# COMFORT APPLICATIONS PRODUCT OVERVIEW

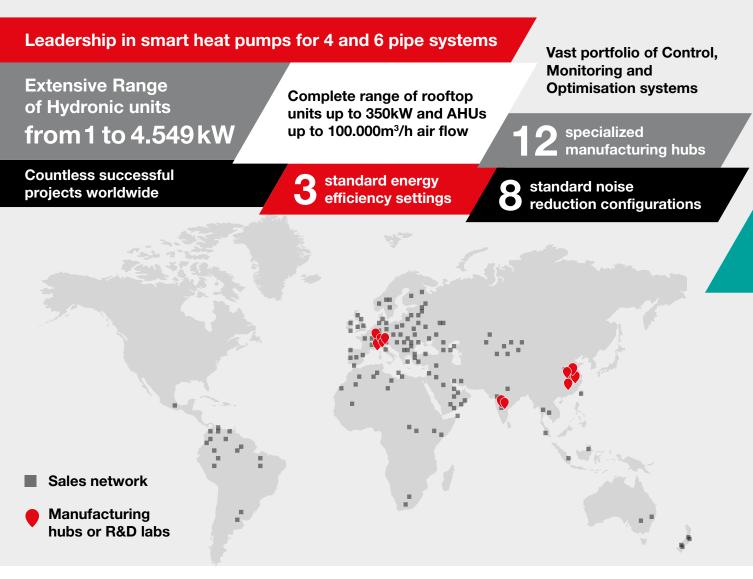




melcohit.com



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.





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, G06 and G07 Series using green refrigerants

**1234ze** 513A 54B 3

Following on vast experience in using green refrigerants, Climaveneta has already employed extensively green refrigerants such as HFO124ze, R32, 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.

HIGH WATER

**TEMPERATURE** 



The performance of Climaveneta units is enhanced also by their control logics, based on a proprietary logics and knowhow, 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

i-BX inverter scroll compressors	4,3 • • 35,1			NVERTER SCROLL AXIAL PLATES
i-NX inverter scroll compressors	43,9 • 4129			NVERTER SCROLL AXIAL PLATES
NX scroll compressors	160 > < 3	27		T SHELL&T SCROLL AXIAL PLATES
NX-C scroll compressors	17,4 > < 291			SCROLL SCROLL PLUG FAN PLATES
NX2-G02 scroll compressors	42,5 •	366		SCROLL AXIAL C EC FAN PLATES
NX2-G02 scroll compressors	176 ►		<b>♦ 922</b>	SCROLL AXIAL C EC FAN T SHELLBT
FX2-G01 screw compressors	310 ►			▲ 1839 SCREW SCREW AXIAL SHELLBT
i-FX-G01 inverter screw compressors	477 •			< 1697 NVERTER ST SCREW CFAN AXIAL T SHELL&L
TECS2 inverter oil-free centrif. compr.	220 >		▲ 1324	NVERTER OIL FREE CFAN AXIAL LOODED
	51	00	1000 1	500 kW

-

Water cooled chillers					
NX-W scroll compressors	38,1 > < 398				SCROLL PLATES
FX-W screw compressors	124 > 401				SCREW SCREW SHELL&T.
FOCS2-W screw compressors		2024 🕨	∢ 2416		SCREW /T SHELL&T.
FOCS3-W screw compressors	188 ►	▲ 1693			SCREW FL FLOODED
i-FX-W (1+i) inverter screw compressors	532 >	<b>∢</b> 1784			INVERTER SCREW FL FLOODED
<b>TX-W</b> inverter oil-free centrif. compr.	246 >			<ul> <li>↓ 4549</li> </ul>	INVERTER OIL FREE FL FLOODED
NECS-ME scroll compressors	39,5 ▶ ◀ 43	32			SCROLL P PLATES
Condenserless chille	rs	0 2000	3000	4000 kW	
FOCS-ME screw compressors	219 ►			▲ 2240	SCREW T SHELL&T.
	500		1500	2000 kW	
Air cooled chillers wi	th free-cooling tecl	hnology			
NX2-FC-G02 scroll compressors	299 ►	∢ 771		C	SCROLL STELL&T.
TECS-FC inverter oil-free centrif. comp	r. <b>302 ▶</b>			▲ 1693 NVERTER	OIL FREE C FAN FL FLOODED
	500	1000	1500 kW		
Air cooled chillers wi	th evaporative free	-cooling technol	ogy		
TECS-EFC inverter oil-free centrif. comp	r. 300 ▶		<b>1474</b>	INVERTER &	OIL FREE C AXIAL FL FLOODED
	500	1000	1500 kW		

<ul> <li>Highest energy</li> <li>Perfect indoor of</li> <li>Lowest noise en</li> </ul>	climate control	© R32 ©1234	Ize PR513A		
Air cooled chillers with	n R32 refrigerant	G07 S			
i-NX2-G07 air cooled, inverter scroll compr.	50,1 ►			∢ 110	INVERTER SCROLL C AXIAL P PLAT
	50		ERIES P1234ze	100 kW	
Air and water cooled c FX-W-G04 water cooled, screw compressors	93,1 <b>→</b> 4 373	1234ze 604 5	ERIES <sup>0</sup> 1234ze		SCREW T SHELL
FX2-G04 air cooled, screw compressors	252 >		•	1463	SCREW AXIAL T SHELL
<b>i-FX-G04</b> air cooled, inverter screw compr.	383 )		•	1463	NVERTER SCREW C FAN FL FLOOD
<b>i-FX2-W-G04</b> water cooled, inverter screw compr.	398 ►		<ul><li><b>1242</b></li></ul>		NVERTER SCREW HYBRI
<b>TECS2 HFO</b> air cooled, inverter oil-free centr. compr.	339 >		<b>▲</b> 1017		NVERTER NO OIL FREE C FAN FL FLOOD
<b>TX2-W-G04</b> water cooled, inverter oil-free centrif. compr.	191 🕨				
Air and water cooled c	billers with R513			00 2000	kW
FX2-G05 air cooled, screw compressors	310 ▶			∢ 1839	SCREW AXIAL T SHELLS
FX-W-G05 water cooled, screw compressors	124 •	401			SCREW SHELL
FOCS2-W-G05 water cooled, screw compressors	306 •				✓ 2416 SCREW T SHELL
FOCS3-W-G05 water cooled, screw compressors	188 •			▲ 1693	SCREW FL FLOOD
i-FX-G05 air cooled, inverter screw com	pr. <b>479</b> ▶			< 1697 NVERT	ER SCREW / AXIAL / EC FAN / T SHELLE
i-FX-W (1+i)-G05 water cooled, inverter screw compr.	532	•		∢ 1784	INVERTER SCREW
<b>TECS2-G05</b> air cooled, inverter oilfree centrif. compr.	218 •		<b>∢</b> 1313	INVERT	ER 🚫 OIL FREE 🔗 AXIAL 🕼 EC FAN 📕 FL FLOOD
<b>TX-W-G05</b> water cooled, inverter oil-free centrif. compr.	248 >				4466 / INVERTER S OIL FREE
TECS-FC-G05 air cooled, ir oil-free centrif. compr. free-coolin	nverter 299 >			<b>∢</b> 1671	INVERTER NO OIL FREE C FAN FL FLOOD
	50			D kW	
Air cooled chillers and	free-cooling chi	llers with R454B	GO6 SERIE	S R454B	
NX-G06 air cooled, scroll compressors	153 • • 314	4			T SHELL&L & SCROLL & AXIAL P PLATES
NX2-G06 air cooled, scroll compressors	40 •		∢ 87	2	SCROLL AXIAL PLATE
NX2-FC-G06 scroll compressors	292 >		∢ 748		/T SHELL&T. / SCROLL / AXIAL / EC AXIA
	500	D	1000	kW	

### **HEAT PUMPS**



#### Air to water reversible heat pumps

i-BX-N inverter scroll compressors	4,2 • 35,-			INVERTER SCROLL AXIAL F
i-NX-N inverter scroll compressors	40,9 > 40,9 4 1	28		INVERTER SCROLL AXIAL F
AWR HT scroll compressors	34 •	181		SCROLL AXIAL F
NX-CN scroll compressors	18 >	∢ 265		SCROLL CFAN
NX-N scroll compressors	35,8 >	<b>√</b> 335		T SHELL&T. 6 SCROLL AXIAL
FOCS-N screw compressors		441 >	<ul> <li>1162</li> </ul>	SCREW SCREW AXIAL
i-FX-N-G01 inverter screw compressors		444 >	<ul> <li>1154</li> </ul>	INVERTER SCREW C FAN
inverter screw compressors	200	444 >	800 1000 1200 kW	

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

<b>AW-HT</b> EVI technology compressor	38 ►				◀ 205	SCROLL AXIAL PLATES
		50 1	00 1	50 200	l kW	

#### Water to water reversible heat pumps

NX-WN scroll compressors	37,5 🕨				< 396 Scroll ₽ Plate	S
	10	0 20	00 30	0 400	) kW	

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

WW-HT scroll compressors	27,5 ►		∢ 109			SCROLL PLATES
EW-HT scroll compressors		70,2 >			<b>4</b> 279	SCROLL PLATES
		50 11	00 1	50 200	kW	

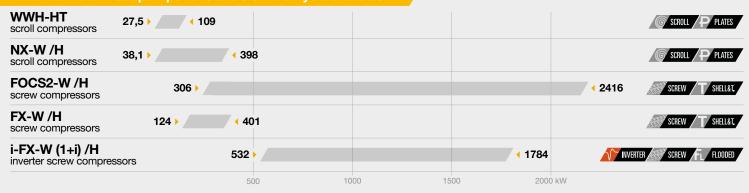
#### • Operating limits up to -20°C

Hot water production up to 78°C



Highest energy efficiency





Air to water reversible he	at pumps with R32	G07 SER			
i-NX2-G07 air cooled, inverter scroll compr.	50,1 >			< 220	INVERTER SCROLL C AXIAL PLATES
	50	100	150	200 kW	

Air and water source heat	pumps wit	h R513A	G05 SERIES	<b>513</b> A	
FOCS-N-G05 air source, screw compressors	441 🕨		<ul><li>1162</li></ul>		SCREW SCREW AXIAL SHELL&T.
FOCS2-W-G05 /H water source, screw compressors	306 ►				< 2416 SCREW SHELL&L
i-FX-W (1+i)-G05 /H water source, inverter driven screw compr.	5	32 >		<ul> <li>◀ 1784</li> </ul>	INVERTER SCREW FL FLOODED
<b>i-FX-N-G05</b> air source, inverter driven screw compressors	444 🕨		<ul> <li>✓ 1154</li> </ul>		INVERTER SCREW C FAN SHELL&L
		500	1000	1500 20	00 kW

Air and water cooled hea	t pumps	s with R454B	GO6 SER	IES <sup>(R454B</sup> )		
NX-N-G06 air cooled, 44,9 scroll compressors	•	∢ 306				SCROLL PLATES
NX2-N-G06 air source, scroll compressors	316 🕨			₹ 800		SCROLL AXIAL T SHELL&L
	20	0 400	600	800 10	00 1200	) kW

## **MULTIFUNCTION UNITS**

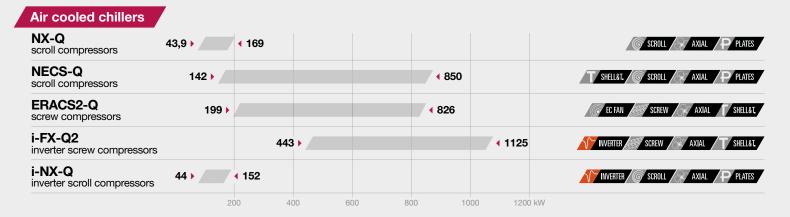


**VPF** 

INVERTER

HIGH WATER TEMPERATURE CONFIGURABLE

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



Smart

Mator	source	hoat	numne
vvaler	Source	neau	burribs

NECS-WQ scroll compressors	48,4 ►				<ul><li><b>4</b>12</li></ul>	SCROLL P PLAT
ERACS2-WQ screw compressors		189 ►		∢ 363		SCREW PLAT
		100 2	200 30	20 40	0 kW	

Air and water source 4	-pipe heat pu	mps with R513A	GO5 SERIES	R513A	
ERACS2-WQ-G05 air source, screw compressors	189 ►	◀ 363			SCREW SHELL&L
ERACS2-Q-G05 air source, inverter, screw compr.	199 🕨		▲ 826		🖉 EC FAN 🔊 SCREW / 🖓 AXIAL / T SHELL&L
i-FX-Q2-G05 water source, screw compr.		443 •		• 1125	NVERTER SCREW / AXIAL / T SHELL&L
	200	400 600	800 1000	1200 kW	
Air cooled chillers	GO6 SERIE	S PR454B			
NX-Q-G06 scroll compressors 56		◀ 298			SCROLL AXIAL PLATES
NX2-Q-G06 scroll compressors	136 •			∢ 800	SCROLL CFAN T SHELL&L

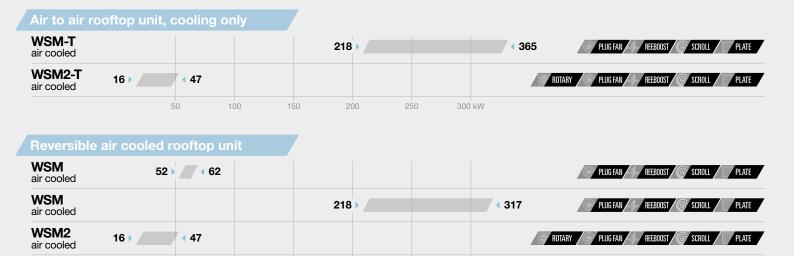
## **ROOFTOP UNITS**

- Widest range and complete configurability
- > Perfect thermoigrometric control

WSM2

air cooled

Maximum flexibility in the air flow management



50 100 150 200 250 300 kW

182

# **HEAT REJECTION PRODUCTS**

81,1 >

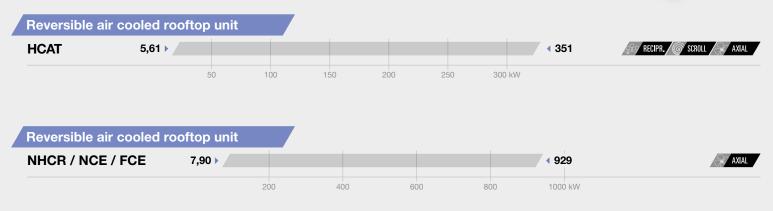


PLUG FAN

🔊 SCROLL 🖊

PLATE

ROTARY







## HYDRONIC TERMINALS

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

Fan coils						
<b>a-LIFE3</b> residential or commercial fan coil unit	1,41 🕨		<b>3</b> ,75		4 PIPES	2 PIPES CENTRIF.
<b>i-LIFE3</b> residential or commercial fan coil unit	1,61 🕨			4 6,39	INVERTER 4 PIPES	2 PIPES CENTRIF.
<b>a-LIFE2 HP</b> fan coil unit for commercial applications		2,88 ►			<ul> <li>▲ 8,60</li> <li>▲ PIPES</li> </ul>	2 PIPES CENTRIF.
i-LIFE2 HP fan coil unit for commercial applications	2,00 ►				4 8,76 INVERTER 4 PIPES	2 PIPES CENTRIE
i-LIFE2 SLIM residential fan coil unit	9,76 ▶		<b>∢</b> 3,76		INVERTER /	2 PIPES S TANGENT.
	2	)	4 (	6 8	kW	

Hi-wall type terminals				
MHD2 high wall terminals	2,15 >		4,23	INVERTER 2 PIPES TANGENT.
i-MXW high wall terminals	2 •	∢ 3,75		2 PIPES TANGENT

#### Cassette type terminals

a-CXW cassette terminal 1,	9 🕨				4 10,9 4 PIPES 2 PIPES CENTRIE
<b>i-CXW</b> cassette terminal with inverter technology	2,7 ►				< 10,7 INVERTER 4 PIPES 2 PIPES CENTRIE
	2	4	6	8 10	kW

#### Ducted type terminals

<b>a-HWD2</b> ducted type terminal	5,87 🕨			<b>∢</b> 21,9	4 PIPES 2 PIPES CENTRIF.
<b>i-HWD2</b> ducted type terminal with inverter technology	5,9 🕨			<b>∢</b> 23,	INVERTER 4 PIPES 2 PIPES CENTRIE
E	; 1	0 1	5 2	0 25	kW

Heat recupera	ators				
HRD2 heat recuperator	3,68 🕨			∢ 31,4	EC FAN PLUG FAN P
		10	20		





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2 🕨	
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4	r m

# **AIR HANDLING UNITS**



- Widest range with high versatility
- Perfect integration with MELCO products
- Plug&Play solution fully developed by MEHITS

#### Air handling units

<b>MWZ</b> compact hydronic 1500 air handling units	0 <b>&gt;</b>	•	9000			CEC FAN 4 PIPES 2 PIPES CENTRIE
WZ-E fully customized 600 > air handling units						115000 PLUG FAN SFREE COOLING
WIZARDX direct 3 expansion air handling units	8000 >				∢ 20000	PLUG FAN SP FREE COOLING
WIZARDX - G07 direct expansion air handling units	8000 >				∢ 20000	PLUG FAN 😽 FREE COOLING
	500	0 100	000 150	00 20000	m³/h	

## CONTROL, SUPERVISION AND OPTIMISATION SYSTEMS



-	-	-		-
-	-			÷.
-		-	-	_
_	_		_	-

#### **Group devices**

 ClimaPRO+ Plant Room Optimisation System
 Plant Room Optimiser for smart management of energy single units and the entire plant room.

#### MANAGER 3000+

Plant room control for chillers, heat pumps, units for simultaneous and independent production of hot and chilled water.

#### **SEQUENCER**

Group regulation device for chillers and heat pumps.



#### **Human Machine Interfaces**

KIPlink

KIPlink is the user interface that allows you to operate the unit directly from your mobile device (smartphone, tablet, or notebook).

Based on Wi-Fi technology, access the operational settings is possible by simply scanning the QR code positioned on the unit.



### 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 kW Heating capacity: 393 kW

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 kW Heating capacity: 104 kW

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 kW Heating capacity: 260 kW

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 kW Heating capacity: 2200 kW

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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