PROCESS COOLING PRODUCT OVERVIEW

CHILLERS

HEAT PUMPS

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

ROOFTOP UNITS

> AIR HANDLING UNITS

CONTROL, SUPERVISION AND OPTIMISATION SYSTEMS

ANCILLARY PRODUCTS





climaveneta.com

CLIMAVENETA'S MISSION

SUSTAINABLE COOLING

Climaveneta's mission in process cooling is to provide high performing, resilient, and reliable cooling solutions in all production, conservation, storage, and logistics applications where cooling systems are critical for productivity and sustainability.

Climaveneta, as a brand of Mitsubishi Electric Hydronics & IT Cooling Systems Spa, is aware of the important role cooling systems play as well as of their peculiarities and challenges in each type of process application.

From the correct conservation of perishable goods and the effectiveness of specific manufacturing phases, to the potential economic and environmental benefits resulting from free cooling and heat recovery, process cooling represents one of the strongest and most consolidated segments where Climaveneta units are employed. Vast experience, profound know-how, and the capability to combine the highest standards of manufacturing and operational quality with flexible, customized solutions are the key distinctive factors that make Climaveneta solutions the preferred choice in the most challenging and innovative process cooling projects worldwide.

Highest manufacturing quality standards & tailor-made solutions

All air units up to 100.000m³/h air flow

Worldwide distribution and service network

Sales network

Manufacturing hubs or R&D labs Extensive range of chillers and multiuse units from 1 to 4.200kW

Dedicated products & specialised solutions

Comprehensive portfolio of proprietary & patented technologies

12 specialized manufacturing hubs



and testing labs in Italy, China and India



Climaveneta range of dedicated process cooling solutions are designed to deliver even in the most challenging projects:



Smart Integration of the most advanced technologies



The extensive experience in the peculiarities of process cooling applications allows Climaveneta to offer the smartest combination of the most advanced technologies such as: full inverter concept, free cooling, heat recovery management, and evaporative cooling. Highest industrial quality also in bespoke solutions

The Climaveneta approach, by combining the highly industrialized organisation with the widest range of versions, configurations and bespoke solutions, offers complete flexibility in the product proposal with all the advantages of the highest standards of product manufacturing and quality testing.

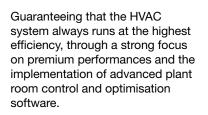


Complete Reliability



Thanks to high quality components and materials, and continuous improvement programmes aimed at cutting maintenance costs and ensuring 24/7 premium performance.

High Efficiency





Integrated in the cooling system, advanced heat recovery systems provide an innovative look at heat rejection as a free source of energy for adjoining applications.





Intelligent energy management is also crucial for sustainability, considering the extensive use of energy and levels of CO_2 emissions in industrial processes.



INVERTER

VPF

CONFIGURABILE

SCREW AXIAL / T SHELL&T.

EFFICIENCY I SFT

Highest energy efficiency

CHILLERS

- Perfect indoor climate control
- Lowest noise emissions

Air coole	d chillers						
i-BX-Y	inverter scroll compressors	4,3 🕨 📢 12,9				NVERTER / SCROLL /	AXIAL /P PLATES
i-NX-Y	inverter scroll compressors	43,9 • 129				VINVERTER / SCROLL /	AXIAL / PLATES
NX-Y	scroll compressors	39,2 • 327				SCROLL /	AXIAL / P PLATES
NX-Y	scroll compressors	159 > 35	2			SCROLL /	AXIAL / T SHELL&T.
NECS-Y	scroll compressors	334 🕨	∢ 885			SCROLL /	📯 AXIAL / 🕇 SHELL&T.
FX-Y	screw compressors	140 🕨			< 1710 🔬	SCREW AXIAL	P PLATES /T SHELL&T.
i-FX (1+i)-Y	inverter screw compressors	567	•	▲ 1273	_	NVERTER SCREW	📯 AXIAL 🖊 T SHELL&T.
TECS2-Y	inverter oil-free centrif. compr.	220 >		1324	INVERTER	OIL FREE 🔗 AXIAL /	C EC FAN FL FLOODED
i-FX-G01-Y	inverter screw compressors	447 🕨			🔹 1697 / INVERTER	SCREW AXIAL	C FAN T SHELL&T.
NX-C-Y	scroll compressors	17,4 > < 291					SCROLL / P PLATES
		5	0 1000	1500 kW			

Water cooled chillers

		-			
NX-W-Y	scroll compressors	38,1 > < 398			SCROLL PLATES
FX-W-Y	screw compressors	124 • 401			SCREW T SHELL&T.
FOCS2-W-Y	screw compressors	306 🕨	₹ 2416		SCREW T SHELL&T.
FOCS3-W-Y	screw compressors	188)	< 1693		SCREW FL FLOODED
i-FX-W (1+i)-Y	inverter screw compressors	532 >	1784		INVERTER SCREW FL FLOODED
TX-W-Y	inverter oil-free centrif. compr.	246)			4549 INVERTER OIL FREE FL FLOODED
		1	000 2000	3000 4000 kW	

Condenserless chillers

HE-Y	scroll compressors	4,7 > < 32,4					SCROLL P PLATES
NECS-ME-Y	scroll compressors	39,5 🕨	432				SCROLL PLATES
FOCS-ME-Y	screw compressors	79,2 >				₹ 224	O SCREW T SHELL&T.
			500 1	000	1500		

	/ 💝 / Air	cooled chillers with f	ree-cooling tech	nology			
7	NECS-FC-Y	scroll compressors	41,5 •	477			AXIAL SCROLL PLATES
	FX-FC-Y	screw compressors	332 >		 1450 		SCREW AXIAL T SHELL&T.
	TECS-FC-Y	inverter oil-free centrif. compr.	302 >			1693	NVERTER OIL FREE C FAN FL FLOODED
					4500 1144		

Air cooled chillers with evaporative free-cooling technology FX-EFC-Y screw compressors 329 > 1141 TECS_EEC_X invector all free contrif, compr 200 > 1441

©1234z

R513.

TECS-EFC-Y	inverter oil-tree centrif. compr.	300 ►		▲ 1682	INVERTER V UIL FREE V EC AXIAL /FL FLUUDED
		500	1000	1500 kW	
GO4 SERIES	Air and water cool	ed chillers with HFO 12	34ze 🔼	1234ze	

FX HFO-Y	air cooled, screw compressors	235 •	↓ 1463	SCREW AXIAL T SHELL&T.
i-FX-G04-Y	air cooled, inverter screw compr.	377 •	 1463 	INVERTER SCREW C EC FAN T SHELL&T.
TECS2 HFO-Y	air cooled, inverter oil-free centrif. compr.	339)	1017	OIL FREE C FAN FL FLOODED
FX-W-G04-Y	water cooled, screw compressors 9	3,1 >		SCREW C EC FAN T SHELL&T.
TECS2-W HFO-Y	water cooled, inverter oil-free centrif. compr	340 •	 1364 	OIL FREE FL FLOODED
		500	1000	

05 SERIES / Air and water cooled chillers with R513A / R / R513A

FX-G05-Y air cooled, screw compressors	140 🕨 📢 396		SCREW AXIAL P PLATES T SHELL&T.
FX-G05-Y air cooled, screw compressors	288 >	∢ 1710	SCREW AXIAL T SHELL&T.
i-FX-G05-Y air cooled, inverter screw compr.	477 🕨	1697	INVERTER SCREW AXIAL C EC FAN T SHELL&T.
TECS2-G05-Y air cooled, inverter oil-free centrif. compr.	218)	 1313 	INVERTER 🚫 OIL FREE 🕞 AXIAL 🕼 EC FAN FL FLOODED
FX-W-G05-Y water cooled, screw compressors	124 > 401		SCREW SCREW SHELL&T.
FOCS2-W-G05-Y water cooled, screw compressors	306 🕨	 4 2416 	SCREW SCREW SHELL&T.
FOCS3-W-G05-Y water cooled, screw compressors	188 🕨	▲ 1693	SCREW FL FLOODED
i-FX-W (1+i)-G05-Y water cooled, inverter screw compr.	532 >	1784	
TX-W-G05-Y water cooled, oil-free centrif. compr.	248 ►		4466 AV INVERTER OIL FREE L FLOODED
TECS-FC-G05-Y air cooled, oil-free centrif. compr., free-cooling	299 🕨	1671	INVERTER SIL FREE C FAN FL FLOODED
	10	00 2000 3000	4000 kW

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



AGNETIC

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.



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

HEAT PUMPS

SCROLL / PLATES

) ni 4

Air to water reversible heat pumps

i-BX-N-Y	inverter scroll compressors	4,2 🕨 📢 35,1						RTER SCROLL AXIAL P PLATES
i-KIR-MTD-Y	inverter scroll compressors	15,6 🕨 📢 40,5					INVE	RTER / SCROLL / C AXIAL / P PLATES
AWR-HT-Y	scroll compressors	34 🕨 📢	181					SCROLL AXIAL PLATES
NX-N-Y	scroll compressors	35,8 🕨	<mark>∢</mark> 319					SCROLL AXIAL PLATES
i-NX-N-Y	inverter scroll compressors	43,9 🕨 📢 120	В				INVE	RTER / SCROLL / AXIAL / PLATES
NECS-N-Y	scroll compressors	48 🕨		∢ 516				SCROLL AXIAL T SHELL&T.
NX-N-Y	scroll compressors	148 🕨	∢ 335					SCROLL AXIAL T SHELL&T.
FOCS-N-Y	screw compressors		441 🕨				< 1162	SCREW AXIAL T SHELL&T.
NX-CN-Y	scroll compressors	18 🕨	< 265					SCROLL C FAN PLATES
		20	0 400	600	800	1000 kW		

Air to water heat pumps (heating only)

i-KI-MTD-Y	inverter scroll compressors	21,6 • 44,4		INVERTER SCROLL AXIAL PLATES
AW-HT-Y	scroll compressors	38 >	4 205	SCROLL AXIAL PLATES
		50 100	150 200 kW	

WWR MTD2-Y scroll compressors 5,2 / (33,4) NX-WN-Y scroll compressors 37,5 / (33,4)

	01,07								000	
		50	100	150	200	250	300	350 kW		
			,							

Water to water heat pumps (heating only)

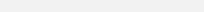
WW-HT-Y	scroll compressors	27,5 •	∢ 109		SCROLL P PLATES
EW-HT-Y	scroll compressors	70,2 >		4 279	SCROLL /P PLATES
		50 1	100 150 200	250 kW	

Water to water heat pumps reversible on the hydraulic side

NX-W-Y/H	scroll compressors	38,1 🕨	<mark>∢</mark> 398					SCROLL P PLATES
FOCS-W-Y/H	screw compressors	87 🕨	4 298					SCREW SHELL&T.
FOCS2-W-Y /H	screw compressors	306 🕨					< 2416	SCREW SHELL&T.
i-FX-W (1+i)-Y /H	inverter screw compressors		532 🕨			< 1784		INVERTER SCREW FL FLOODED
			500	1000	1500	2000 kW		

05 SERIES / Air and water source heat pumps with R513A 🥂 🕅 👫

FOCS-N-G05-Y air source, screw compressors	441 🕨	 1162 			SCREW AXIAL T SHELL&T.
FOCS2-W-G05-Y /H water source, screw compressors	306 🕨			4 2416	SCREW T SHELL&T.
i-FX-W (1+i)-G05-Y /H water source, inverter driven screw compr.	532 🕨		 1784 		INVERTER SCREW FL FLOODED
	500	1000 1	500 2000	kW	





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. C 1234ze R513A

New G04 and G05 Series using green refrigerants Following on vast experience in using green refrigerants, Climaveneta has already employed extensively green HFO refrigerants such as HFO1234ze and R513A in many ranges, in order to continue to be at the forefront with green best practices.

UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER



- Smart heat recovery of the thermal energy from the cooling process
- Easy integration with process HVAC plants





HIGH WATER TEMPERATURE



Air source heat pumps NX-Q-Y scroll compressors 43,9 🕨 **1**69 SCROLL 📯 AXIAL 🖓 PLATES NECS-Q-Y scroll compressors 142 4 311 **D** PLATES NECS-Q-Y scroll compressors 332) 4 757 ERACS2-Q-Y screw compressors 199 4 826 i-FX-Q2-Y inverter screw compressors 443 1125 INVERTER SCREW 400 600 800

Water source heat pumps

NECS-WQ-Y scroll compressors	48,4 •	◀ 520	SCROLL PLATES
ERACS2-WQ-Y screw compressors	189 ►	 363 	SCREW T SHELL&T.
	200	400 kW	

305 SERIES / Air and water source 4-pipe heat pumps with R513A 🥂 🖪 🕅

		1				
ERACS2-Q-G05-Y air source, screw compressors	199 🕨			▲ 82	6	SCREW AXIAL C EC FAN T SHELL&T.
i-FX-Q2-G05-Y air source, inverter, screw compressors		443 🕨				1125 INVERTER SCREW C EC FAN T SHELL&T.
ERACS2-WQ-G05-Y water source, screw compressors	189 🕨	◀ 363				SCREW T SHELL&T.
	200	400	600	800	1000 kW	

ROOFTOP UNITS

- Complete configurability of the air flows
- Precise temperature and humidity control
- Highest efficiency



Air to air rooftop unit, cooling only

WSM-T-Y	air cooled		23,4 🕨				< 422 (SCROLL / PLUG FAN	REF.BOOST. PLATE
WRX-T-Y	air cooled		50,8 🕨			∢ 240	SCROLL S PLUG FAN A R	EF.BOOST	ROTARY / THERMOD.
WSM2-T-Y	air cooled		81,1 >		182		SCROLL SCROLL	PLUG FAN	PLATE ROTARY
				100	200	300	400 kW		

Reversible air cooled rooftop unit

WSM-Y	air cooled	24,4 >		∢ 317	SCROLL / PLUG FAN / REEBOOST. PLATE
WRX-Y	air cooled	50,8 ▶	< 240		SCROLL SPLUG FAN
WSM2-Y	air cooled	81,1 >	182		SCROLL PLUG FAN REEBOOST. PLATE ROTARY
		100	200 3	00 kW	



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.

AIR HANDLING UNITS

- System's integration and reduced on-site operations
- Ideal for handling large air volumes in all kinds of applications
- Fully configurable according to the HVAC requirements



Configurable air handling units

WIZARD

fully configurable air handling units 600 •

000 40000 60000

115400

CONTROL, SUPERVISION AND OPTIMISATION SYSTEMS





Group devices

ClimaPRO Plant Room Optimisation System

Plant Room Optimiser for real time, smart management of energy indeces 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.



LINK

80000

Supervision and monitoring systems

 IDRORELAX Monitoring and supervision system.

Human Machine Interfaces

KIPlink Control interface for smart phones and tablets.

ANCILLARY PRODUCTS



Remote condensers NHCR / NCE / FCE 7,90 > 200 400 600 800 kW



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.





Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a

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

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