

Introducing...



A brand of



Timeline of MEHITS' Key Technologies



RC is established

Climaveneta is established

1963

1971



Energy Raiser: FIRST MULTI-PURPOSE UNIT FOR COMBINED HEATING AND COOLING in 4-pipe systems.

1980



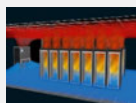
UA / UH: the first complete series of close control air conditioners for Computer rooms application.

1990

FREE-COOLING

The "free cooling liquid chillers" are introduced for process cooling.

1997



Displacement Air Flow: Close Control Air Conditioners with displacement air flow.



EUROVENT Certification
Climaveneta is **among the initiators** aligning Europe with the USA.

1999



TECS chillers with oil-free technology
Pioneering high-efficiency liquid chillers equipped with **magnetic levitation compressors**.

2005



RC CLOUD:
Web service for remote monitoring and management of air conditioning plants

2008



FIRST 'FULL INVERTER' CHILLER
Pioneering high-efficiency liquid chillers equipped with inverter on screw compressors, fans and pumps.

2011



FULL INVERTER
Full inverter technology applied to Close Control Air Conditioners for data center application.

2012



INNOVATIVE HVAC PLANT ROOM CONTROL AND OPTIMIZING SYSTEM for top energy performance.

Timeline of MEHITS' Key Technologies



COOLNET
RC AI

COOLNET
Software for the Load Sharing in data center application for maximization of energy savings.

2013



i-FX⁽¹⁺ⁱ⁾

i-FX⁽¹⁺ⁱ⁾: New inverter chiller with 1 **FIXED SPEED +1 VARIABLE SPEED COMPRESSOR** for highest efficiency **both at full and partial loads**.



XCOILS
RC Hi-Tech

X TYPE
the unique precision air conditioner with innovative **X coils** for operation with ΔT 10°C or higher.

2014



MITSUBISHI ELECTRIC

Acquisition by Mitsubishi Electric Corporation

2015



SIVIS
Innovative indirect adiabatic cooling system for Data Center

2016

TX-W

TX-W: INNOVATIVE OIL-FREE CHILLER

- More than **60 configuration**
- Efficiency **ESEER over 10,2**
- From **246 to 4191 kW CC**

2017

MEHITS is established

i-FX-Q₂

FIRST multi-purpose heat pump for simultaneous production of hot and cold water with **FULL INVERTER TECHNOLOGY**.



MITSUBISHI ELECTRIC

MITSUBISHI ELECTRIC HYDRONICS & IT COOLING SYSTEMS S.p.A.

S-MEXT

S-MEXT
The first MEHITS "3-diamonds" branded product

2018

i-FX



NEW PRODUCT RANGES WITH ECO-FRIENDLY **P1234ze** **P R513A**
R513A AND HFO 1234ze REFRIGERANTS.



The **Corporate Mission of the Mitsubishi Electric Group** is to continually improve its technologies and services by applying creativity to all aspects of our business. By doing so, we enhance the quality of life in our society.

Mitsubishi Electric Hydronics & IT Cooling Systems spa is the core company for central hydronic and IT cooling technologies within the group.

7 Guiding Principles

1



Trust

Establish relationships with society, customers, shareholders, employees, and business partners based on strong mutual trust and respect.

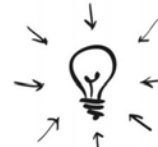
2



Quality

Provide the best products and services with unsurpassed quality.

3



Technology

Pioneer new markets by promoting research and development, and fostering technological innovation.

4



Citizenship

As a global player, contribute to the development of communities and society as a whole.

5



Ethics and Compliance

Conduct always in compliance with applicable laws and high ethical standards in all endeavors.

6



Environment

Respect nature, and strive to protect and improve the global environment.

7



Growth

Assure fair earnings to build a foundation for future growth.

Timeline of MEHITS' Key Technologies



The Mitsubishi Electric Company specialized in hydronic systems for air conditioning and IT Cooling solutions.

It designs, manufactures, and markets high efficiency, reliable, economically viable, eco-sustainable solutions and value adding services worldwide, in particular by embracing renewable energy sources.

Headquartered in Italy.

Production facilities in Italy, China, and India.

We operate in the market with two brands:



A leading brand in central climate control systems and Process Cooling with 45 years' experience, providing products and value adding services in the most demanding projects worldwide.



Leading IT cooling solutions with 50 years' experience, a proven track of innovations, high quality and successful projects worldwide.

Please consult Climaveneta and RC websites for further details on the product ranges

Leadership in smart heat pumps for 2, 4 and 6 pipe systems

**Extensive Range of
Hydronic Chillers & Heat Pumps
up to 4,550kW (1,295 Tons)**

**over 45 years
of experience**

**Vast portfolio of
Control, Monitoring
and Optimisation
systems**

12 specialized
manufacturing hubs

Countless succesful projects worldwide

7 R&D and testing labs worldwide

- Sales network
- ♥ Manufacturing hubs or R&D labs



CHILLERS

HEAT PUMPS

4-PIPES HEAT PUMPS



- Residential chillers
- Reversible chillers
- Heat pumps optimized for heating



- Commercial and industrial chillers
- Commercial and industrial heat pumps



- Heat pumps for simultaneous and independent production of hot and cold water



Free cooling chillers

PRECISION AIR CONDITIONERS

AIR CONDITIONERS FOR HIGH DENSITY RACK AND BLADE SERVERS

TELECOM SOLUTIONS

DATA CENTER INFRASTRUCTURES



- Close control units
- Close control units with inverter
- Rack cooling solutions



Data center infrastructures



Dry coolers and remote condensers



Air conditioners for Telecom applications

ROOFTOP UNITS

ADIABATIC COOLING SYSTEMS



Fully configurable all-in-one rooftop units



Packaged fresh air units



Rooftop units for WLHP and WSHF systems



Indirect adiabatic cooling systems for data centers

HYDRONICS TERMINALS



Cassette Type

Fan coil units

AIR HANDLING UNITS



Air handling units

CONTROL AND OPTIMISATION SYSTEMS



Group devices



Supervision devices



Metering devices



Control and optimization systems

**HFO
1234ze**

G04 SERIES



**Ozone
Depletion
Potential**

**COMPATIBLE WITH
COMMON CONSTRUCTION
MATERIALS**

- ✓ No special components
- ✓ No extra cost

**IN-LINE WITH
ENVIRONMENTAL
REGULATION OBJECTIVES**

- ✓ No future retrofit required

**NEGLIGIBLE GWP
Global Warming
Potential**

GWP_{100 year} < 1



**RAPID MOLECULE
DISINTEGRATION IN THE
ATMOSPHERE**

- ✓ HFO 1234ze ≈ 2 weeks
(R134a ≈ 14 years)

**APPROVED BY
INTERNATIONAL
STANDARDS**

- ✓ ASHRAE 34, ISO 817:
- ✓ A2L classification (non
toxic, mildly flammable)

PRODUCT RANGE WITH HFO 1234ze REFRIGERANT.

The G04 series with HFO 1234ze refrigerant is the greenest eco-friendly alternative to traditional refrigerants and the perfect solution for HVAC plants where environmental issue is a key priority. Featuring GWP values almost 0, the G04 series maintain very high efficiency values and operating performance similar to the R134a products.

CHILLERS



R HFO1234ze

R513a

G05 SERIES



**THE GREEN ALTERNATIVE
TO R134A**

**-56% GWP
COMPARED TO R134A**

**NON-FLAMMABLE
Safety Class A1**

REDUCED GWP

- ✓ R513A GWP_{100 year} = 572
- ✓ R134a GWP_{100 year} = 1300
- ✓ GWP values according to
IPCC AR5

**NON-TOXIC,
NON-FLAMMABLE**

- ✓ ASHRAE 34,
ISO817: A1 class

**FAVORABLE PHYSICAL
PROPERTIES**

- ✓ Same cooling capacity
delivered as R134a
- ✓ Same operating
pressures as R134a

**IN-LINE WITH STANDARD
BUILDING CODES**

- ✓ No special equipment
- ✓ No need for flammable
risk assessment
- ✓ No extra costs

**COMPLIANT WITH ECO
REGULATION OBJECTIVES**

- ✓ No future retrofit required
- ✓ Reduced price volatility

PRODUCT RANGE WITH HFO 1234ze REFRIGERANT.

The green alternative to R134a
Among the alternative refrigerants available on the market, the R513a of the G05 series features very low GWP values and 0 depletion potential.

CHILLERS



R HFC R513A

HEAT PUMPS



R HFC R513A

**UNITS FOR SIMULTANEOUS AND INDEPENDENT
PRODUCTION OF HOT AND COLD WATER**



R HFC R513A

Europe

M11

Bassano-Italy

Productive area: 12,500 m²



- Scroll compressor chillers
- Scroll compressor reversible chillers
- Heat pumps up to 700 kW
- ISO 9001 / ISO 14001 / OHSAS18001

M12

Belluno-Italy

Productive area: 25,000 m²



- Screw and oil-free compressor chillers
- Screw and oil-free compressor reversible chillers / Heat pumps
- Shell&tube evaporators
- ISO 9001 / ISO 14001 / OHSAS18001

M13

Belluno-Italy

Productive area: 7,000 m²



- MEHITS Training Centre

M14

Treviso-Italy

Productive area: 10,000 m²



- Residential chillers
- Heat pumps up to 50kW
- ISO 9001 / ISO 14001 / ISO 18001
- OHSAS18001

M21

Valle Salimbene-Italy

Productive area: 36,500 m²



- Telecom solutions
- Rack cooling air conditioners
- Split air systems
- ISO 9001 / ISO 14001 / OHSAS18001

M22

Valle Salimbene-Italy

Productive area: 2,300 m²



- Scroll compressor chillers and heat pumps up to 200 kW
- ISO 9001 / ISO 14001 / OHSAS18001

M23

Zeccone-Italy

Productive area: 7,500 m²



- Close control air conditioners
- Telecom solutions
- ISO 9001 / ISO 14001 / OHSAS18001

India

M81

Bangalore - India

Productive area: 2,500 m²



- HPAC units
- Screw compressor chillers
- ISO 9001

China

M91

Shanghai-China

Productive area: 15,000 m²



- Liquid chillers
- Reversible chillers for the Chinese and SEA market
- ISO 9001, ISO 14001, OHSAS18001

M92

Shanghai-China

Productive area: 2,500 m²



- HPAC units for the Chinese and SEA market
- ISO 9001, ISO 14001, OHSAS18001

M93

Shanghai-China

Productive area: 3,000 m²



- AHU units
- Fan coil units
- Aluminium fin and copper tube coils
- ISO 9001, ISO 14001, OHSAS18001

M94

Shanghai-China

Productive area: 2,000 m²



- Shell & tube Heat Exchangers
- Condensers and evaporators
- ISO 9001, ISO 14001, OHSAS18001

Europe

ML12 – New Testing Centre Belluno Italy



Chillers, Heat Pumps, 4-pipe units, rooftop units, AHUs, IT cooling systems

- Total Area: 4000 m³
- Up to 4800 kW
- From -20°C to +55°C
- Up to 100.000 m³/h
- Combined Testing of IT Cooling package (Chillers + HPAC units)
- UNI 14511
- ISO 9614-2

China

ML91 Shanghai-China



Terminal units

- GB/T 19232-2003
- GB/T 7725-2016

ML92 Shanghai-China



Chillers & Heat Pumps

- GB/T 10870-2014

ML93 Shanghai China



Precision air conditioners

- GB/T 17758-2010

ML14 Treviso-Italy



Terminal Units, small chillers & Heat Pumps

- UNI 14511
- ISO 9614-2

ML21 Valle Salimbene-Italy



Chillers & Heat Pumps up to 1600 kW, Telecom solutions

- UNI 14511
- ISO 9614-2

ML24 Valle Salimbene-Italy



Close control air conditioners, Rack cooling units

- EUROVENT 6/6
- ANSI-ASHRAE 2016

■ ISO, UNI, ANSI-ASHRAE, Eurovent certified

■ Simulation of naval applications

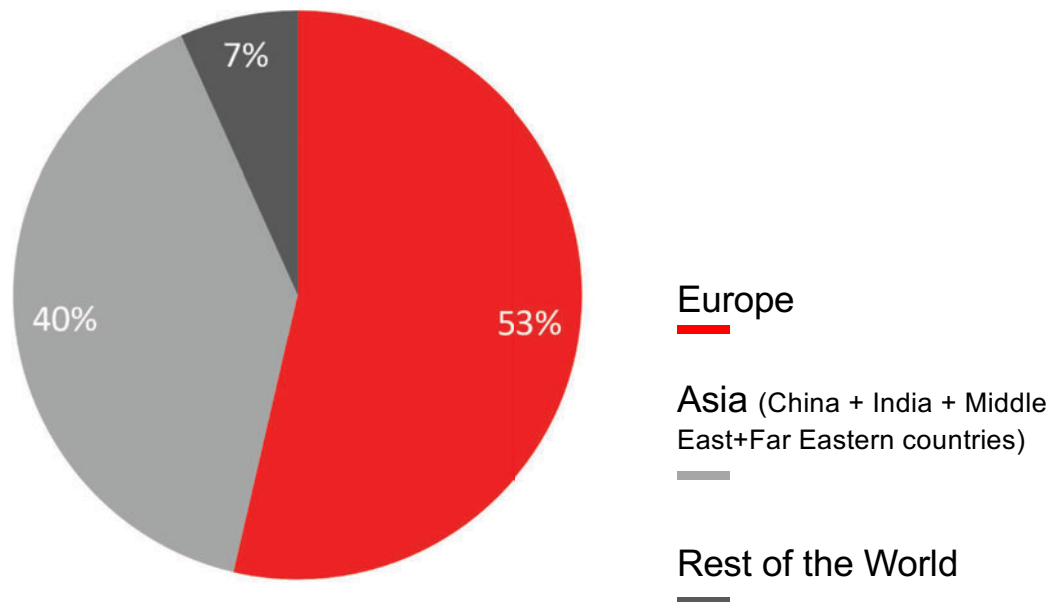
■ Performance testing both at full and partial loads

■ Failure tests

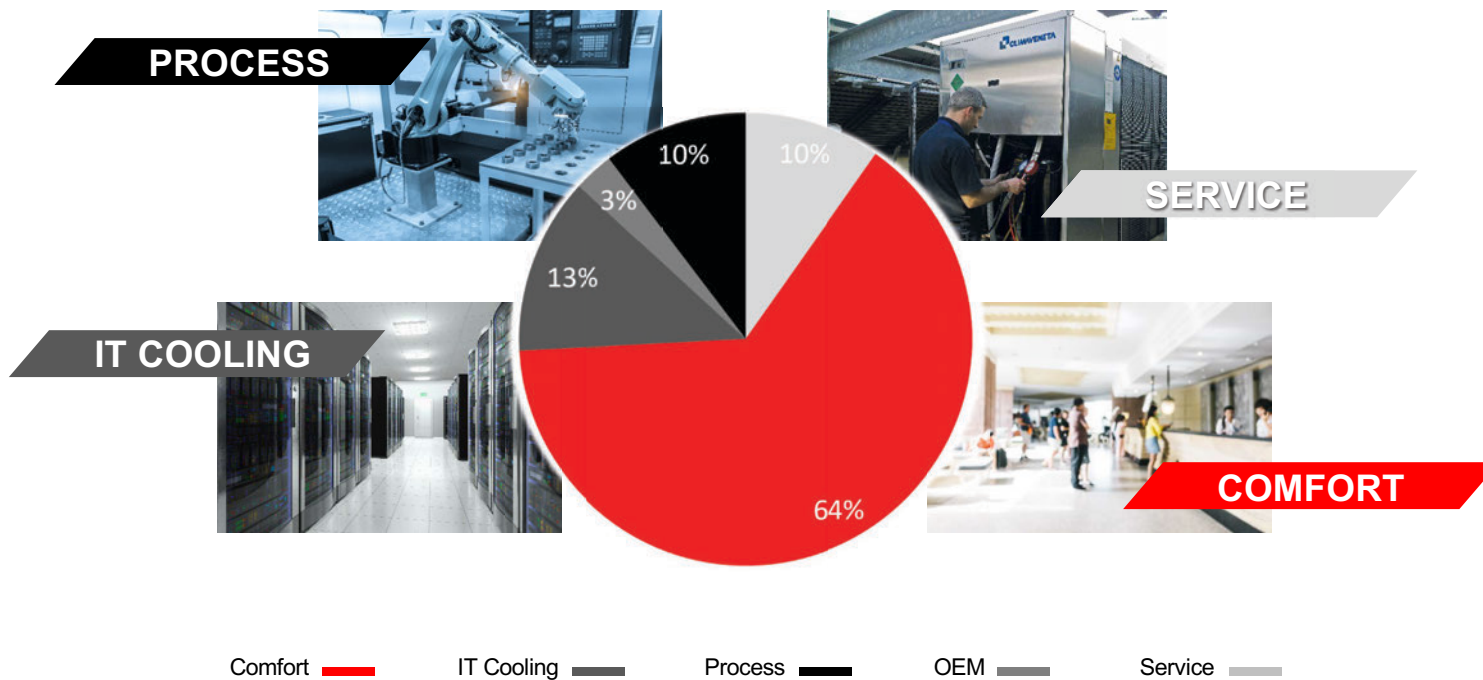
■ Sound emissions tests

■ Unit operation tests in severe conditions

Turnover 2018 Breakdown by Region



Turnover 2018 Breakdown by Segment





Climaveneta's mission is to provide energy efficient heating and air conditioning solutions that enhance everyone's comfort, improve the profitability of a building, and do not contribute to an increase in CO2 levels.



Environmental
Respect



Specific Solutions
for each project



Lowest
operating costs



COMFORT APPLICATIONS



PROCESS APPLICATIONS

► CHILLERS

► HEAT PUMPS

► UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

► ROOFTOP UNITS

► AIR HANDLING UNITS

► HYDRONIC TERMINALS

► CONTROL, SUPERVISION AND OPTIMISATION SYSTEMS

► ANCILLARY PRODUCTS



With more than 50-year experience in the HPAC segment, RC brand provides ICT cooling solutions for data center, telecom applications and mission-critical applications needing precise temperature and humidity control.



Energy Saving



Deep Experience
and Customer
Satisfaction



Total reliability and
Low operating
costs



IT COOLING APPLICATIONS

› CLOSE CONTROL AIR CONDITIONERS

› EVAPORATIVE COOLING SYSTEM

› AIR CONDITIONERS FOR HIGH DENSITY RACKS AND BLADE SERVERS

› DATA CENTER INFRASTRUCTURE

› CHILLERS

› TELECOM SOLUTIONS

› CONTROL, SUPERVISION AND OPTIMISATION SYSTEMS

› UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER



COMFORT APPLICATIONS



PROCESS APPLICATIONS



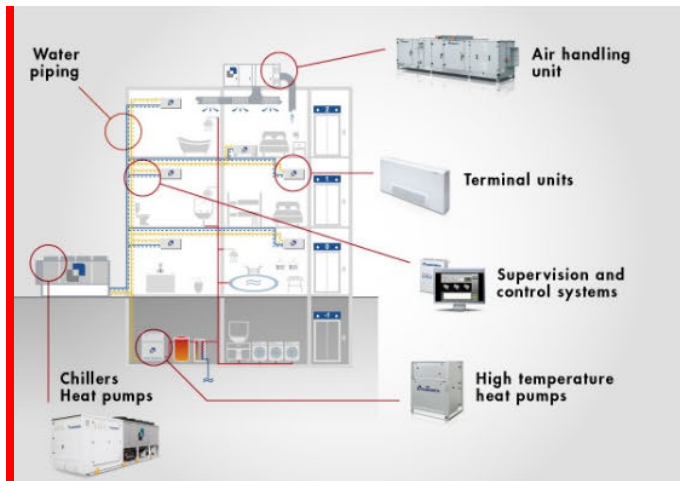
DATA CENTER APPLICATIONS



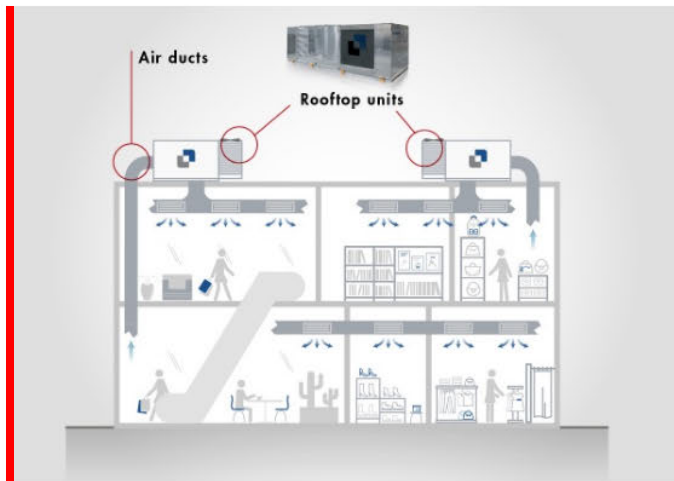


COMFORT APPLICATIONS

A large array of solutions and systems for controlling environmental conditions (temperature humidity and air quality) in human occupied spaces.



COMFORT APPLICATIONS - HYDRONIC SYSTEMS



COMFORT APPLICATIONS - AIR TO AIR SYSTEMS

OFFICE BUILDINGS



The Willis Building
London – UK
Hydronic System



SPORT FACILITIES



Singapore Sports Hub
Singapore
Hydronic system



HOTELS



Sheraton Mirage Resort
Gold Coast - Australia
Hydronic System



SHOPPING CENTRES



Marks & Spencers Dundrum
Dublin - Ireland
Hydronic System



EXHIBITIONS



Milan EXPO 2016
Milan
Hydronic System, Air-to-air System



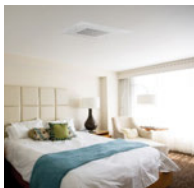
THEATRES



La Fenice Theatre
Venice, Italy
Hydronic System



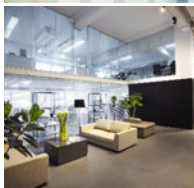
Clients



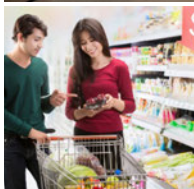
Hotels: Sheraton, Hyatt, Hilton, NH, Best Western, Ibis, etc.



Finance: BNP Paribas, Barclays, Unicredit, Santander, China Construction Bank etc.



Office buildings: Hines, Willis Insurances, Stanhope, British Land, Legal&General, etc.



Shopping Centres: Ikea, Marks & Spencer, Zara, Auchan, Carrefour, Konsum, etc.

Architects

Foster + Partners
David Chipperfield
Zaha Hadid
Renzo Piano
Santiago Calatrava
Sauerbruch Hutton
Stanton Williams

HOK architects
Murphy/Jahn
Dominique Perrault
Rogers Stirk
Harbour + Partners

Design

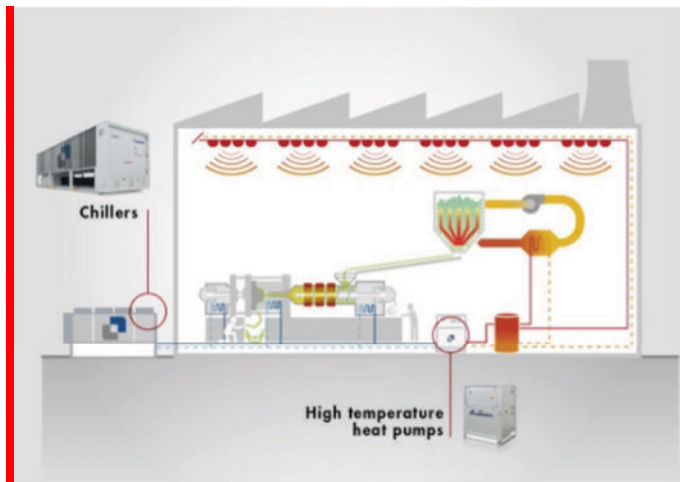
Aurecom
Buro Happold
Hoare Lea
Arup
AECOM
BSG
Cundall

Grontmij
Meinhardt UK Ltd
Flatt Consulting
Watkins Payne
Partnership
Deerns

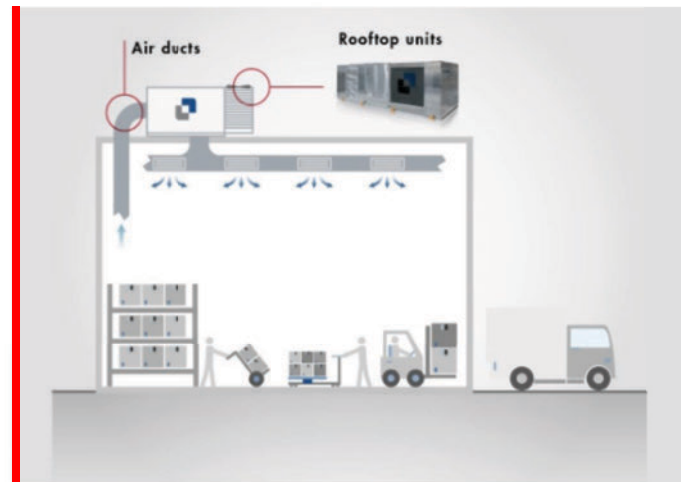


PROCESS APPLICATIONS

A large array of solutions to provide temperature control of processes (food, pharmaceutical, automotive, plastic moulding, etc.) and ideal storage conditions.



PROCESS APPLICATIONS – HYDRONIC SYSTEMS



PROCESS APPLICATIONS – AIR TO AIR SYSTEMS

Process: typical applications and examples

AUTOMOTIVE



Volkswagen Plant
San Paolo – Brasil
Hydronic Systems



MANUFACTURING



Pirelli
Settimo Torinese
Packaged Units Rooftops



FOOD



Bodega Garzón
Uruguay
Chillers + Air Handling Units



LOGISTIC



Amazon
Milan - Italy
Centralised system



PLASTIC MOULDING



Husky Molding Systems
Chennai - India



PHARMACEUTICAL



Akzo Nobel Chemicals
Wurzen – Germania
Hydronic System

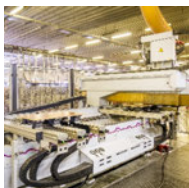


Clients



Automotive:

BMW, Opel, Bridgestone, Hella,
Husqvarna, Seat, Jaguar,
Volkswagen, etc.



Manufacturing:

Unilever, Bosch, SKF,
Danfoss, Dupont, EBM Papst,
Fuji, etc.



Logistic:

Amazon, Inditex,
etc.



Wineries:

Cantine Antinori, Concha y Toro,
Bodega Garzon, Distell, etc.

Pharmaceutical:

Akzo Nobel Chemicals, Bayer,
Henkel, LG Chemicals: Merck
Serono, etc.



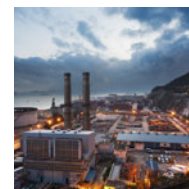
Food Industry:

Coca Cola, Unilever, Eataly,
Guinness, etc.



Energy:

Hong Kong Electric, Vestas,
Brunei Shell Petroleum, etc.



Electronic and Automation:

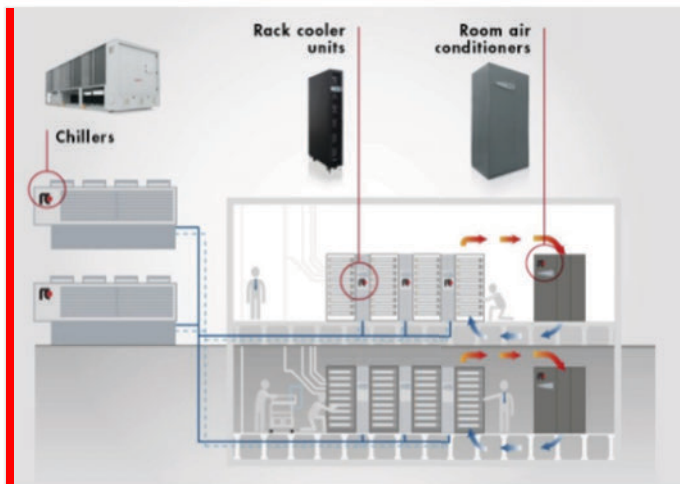
ABB, Magneti Marelli, Bosch,
Siemens, etc.



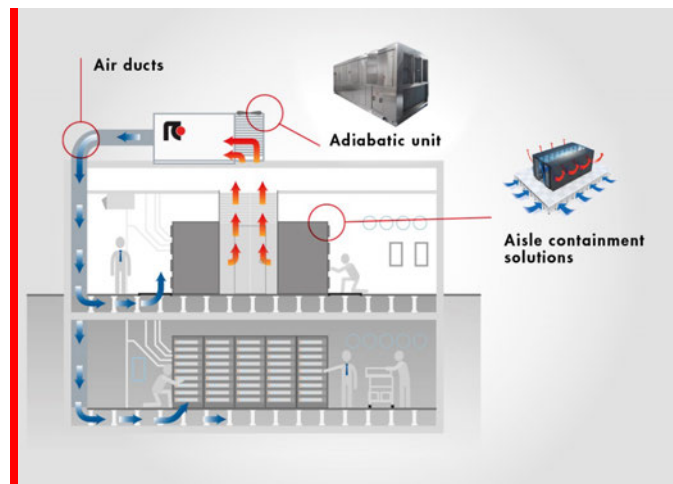


DATA CENTER APPLICATIONS

A large array of solutions and systems to provide precise temperature, humidity control and filtration for ICT data centres and Telecom applications.



IT COOLING APPLICATIONS - HYDRONIC SYSTEMS



IT COOLING APPLICATIONS - AIR TO AIR SYSTEMS

IT Cooling: typical applications and examples

TELECOMMUNICATIONS



Bouygues Telecom

France
HPAC, IT Cooling



GOVERNMENT



Ministère de l'intérieur

France
Chillers + HPAC,
IT Cooling



FINANCE



China Construction Bank

China
IT Cooling



INTERNET

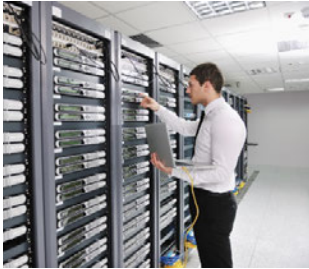


Galileo connect London

London –Great Britain
Chillers + HPAC,
IT Cooling



Clients



Data Center customers

IBM

Fastweb

Vodafone

China Construction Bank

Barclays

BNP Paribas

French Ministry of the Interior

German Military Airforce

US Air force

Telecom customers

Hi3G

Telefonica Chile

Ericsson



Data Center Developers

COLT Telecom

DeLL

Telecity Group





Examples of Relevant Projects





PRINCIPAL PLACE LONDON

Great Britain – London



Application
MIXED-USE DEVELOPMENT

Cooling Capacity:
9243 kW

Heating Capacity:
478 kW

Installed Units:
6x TECS2-W/LC 1453
1x FOCS2-W/R/CA-E
1801



EUSTON ROAD

Great Britain – London



Application
OFFICE BUILDINGS

Cooling Capacity:
1022 kW

Heating Capacity:
541 kW

Installed Units:
1x ERACS2-Q/SL-CA/S 2222
1x TECS2/SL-CAE/S 0512
1x ClimaPRO



SHERATON MIRAGE RESORT

Gold Coast – Australia



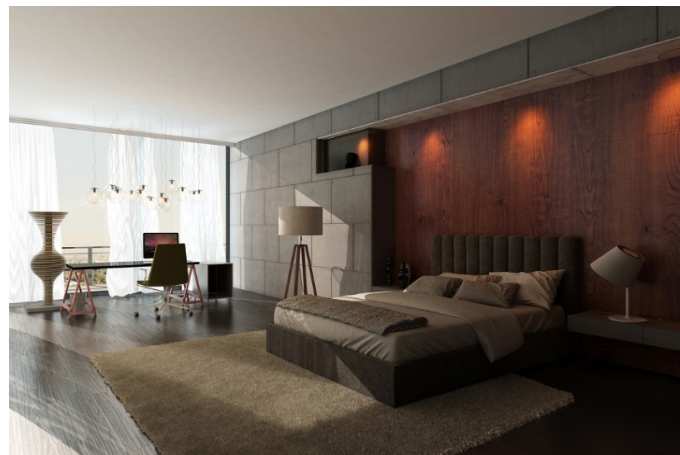
Investor:
Sheraton Hotel Group

Application:
HOTEL AND RESORTS

Plant type:
Hydronic System

Cooling capacity: 3000 kW

Installed machines:
2x TECS2, 1x ERACS-W,
1x ClimaPRO



HANGZHOU LADISON HOTEL

Zhejiang - China



Application
HOTEL AND RESORTS

Cooling Capacity:
1900 kW

Installed Units:
1x Oil free centrifugal
chillers

TECS-W5204L-E



TIANJING INDUSTRIAL HEALTH PARK

Tianjing - China



Application
MUSEUMS

Installed Units:
3x AQS065M-N-E-LT

Cooling Capacity:
200 kW
Heating Capacity:
200 kW



FONDAZIONE PRADA

Milan - Italy



Application
MUSEUM, OFFICE BUILDING

Installed Units:
4x ERACS2/WQ 3202
1x EW-HT 0152
2x NECS-W 0262
1x KlimaPRO

Heating Capacity:
3.764 kW



JINAN QIANFOSHAN HOSPITAL

Shandong - China



Application
HEALTHCARE

Cooling capacity: 2900 kW
Heating capacity: 3200 kW
Heat recovery: 3700 kW

Installed Units:
4x 4-Pipe Air source
Screw Heat Pumps
CSRAN2722-Y-Q



GUSTAVO FRICKE HOSPITAL

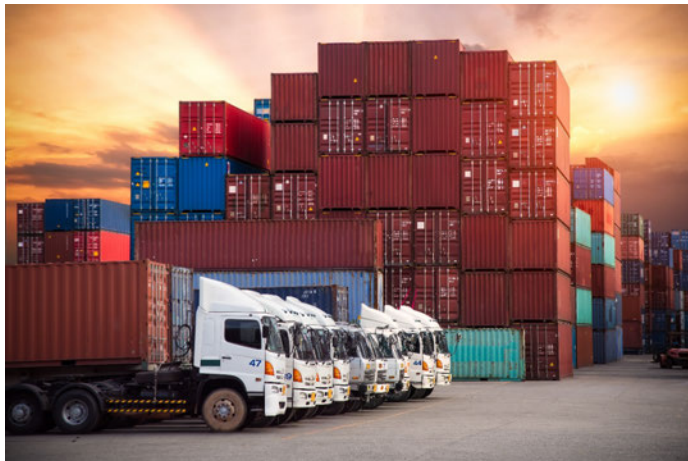
Viña del Mar - Chile



Application
HEALTHCARE

Cooling capacity: 6381 kW
Heating capacity: 5711 kW

Installed Units:
1x ERACS2-Q/SL-CA 2722, 2x
FOCS-N/B 2622, 4x FOCS-N/B
3222, 2x FOCS-N/B 2222, 1x
MANAGER 3000



BGX LOGISTIC
Shanghai - China



Application
INDUSTRIAL PROCESS

Cooling Capacity:
12101 kW

Installed Units:
8x FX-FC/T 4802, 3x
FOCS2/K 2652, 3x
FOCS/B/S 1542



AMAZON LOGISTIC HUB
Piacenza - Italy



Application
PROCESS COOLING

Cooling Capacity:
3980 kW

Heating Capacity:
4126 kW

Installed Units:
3x ERACS2-Q 3222, 2x
FOCS-N/CA 3222, 1x
ClimaPRO



**CCB - CHINA CONSTRUCTION BANK
DATA CENTER** Beijing - China



Application:
DATA CENTER

Plant type:
Hydronic System

Cooling capacity: 70000 kW

Installed machines:
48x free cooling chillers, 4x
heat pumps



WUXI SUPER COMPUTING CENTRE
Jiangsu Province - China



Application:
Data Center

Investor:
Ministry of Science and
Technology

Installed machines:
18x TECS-W/H water
cooled chillers

Cooling Capacity:
28000 kW (28 MW)

