT water-to-water units, linked to open-loop boreholes drilled into the underlying chalk aquifer.

The system pumps ground-water from four abstraction boreholes up to 30 metres deep, passes it through the heat pumps to capture and upgrade its thermal energy, and then returns it to the ground via four re-injection boreholes.



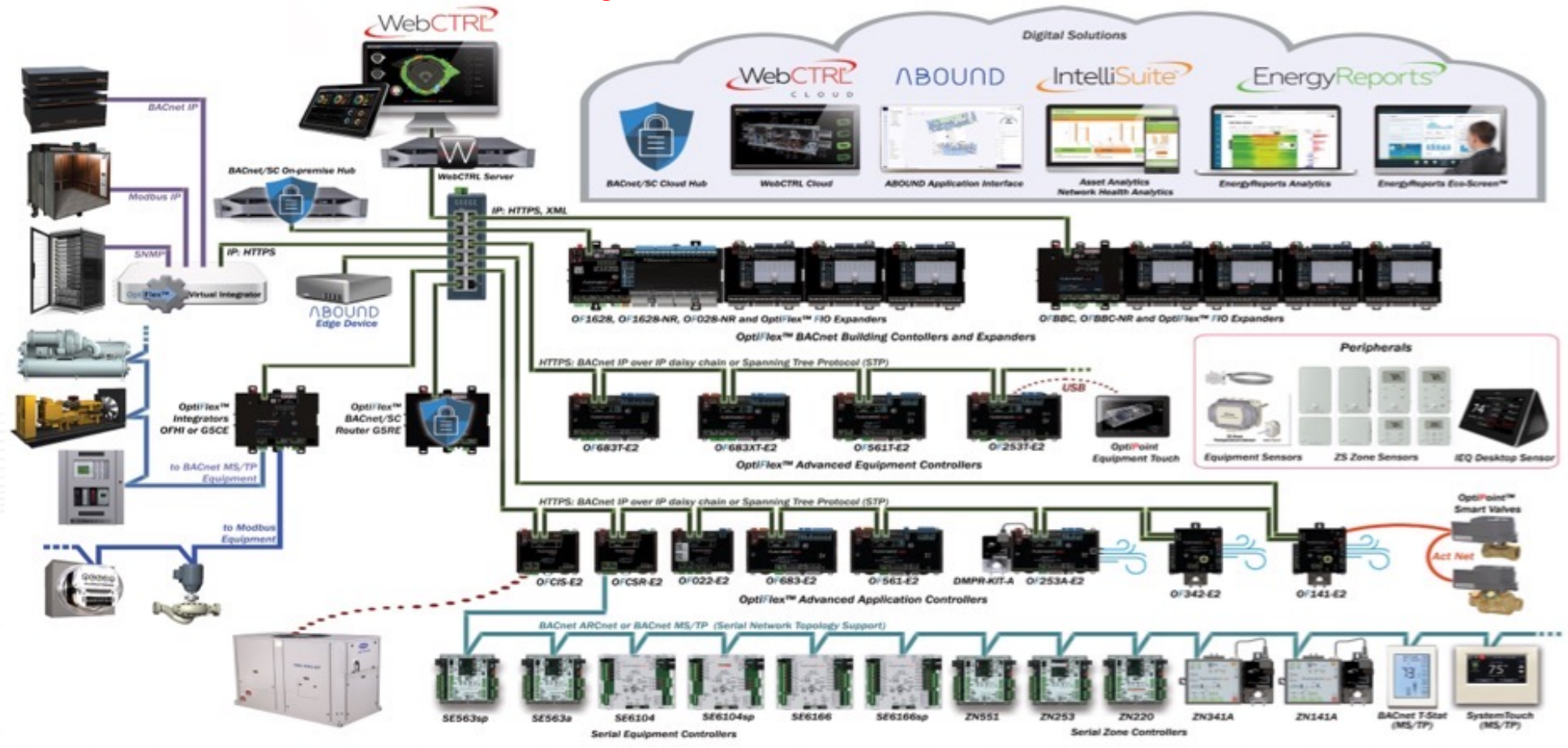
<https://www.ciat.com/en/eu/news/news-article/leading-uk-nursery-invests-in-high-efficiency-1-9mw-ciat-ground-source-heat-pump-system.html>



Building Automation System WebCTRL®



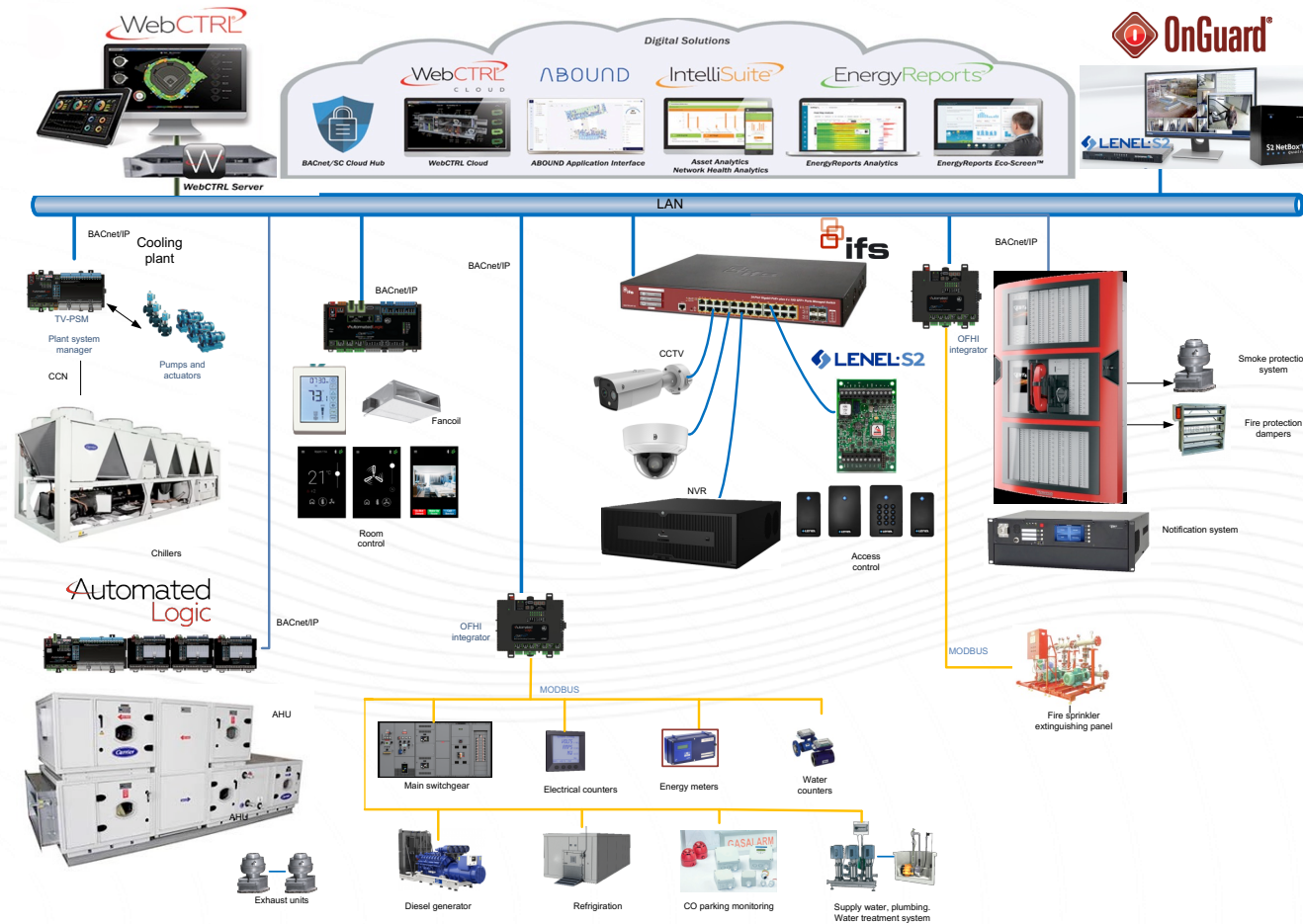
System Architecture



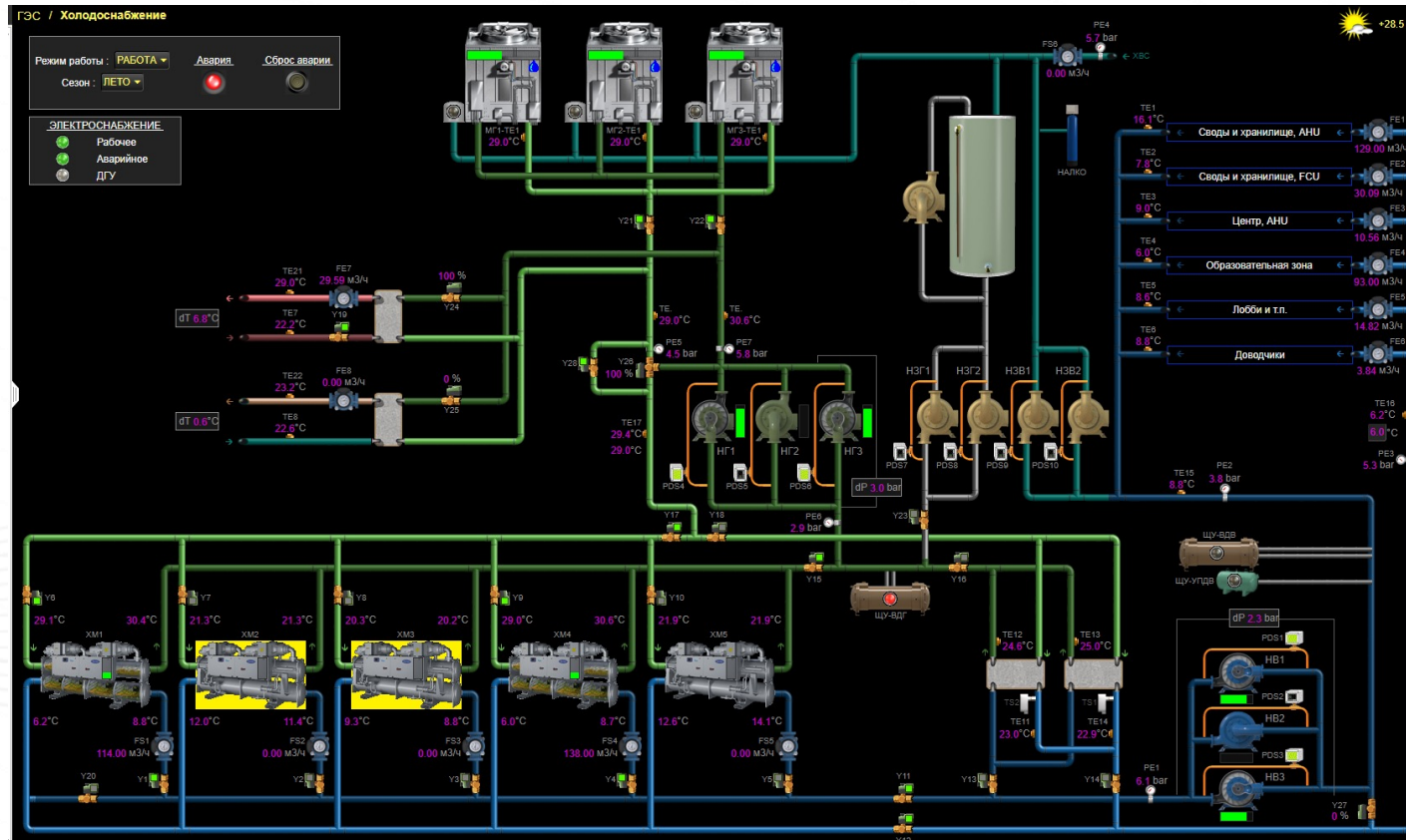
Building Automation System WebCTRL®



Integrated Solution



Cooling plant solution



Overview of F&S technical solutions

FIRE ALARM SYSTEMS, INTEGRATED PLATFORMS



- Fire detection and Fire alarm
- Integrated Incident Management
- Firefighting
- Public Address and Voice Alarm
- Aspiration fire systems



ACCESS SYSTEMS, INTRUSION SYSTEMS, VIDEO SURVEILLANCE



- Access control and management systems
- Intrusion systems
- Video surveillance systems
- Electronic locks
- Hotel Solutions



Complex implementation of F&S projects

Presentation of the company,
Concept development, project
development



Selection of equipment,
Preparation of specifications,
Supply of equipment



System installation,
Commissioning, Supervision,
Customer training



Customer support, Warranty and
post-warranty support





A CARRIER COMPANY

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Our solutions for hospitality– English – December 2021

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