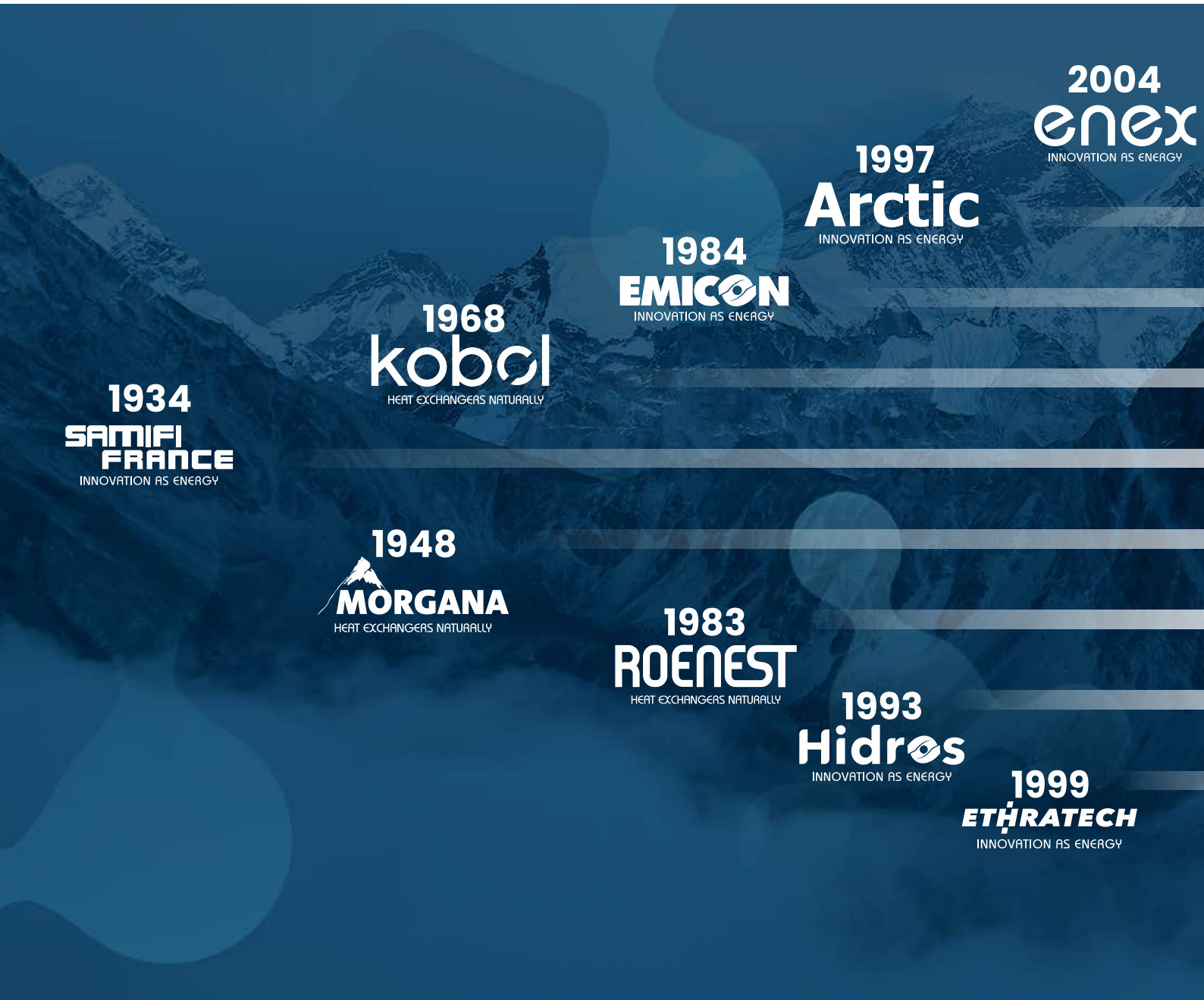
EMIBYTE for IT COOLING

Products catalogue

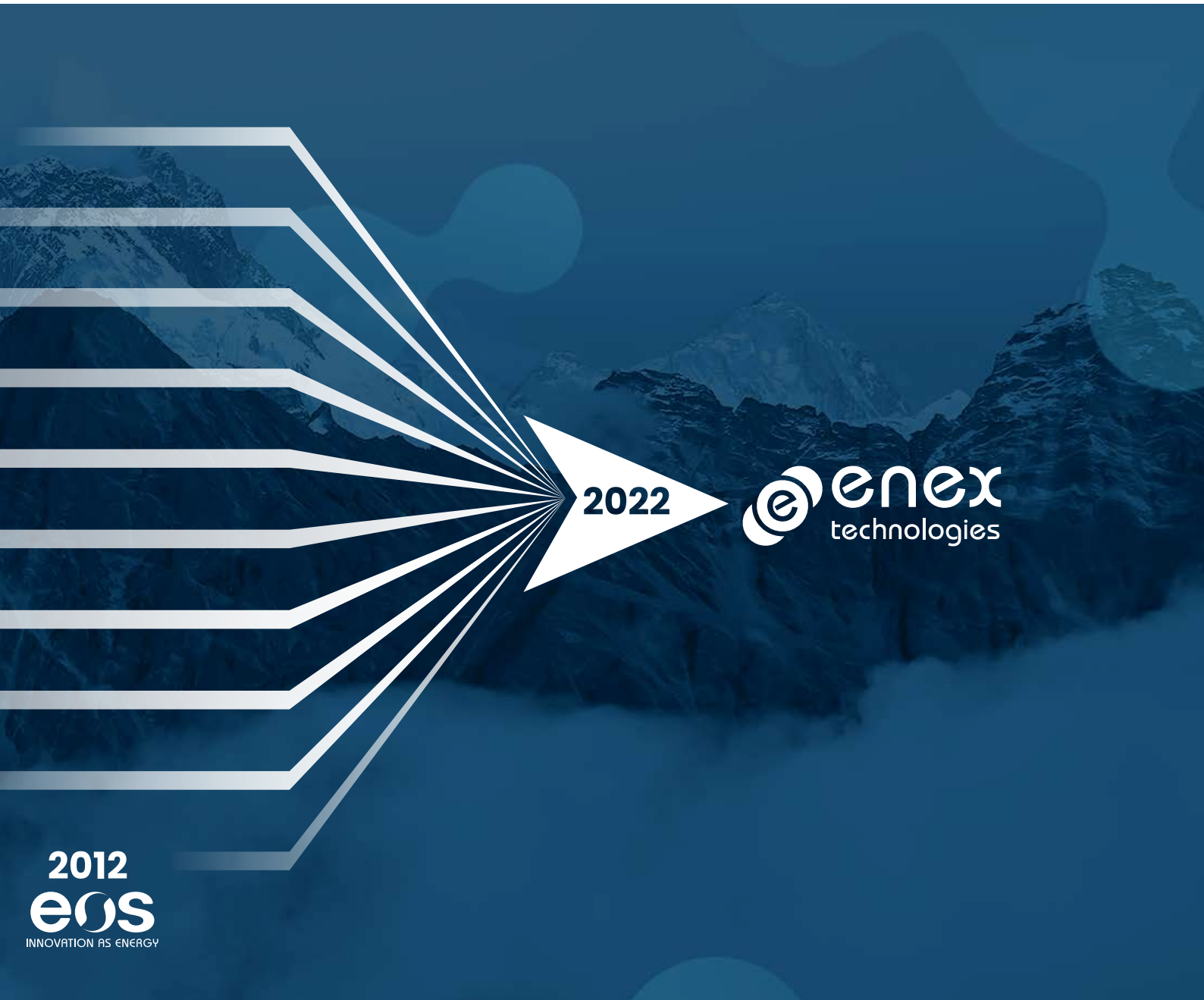
Index

About

Enex Technologies is a transformative world leader in natural and energy efficient cooling, heating, ventilation and refrigeration equipment that began in the 1930s by producing ammonia natural refrigeration equipment, later adding CO_2, water and propane as natural refrigerants with low global warming potential.



Pioneers and innovators in natural HVACR since the 1930s



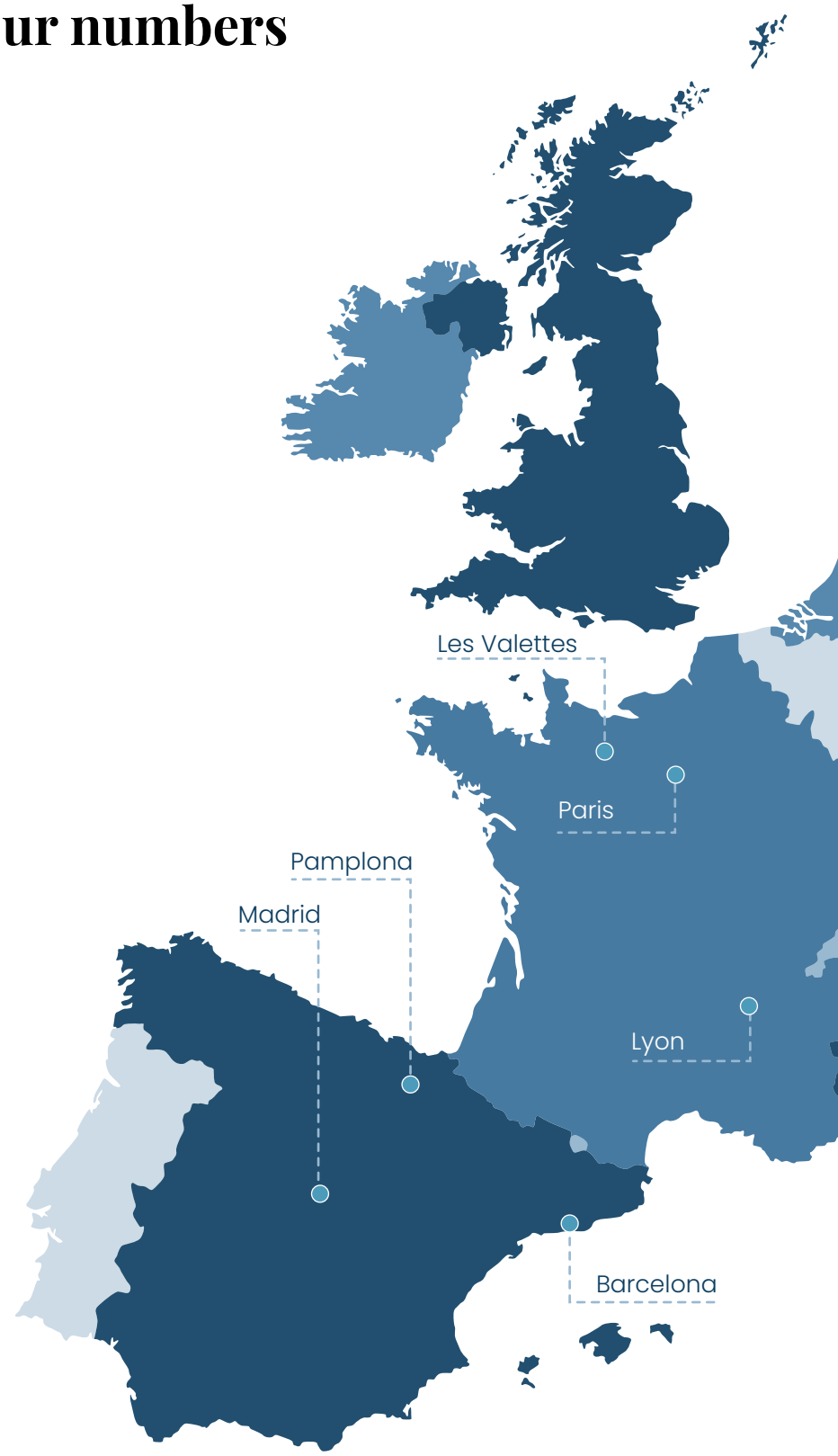
Our numbers

200M€
Revenues

1000+
Employees

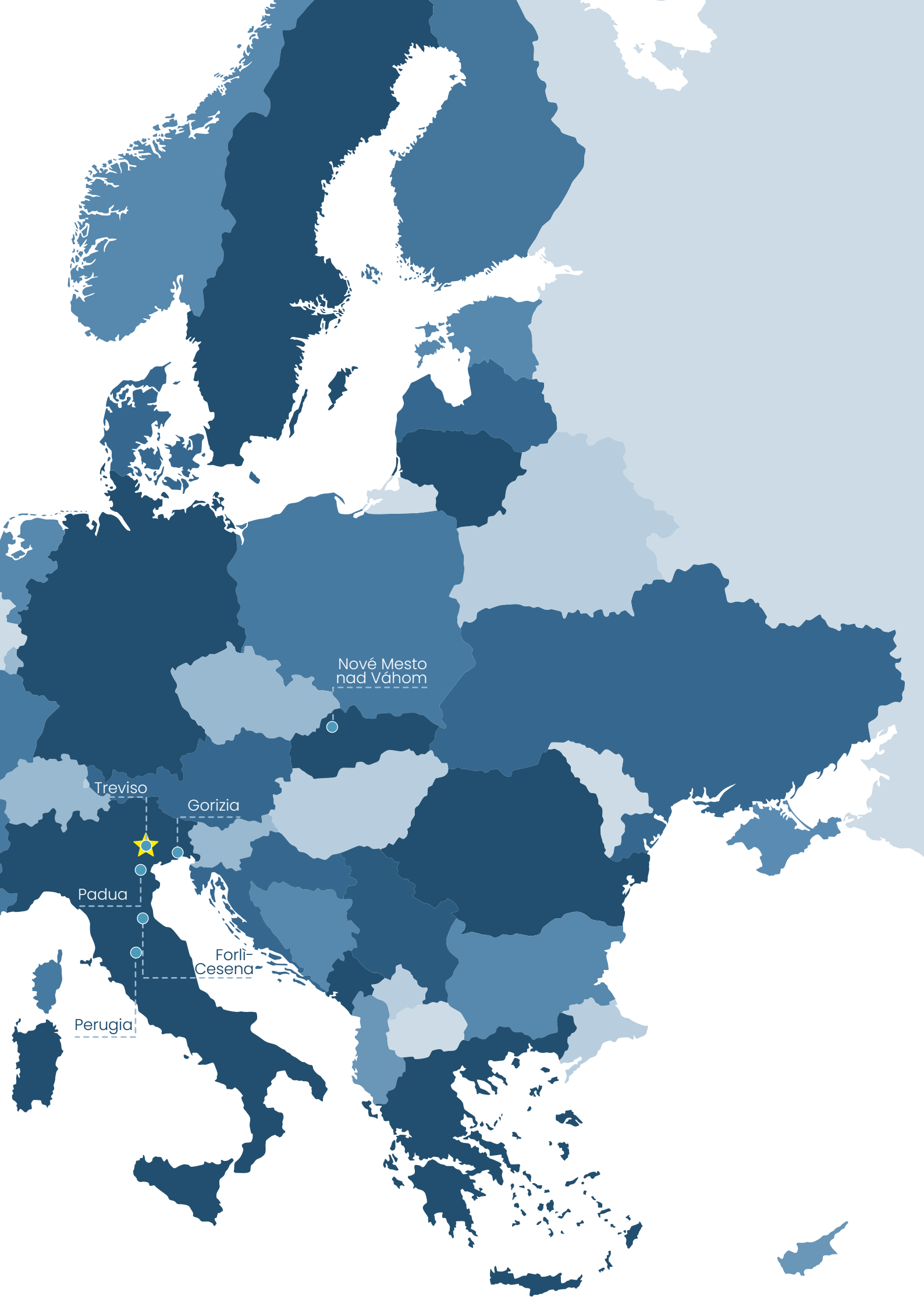
12
Factories

125
Countries



★ Headquarter

● Manufacturing, R&D site and commercial office


Nové Mesto
nad Váhom
Treviso
Gorizia
Padua
Forlì-
Cesena
Perugia

Our segments

Our leading natural refrigerant, energy efficiency and energy transition technologies transform the HVACR industry.

COOLING

Our chillers are designed to operate efficiently with all refrigerants, generating cold water for climatization or industrial processes.

REFRIGERATION

Our commercial and industrial refrigeration systems are designed for high performance, quality, reliability and carbon footprint reduction through the use of natural refrigerants Ammonia and CO_2.

HEATING

Our high efficiency heat pump range using natural refrigerant CO_2 is a simple-to use, elegant solution for applications requiring high quantities of sanitary hot water.

We are driven by strong values to create a better and more sustainable world

ENVIRONMENT

Buildings consume 40% of the energy used in the developed world. HVACR systems use 60% of the energy in buildings. Our high efficiency solutions are central to reducing global warming, and we strive every day to help our customers reduce their carbon footprint by using natural refrigerants.

INNOVATION

Always leading. From pioneering the efficient and safe use of natural refrigerants to helping the industry move away from gas heat towards systems that use electricity.

COMMUNITIES

We are a European industrial champion, building clean factories that support new jobs, growth and expansion to new markets.

DIVERSITY & INCLUSION

At Enex Technologies we ensure that every colleague feels respected, valued and motivated to support our customers, every day.

THE EMICON LABS

CLIMATIC ROOMS

EMICON has **climatic rooms** and **testing stations** where units produced are subject to strict **functional** and **performance** tests, with the possibility of simulating the real design climatic conditions. A double hydronic circuit (hot and cold) allows to carry out **operation tests on all types** of units, both for IT Cooling and hydronic units, packaged, 2 or 4 pipes, air cooled, water cooled and split, up to a cooling capacity of 1500 kW.

It is possible, for our customers, to attend the functioning and performance test. Thanks to some webcams, it is possible to **remotely attend the test.**

CHARACTERISTICS

The climatic room is an environment inside of which, by means of auxiliary and heat recovery systems, we create a **controlled microclimate** in terms of air **temperature** and **humidity**, where the heat transfer fluids are treated according to the specific characteristics of the unit.
The types of units that can be tested are **air or water cooled units**, available as **chiller** or **reversible heat pump** versions according to **EN14511** standard.
The operating limits of fluid temperature can vary between **-5°C** and **65°C**. The ambient temperature (inside the room) can reach a maximum of 52°C for summer operation and a minimum of -7°C for winter cycle.

CLOSE CONTROL UNITS

EMICON's Laboratory allows the **performance test** of chilled water and air cooled direct expansion **close control units**, with the possibility to simulate climatic conditions from 15°C to 35°C.

PROPANE

We recently built a the test area **exclusively** dedicated to chillers and heat pumps operating with natural **Propane refrigerant (R290)**, making us able to carry out performance and functional tests of units with a cooling capacity up to 700 kW both in cooling only and in winter cycle reversible configurations. The use of **ATEX** components, refrigerant leak detection systems, connected to acoustic signals and forced-type exhaust systems guarantee a **high safety degree** in this area.

Mission critical **Cooling & Thermal management** has been Emicon core focus since 1984. Our range of precision air conditioning solutions have been designed for a wide range of applications where **close control**, **high precision cooling** is essential, including **data centres**, telecom switching stations, theatres, museum and high technological density environments in general. Throughout its history, the data center and server room has consistently been asked to do more: handle **more capacity**, deliver **more availability** and achieve **more efficiency**. Thanks to the resourcefulness and dedication of the people responsible for managing these business-critical facilities, they have largely responded. The question now is can they continue to do so within the existing paradigms, or are we on the verge of fundamental changes in data center technologies, designs and processes?

The result to this main question nowadays is **EMIBYTE**, the new partner in **IT cooling** with his new series of products entirely designed and produced in the **Emicon factories**.
Reliable, integrated cooling, from **chiller** and computer room **air conditioners**, tackles the issues head on to lower costs and reduce downtime risk. We provide **all levels of heat removal** for different sized rooms and applications. Whether you're building new, retrofitting, or modernizin, achieve a **healthy data center environment** with our **EMIBYTE** cooling solutions.

LEGEND

- AIR — Air cooled
- H2O — Water cooled
- Remote condensing
- FC — Free cooling
- High efficiency
- Silenced version
- Ultra-silenced version

- Cooling only
- Scroll Compressors
- Scroll inverter Compressors
- R410a — R410a Refrigerant (Kc)
- EC — Axial fan with EC motor
- EC — Plug-fan with EC motor

SERIE	FEATURES	COMPRESSOR	FANS	REFRIGERATNT	PERFORMANCE RANGE (0 kW – 30 kW – 60 kW – 100 kW – 150 kW – 220 kW)
DX.A	AIR	Scroll	EC	R410a	
DXi.A	AIR	Scroll inverter	EC	R410a	
DXi.AF	AIR, FC	Scroll inverter	EC	R410a	
DXi.H	H2O	Scroll inverter	EC	R410a	
DXi.HF	H2O, FC	Scroll inverter	EC	R410a	
WU	H2O		EC		
WUL	H2O		EC		
IR.DXi	AIR	Scroll inverter	EC	R410a	
IR.WU	H2O		EC		
RCE	AIR		EC	R410a	
RCE-S	AIR		EC	R410a	

COMPONENTS

FULLY CUSTOMIZABLE AND INTUITIVE

TOUCH SCREEN DISPLAY

The new 4.3" touch screen designed to maximise the users system management experience. System usability is enhanced by the web server pages shown on the display relating to each individual controller connected to the network, allowing users to monitor the situation across the entire system from just one single location. Ethernet connectivity makes installation even more practical, without any constraints in terms of location relative to the monitored system.

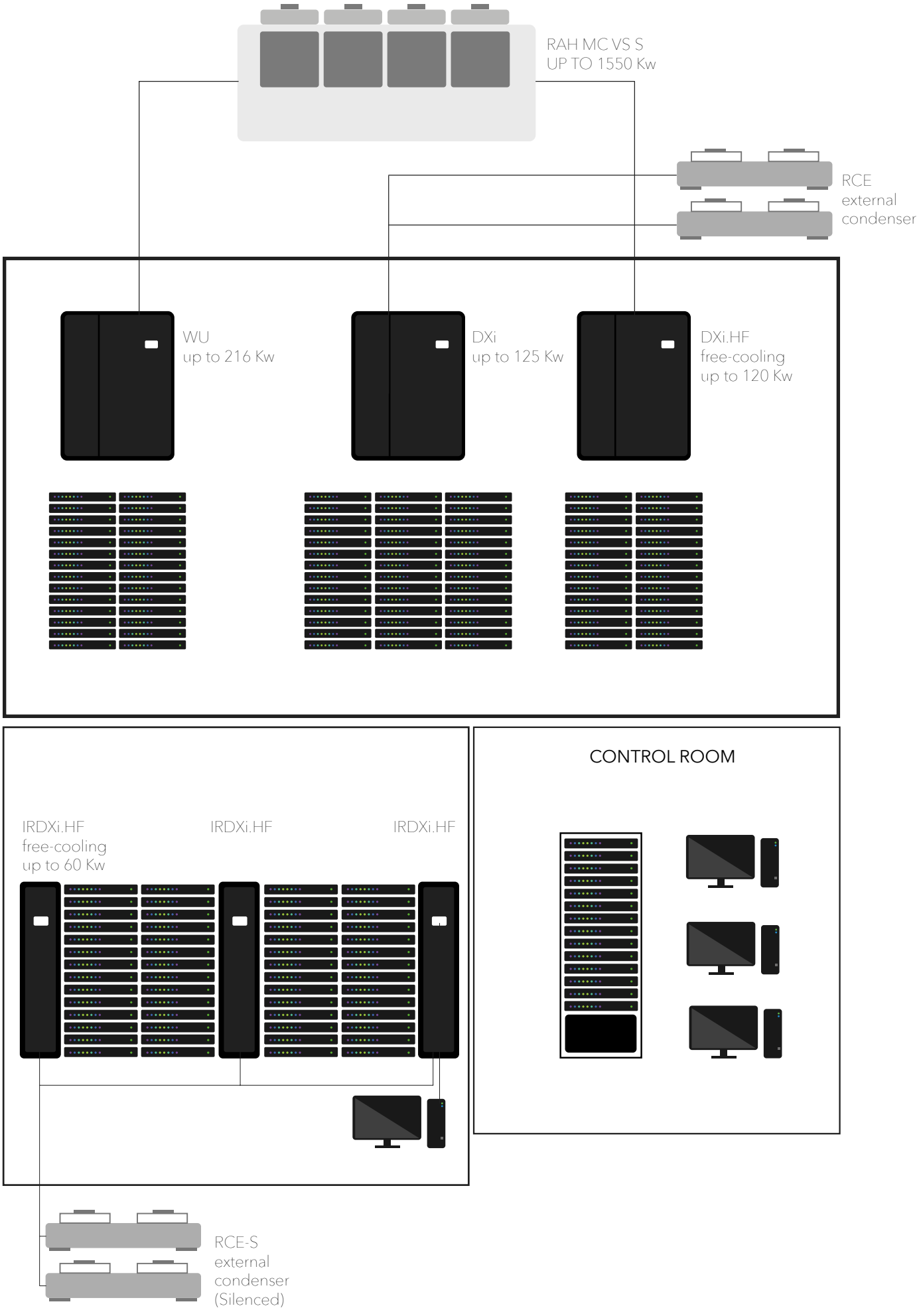
BUILT-IN TEMPERATURE AND HUMIDITY PROBE
Can share the values read with the colour display making the comprehension of operating data easier.
Micro-USB port
At the front, concealed by a faceplate, for easier access.

INVERTER SCROLL COMPRESSOR
The best solution in terms of variable cooling capacity

PRECISE TEMPERATURE CONTROL
Inverter compressor-based technology allows close monitoring and control of room temperature.

EC PREMIUM FAN
The new generation of Emicon EC Fan 2.0 is the core of EMIBYTE Precision Air Conditioner, significantly minimizing noise levels and increasing the efficiency of the unit.

ULTRASONIC HUMIDIFIER
Ultrasonic Humidifier option is the new ultrasound cool mist large room humidifier. It has been developed to control and maintain the desired level of humidity for a specific environment or in any large room or storage area constant.


RAH MC VS S
UP TO 1550 Kw
RCE
external
condenser
WU
up to 216 Kw
DXi
up to 125 Kw
DXi.HF
free-cooling
up to 120 Kw
CONTROL ROOM
IRDXi.HF
free-cooling
up to 60 Kw
IRDXi.HF
IRDXi.HF
RCE-S
external
condenser
(Silenced)

IRWU

WATER COOLED CLOSE CONTROL UNIT

FOR HIGH DENSITY RACKS

30 - 60 cm

The indoor vertical air conditioning units RACK COOLER "IRUW" is an effective management system of the Hot Spots in the data center, ensuring low energy consumption and usage possibilities even under extremely high loads for HIGH DENSITY rack ´up and over 40 kW/m2 rack.
In hydronic version where the cooling is ensured by the use of an external chiller. The use of EC fan systems, featuring last-generation electronic-switching brushless motors, assures excellent performance and low consumption.
Available as standard with the dynamic management of N +1 EC fans to optimize consumption and redundancy of the cooling system. These individual units to be positioned between the racks in the row so as to act locally in order to dissipate the load of servers.

Flexibility
Air conditioners are both equipped with predisposition for passing refrigerant connections and power supply from both above and below, so as to allow a quick and easy installation in any condition, whether or not foreseen the presence of access floor.

Control management
The units are supplied with a new management algorithm capable of avoiding temperature stratification inside the rack using 4 integrated and independent sensors (2 on suction and 2 on discharge) to optimize ventilation and chilled water valve opening in order to maximize energy benefits.

Redundancy
The IR-WU cooling units are designed for maximum system reliability, provide the possibility of hot back-up fan replacement, and can be equipped with dual coils and their control valve and dual power supply, ensuring 100% system back-up.

Compartization
Perfect integration with systems that minimize the mixing hot and cold air between the aisles and that emphasize the efficiency of such systems.

Control
Semi-graphic display 132x64 pixel, programmable software, record storage of 200 alarms, general alarm, automatic reset after blackout, integral LAN system, standby management, automatic rotation, serious alarms, operating contemporaneousness, clock function modality.

TECHNICAL DATA

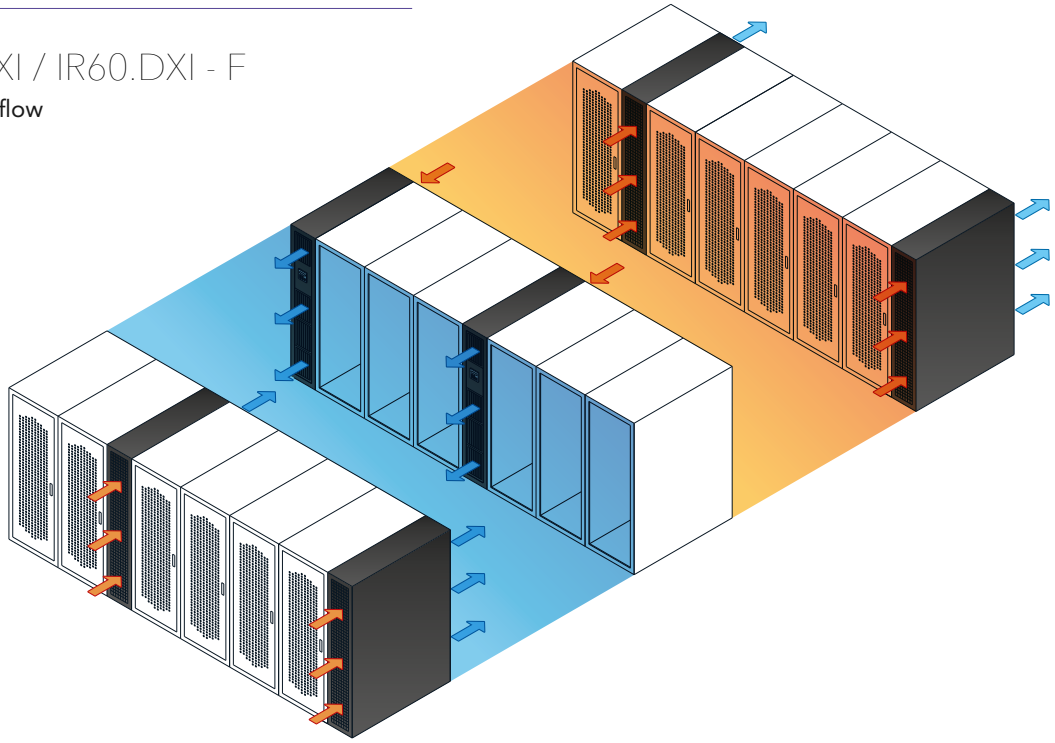
IRWU		IR30. WU 10	IR30. WU 15	IR30. WU 20	IR30. WU 25	IR30. WU 33	IR60. WU 42	IR60. WU 47	IR60. WU 56
Net Cooling capacity (Total) (1)	kW	11,1	17,8	25,9	30,4	42,4	50,7	56,4	68,9
Cooling cpacity (Sensible) (1) ESP 20 Pa	kW	11,0	17,6	23,6	29,0	40,0	48,4	56,4	64,5
Tot. absorbed power (2) ESP 20 Pa	kW	0,15	0,33	0,33	0,47	1,02	0,49	0,73	0,84
SHR		0,99	0,99	0,91	0,95	0,94	0,95	1,00	0,94
Air flow	m^3/h	2000	3300	3300	4400	5600	7500	9000	9000
Fans	n°	2	3	3	4	4	3	4	4
ESP max.	Pa	232	139	160	115	95	90	92	66
Water flow		1,9	3,1	4,5	5,2	7,3	8,7	9,7	11,8
Maximum absorbed power	kW	0,34	0,51	0,51	0,68	1,76	1,50	2,00	2,00
Maximum absorbed current	A	3,30	4,95	4,95	6,60	8,80	7,50	10,00	10,00
Power supply	V/ph/Hz	400/3/50+N+PE							
Humidifier									
Steam production (nominal)	kg/h	1,5	2	3	3	3	5	5	5
Steam production (max.)	kg/h	3	3	3	3	3	8	8	8
Max. absorbed power	kW	2,25	2,25	2,25	2,25	2,25	3,75	3,75	3,75
Max. absorbed current	A	10,0	10,0	10,0	10,0	10,0	5,5	5,5	5,5
Specific conducibility at 20°C (min/max)	µS/cm	300/1250	300/1250	300/1250	300/1250	300/1250	300/1250	300/1250	300/1250
Total hardness (min/max)	mg/l $CaCO_3$	100/400	100/400	100/400	100/400	100/400	100/400	100/400	100/400
Electrical heaters									
Steps	n°	1	1	1	1	1	3	3	3
Power	kW	3,0	3,0	3,0	3,0	3,0	9,0	9,0	9,0
Absorbed current	A	4,3	4,3	4,3	4,3	4,3	13,0	13,0	13,0
Condensing water pump									
Nominal flow	l/h	390,0	390,0	390,0	390,0	390,0	390,0	390,0	390,0
Max. flow (prevalence = 0 m)	l/h	500	500	500	500	500	500	500	500
Max. discharge height (flow = 0 m^3/h)	m	5,4	5,4	5,4	5,4	5,4	5,4	5,4	5,4
Condensing water pump + humidifier									
Nominal flow	l/h	600	600	600	600	600	600	600	600
Max. flow (prevalence = 0 m)	l/h	900	900	900	900	900	900	900	900
Max. discharge height (flow = 0 m^3/h)	m	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0
Dimensions and weight									
Width	mm	300	300	300	300	300	600	600	600
Depth (3)	mm	1100	1100	1100	1100	1100	1100	1100	1100
Height	mm	2000	2000	2000	2000	2000	2000	2000	2000
Weight	Kg	150	160	165	170	180	245	250	260

(1) Ambient temperature 38°C, Water 7/12°C
(2) The fans electrical power has to be added to the ambient load.
(3) In the LL, LR and CL versions, the depth is 1200 mm.

CONFIGURATIONS

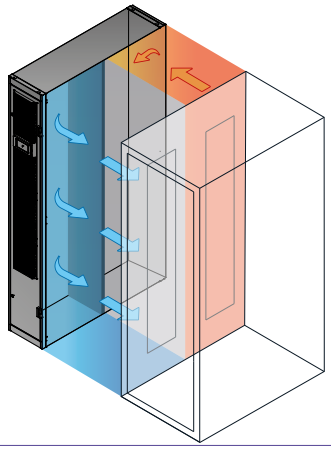
IR30.DXI / IR60.DXI - F

Frontal air flow



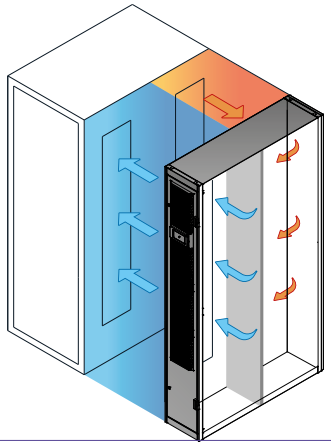
IR30.DXI - LR

Side air flow to the right



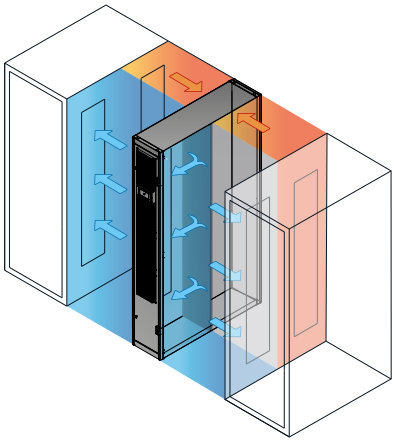
IR30.DXI - LL

Side air flow to the left

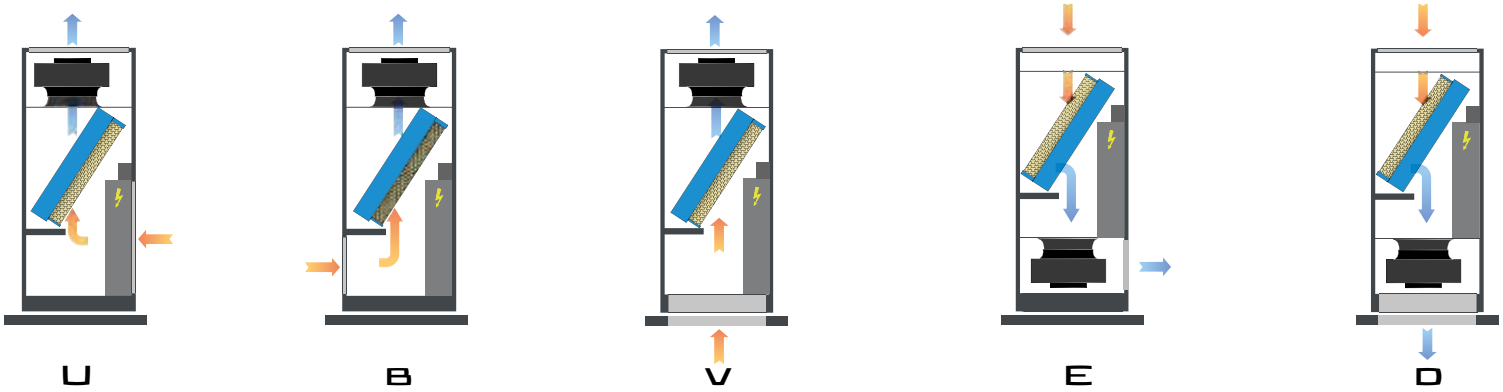


IR30.DXI - CL

Side air flow right and left (Close Loop)



AIR FLOW CONFIGURATIONS: DX / DXI / WU



Notes

EMIBYTE for IT COOLING - Products Catalogue | Rev.1 Version November 2024 | ENG

Pdf

enex technologies
cooling and heating naturally

www.enextechnologies.com • info@enextechnologies.com

160100004GB:24-02