

# COMFORT APPLICATIONS

## PRODUCT OVERVIEW

▶ CHILLERS AND FREE-COOLING CHILLERS

▶ HEAT PUMPS

▶ MULTIFUNCTION UNITS

▶ ROOFTOP UNITS

▶ AIR HANDLING UNITS

▶ HYDRONIC TERMINALS

▶ CONTROL, SUPERVISION AND OPTIMISATION SYSTEMS

▶ HEAT REJECTION PRODUCTS

### NEW GREEN REFRIGERANT SERIES

 **G04 SERIES**

 **G05 SERIES**

 **G06 SERIES**

Climaveneta's mission is to provide energy efficient heating, air conditioning, and optimisation solutions that enhance everyone's comfort, improve the profitability of a building, and do not contribute to an increase in CO<sub>2</sub> levels.

**Leadership in smart heat pumps for 4 and 6 pipe systems**

Extensive Range  
of Hydronic units  
**from 1 to 4.549 kW**

Countless successful  
projects worldwide

Complete range of  
rooftop units up to 350kW  
and AHUs up to  
100.000m<sup>3</sup>/h air flow

**3** standard energy  
efficiency settings

Vast portfolio of Control,  
Monitoring and  
Optimisation systems

**12** specialized  
manufacturing hubs

**8** standard noise  
reduction configurations

■ Sales network

● Manufacturing  
hubs or R&D labs



As a European leader in the HVAC industry, Climaveneta has provided premium air conditioning and heating solutions for the most challenging and demanding projects worldwide for over 45 years. Building on this strong legacy, Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. has decided to turn Climaveneta into the Group's specialized brand for hydronic comfort applications.

The result is the most complete range of advanced solutions providing enhanced usability, energy

efficiency, and environmental sustainability to modern buildings, as well as for the health, and well-being of the people who spend their time there.

These solutions are backed by a business approach based on flexibility and capability to adapt the system to the requirements of each project, as well as on vast experience and on the strength of belonging to a large multinational group such as Mitsubishi Electric in terms of integrated R&D, operations and central functions.

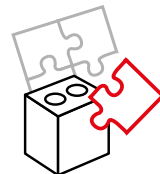
**Climaveneta solutions for comfort applications are designed to provide even in the most challenging residential, office, hotel and retail projects:**



**Perfect  
Comfort and  
Well-being**



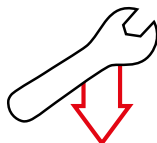
**Environmental  
Respect**



**Specific  
Solution for  
each project**



**Lowest  
cost of  
ownership**



**Simplified  
on-site  
operations**



**Enhanced value  
of the real estate  
development**

## Advanced technologies for high efficiency and high quality air conditioning systems.

Climaveneta's leadership in air conditioning and heating is backed by over 45 years experience in the smart integration of premium technologies for the most challenging projects worldwide

### Magnetic levitation



An extended range of chillers with magnetic levitation centrifugal compressors from 200kW to 4MW, both air source and water source, available also in free cooling and evaporative free cooling versions, to deliver highest efficiency in every application.

### Smart Thermal Energy Management



An innovative heat recovery system that allows the smart use of rejection heat from the industrial process for comfort heating and other neighbouring applications.

### Inverter Driven Compressor



The possibility to modulate cooling capacity results in increased efficiency as well as in the possibility to effectively implement smart management solutions such as active redundancy.

### New G04, G05 and G06 Series using green refrigerants



Following on vast experience in using green refrigerants, Climaveneta has already employed extensively green refrigerants such as HFO124ze, R513A and R514B in many ranges, in order to continue to be at the forefront with green best practices.

## V-AIR



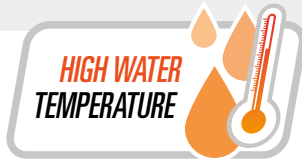
High efficiency EC technology fans are extensively adopted for their advantages with 15% energy reduction compared to traditional EC fans.

## VPF



The VPF (Variable Primary Flow) dynamically optimizes the unit's thermoregulation for variable flow operation, thus ensuring both the highest pump energy savings and chiller stable operation.

## High Water Temperature



Climaveneta vast experience in high leaving water temperature applications is proven by a complete range of technical solutions in these areas, to cope with any heating requirement, from 6 pipe applications to high temperature heating.

## Proprietary Control Logics



The performance of Climaveneta units is enhanced also by their control logics, based on a proprietary logics and know-how, deployed in a vast range of solutions.

## Leading Heat Recovery Technology



Climaveneta is a recognized leader in heat recovery applications and in its product employs in the most effective way all the most performing solutions such as thermodynamic, plate and rotary heat recovery as well as refrigerant booster.

## Configurable Efficiency Set

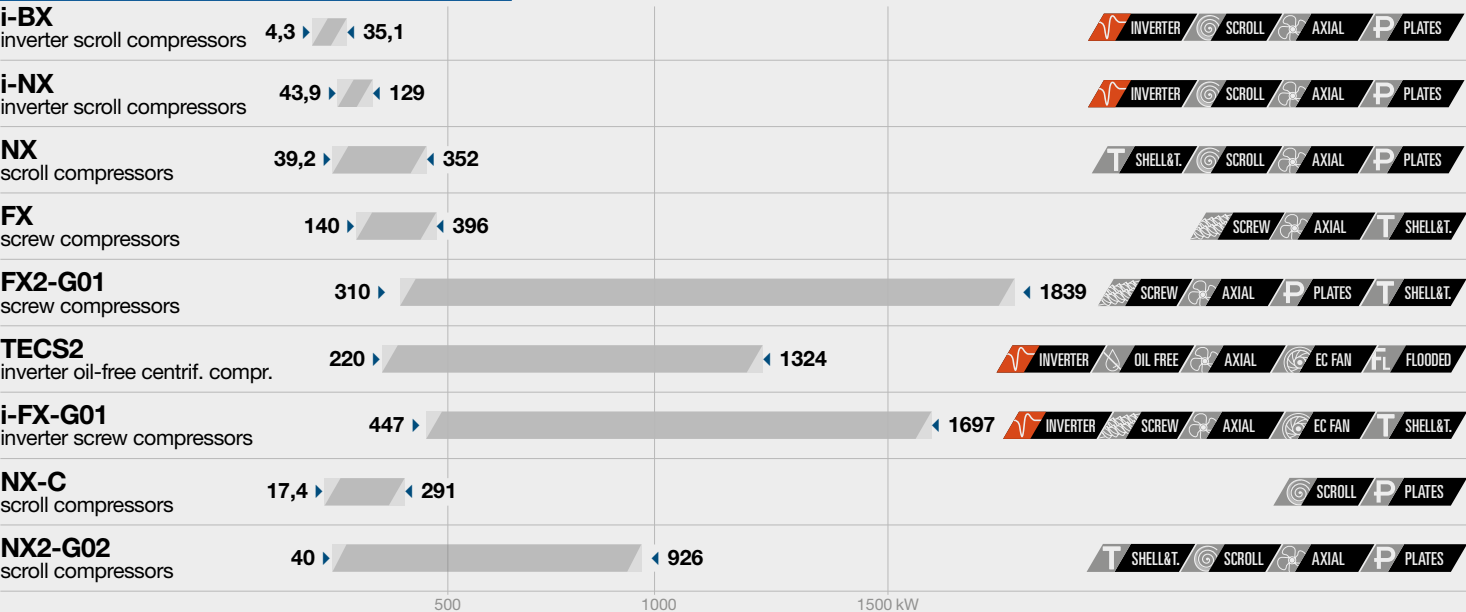


The willingness to cope even with the most demanding energy efficiency projects is reflected by the availability of 3 energy efficiency standard configurations in most hydronic units.

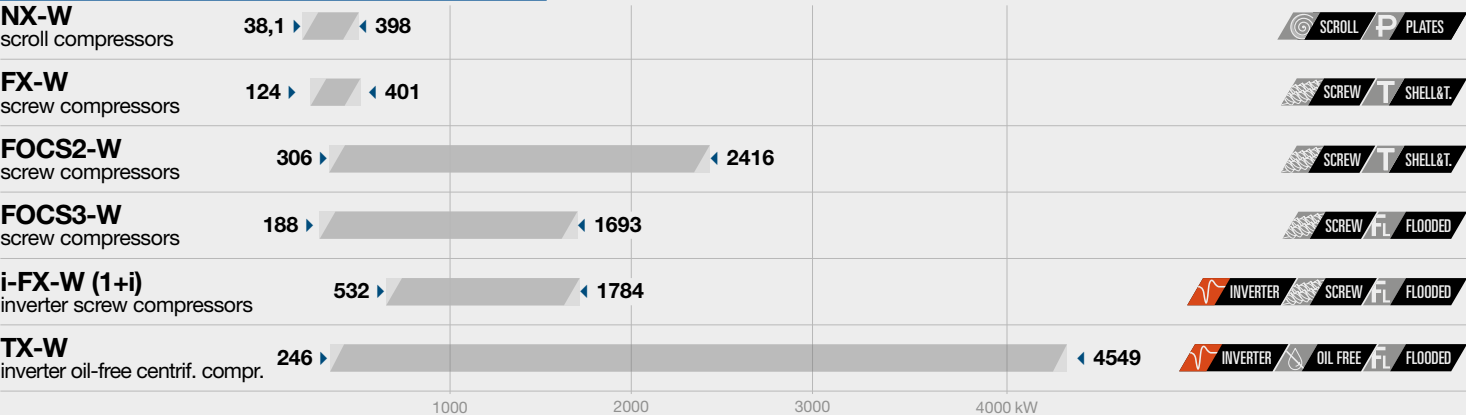
# CHILLERS AND FREE-COOLING CHILLERS



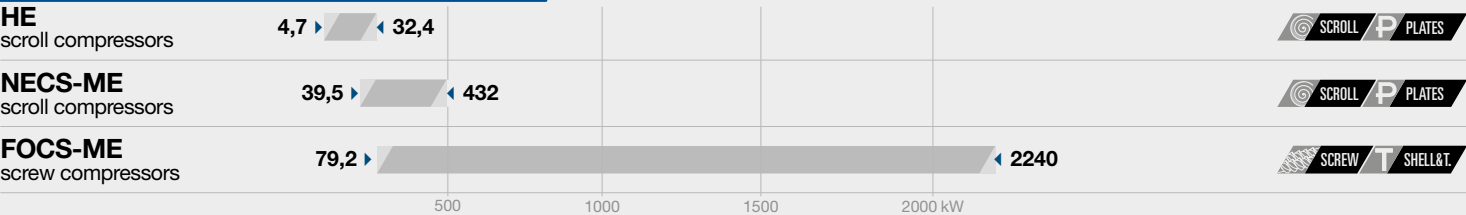
## Air cooled chillers



## Water cooled chillers



## Condenserless chillers



## Air cooled chillers with free-cooling technology



- ▶ Highest energy efficiency
- ▶ Perfect indoor climate control
- ▶ Lowest noise emissions



## Air cooled chillers with evaporative free-cooling technology

### TECS-EFC

inverter oil-free centrif. compr.

300 ▶

◀ 1682



500

1000

1500 kW

## Air and water cooled chillers with HFO 1234ze

### G04 SERIES



#### FX2-G04

air cooled, screw compressors

252 ▶

◀ 1463



#### i-FX-G04

air cooled, inverter screw compr.

383 ▶

◀ 1463



#### TECS2 HFO

air cooled, inverter oil-free centrif. compr.

339 ▶

◀ 1017



#### FX-W-G04

water cooled, screw compressors

93,1 ▶

◀ 373



#### TECS2-W HFO

water cooled, inverter oil-free centrif. compr.

340 ▶

◀ 1364



#### i-FX2-W-G04

water cooled, screw compr.

398 ▶

◀ 1241



#### TX2-W-G04

inverter oil-free centrif. compr.

246 ▶

◀ 4549



500

1000

1500 kW

## Air and water cooled chillers with R513A

### G05 SERIES



#### FX2-G05

air cooled, screw compressors

310 ▶

◀ 1839

#### i-FX-G05

air cooled, inverter screw compr.

479 ▶

◀ 1697



#### TECS2-G05

air cooled, inverter oilfree centrif. compr.

218 ▶

◀ 1323



#### FX-W-G05

water cooled, screw compressors

124 ▶

◀ 401



#### FOCS2-W-G05

water cooled, screw compressors

306 ▶

◀ 2416



#### FOCS3-W-G05

water cooled, screw compressors

188 ▶

◀ 1693



#### i-FX-W (1+i)-G05

water cooled, inverter screw compr.

532 ▶

◀ 1784



#### TX-W-G05

water cooled, oil-free centrif. compr.

248 ▶

◀ 4466



#### TECS-FC-G05

air cooled, oil-free centrif. compr., free-cooling

299 ▶

◀ 1671



1000

2000

3000

4000 kW

## Air Cooled chillers and free-cooling chillers with R454B

### G06 SERIES



**NX-G06** air cooled, scroll compressors

153 ▶

◀ 314



**NX2-G06** air cooled, scroll compressors

40 ▶

◀ 926



**NX2-FC-G06** scroll compressors

292 ▶

◀ 771



500

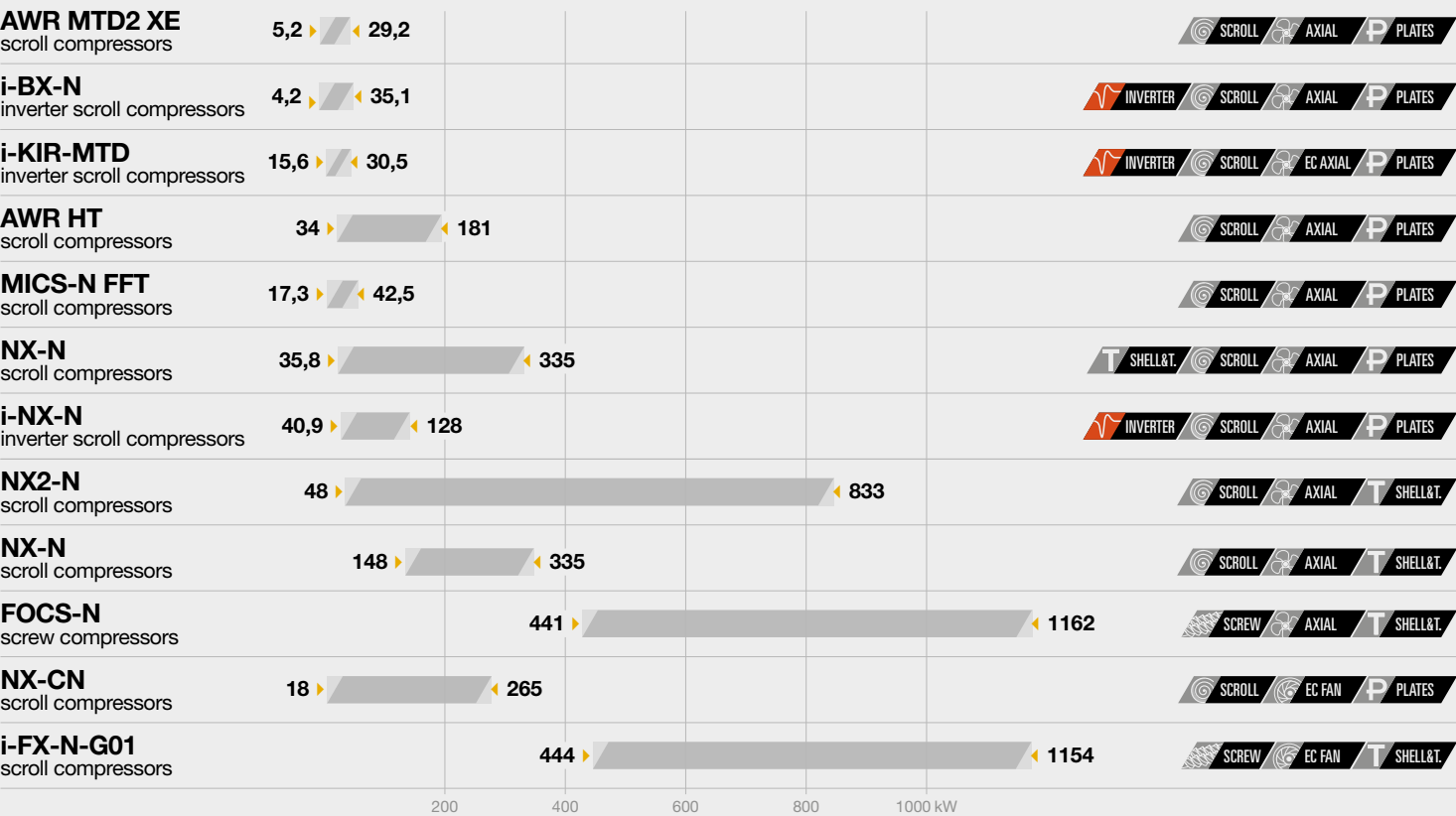
1000 kW



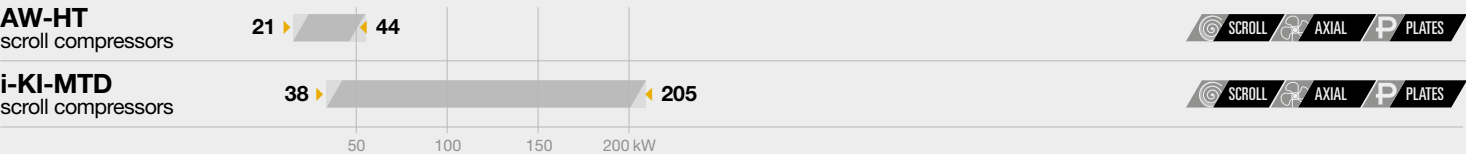
# HEAT PUMPS



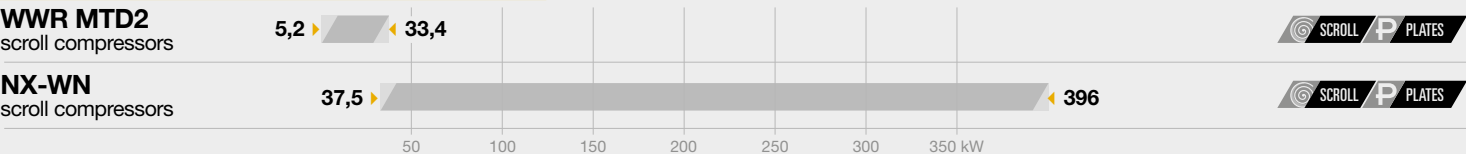
## Air to water reversible heat pumps



## Air to water heat pumps (heating only)



## Water to water reversible heat pumps

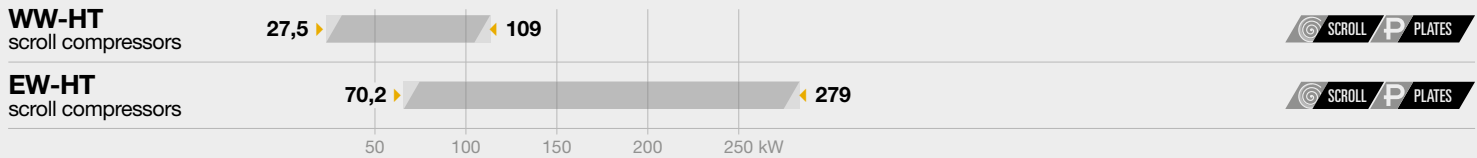




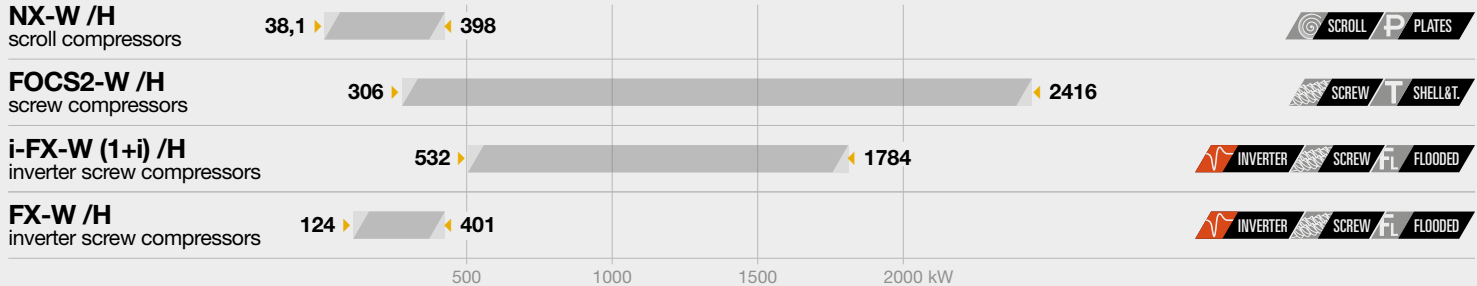
- ▶ Operating limits up to -20°C
- ▶ Hot water production up to 78°C
- ▶ Highest energy efficiency



### Water to water heat pumps (heating only)



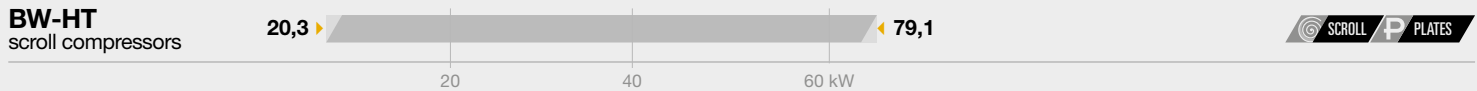
### Water to water heat pumps reversible on the hydraulic side



### Geothermal reversible heat pumps

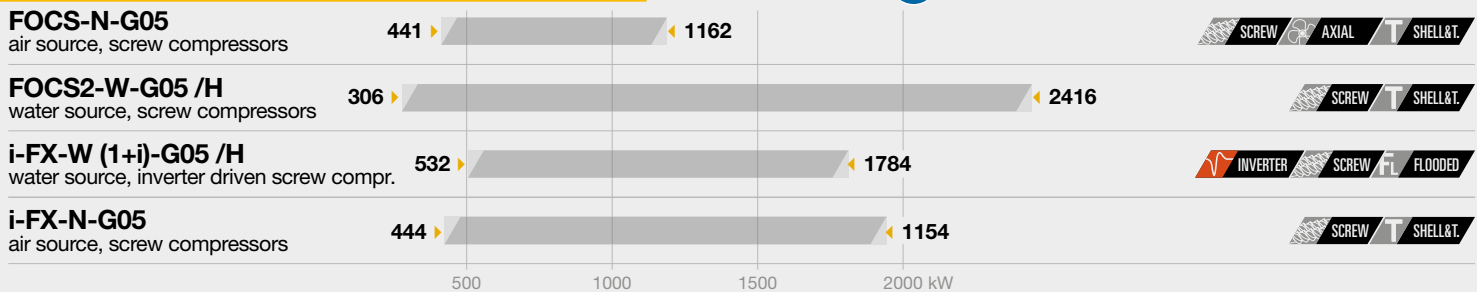


### Geothermal reversible heat pumps (heating only)



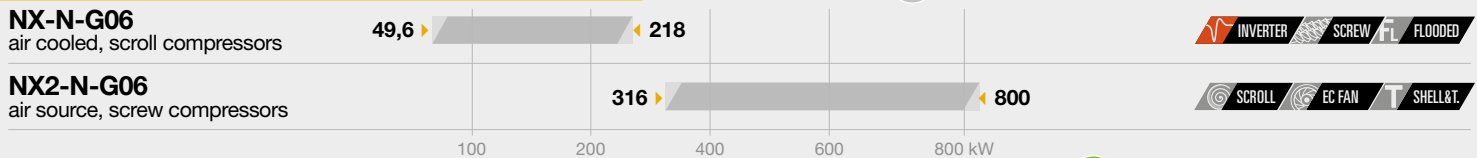
### Air and water source heat pumps with R513A

G05 SERIES  $\Phi$  R513A



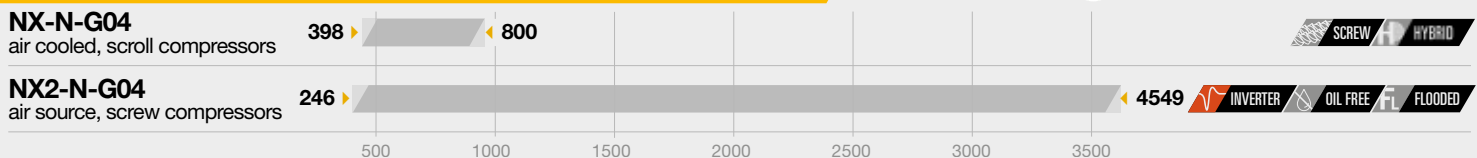
### Air and water cooled heat pumps with R454B

G06 SERIES  $\Phi$  R454B



### Water to water heat pumps reversible on the hydraulic side

G04 SERIES  $\Phi$  1234ze



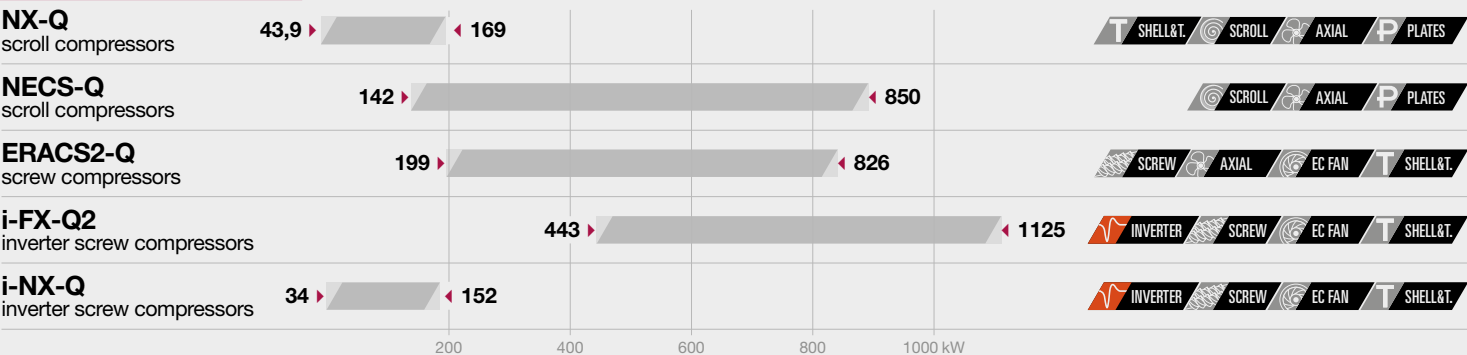
# MULTIFUNCTION UNITS



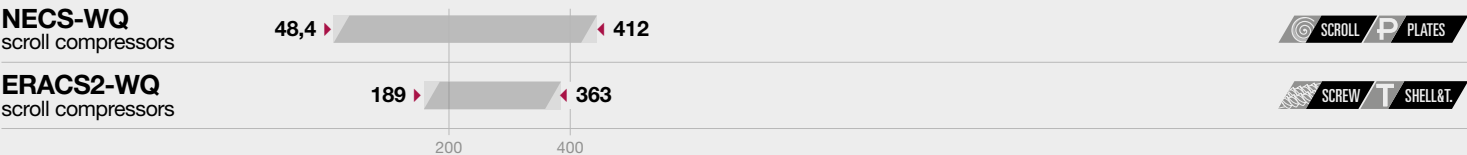
- ▶ Highest efficiency in combined hot and cold water production
- ▶ Rationalized system design and reduced footprint



## Air cooled chillers

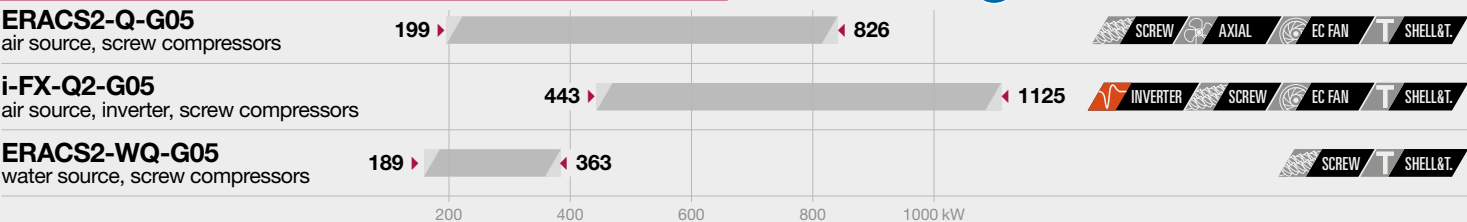


## Water source heat pumps



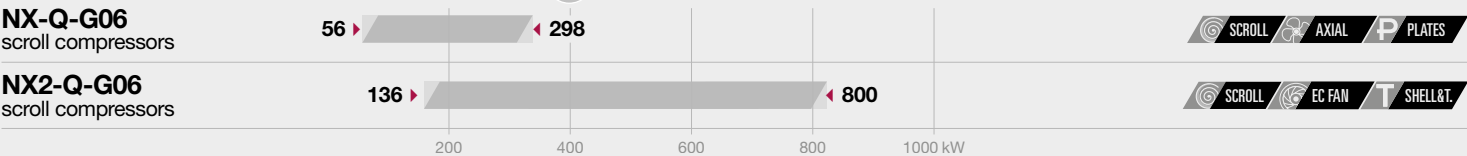
## Air and water source 4-pipe heat pumps with R513A

### G05 SERIES R513A



## Air cooled chillers

### G06 SERIES R454B



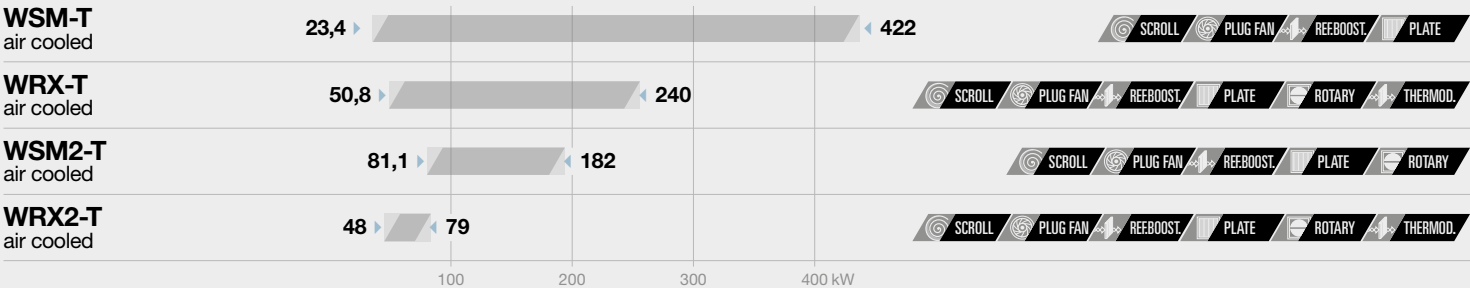
# ROOFTOP UNITS



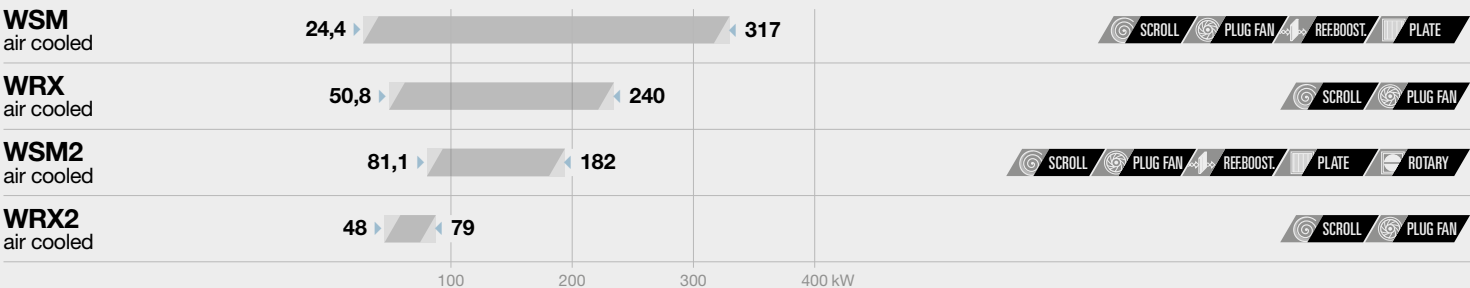
- ▶ Widest range and complete configurability
- ▶ Perfect thermoigrometric control
- ▶ Maximum flexibility in the air flow management



## Air to air rooftop unit, cooling only



## Reversible air cooled rooftop unit



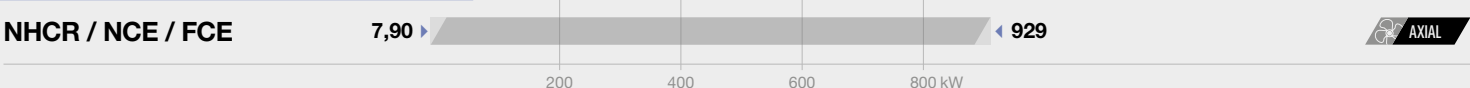
# HEAT REJECTION PRODUCTS



## Reversible air cooled rooftop unit



## Reversible air cooled rooftop unit

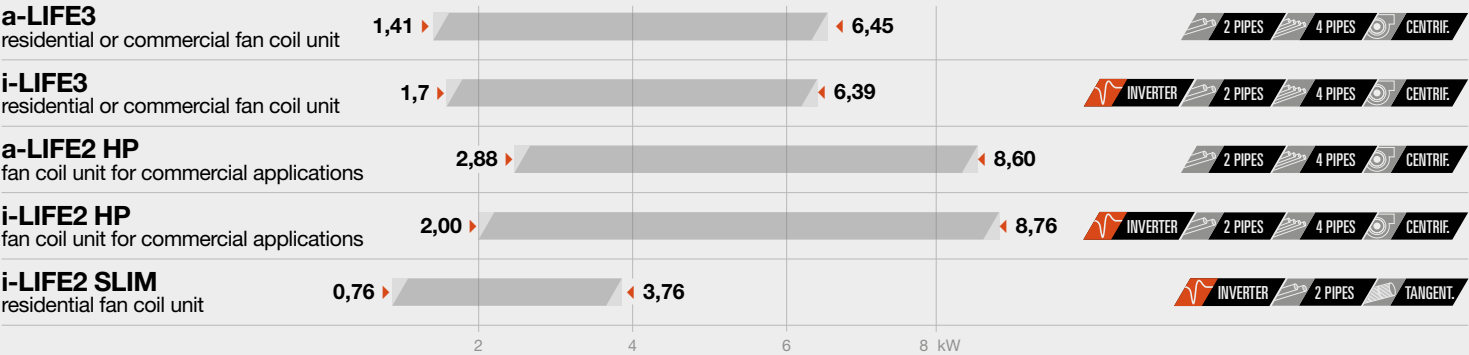


# HYDRONIC TERMINALS

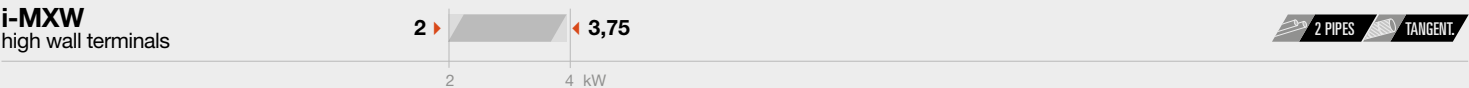


- ▶ Fan coil range for residential and commercial applications
- ▶ Complete range of accessories
- ▶ For exposed or concealed installation

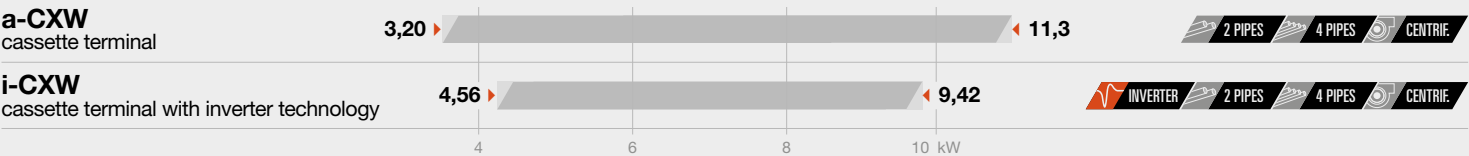
## Fan coils



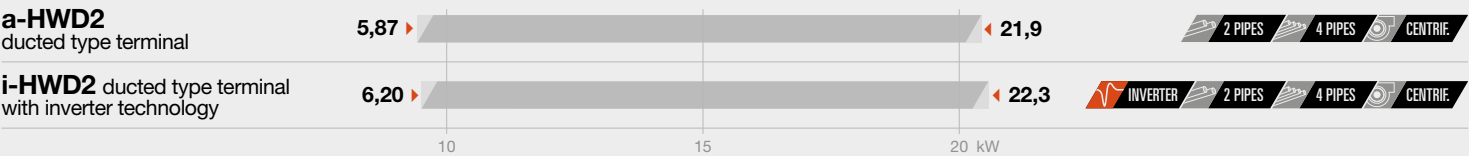
## Hi-wall type terminals



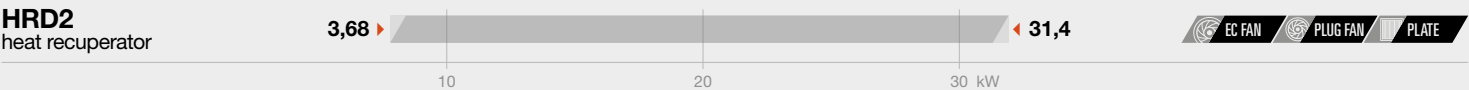
## Cassette type terminals



## Ducted type terminals



## Heat recuperators



# AIR HANDLING UNITS



## Air to air rooftop unit, cooling only

### MWZ

compact air handling unit

1500 ▶

◀ 9000

### WIZARDX

fully configurable air handling units

3000 ▶

◀ 20000

5000 10000 15000 20000 kW

EC FAN

CENTRIE

2 PIPES

4 PIPES

PLUG FAN

FREE COOLING

## CONTROL, SUPERVISION AND OPTIMISATION SYSTEMS



### Group devices

- ▶ **ClimaPRO+**  
**Plant Room Optimisation System**  
Plant Room Optimiser for real time, smart management of energy indexes for the single units and the entire plant room.
- ▶ **MANAGER 3000+**  
Specialized group control.
- ▶ **SEQUENCER**  
The ultimate solutions for supervision, remote monitoring, service, and preventive maintenance.



### Human Machine Interfaces

- ▶ **KIPlink**  
Control interface for smart phones and tablets.

# MORE THAN 1000 PROJECTS ALL OVER THE WORLD

## COIMA HQS

Milan - Italy

**Period:** 2017-2019

**Application:** Office Buildings

**Plant type:** Hydronic System

**Cooling capacity:** 363

**Heating capacity:** 393

**Installed machines:**

1x ERACS 2WQ 1502



## FONDACO DEI TEDESCHI

Venice - Italy

**Period:** 2014-2016

**Investor:** Lvmh

**Application:** Retail

**Plant type:** Hydronic System

**Cooling capacity:** 450

**Heating capacity:** 104

**Installed machines:**

1x NECS-CN/B/S 0612,

2x NECS-WQ/S 0512

**Architect:** Rem Koolhaas

**Designer:** Prisma





Every project is characterized by different usage conditions and system specifications for many different latitudes. All these projects share high energy efficiency, maximum integration, and total reliability due to the unique experience of Climaveneta branded solutions.

## TORRE GALFA

Milan - Italy

**Period:** 2018-2020

**Application:** Mixed-Use  
Development

**Plant type:** Hydronic System

**Cooling capacity:** 240

**Heating capacity:** 260

**Installed machines:**

1x NECS-WQ 0604,  
1x NX-WN 0152,  
1x WET RTF CE S 0124,  
1x WET RTF CE 0264



## VIRGIN ACTIVE ROMA VALLE AURELIA

Rome - Italy

**Period:** 2017-2019

**Investor:** Virgin Active  
**Application:** Sport structures

**Cooling capacity:** 2000

**Heating capacity:** 2200

**Installed machines:**

2x FOCS-NR/XL-CA-E/S

**Installer:** Panzeri Como

**Project managed by:** Starching







## **mitsubishi electric hydronics & it cooling systems S.p.A.**

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