

**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**



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.

NX-C

AIR-COOLED CHILLER

COOLING CAPACITY 17-290 kW

NX-CN

AIR TO WATER HEAT PUMP

COOLING CAPACITY 18-265 kW

HEATING CAPACITY 19-284 kW

0 25 50 75 100 125 150 175 200 225 250 275 300

EXTREMELY VERSATILE INSTALLATION

Traditionally, air condensed units have axial fans and are designed for outdoor installations, requiring a minimum clearance space to ensure a proper airflow through the air heat exchanger.

NX-C and NX-CN revolutionizes 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 the presence of spaces closed by walls with grids.

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

Unit with standard ventilation regulation.

Baseline

SL Super Low Noise

The highest level of noise reduction which cuts noise emissions.

-7 dB(A)

HEAT RECOVERY CONFIGURATIONS

- Standard

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

D Recupero parziale di calore

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 for outdoor installation. Thanks to the adoption of centrifugal fans, and a new compact design, the new Climaveneta branded range of air-condensed units for indoor installation was created.

ErP COMPLIANT



EFFICIENCY AT FULL LOADS

AVERAGE **EER**

version A

2,92

version K

2,73

SEASONAL COOLING
ENERGY EFFICIENCY

AVERAGE **SCOP**

version A

3,63

version K

3,55

SEASONAL COOLING
ENERGY EFFICIENCY

AVERAGE **SEER**

version A

4,08

version K

3,89

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 the installation and air flow selection the moment the unit is installed.

EASY ACCESSIBILITY DURING MAINTENANCE

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

EASILY INTEGRATABLE IN EXISTING STRUCTURES

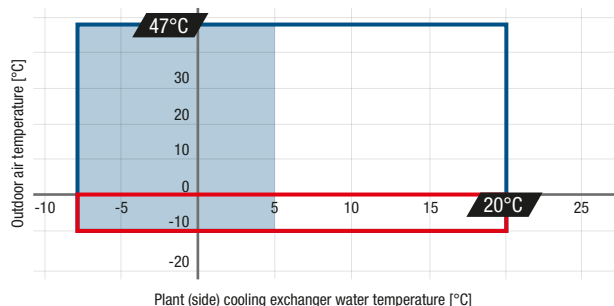
The units integrate seamlessly into surrounding structures. Thanks to the hidden internal installation and a rational design, NX-C and NX-CN are compatible with areas particularly sensitive to noise pollution.

EXTENDED OPERATING LIMITS

NX-C and NX-CN units can operate with outdoor air temperatures from -10°C and -15°C 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.

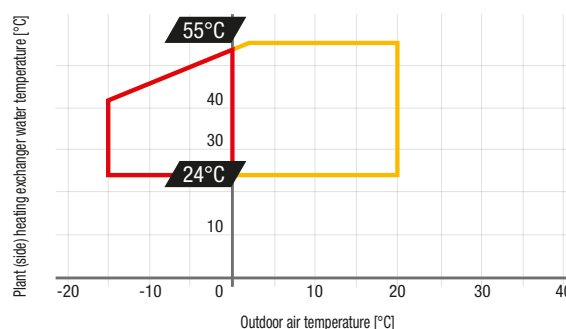
CHILLER OPERATING LIMITS



■ 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 USER 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 are realized with copper tubes and aluminium fins heat exchanger coils.

NX-CN

- ▶ Cu/Al traditional coils.
- ▶ Excellent heat conduction
- ▶ Available several surface treatments against corrosion (options).



Electrical panel

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

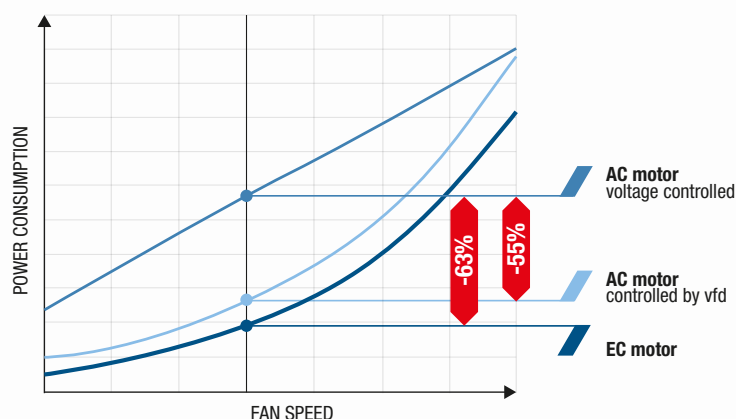
User side heat exchanger

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



CENTRIFUGAL FAN MOTOR WITH EC MOTOR

- ▶ More air flow at smaller diameter.
- ▶ Energy cost saving by highest efficiency at the operating point.
- ▶ Reduced sound levels at partial loads.
- ▶ Precise control of airflow.
- ▶ Lower consumption in every working condition to achieve a 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 needed.
- ▶ Continuous speed control by 0-10V signal, easy adaptation to varying operational conditions.



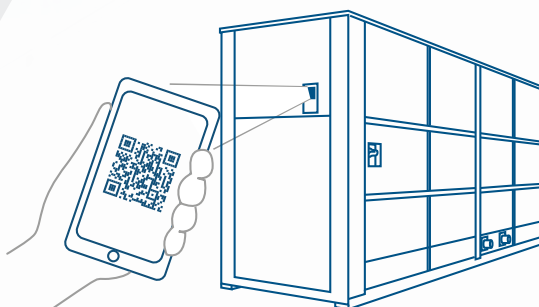
Casing

- ▶ 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



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 one to operate on the unit directly from a mobile device

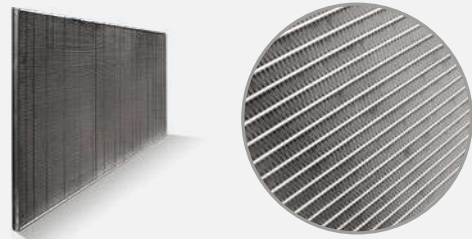
(smartphone, tablet, notebook) just by scanning the QR code positioned on the side of the unit.

- ▶ 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



3120 h
SWAAT test
(ASTM G85-02 A3)

✓ Excellent resistance
to **UV** rays

E- coating process



alkaline
cleaning



deionized
water rinse



E-coat
treatment



Final
rinse



Oven
bake



UV
topcoat

TUBE & FIN COILS

Cu/Al - Regular (std NX-CN)

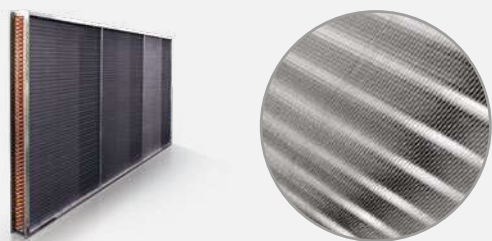
Cu/Al - Pre-painted fins

Cu/Al - Fin Guard Silver

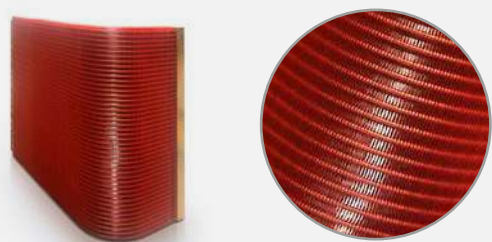
Fin Guard Silver SB

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

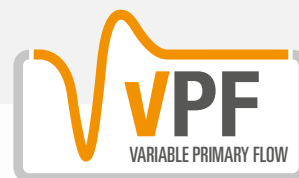
ON / OFF signal (1 or 2 pumps)

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



The VPF control series (Variable Primary Flow) doesn't 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	18,1	22,9	27,4	31,6	38,8	46,0	53,0	59,2
Total power input	(1)	kW	5,94	7,83	8,56	10,2	12,6	14,4	17,2	19,8
EER	(1)	kW/kW	3,05	2,92	3,20	3,10	3,08	3,19	3,08	2,99
ESEER	(1)	kW/kW	4,56	4,49	4,83	4,83	4,44	4,49	4,39	4,39
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	18,0	22,8	27,2	31,4	38,6	45,8	52,8	58,9
EER	(1)(2)	kW/kW	3,05	2,93	3,21	3,10	3,09	3,22	3,10	3,00
ESEER	(1)(2)	kW/kW	4,47	4,41	4,73	4,68	4,33	4,44	4,31	4,30
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(6)	kW	18,0	22,8	27,2	31,4	38,6	45,8	52,8	58,9
SEER	(6)(7)		4,17	4,14	4,36	4,38	4,17	4,27	4,17	4,16
Performance ηs	(6)(8)	%	164	163	171	172	164	168	164	164
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	0,87	1,10	1,31	1,51	1,86	2,20	2,54	2,83
Pressure drop	(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	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(3)(4)	dB(A)	74	77	82	84	86	83	84	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	423	431	795	798	868	928	930	949

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	67,8	77,2	87,2	99,8	113	126	141	159
Total power input	(1)	kW	22,8	26,2	30,7	33,7	38,7	43,9	51,7	57,4
EER	(1)	kW/kW	2,97	2,95	2,84	2,96	2,92	2,87	2,73	2,76
ESEER	(1)	kW/kW	4,46	4,19	4,19	4,21	4,08	4,10	4,08	4,00
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	67,5	76,9	86,9	99,4	113	126	140	158
EER	(1)(2)	kW/kW	2,99	2,96	2,85	2,98	2,93	2,88	2,74	2,77
ESEER	(1)(2)	kW/kW	4,38	4,12	4,12	4,14	4,03	4,05	4,02	3,96
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(6)	kW	67,5	76,9	86,9	99,4	113	126	140	158
SEER	(6)(7)		4,22	4,01	4,02	4,04	3,90	3,93	3,92	3,90
Performance ηs	(6)(8)	%	166	158	158	159	153	154	154	153
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	3,24	3,69	4,17	4,77	5,40	6,03	6,74	7,58
Pressure drop	(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	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(3)(4)	dB(A)	90	83	84	83	85	86	88	93
SIZE AND WEIGHT										
A	(5)	mm	2980	2980	2980	2980	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	1110	1174	1245	1391	1448	1590	1620	1778



COOLING



SCROLL



PLATES



HFC R-410A



PLUG FAN

NX-C / A			0702	0524	0604	0704	0804	0904	1004
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	180	127	150	174	193	225	251
Total power input	(1)	kW	65,3	46,5	55,1	62,3	70,7	81,6	91,1
EER	(1)	kW/kW	2,76	2,74	2,72	2,78	2,74	2,76	2,76
ESEER	(1)	kW/kW	4,09	4,19	4,13	4,31	4,15	4,17	4,12
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	180	127	150	173	193	224	250
EER	(1)(2)	kW/kW	2,78	2,75	2,73	2,80	2,75	2,77	2,76
ESEER	(1)(2)	kW/kW	4,05	4,07	4,01	4,20	4,05	4,07	4,02
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(6)	kW	180	127	150	173	193	224	250
SEER	(6)(7)		4,00	3,98	3,96	4,16	4,01	4,06	3,96
Performance η_s	(6)(8)	%	157	156	155	163	157	159	155
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,63	6,08	7,17	8,30	9,25	10,76	12,01
Pressure drop	(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	30	30	30	30	30	30	30
NOISE LEVEL									
Sound power level in cooling	(3)(4)	dB(A)	96	86	89	88	88	91	91
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	2058	1564	1743	2217	2296	2453	2510

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 EN14511-3:2013.

3 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.

4 Sound power level in cooling, outdoors.

5 Unit in standard configuration/execution, without optional accessories.

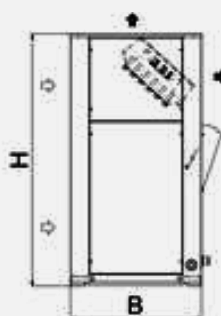
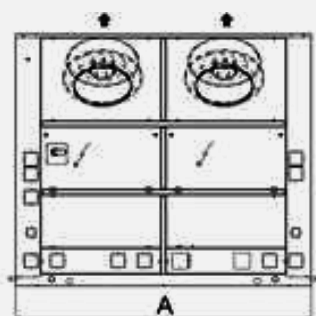
6 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]

7 Seasonal space heating energy index

8 Seasonal energy efficiency of the space cooling

The units highlighted in this publication contain HFC R410A [GWP₁₀₀ 2088] fluorinated greenhouse gases.

Certified data 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	18,7	23,0	26,0	30,9	38,3	45,4	52,5	58,3
Total power input	(1)	kW	6,09	8,04	8,82	10,6	12,5	14,5	17,3	19,9
EER	(1)	kW/kW	3,07	2,86	2,95	2,92	3,06	3,13	3,03	2,93
ESEER	(1)	kW/kW	4,61	4,37	4,52	4,60	4,37	4,38	4,29	4,27
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	18,6	22,9	25,9	30,8	38,1	45,2	52,3	58,1
EER	(1)(2)	kW/kW	3,09	2,87	2,98	2,94	3,09	3,17	3,06	2,95
ESEER	(1)(2)	kW/kW	4,55	4,29	4,51	4,53	4,29	4,34	4,24	4,23
Cooling energy class			A	A	A	A	A	A	A	A
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	19,4	24,2	28,3	32,3	41,8	48,9	56,3	62,6
Total power input	(3)	kW	6,88	8,79	9,83	11,4	13,7	15,9	18,6	21,2
COP	(3)	kW/kW	2,82	2,75	2,88	2,83	3,05	3,08	3,03	2,95
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	19,5	24,3	28,4	32,4	42,0	49,1	56,5	62,8
COP	(3)(2)	kW/kW	2,86	2,79	2,93	2,87	3,09	3,12	3,07	2,99
Cooling energy class			B	C	B	B	A	A	A	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(10)	kW	18,6	22,9	25,9	30,8	38,1	45,2	52,3	58,1
SEER	(10)(11)		4,27	4,08	4,19	4,27	4,16	4,21	4,14	4,12
Performance ηs	(10)(12)	%	168	160	165	168	163	166	163	162
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	14,8	18,2	21,7	24,9	32,4	37,8	43,6	48,6
SCOP	(4)(13)		3,65	3,60	3,86	3,80	3,76	3,76	3,74	3,69
Performance ηs	(4)(14)	%	143	141	151	149	147	147	147	145
Seasonal efficiency class	(4)		A+	A+	A++	A+	A+	A+	A+	A+
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	0,90	1,10	1,25	1,48	1,83	2,17	2,51	2,79
Pressure drop	(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	0,94	1,17	1,36	1,56	2,02	2,36	2,72	3,02
Pressure drop	(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	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(5)(6)(15)	dB(A)	76	79	82	84	86	83	84	85
Sound power level in heating	(5)(7)(15)	dB(A)	66	68	70	66	76	79	80	79
Sound power level in heating	(5)(8)(15)	dB(A)	76	79	82	84	86	83	84	85
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	450	460	840	850	910	970	970	1000

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 EN14511-3:2013.
- 3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
- 4 Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]
- 5 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal 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/execution, without optional accessories.
- 10 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]
- 11 Seasonal space heating energy index
- 12 Seasonal energy efficiency of the space cooling
- 13 Seasonal performance coefficient
- 14 Seasonal space heating energy efficiency
- 15 Sound power on the basis of measurements made in compliance with ISO 9614.

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Certified data in EUROVENT



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
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	66,6	76,0	85,9	94,8	108	122	137	153
Total power input	(1)	kW	22,9	26,5	31,1	36,0	39,0	43,8	51,5	57,7
EER	(1)	kW/kW	2,91	2,87	2,76	2,63	2,78	2,79	2,65	2,65
ESEER	(1)	kW/kW	4,35	4,09	4,08	3,88	4,02	3,97	3,93	3,83
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	66,4	75,8	85,7	94,6	108	122	136	152
EER	(1)(2)	kW/kW	2,94	2,90	2,79	2,66	2,80	2,81	2,67	2,67
ESEER	(1)(2)	kW/kW	4,33	4,08	4,07	3,87	4,01	3,96	3,90	3,83
Cooling energy class			A	A	A	A	A	A	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	70,9	80,3	90,1	103	116	132	148	164
Total power input	(3)	kW	24,3	27,8	32,0	37,3	40,4	45,3	52,5	58,9
COP	(3)	kW/kW	2,92	2,89	2,82	2,76	2,87	2,91	2,81	2,78
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	71,1	80,5	90,3	103	116	132	148	164
COP	(3)(2)	kW/kW	2,96	2,93	2,85	2,79	2,90	2,94	2,84	2,82
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(10)	kW	55,1	62,4	69,7	79,4	89,2	101	114	127
SEER	(10)(11)		3,69	3,55	3,50	3,39	3,52	3,57	3,51	3,43
Performance ηs	(10)(12)	%	144	139	137	132	138	140	137	134
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	55,1	62,4	69,7	79,4	89,2	101	114	127
SCOP	(4)(13)		3,69	3,55	3,50	3,39	3,52	3,57	3,51	3,43
Performance ηs	(4)(14)	%	144	139	137	132	138	140	137	134
Seasonal efficiency class	(4)		A+	A+	A+	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	3,19	3,64	4,11	4,53	5,18	5,83	6,53	7,30
Pressure drop	(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	3,42	3,88	4,35	4,97	5,59	6,36	7,12	7,92
Pressure drop	(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	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(5)(6)(15)	dB(A)	89	84	85	88	86	87	89	93
Sound power level in heating	(5)(7)(15)	dB(A)	76	79	78	79	79	80	81	82
Sound power level in heating	(5)(8)(15)	dB(A)	89	84	85	88	86	87	89	93
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	1330	1630	1660	1680	1850

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 EN14511-3:2013.

3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.

4 Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]

5 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal 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/execution, without optional accessories.

10 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]

11 Seasonal space heating energy index

12 Seasonal energy efficiency of the space cooling

13 Seasonal performance coefficient

14 Seasonal space heating energy efficiency

15 Sound power on the basis of measurements made in compliance with ISO 9614.

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Certified data in EUROVENT



NX-CN 0072-1104

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



HEATING

COOLING

SCROLL

P PLATES

R HFC R-410A

PLUG FAN

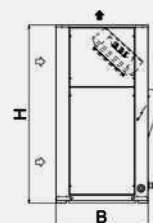
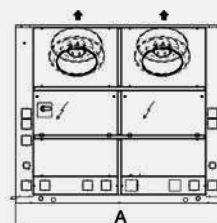
NX-CN /A			0702	0524	0604	0704	0804	0904	1004
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	174	125	144	169	187	217	238
Total power input	(1)	kW	65,0	46,3	55,2	62,0	70,8	81,0	91,5
EER	(1)	kW/kW	2,67	2,70	2,61	2,73	2,64	2,68	2,60
ESEER	(1)	kW/kW	3,95	4,12	4,00	4,21	4,06	4,08	3,99
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	173	124	144	169	187	216	237
EER	(1)(2)	kW/kW	2,69	2,71	2,63	2,75	2,66	2,69	2,61
ESEER	(1)(2)	kW/kW	3,94	4,03	3,92	4,13	3,99	4,01	3,92
Cooling energy class			B	A	B	A	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	187	135	157	181	200	231	254
Total power input	(3)	kW	65,9	47,2	56,1	64,2	71,3	82,0	89,8
COP	(3)	kW/kW	2,83	2,86	2,80	2,82	2,80	2,81	2,83
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	187	135	157	182	200	231	255
COP	(3)(2)	kW/kW	2,87	2,88	2,82	2,86	2,83	2,84	2,85
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(10)	kW	173,3	124,4	143,9	168,8	186,7	216,4	237,4
SEER	(10)(11)		3,91	3,97	3,89	4,11	3,96	3,99	3,86
Performance ηs	(10)(12)	%	153	156	153	161	155	157	152
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	145	106	124	142	154	180	194
SCOP	(4)(13)		3,52	3,68	3,55	3,60	3,56	3,55	3,59
Performance ηs	(4)(14)	%	138	144	139	141	139	139	141
Seasonal efficiency class	(4)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,31	5,97	6,90	8,09	8,95	10,37	11,38
Pressure drop	(1)	kPa	15,7	19,6	19,7	20,4	19,9	20,4	20,0
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	9,02	6,51	7,57	8,75	9,64	11,14	12,26
Pressure drop	(3)	kPa	18,4	23,3	23,7	23,8	23,1	23,5	23,2
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	56,9	43,0	48,4	64,1	66,3	68,5	71,0
FANS									
Air flow		m³/s	18,61	13,06	15,56	19,72	19,72	21,94	21,94
Available static pressure		Pa	30	30	30	30	30	30	30
NOISE LEVEL									
Sound power level in cooling	(5)(6)(15)	dB(A)	95	87	90	88	88	91	91
Sound power level in heating	(5)(7)(15)	dB(A)	85	81	85	80	81	88	88
Sound power level in heating	(5)(8)(15)	dB(A)	95	87	90	88	88	91	91
SIZE AND WEIGHT									
A	(9)	mm	5670	3970	4670	5670	5670	5670	5670
B	(9)	mm	1260	1260	1260	1260	1260	1260	1260
H	(9)	mm	2100	2100	2100	2100	2100	2100	2100
Operating weight	(9)	kg	2130	1650	1840	2330	2480	2590	2640

Notes:

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- 3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
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Certified data in EUROVENT



“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.

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.

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





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.

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