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

COMFORT

CHILLERS HEAT PUMPS

NX-C
NX-CN

AIR TO WATER UNITS WITH SCROLL COMPRESSORS AND CENTRIFUGAL FANS (PLUG FAN), FOR INDOOR INSTALLATION 17 - 290 kW

climaveneta.com

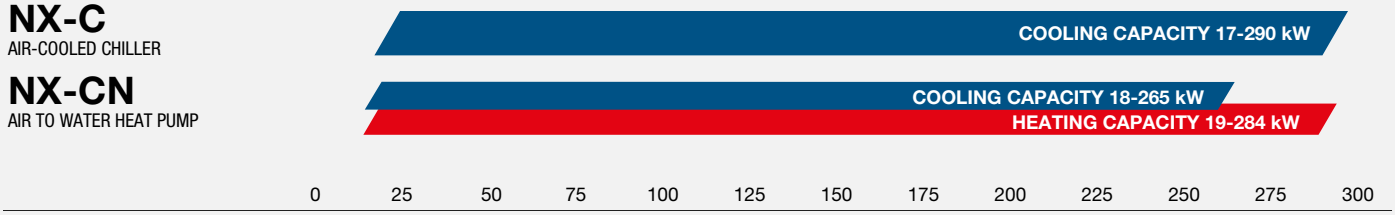
CLIMAVENETA®

NX-C
NX-CN

A TRULY UNIQUE SOLUTION FOR INDOOR INSTALLATIONS.

Air-cooled Chillers and Air to water Heat Pumps with scroll compressors and centrifugal fans (plug fan), for indoor installation. 17-290 kW

NX-C and NX-CN feature high efficiency scroll compressors, weld-brazed plate evaporator, EC plug fans, full aluminum microchannel coils (chillers) or traditional Cu/Al coils (heat pumps) and in-house developed management software.



IDEAL FOR INDOOR INSTALLATIONS

Air cooled units with axial fans are usually designed for outdoor installations, as they require minimum clearance space to ensure proper airflow through the air heat exchanger.

NX-C and NX-CN revolutionize this paradigm. Thanks to the adoption of centrifugal fans, these air-condensed units are suitable for indoor installation.
Available static pressure provided by the fans allows the use of long ducts for air discharge, thus providing easy installation of the units even in enclosed spaces.

COMFORT APPLICATIONS

- Commercial premises
- Office buildings
- Hotels and resorts
- Healthcare facilities
- Retail and department stores
- Sports and leisure installations
- Research and education centres

ACOUSTIC VERSIONS

- **Standard** — **Baseline**
Unit with standard ventilation regulation.

SL **Super Low Noise** — **-10 dB(A)**
The highest level of noise reduction.

HEAT RECOVERY CONFIGURATIONS

- **Standard**
Unit for the production of chilled (NX-C) or hot water (NX-CN)

D **Partial heat recovery**
Unit equipped with an auxiliary heat exchanger on the compressor discharge for superheat recovery.

NX-C and NX-CN revolutionize the paradigm of air-cooled units. Thanks to the adoption of centrifugal fans in a extremely compact layout, this range of air cooled units is perfect for indoor installations.

ErP COMPLIANT

EFFICIENCY AT FULL LOADS

AVERAGE **EER**

version A	3,08
version K	2,87

SEASONAL COOLING ENERGY EFFICIENCY

AVERAGE **SCOP**

version A	4,00
version K	3,91

SEASONAL COOLING ENERGY EFFICIENCY

AVERAGE **SEER**

version A	4,43
version K	4,22

FLEXIBLE AIR FLOW SELECTION

The NX-C and NX-CN units provide a fully configurable air supply, changing the standard vertical supply into horizontal supply. This facilitates air flow selection and installation.

EASY ACCESSIBILITY DURING MAINTENANCE

NX-C and NX-CN have a removable casing which is built to guarantee maximum accessibility for service and maintenance.

INTEGRATES EASILY IN EXISTING STRUCTURES

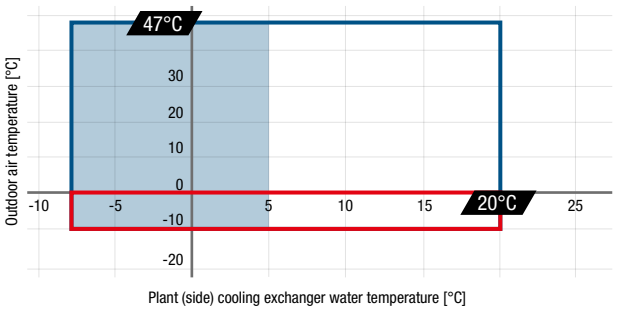
The units integrate seamlessly into surrounding structures. Thanks to the hidden internal installation and a rational design, NX-C and NX-CN are compatible with areas particularly sensitive to noise emissions.

EXTENDED OPERATING LIMITS

NX-C and NX-CN units operate with outdoor air temperatures from -10°C and -15° respectively.
During summer operation, the maximum inlet air temperature at full load is 47°C (NX-C).

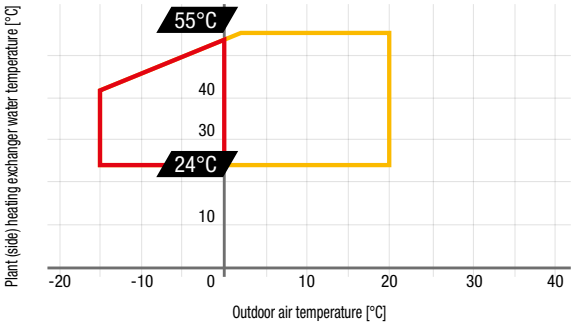
In heating mode, NX-CN can supply hot water between 24°C and 55°C.

CHILLER OPERATING LIMITS



- Required accessories:
  EVAPORATOR OUTLET WATER TEMPERATURE <5°C
- Required accessories if hydronic module is present:
  ANTIFREEZE PIPING, PUMPS

HEAT PUMP OPERATING LIMITS



- Required accessories if hydronic module is present:
  ANTIFREEZE PIPING, PUMPS

TECHNOLOGICAL CHOICES

W3000TE CONTROL and USER-FRIENDLY INTERFACE

Fully in-house software developed by Mitsubishi Electric Hydronics & IT Cooling Systems.

- 19 supported languages.
- Optional serial cards with the most common protocols are available: ModBus, Bacnet MS/TP RS485, Bacnet Over IP, Echelon Lonworks.
- “QUICK MIND” logic: a self-adapting algorithm that activates or deactivates the compressors only when a change in the system load moves the flow temperature out of the setpoint neutral zone.
- Diagnostics: “BLACK BOX” function for saving more than 100 machine variables for a rapid trouble-shooting.

The keypad W3000 Compact, as standard equipment, features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language.

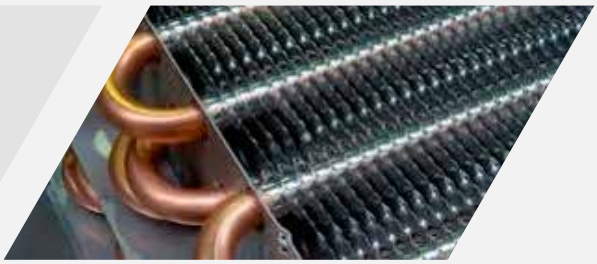
SOURCE SIDE HEAT EXCHANGER

NX-C

- Full aluminum microchannel coils.
- Less refrigerant charge.
- Reduced weight.
- Sizes 0904/A, 0904/SL-K, 1004/A, 1004/SL-K, 1104/K and 1204/K have copper tubes and aluminium fins heat exchanger coils.

NX-CN

- Cu/Al traditional coils.
- Excellent heat conduction.
- Several surface treatments (options) against corrosion are available.



Electrical panel

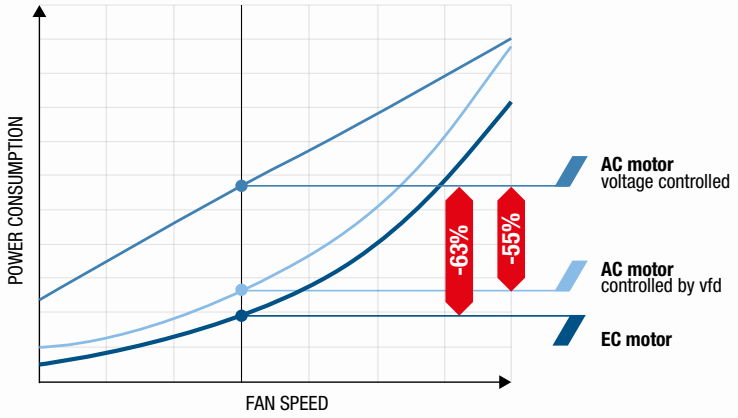
- W3000TE control software, COMPACT keyboard.
- Numbered cables (std on 2 compressors).
- Automatic circuit breakers (std on 2 compressors).

User side heat exchanger

- Brazed plate heat exchanger.
- Efficient heat exchange with a small footprint.
- Dual circuit design for 4 compressor units.

CENTRIFUGAL FAN WITH EC MOTOR

- More air flow with a smaller diameter.
- Increased energy cost savings thanks to higher efficiency at the operating point.
- Reduced sound levels at partial loads.
- Precise control of airflow.
- Lower consumption in every working condition provides better seasonal efficiency in accordance with ErP Directive.
- No energy lost due to the transmission (belts and pulleys), thanks to the fan being directly coupled with the motor; economical because no maintenance is needed.
- Continuous speed control by 0-10V signal, easy adaptation to varying operational conditions.



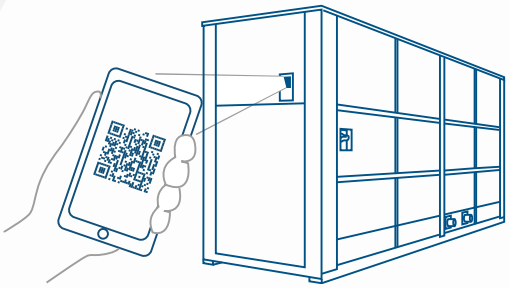
Casing

- Base and frame in hot-galvanized steel sheet.
- Panels are easy to remove for quick and easy access to all inner components.
- The self-supporting frame is built to guarantee maximum accessibility for servicing and maintenance operations.
- Total weather resistance.

Fixed speed scroll compressors

- Designed for superior efficiency and performance.
- Single circuit unit - 2 compressors.
- Dual circuit unit - 4 compressors.

KIPlink user interface



KIP LINK
Keyboard In your Pocket

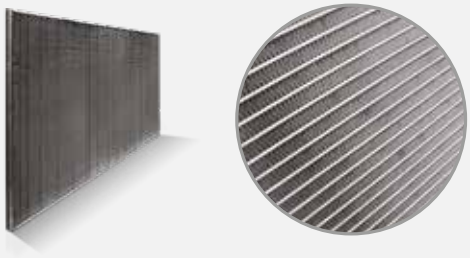
Innovative Wi-Fi interface for an easy and enhanced unit management.
As an option, the direct control over the unit comes through the innovative KIPlink interface. Based on Wi-Fi technology, KIPlink gets rid of the standard keyboard and allows you to operate on the unit directly from a mobile device (smartphone, tablet, notebook) just by scanning the QR code positioned on the side of the unit.

- Communication based on Wi-Fi technology (no internet connection needed)
- User-friendly components monitoring
- Real-time graphs and key trends

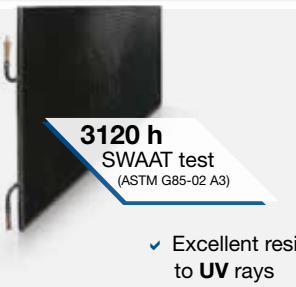
COILS AND COATINGS

MICROCHANNEL COILS

Al - Regular (std NX-C)

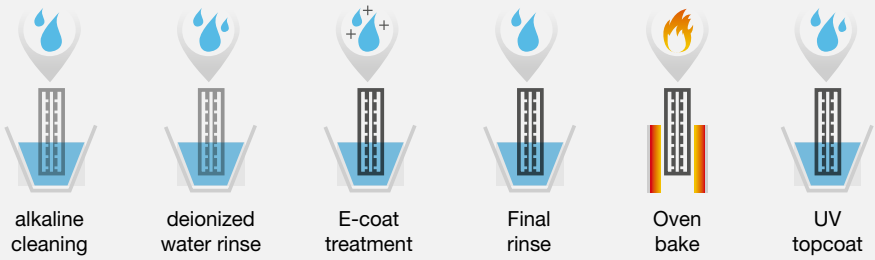


Al - E-coating



- Excellent resistance to **UV** rays

E- coating process



TUBE & FIN COILS

Cu/Al - Regular (std NX-CN)

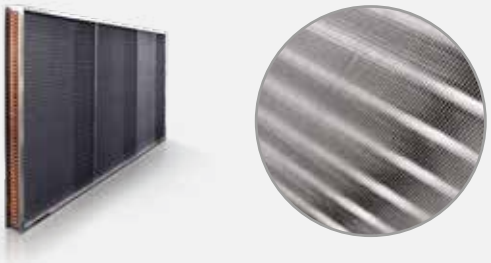
Cu/Al - Pre-paintes fins

Cu/Al - Fin Guard Silver

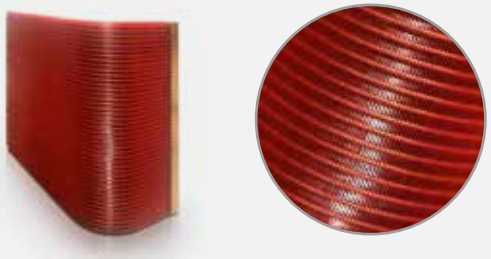
Fin Guard Silver SB

polyurethane paint with metallic emulsion;

- **3000 h** ASTM B117
- excellent resistance to **UV** rays



Cu/Cu - Tube & fin coil



HYDRONIC MODULES AND FLOW CONTROLS

NX-C and NX-CN units are available with two hydronic configurations:

- factory-mounted complete pump group, which optimizes hydraulic and electrical installation space, time and costs.
- or with terminals to control the external pumps with the unit control logic.

FACTORY MOUNTED PUMP GROUP

1 or 2 pumps (duty/standby) provide low or high head (available head approx. 100 or 200kPa).

Speed regulation	Type		Available Head
Fixed Speed (2 pole motors)	Single-head in-line pump	twin-head in-line pump	Low head High head
Variable speed EC motor (2 pole motors)	Single-head in-line pump	twin-head in-line pump	Low head

CONNECTIONS FOR THE MANAGEMENT OF EXTERNAL PUMPS

The unit controls the activation of 1 or 2 external pumps

ON / OFF signal (1 or 2 pumps)

The unit is supplied with 1 or 2 relays that control the activation of 1 or 2 external pumps (duty / standby) via ON / OFF signals.

Modulating signal (1 or 2 pumps)

The unit is supplied with 1 or 2 relays and a contact with signal modulating 0-10V that controls the activation and the speed of 1 or 2 external pumps with variable speed.

VPF CONTROL LOGIC

VPF
VARIABLE PRIMARY FLOW

The VPF control series (Variable Primary Flow) does not only adjust the pump speed on the basis of the plant's thermal load, but also dynamically optimizes the unit's thermoregulation for variable flow operation, thus ensuring both the highest pump energy savings and chiller stable operation.

VPF: constant ΔP on the plant side
For systems with only the primary circuit.

VPF.D: constant ΔT on the plant side
For systems with primary and secondary circuits separated by a hydraulic decoupler.

NX-C 0072-1204

Chiller, air source
for indoor installation
17-290 kW

NX-C / A			0072	0092	0102	0122	0152	0182	0202	0232
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	18,11	22,91	27,39	31,64	38,83	46,00	53,05	59,17
Total power input	(1)	kW	6,180	8,070	9,080	10,82	13,12	14,97	17,79	20,44
EER	(1)	kW/kW	2,929	2,838	3,018	2,926	2,962	3,067	2,978	2,902
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	18,10	22,90	27,30	31,60	38,70	45,90	52,90	59,10
EER	(1)(2)	kW/kW	3,220	3,080	3,300	3,170	3,200	3,370	3,230	3,110
Cooling energy class			-	-	-	-	-	-	-	-
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(6)	kW	18,1	22,9	27,3	31,6	38,7	45,9	52,9	59,1
SEER	(6)(7)		4,58	4,47	4,57	4,64	4,45	4,57	4,47	4,48
Performance ηs	(6)(8)	%	180	176	180	183	175	180	176	176
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN COOLING										
Water flow	(1)	l/s	0,866	1,096	1,310	1,513	1,857	2,200	2,537	2,830
Pressure drop at the heat exchanger	(1)	kPa	25,8	25,3	26,8	27,9	27,8	25,5	26,6	26,6
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	3,50	3,70	6,80	7,00	7,30	8,30	9,20	9,40
FANS										
Air flow		m³/s	2,50	2,92	3,75	4,17	4,86	6,11	6,53	6,94
Available static pressure		Pa	120	120	120	120	120	120	120	120
NOISE LEVEL										
Sound power level in cooling	(3)(4)	dB(A)	74	78	84	86	83	81	82	84
SIZE AND WEIGHT										
A	(5)	mm	1500	1500	2480	2480	2480	2480	2480	2480
B	(5)	mm	900	900	1100	1100	1100	1100	1100	1100
H	(5)	mm	1910	1910	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	450	450	690	700	730	790	790	810

NX-C / A			0272	0302	0352	0402	0452	0502	0552	0602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	67,76	77,18	87,21	99,82	113,0	126,1	141,0	158,5
Total power input	(1)	kW	23,65	26,20	30,54	33,75	38,57	43,51	50,90	58,70
EER	(1)	kW/kW	2,873	2,947	2,859	2,953	2,927	2,899	2,770	2,700
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	67,60	77,00	87,10	99,60	112,8	125,8	140,7	158,2
EER	(1)(2)	kW/kW	3,080	3,170	3,050	3,190	3,130	3,090	2,930	2,860
Cooling energy class			-	-	-	-	-	-	-	-
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(6)	kW	67,6	77,0	87,1	99,6	113	126	141	158
SEER	(6)(7)		4,51	4,39	4,42	4,40	4,19	4,27	4,28	4,10
Performance ηs	(6)(8)	%	177	173	174	173	164	168	168	161
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN COOLING										
Water flow	(1)	l/s	3,240	3,691	4,171	4,774	5,402	6,028	6,742	7,580
Pressure drop at the heat exchanger	(1)	kPa	26,0	27,1	26,7	26,5	26,7	25,9	26,1	26,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	11,6	12,0	12,8	16,8	17,3	18,6	19,2	21,1
FANS										
Air flow		m³/s	8,06	9,17	9,72	11,67	12,50	13,33	14,44	16,94
Available static pressure		Pa	120	120	120	120	120	120	120	120
NOISE LEVEL										
Sound power level in cooling	(3)(4)	dB(A)	87	82	83	82	83	84	86	91
SIZE AND WEIGHT										
A	(5)	mm	2980	2980	2980	3970	3970	3970	3970	4670
B	(5)	mm	1260	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	930	980	1060	1220	1380	1400	1430	1610

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

COOLING SCROLL PLATES
R HFC R-410A PLUG FAN

NX-C / A			0702	0524	0604	0704	0804	0904	1004
Power supply		V/ph/Hz							
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	180,4	127,2	150,0	173,5	193,4	225,0	251,1
Total power input	(1)	kW	67,15	46,22	54,47	61,81	70,18	77,69	87,12
EER	(1)	kW/kW	2,685	2,753	2,752	2,807	2,755	2,896	2,883
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	180,1	126,9	149,8	173,2	193,1	224,6	250,8
EER	(1)(2)	kW/kW	2,840	2,920	2,910	3,000	2,920	3,060	3,030
Cooling energy class									
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(6)	kW	180	127	150	173	193	225	251
SEER	(6)(7)		4,18	4,39	4,40	4,65	4,40	4,66	4,45
Performance ηs	(6)(8)	%	164	173	173	183	173	183	175
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN COOLING									
Water flow	(1)	l/s	8,628	6,080	7,174	8,298	9,249	10,76	12,01
Pressure drop at the heat exchanger	(1)	kPa	27,0	25,6	27,6	26,4	26,7	27,3	27,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	4	4	4	4	4	4
No. Circuits		N°	1	2	2	2	2	2	2
Refrigerant charge		kg	25,3	21,0	23,1	27,6	29,7	82,6	84,3
FANS									
Air flow		m³/s	18,61	13,06	15,56	19,72	19,72	21,94	21,94
Available static pressure		Pa	120	120	120	120	120	120	120
NOISE LEVEL									
Sound power level in cooling	(3)(4)	dB(A)	93	84	87	86	86	88	88
SIZE AND WEIGHT									
A	(5)	mm	5670	3970	4670	5670	5670	5670	5670
B	(5)	mm	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	1790	1370	1550	1960	2110	2550	2600

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C;
Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Total sound power of fans, as declared by the manufacturer, at the rated speed of rotation and a nominal available static pressure on the delivery side.
4 Sound power level in cooling, outdoors.
5 Unit in standard configuration, without optional accessories.
6 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
7 Seasonal energy efficiency ratio
8 Seasonal space cooling energy efficiency
The units highlighted in this publication contain R410A [GWP_{100} 2088] fluorinated greenhouse gases.

Data certified in EUROVENT

NX-CN 0072-1104

Reversible unit, air source
for indoor installation
18-265 kW

NX-CN /A			0072	0092	0102	0122	0152	0182	0202	0232
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	18,74	23,01	26,05	30,93	38,29	45,37	52,47	58,35
Total power input	(1)	kW	6,110	7,930	9,330	11,17	12,91	14,68	17,42	19,97
EER	(1)	kW/kW	3,061	2,900	2,787	2,759	2,969	3,088	3,017	2,915
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	18,70	23,00	26,00	30,90	38,20	45,30	52,40	58,30
EER	(1)(2)	kW/kW	3,380	3,160	3,060	3,010	3,220	3,410	3,280	3,160
Cooling energy class			-	-	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	19,42	24,20	28,26	32,28	41,76	48,86	56,28	62,60
Total power input	(3)	kW	6,903	8,689	10,34	12,02	14,07	16,10	18,74	21,31
COP	(3)	kW/kW	2,812	2,785	2,748	2,692	2,965	3,037	3,011	2,939
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	19,50	24,20	28,30	32,30	41,80	48,90	56,40	62,70
COP	(3)(2)	kW/kW	3,080	3,020	2,990	2,910	3,200	3,320	3,260	3,170
Cooling energy class										
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(10)	kW	-	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	13,9	17,1	20,4	23,5	30,5	35,7	41,2	46,0
SCOP	(4)(13)		4,15	4,05	4,06	4,01	4,02	4,11	4,07	4,08
Performance ηs	(4)(14)	%	163	159	160	157	158	161	160	160
Seasonal efficiency class	(15)		A++	A++	A++	A++	A++	A++	A++	A++
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN COOLING										
Water flow	(1)	l/s	0,896	1,100	1,246	1,479	1,831	2,170	2,509	2,790
Pressure drop at the heat exchanger	(1)	kPa	17,4	18,9	17,0	19,0	19,4	16,9	17,8	17,4
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	0,937	1,168	1,364	1,558	2,016	2,358	2,717	3,022
Pressure drop at the heat exchanger	(3)	kPa	19,1	21,3	20,4	21,1	23,5	20,0	20,9	20,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	8,20	8,50	18,3	18,5	19,0	20,2	21,1	21,5
FANS										
Air flow		m³/s	2,50	2,92	3,75	4,17	4,86	6,11	6,53	6,94
Available static pressure		Pa	120	120	120	120	120	120	120	120
NOISE LEVEL										
Sound power level in cooling	(5)(6)(16)	dB(A)	74	78	84	86	83	81	82	84
Sound power level in heating	(5)(7)(16)	dB(A)	66	68	70	66	76	79	80	79
Sound power level in heating	(5)(8)(16)	dB(A)	74	78	84	86	83	81	82	84
SIZE AND WEIGHT										
A	(9)	mm	1500	1500	2480	2480	2480	2480	2480	2480
B	(9)	mm	900	900	1100	1100	1100	1100	1100	1100
H	(9)	mm	1910	1910	2100	2100	2100	2100	2100	2100
Operating weight	(9)	kg	480	490	820	830	860	920	920	940

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C;
Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C;
Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Parameter calculated for LOW-TEMPERATURE applications in AVERAGE climate-conditions according to [REGULATION (EU) N. 813/2013]
5 Total sound power of fans, as declared by the manufacturer, at the rated speed of rotation and a nominal available static pressure on the delivery side.
6 Sound power level in cooling, outdoors.
7 Sound power level in heating, indoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration, without optional accessories.
10 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
11 Seasonal energy efficiency ratio
12 Seasonal space cooling energy efficiency
13 Seasonal coefficient of performance
14 Seasonal space heating energy efficiency
15 Energy efficiency class referred to LOW-TEMPERATURE applications in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
16 Sound power on the basis of measurements made in compliance with ISO 9614.
The units highlighted in this publication contain R410A [GWP_{100} 2088] fluorinated greenhouse gases

Data certified in EUROVENT

HEATING SCROLL PLATES
COOLING HFC R-410A PLUG FAN

NX-CN /A			0272	0302	0352	0402	0452	0502	0552	0602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	66,63	76,02	85,95	94,75	108,3	122,0	136,6	152,7
Total power input	(1)	kW	23,31	25,80	30,07	34,11	37,83	42,16	49,13	57,38
EER	(1)	kW/kW	2,858	2,946	2,854	2,780	2,865	2,891	2,782	2,660
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	66,60	75,90	85,90	94,70	108,2	121,9	136,5	152,5
EER	(1)(2)	kW/kW	3,090	3,200	3,070	2,980	3,080	3,110	2,960	2,840
Cooling energy class			-	-	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	70,87	80,28	90,06	103,0	115,8	131,7	147,5	164,0
Total power input	(3)	kW	24,71	27,08	30,96	35,46	39,18	43,61	50,12	58,64
COP	(3)	kW/kW	2,870	2,963	2,906	2,901	2,954	3,021	2,944	2,799
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	71,00	80,40	90,20	103,2	115,9	131,8	147,7	164,2
COP	(3)(2)	kW/kW	3,090	3,210	3,120	3,110	3,180	3,240	3,140	2,980
Cooling energy class										
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(10)	kW	-	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	52,2	59,0	65,9	75,1	84,4	95,9	108	120
SCOP	(4)(13)		3,99	3,94	3,97	3,80	3,97	3,97	4,0	3,68
Performance ηs	(4)(14)	%	156	155	156	149	156	156	157	144
Seasonal efficiency class	(15)		A++	A++	A++	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN COOLING										
Water flow	(1)	l/s	3,186	3,635	4,110	4,531	5,178	5,835	6,532	7,301
Pressure drop at the heat exchanger	(1)	kPa	13,1	13,0	13,8	13,3	13,9	13,5	14,4	15,1
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	3,421	3,875	4,347	4,974	5,589	6,356	7,120	7,918
Pressure drop at the heat exchanger	(3)	kPa	15,2	14,7	15,4	16,0	16,2	16,1	17,1	17,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	34,1	29,9	31,1	32,2	37,7	38,9	39,9	49,0
FANS										
Air flow		m³/s	8,06	9,17	9,72	11,11	12,50	13,33	14,44	16,94
Available static pressure		Pa	120	120	120	120	120	120	120	120
NOISE LEVEL										
Sound power level in cooling	(5)(6)(16)	dB(A)	87	81	82	85	83	84	86	91
Sound power level in heating	(5)(7)(16)	dB(A)	76	79	78	79	79	80	81	82
Sound power level in heating	(5)(8)(16)	dB(A)	87	81	82	85	83	84	86	91
SIZE AND WEIGHT										
A	(9)	mm	2980	2980	2980	2980	3970	3970	3970	4670
B	(9)	mm	1260	1260	1260	1260	1260	1260	1260	1260
H	(9)	mm	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(9)	kg	1090	1160	1230	1320	1610	1630	1650	1880

Notes:
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Parameter calculated for LOW-TEMPERATURE applications in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Total sound power of fans, as declared by the manufacturer, at the rated speed of rotation and a nominal available static pressure on the delivery side.
6 Sound power level in cooling, outdoors.
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Data certified in EUROVENT

NX-CN 0072-1104

Reversible unit, air source
for indoor installation
18-265 kW

HEATING · COOLING · SCROLL · PLATES · HFC R-410A · PLUG FAN

NX-CN /A			0272	0302	0352	0402	0452	0502	0552	0602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	66,63	76,02	85,95	94,75	108,3	122,0	136,6	152,7
Total power input	(1)	kW	23,31	25,80	30,07	34,11	37,83	42,16	49,13	57,38
EER	(1)	kW/kW	2,858	2,946	2,854	2,780	2,865	2,891	2,782	2,660
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	66,60	75,90	85,90	94,70	108,2	121,9	136,5	152,5
EER	(1)(2)	kW/kW	3,090	3,200	3,070	2,980	3,080	3,110	2,960	2,840
Cooling energy class			-	-	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	70,87	80,28	90,06	103,0	115,8	131,7	147,5	164,0
Total power input	(3)	kW	24,71	27,08	30,96	35,46	39,18	43,61	50,12	58,64
COP	(3)	kW/kW	2,870	2,963	2,906	2,901	2,954	3,021	2,944	2,799
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	71,00	80,40	90,20	103,2	115,9	131,8	147,7	164,2
COP	(3)(2)	kW/kW	3,090	3,210	3,120	3,110	3,180	3,240	3,140	2,980
Cooling energy class										
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(10)	kW	-	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	52,2	59,0	65,9	75,1	84,4	95,9	108	120
SCOP	(4)(13)		3,99	3,94	3,97	3,80	3,97	3,97	4,01	3,68
Performance ηs	(4)(14)	%	156	155	156	149	156	156	157	144
Seasonal efficiency class	(15)		A++	A++	A++	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN COOLING										
Water flow	(1)	l/s	3,186	3,635	4,110	4,531	5,178	5,835	6,532	7,301
Pressure drop at the heat exchanger	(1)	kPa	13,1	13,0	13,8	13,3	13,9	13,5	14,4	15,1
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Water flow	(3)	l/s	3,421	3,875	4,347	4,974	5,589	6,356	7,120	7,918
Pressure drop at the heat exchanger	(3)	kPa	15,2	14,7	15,4	16,0	16,2	16,1	17,1	17,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	34,1	29,9	31,1	32,2	37,7	38,9	39,9	49,0
FANS										
Air flow		m³/s	8,06	9,17	9,72	11,11	12,50	13,33	14,44	16,94
Available static pressure		Pa	120	120	120	120	120	120	120	120
NOISE LEVEL										
Sound power level in cooling	(5)(6)(16)	dB(A)	87	81	82	85	83	84	86	91
Sound power level in heating	(5)(7)(16)	dB(A)	76	79	78	79	79	80	81	82
Sound power level in heating	(5)(8)(16)	dB(A)	87	81	82	85	83	84	86	91
SIZE AND WEIGHT										
A	(9)	mm	2980	2980	2980	2980	3970	3970	3970	4670
B	(9)	mm	1260	1260	1260	1260	1260	1260	1260	1260
H	(9)	mm	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(9)	kg	1090	1160	1230	1320	1610	1630	1650	1880

Notes:

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Source (side) heat exchanger air (in) 35°C.
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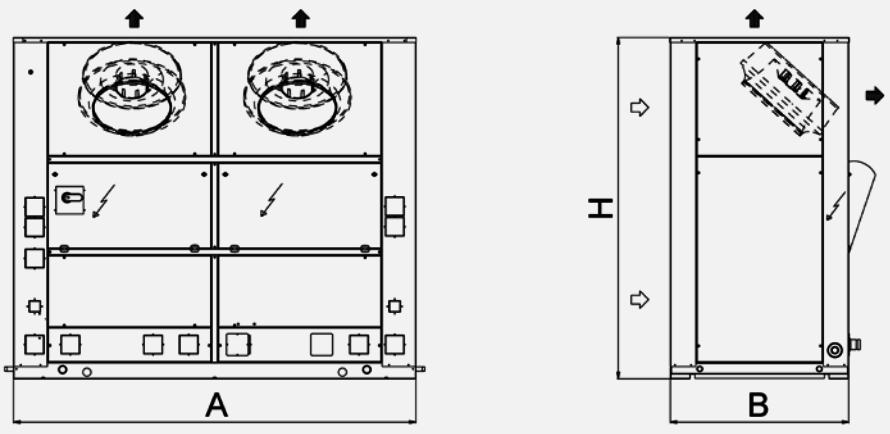
A
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B

“BY FAR THE BEST PROOF IS EXPERIENCE”

Sir Francis Bacon
British Philosopher
(1561 - 1626)

ADIGEO

2017 Verona - Italy

Air flow: 495000 m³/h
Installed machines: 16x WHISPER-E rooftop units, 1x NECS-N/CA high efficiency heat pump

Project
The refurbishment of the abandoned Officine Adige factory area is called Adige City and was designed by the famous architect Richard Rogers. In the masterplan there is also a mall, Adigeo, with a gross leasable area (GLA) of 42,000 square meters, with about 130 shops and services.

Challenge
The project for the construction of the first shopping center in Verona city centre was taken over by ECE, the European leader in the shopping center market with a portfolio of 196 centers in over 16 countries. Sustainability has always been an integral component of ECE’s company philosophy. The company focuses not on the short-term profit but rather on a long-term approach to remain competitive in the long run.

Solution
The installation of the air conditioning system kept the sustainability philosophy in mind: 16 Climaveneta WHISPER ENTHALPY rooftop unit with enthalpy heat recovery, for a total air flow of 500.000 m³/h, and one NECS-N/CA air source heat pump in Class A efficiency.

MORE THAN 2000 PROJECTS ALL OVER THE WORLD.

33 LOMBARD STREET
2009 London - Great Britain

Application: Office building
Plant type: Hydronic System
Cooling capacity: 230 kW
Installed machines: 2x NECS/LN scroll compressor chillers

HOTEL CAPRI
2017 Havana - Cuba

Application: Hotel and resorts
Plant type: Hydronic System
Cooling capacity: 1260 kW
Heating capacity: 170 kW
Installed machines: 7x NECS-C scroll compressor chillers, 1x EHRN/B, 272x fan coils, 16x terminal units, 46x a-LIFE fan coils

MUSEO DEL BICENTENARIO
2016 Buenos Aires - Argentina

Application: Museum
Plant type: Hydronic System
Cooling capacity: 604 kW
Heating capacity: 674 kW
Installed machines: 2x NECS-CN scroll compressor heat pumps

5 BROADGATE
2011 London - Great Britain

Application: Mixed-Use Development
Plant type: Hydronic System
Cooling capacity: 230 kW
Installed machines: 1x NECS-CN scroll compressor heat pump

CV_NX-C(N)_12-20_ENG

for a greener tomorrow

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 sustainable society.

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

Head Office: Via Caduti di Cefalonia 1 - 36061 Bassano del Grappa (VI) - Italy
Tel (+39) 0424 509 500 - Fax (+39) 0424 509 509
www.climaveneta.com
www.melcohit.com