HEAT PUMPS

AWR MTD2 XE	0011ms - 0091t
i-BX-N	004M - 035T
i-KIR2-MTD	0011m - 0061m
i-KIR-MTD	0075t - 0151t
i-NRG	0061m - 0061t
AWR DHW2 XE	0021m - 0101ts
AWR-HT	0122 - 0302
AWR-HT	0404 - 0604
MICS-N FFT	0072 - 0182
i-NX-N	0151P - 0502P
NX-N	0152P - 0812P
NX-N	0604P - 1204P
NECS-N	0202T - 0612T
NX-N	0604T - 1204T
NECS-N	1314 - 3218
FOCS-N	2022 - 4822
FOCS-N-G05	2022 - 4822
MICS-CN	0072 - 0122
NX-CN	0072 - 1104
i-KI-MTD	0075t - 0151t
AW-HT	0122 - 0302
AW-HT	0404 - 0604
WWR MTD2	0011ms - 0121ts
WWR DHW2	0011ms - 0121t
NX-WN	0122 - 1204
WW-HT	0071 - 0302
EW-HT	0152 - 0612
WWH-HT	0071 - 0302
NX-W /H	0122 - 1204
FOCS-W /H	0401 - 1302
FOCS2-W /H	1301 - 9604
FOCS2-W-G05 /H	1301 - 9604
i-FX-W (1+i) /H	1402 - 4652
i-FX-W (1+i)-G05/H	1402 - 4652
BWR MTD2	0011ms - 0121ts
BW-HT	0071 - 0302

HEAT PUMPS

AWR MTD2 XE

0011ms - 0091t 5,200-29,20 kW

High efficiency reversible heat pump, air source for outdoor installation

Heat pumps AWR-MTD2-XE reversible units are able to provide heating, cooling and domestic hot water. Particular attention was paid to the winter, thanks to special technological devices is guaranteed beyond the normal limits of traditional units. Prana AWR-MTD2-XE can be combined with traditional systems or radiant panels, ensuring a high energy efficiency. All units are certified in accordance with the Class A classification Eurovent energy in heating. This makes them particularly suitable for use radiant installations. The installation is greatly simplified through the integration of the hydraulic group simply by connecting the unit to water plant and electricity so that it can be put into operation.

Refrigerant

R410A

Versions

- Basic
- H integrated electric heater

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.
High efficiency, low drop AISI 316 stainless steel plate exchangers (water side) complete with closed-cell insulation with vapour barrier,anti-freeze heating element and differential pressure switch
Hermetic scroll type compressors, equipped with the crankcase heater and thermal protection
Finned coils made with copper pipes and aluminium fins with large exchange surface area (100% fully quality tested)
Axial electric fans, external rotor, 6-pole electric motor fitted with thermal protection, housed in aerodynamic conveyor profile with safety grill
Low external air temperature device:
continuous fan speed regulation with pressure switch
Modulating electrical resistance to avoid freezing of the base; the resistance is located between wing and base exchanger to improve and facilitate the flow of water during defrosting
Condensate collecting tray (models 0011÷0051)
Coil protection grille
Soft starter for 230V/1/50Hz units (ms)
Phase sequence control relay for three phase models
The water circuit comes complete with:
- Variable flow circulator for all models
- Differential pressure switch.
- Expansion tank
- Safety valve
- Manual filling assembly
- Pressure gauge
- Air vent valve

The full range is also available with the Class A efficiency rating (in heating).

Control

NADISYSTEM

Electronic control Nadisystem provides great application flexibility. The remote keyboard kit wired indoor and outdoor temperature sensors allow dynamic control of delivery temperature water, optimizing comfort in the room and increasing the energy efficiency.
The electronic board allows you to manage:
-Wired remote control, backlit display complete with remote temperature and humidity probe
-Outdoor temperature sensor for water plant side modular set point compensation
-A zone of direct heating for radiator, floor heating or fan coil
-Domestic hot water production by external three-way valve (accessory)
-Electrical heating element for possible integration and anti-legionella cycle for cylinder
-Boiler or electric heater in substitution or in addition
-The room controller can customise up to six time bands. The presence of the programmable timer allows the creation of an operating profile containing up to 6 time bands.
-Up to 4 heat pump in cascade (with N-CM component)
-Several solutions through appropriate configurations of the controller and dedicated extension modules (accessorie), up to 5 zone.
The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Accessories

- Wired room terminal with backlit display, and with temperature and umidity probe
- Extension module for system configuration
- Three-way valve for domestic hot water
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Cascade management kit
- Serial card RS485 for ModBus
- External buffer tank and hydronic connecting kit
- Buffer tank 35,100,200 liters
- Hot water cylinder 300,500 liters
- 300 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump

APPLICATION HYDRONIC TERMINAL

AWR MTD2 XE			0011ms	0025ms	0031ms	0041ms	0031t	0041t	0051t	0061t	0091t
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	5,200	6,300	9,200	11,70	8,600	11,90	13,20	15,20	22,10
Total power input	(1)	kW	1,700	2,200	3,100	4,000	3,000	4,000	4,600	5,000	7,200
EER	(1)	kW/kW	3,059	2,864	2,968	2,925	2,867	2,975	2,870	3,040	3,069
ESEER	(1)	kW/kW	3,620	3,630	3,520	3,460	3,420	3,650	3,240	3,550	3,570
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	5,200	6,300	9,230	11,70	8,630	11,90	13,20	15,20	22,20
EER	(1)(2)	kW/kW	3,080	2,890	3,010	2,970	2,910	3,020	2,910	3,060	3,090
ESEER	(1)(2)	kW/kW	3,650	3,640	3,620	3,530	3,460	3,700	3,300	3,570	3,610
Cooling energy class			B	C	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	6,100	7,300	10,80	13,60	10,60	13,80	15,40	17,50	24,60
Total power input	(3)	kW	1,900	2,300	3,300	4,100	3,200	4,300	4,600	5,200	7,400
COP	(3)	kW/kW	3,211	3,174	3,273	3,317	3,312	3,209	3,348	3,365	3,324
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	6,100	7,300	10,80	13,60	10,60	13,80	15,40	17,50	24,50
COP	(3)(2)	kW/kW	3,230	3,200	3,310	3,350	3,350	3,240	3,380	3,380	3,330
Cooling energy class			A	A	A	A	A	A	A	A	A
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	6,34	6,40	7,99	9,65	7,56	10,0	11,1	12,7	17,5
SCOP	(4)(13)		3,64	3,58	3,52	3,43	3,27	3,54	3,28	3,43	3,33
Performance ηs	(4)(14)	%	143	140	138	134	128	139	128	134	130
Seasonal efficiency class	(15)		A+	A+	A+	A+	A+	A+	A+	A+	A+
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	0,249	0,301	0,440	0,560	0,411	0,569	0,631	0,727	1,057
Available unit's head	(1)	kPa	54,3	51,2	92,2	81,1	95,4	79,9	78,1	53,8	101
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	0,294	0,352	0,521	0,656	0,512	0,666	0,743	0,845	1,187
Available unit's head	(3)	kPa	48,4	44,8	82,0	67,5	83,3	66,0	62,9	46,4	95,9
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	2,55	2,60	3,50	4,35	3,50	4,35	4,50	6,10	8,50
NOISE LEVEL											
Sound power level in cooling	(5)(6)	dB(A)	69	69	71	71	71	71	71	72	74
Sound power level in heating	(5)(7)	dB(A)	70	70	70	70	70	70	70	73	75
Sound Pressure	(8)	dB(A)	54	54	56	56	56	56	56	56	58
SIZE AND WEIGHT											
A	(9)	mm	900	900	900	900	900	900	900	1550	1550
B	(9)	mm	420	420	420	420	420	420	420	550	550
H	(9)	mm	1240	1240	1240	1390	1240	1390	1390	1200	1700
Operating weight	(9)	kg	145	150	155	170	155	170	180	250	335

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Sound power level in heating, outdoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

AWR MTD2 XE

High efficiency reversible heat pump, air source for outdoor installation

0011ms - 0091t 5,200-29,20 kW

APPLICATION FLOOR HEATING

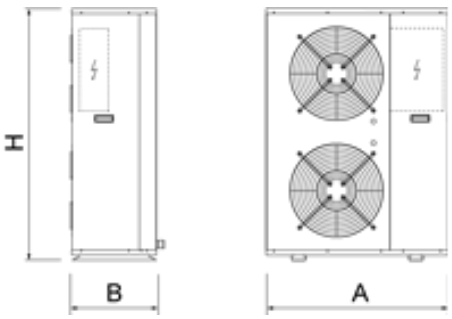
AWR MTD2 XE			0011ms	0025ms	0031ms	0041ms	0031t	0041t	0051t	0061t	0091t
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	7,200	8,300	12,30	15,70	11,70	15,80	17,70	20,20	29,20
Total power input	(1)	kW	1,900	2,200	3,300	4,100	3,100	4,200	4,700	5,300	7,800
EER	(1)	kW/kW	3,789	3,773	3,727	3,829	3,774	3,762	3,766	3,811	3,744
ESEER	(1)	kW/kW	3,620	3,630	3,520	3,460	3,420	3,650	3,240	3,550	3,570
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	7,190	8,290	12,30	15,70	11,70	15,80	17,70	20,20	29,30
EER	(1)(2)	kW/kW	3,800	3,800	3,780	3,860	3,830	3,790	3,790	3,830	3,780
ESEER	(1)(2)	kW/kW	3,650	3,640	3,620	3,530	3,460	3,700	3,300	3,570	3,610
Cooling energy class			B	C	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	6,300	7,400	11,20	14,00	10,90	14,00	15,90	17,90	25,10
Total power input	(3)	kW	1,500	1,800	2,600	3,300	2,600	3,300	3,800	4,200	6,000
COP	(3)	kW/kW	4,200	4,111	4,308	4,242	4,192	4,242	4,184	4,262	4,183
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	6,300	7,400	11,20	14,00	10,90	14,00	15,90	17,90	25,00
COP	(3)(2)	kW/kW	4,240	4,160	4,380	4,290	4,260	4,290	4,240	4,290	4,200
Cooling energy class			A	A	A	A	A	A	A	A	A
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	6,34	6,40	7,99	9,65	7,56	10,0	11,1	12,7	17,5
SCOP	(4)(13)		3,64	3,58	3,52	3,43	3,27	3,54	3,28	3,43	3,33
Performance ηs	(4)(14)	%	143	140	138	134	128	139	128	134	130
Seasonal efficiency class	(15)		A+	A+	A+	A+	A+	A+	A+	A+	A+
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	0,345	0,398	0,590	0,753	0,561	0,758	0,849	0,969	1,400
Available unit's head	(1)	kPa	40,8	38,1	72,0	51,8	76,4	50,9	46,4	37,3	85,4
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	0,303	0,356	0,539	0,674	0,524	0,674	0,765	0,861	1,208
Available unit's head	(3)	kPa	47,2	44,3	79,5	64,8	81,5	64,8	59,7	45,2	95,0
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	2,55	2,60	3,50	4,35	3,50	4,35	4,50	6,10	8,50
NOISE LEVEL											
Sound power level in cooling	(5)(6)	dB(A)	69	69	71	71	71	71	71	72	74
Sound power level in heating	(5)(7)	dB(A)	70	70	70	70	70	70	70	73	75
Sound Pressure	(8)	dB(A)	54	54	56	56	56	56	56	56	58
SIZE AND WEIGHT											
A	(9)	mm	900	900	900	900	900	900	900	1550	1550
B	(9)	mm	420	420	420	420	420	420	420	550	550
H	(9)	mm	1240	1240	1240	1390	1240	1390	1390	1200	1700
Operating weight	(9)	kg	145	150	155	170	155	170	180	250	335

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Sound power level in heating, outdoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

i-BX-N

004M - 035T 4,200-35,10 kW

Reversible heat pump, air source for outdoor installation

Outdoor unit for the production of chilled/hot water with variable speed (Inverter Driven) Scroll compressors, optimized for R410A in a single-circuit configuration, axial-flow fans, condensing coil with copper tubes and aluminum fins, plate heat exchanger on water side and electronic expansion valve as standard equipment. Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise temperature control together with the use of inverter technology. The high performance's level, both full and partial load, is achieved thanks to the accurate unit's design and to the use of variable speed (inverter) motor.
The units provide heating, cooling and domestic hot water production. Particular care is taken for winter mode, that thanks to the Inverter technology is guaranteed beyond traditional units working limits.

Refrigerant

R410A

Versions

- Basic

Features

ErP READY
The highest level of efficiency at part load can meet and exceed the minimum seasonal efficiency for heating, SCOP according with the eco-sustainable design requirements for all products using energy.

SYSTEM EFFICIENCY
The unit is designed as a system: all components are regulated using proprietary control's logic for the highest efficiency.

HIGH EFFICIENCY AT PARTIAL LOAD
High seasonal efficiency in both heating and cooling mode, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the building. High efficiency for low energy consumption during the operating hours.

HIGH EFFICIENCY COMPONENTS
In terms of improving performance and reducing power consumption, the electronic thermostatic valve is an important component that maximises system efficiency, same for the choise the hydronic kit with inverter water pump and the modulating the fans speed as standard equipments.

EXTENSIVE OPERATING LIMITS
Particular care is taken for winter mode, that thanks to inverter technology is guaranteed beyond traditional units working limits, supplying hot water up to 60°C and down to -20°external air.

INTEGRATED HYDRONIC MODULE
The integrated hydronic include all the water circuit components (anti-freeze electrical heater on plate heat exchanger, air vents, flow switch, water filter, safety valve, EC water pumps, expansion tank) so as to optimize installation space, times and costs.

Control

NADISYSTEM
The keypad features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu. The remote keyboard kit wired indoor and outdoor temperature sensors allow dynamic control of delivery temperature water, optimizing comfort in the room and increasing the energy efficiency. The electronic board allows you to manage:
-Wired remote keypad, backlit display complete with remote temperature
-Outdoor air temperature sensor on board for climatic curve
-One zone with mixing valve for floor heating and one zone of direct heating for radiator, floor heating or fan coil
-Domestic hot water production by external three-way valve (accessory)
-Electric heater for possible integration and anti-legionella cycle for DHW tank
-Gas boiler or electric heater in substitution or in addition for space heating
-Built-in clock can be used to create an operating profile containing time bands for space heating/cooling and for DHW
-Night mode to limit the noise level of the units. Noise level is reduced limiting the maximum speed of the compressor and fans.
-Up to 4 heat pump in cascade (with the accessories N-CM)
The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Accessories

- Remote keyboard
- Wired room terminal with backlit display, and with temperature and umidity probe
- Cascade management kit
- DHW temperature probe and Buffer temperature probe
- Copper-Aluminum heat exchanger coils with epoxy treatment
- Copper-Copper heat exchanger coils
- Buffer tank
- Domestic hot water storage tank
- Electric heater for the base and for condensate collecting tray to avoid freezing
- Serial card RS485 for ModBus
- Rubber anti-vibration mounting kit

i-BX-N M			004M	006M	008M	010	013
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	4,200	5,900	7,500	9,900	12,40
Total power input	(1)	kW	1,548	2,080	2,720	3,640	4,540
EER	(1)	kW/kW	2,710	2,837	2,757	2,720	2,731
ESEER	(1)	kW/kW	4,240	4,320	4,450	4,210	4,240
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	4,200	5,900	7,510	9,910	12,40
EER	(1)(2)	kW/kW	2,760	2,880	2,810	2,730	2,750
ESEER	(1)(2)	kW/kW	4,610	4,560	4,830	4,260	4,370
Cooling energy class			C	C	C	C	C
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	4,628	6,365	8,508	10,99	14,34
Total power input	(3)	kW	1,509	2,026	2,651	3,649	4,529
COP	(3)	kW/kW	3,066	3,133	3,211	3,014	3,157
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(3)(2)	kW	4,620	6,370	8,500	11,00	14,30
COP	(3)(2)	kW/kW	3,120	3,190	3,260	3,020	3,190
Cooling energy class			B	B	A	B	B
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	3,40	4,80	6,02	8,18	10,4
SCOP	(4)(13)		3,59	3,89	4,15	3,54	3,81
Performance ηs	(4)(14)	%	140	153	163	139	149
Seasonal efficiency class	(15)		A+	A++	A++	A+	A+
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	0,201	0,282	0,359	0,473	0,593
Available unit's head	(1)	kPa	51,4	39,8	66,5	57,7	56,6
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	0,223	0,307	0,411	0,531	0,692
Available unit's head	(3)	kPa	47,9	35,4	57,9	54,1	51,1
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	1,47	2,20	3,70	3,95	4,45
NOISE LEVEL							
Sound power level in cooling	(5)(6)	dB(A)	64	65	66	69	70
Sound power level in heating	(5)(7)	dB(A)	64	65	66	69	70
Sound Pressure	(8)	dB(A)	50	51	51	54	55
SIZE AND WEIGHT							
A	(9)	mm	900	900	900	900	900
B	(9)	mm	370	370	420	420	420
H	(9)	mm	940	940	1240	1240	1390
Operating weight	(9)	kg	80	85	100	115	135

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Sound power level in heating, outdoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

i-BX-N

Reversible heat pump, air source for outdoor installation

004M - 035T 4,200-35,10 kW

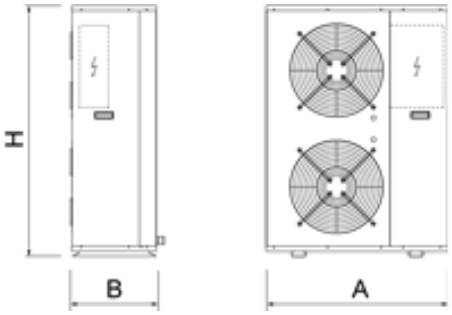
i-BX-N T			010T	013T	015T	020T	025T	030T	035T
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	10,50	12,80	14,70	18,70	24,70	29,40	35,10
Total power input	(1)	kW	3,640	4,540	5,240	7,000	8,990	10,50	12,70
EER	(1)	kW/kW	2,885	2,819	2,805	2,671	2,747	2,800	2,764
ESEER	(1)	kW/kW	4,240	4,490	4,310	3,880	3,930	3,890	3,930
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	10,50	12,80	14,70	18,70	24,70	29,50	35,20
EER	(1)(2)	kW/kW	2,890	2,840	2,820	2,700	2,770	2,840	2,790
ESEER	(1)(2)	kW/kW	4,290	4,580	4,380	3,990	4,030	4,000	4,010
Cooling energy class			C	C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	11,40	14,67	17,22	21,70	26,14	32,28	38,07
Total power input	(3)	kW	3,662	4,548	5,149	6,904	8,313	10,34	11,98
COP	(3)	kW/kW	3,115	3,231	3,340	3,145	3,141	3,136	3,175
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	11,40	14,70	17,20	21,70	26,10	32,20	38,00
COP	(3)(2)	kW/kW	3,120	3,250	3,360	3,160	3,160	3,130	3,190
Cooling energy class			B	A	A	B	B	B	B
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	8,48	10,9	12,3	16,5	21,9	24,7	28,1
SCOP	(4)(13)		3,64	3,99	3,66	3,56	3,77	3,80	3,70
Performance ηs	(4)(14)	%	142	157	144	139	148	149	145
Seasonal efficiency class	(15)		A+	A++	A+	A+	A+	A+	A+
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	0,502	0,612	0,703	0,894	1,181	1,406	1,679
Available unit's head	(1)	kPa	53,3	53,0	78,7	74,6	61,5	91,3	73,5
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	0,550	0,708	0,831	1,047	1,262	1,558	1,838
Available unit's head	(3)	kPa	50,2	47,1	71,5	60,3	55,0	80,5	61,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	3,95	4,45	5,10	6,70	8,10	10,0	11,0
NOISE LEVEL									
Sound power level in cooling	(5)(6)	dB(A)	69	70	74	74	75	76	77
Sound power level in heating	(5)(7)	dB(A)	69	70	74	74	75	76	77
Sound Pressure	(8)	dB(A)	54	55	59	59	59	60	61
SIZE AND WEIGHT									
A	(9)	mm	900	900	1450	1450	1450	1450	1700
B	(9)	mm	420	420	550	550	550	550	650
H	(9)	mm	1240	1390	1200	1200	1700	1700	1700
Operating weight	(9)	kg	115	135	180	205	265	290	325

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Sound power level in heating, outdoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

i-KIR2-MTD

0011m - 0061m 4,032-12,53 kW

Air cooled reversible heat pump, with axial fans and inverter driven compressor, for heating water up to 60°C

The Climaveneta system is based on an packaged external units with integrated hydronic module and by an internal unit with the electronic regulation. The i-KIR2 heat pumps provide for heating, cooling and domestic hot water production. Particular care is taken for winter mode, that thanks to the Inverter technology is guaranteed beyond traditional units working limits, water production up to 60°C.
The i-KIR2 reverse-cycle heat pumps feature high seasonal efficiency in both heating and cooling mode, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the building.
i-KIR2 units can be coupled with traditional systems or radiant panels, guaranteeing always very high energy efficiency. Installation is strongly simplified thanks to the integrated hydronic module with inverter pump.

Control

NADISYSTEM LT
Electronic control that provides great application flexibility and dynamic control of delivery water temperature, optimizing indoor comfort and increasing the energy efficiency. The electronic board allows you to manage: -Wired remote keypad, backlit display complete with temperature probe
-Outdoor air temperature probeon board for climatic curve -One zone with mixing valve for floor heating and one zone of direct heating for radiator, floor heating or fan coil -Domestic hot water production by external three-way valve (accessory) -Electric heater for possible integration and anti-legionella cycle for DHW tank -Gas boiler or electric heater in substitution or in addition for space heating -Built-in clock to create an operating profile containing time bands for space heating/cooling and for DHW -Up to 4 heat pump in cascade (with the accessories N-CM and one internal module i-EMR2 each units).

Refrigerant

R410A

Versions

- Basic

Features

SYSTEM EFFICIENCY
The unit is designed as a system: all components are regulated using proprietary control's logic for the highest efficiency.

HIGH EFFICIENCY AT PARTIAL LOAD
High seasonal efficiency in both heating and cooling mode, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the building. High efficiency for low energy consumption during the operating hours.

HIGH EFFICIENCY COMPONENTS
In terms of improving performance and reducing power consumption, the electronic thermostatic valve is an important component that maximises system efficiency, same for the choise the hydronic kit with inverter water pump and the modulating the fans speed with DC motor as standard equipments.

EXTENSIVE OPERATING LIMITS
Particular care is taken for winter mode, that thanks to inverter technology is guaranteed beyond traditional units working limits, supplying hot water up to 60°C and down to -20°external air.

INTEGRATED HYDRONIC MODULE
The integrated hydronic include all the water circuit components so as to optimize installation space, times and costs.

Accessories

- Wired remote keyboard with backlit display, and with temperature probe (it is a mandatory accessory)
- Outside air temperature probe for plant water set point compensation.
- DHW temperature probe and Buffer temperature probe
- i-EMR2 Internal module kit can be used for cascade configuration or for management up to 5 secondary circuits.
- Extension module for system configuration (only in combination with i-EMR2)
- Cascade management kit (only in combination with i-EMR2)
- Three-way valve for domestic hot water
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Serial card RS485 for ModBus
- Buffer tank 35,100,200 liters
- Hot water cylinder 300,500 liters
- 300 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump

APPLICATION HYDRONIC TERMINAL

i-KIR2-MTD			0011m	0031m	0061m
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50
COOLING ONLY (GROSS VALUE)					
Cooling capacity	(1)	kW	4,032	6,498	12,53
Total power input	(1)	kW	1,447	3,045	4,217
EER	(1)	kW/kW	2,779	2,138	2,962
ESEER	(1)	kW/kW			
COOLING ONLY (EN14511 VALUE)					
Cooling capacity	(1)(2)	kW	3,700	5,200	12,30
EER	(1)(2)	kW/kW	2,870	2,740	3,260
ESEER	(1)(2)	kW/kW	4,000	4,170	3,900
Cooling energy class			C	C	A
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(3)	kW	5,325	9,400	15,25
Total power input	(3)	kW	1,750	2,950	5,373
COP	(3)	kW/kW	3,040	3,186	2,849
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(3)(2)	kW	5,310	9,370	14,70
COP	(3)(2)	kW/kW	3,050	3,230	3,230
Cooling energy class			B	A	A
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	3,92	7,15	11,7
SCOP	(4)(13)		4,00	4,13	3,76
Performance ηs	(4)(14)	%	157	162	148
Seasonal efficiency class	(15)		A++	A++	A+
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	l/s	0,176	0,247	0,586
Available unit's head	(1)	kPa	148	137	91,4
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(3)	l/s	0,257	0,454	0,711
Available unit's head	(3)	kPa	123	102	66,2
REFRIGERANT CIRCUIT					
Compressors nr.		N°	1	1	1
No. Circuits		N°	1	1	1
Refrigerant charge		kg	1,05	1,70	2,99
NOISE LEVEL					
Sound power level in cooling	(5)(6)	dB(A)	60	64	65
Sound power level in heating	(5)(7)	dB(A)	61	65	66
Sound Pressure	(8)	dB(A)	46	50	50
SIZE AND WEIGHT					
A	(9)	mm	825	850	1000
B	(9)	mm	300	330	330
H	(9)	mm	675	882	1418
Operating weight	(9)	kg	52	74	119

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Sound power level in heating, outdoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

i-KIR2-MTD

0011m - 0061m 4,032-12,53 kW

Air cooled reversible heat pump, with axial fans and inverter driven compressor, for heating water up to 60°C

APPLICATION FLOOR HEATING

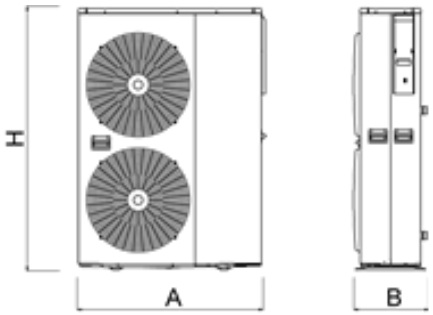
i-KIR2-MTD			0011m	0031m
Power supply		V/ph/Hz	230/1/50	230/1/50
COOLING ONLY (GROSS VALUE)				
Cooling capacity	(1)	kW	5,118	8,649
Total power input	(1)	kW	1,390	2,862
EER	(1)	kW/kW	3,683	3,024
ESEER	(1)	kW/kW		
COOLING ONLY (EN14511 VALUE)				
Cooling capacity	(1)(2)	kW	4,410	8,000
EER	(1)(2)	kW/kW	4,160	3,480
ESEER	(1)(2)	kW/kW	4,000	4,170
Cooling energy class			C	C
HEATING ONLY (GROSS VALUE)				
Total heating capacity	(3)	kW	5,870	9,739
Total power input	(3)	kW	1,460	2,481
COP	(3)	kW/kW	4,021	3,927
HEATING ONLY (EN14511 VALUE)				
Total heating capacity	(3)(2)	kW	5,860	9,230
COP	(3)(2)	kW/kW	4,030	4,210
Cooling energy class			B	A
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	3,92	7,15
SCOP	(4)(13)		4,00	4,13
Performance ηs	(4)(14)	%	157	162
Seasonal efficiency class	(15)		A++	A++
EXCHANGERS				
HEAT EXCHANGER USER SIDE IN REFRIGERATION				
Water flow	(1)	l/s	0,210	0,382
Available unit's head	(1)	kPa	128	112
HEAT EXCHANGER USER SIDE IN HEATING				
Water flow	(3)	l/s	0,282	0,446
Available unit's head	(3)	kPa	112	98,4
REFRIGERANT CIRCUIT				
Compressors nr.		N°	1	1
No. Circuits		N°	1	1
Refrigerant charge		kg	1,05	1,70
NOISE LEVEL				
Sound power level in cooling	(5)(6)	dB(A)	60	64
Sound power level in heating	(5)(7)	dB(A)	61	65
Sound Pressure	(8)	dB(A)	46	50
SIZE AND WEIGHT				
A	(9)	mm	825	850
B	(9)	mm	300	330
H	(9)	mm	675	882
Operating weight	(9)	kg	52	74

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Sound power level in heating, outdoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

i-KIR-MTD

0075t - 0151t 15,59-30,45 kW

Air cooled reversible heat pump, with axial fans and inverter driven compressor, for heating water up to 60°C

The system is based on an packaged external units with integrated hydronic module and by an internal unit with the electronic regulation. The heat pumps provide heating, cooling and domestic hot water production. Particular care is taken for winter mode, that thanks to the Inverter technology is guaranteed beyond traditional units working limits, water production up to 60°C.
The reverse-cycle heat pumps feature high seasonal efficiency in both heating and cooling mode, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the installation.
The unit can be coupled with traditional systems or radiant panels, guaranteeing always very high energy efficiency. Intallation is strongly simplified thanks to the integrated hydronic module (optional).

Refrigerant

R410A

Versions

B Basic

Features

WIDE RANGE
Extended capacity range.

SYSTEM EFFICIENCY
The unit is designed as a system: all components are regulated using proprietary control's logic for the highest efficiency.

HIGH EFFICIENCY AT PARTIAL LOAD
High seasonal efficiency in both heating and cooling mode, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the building. High efficiency for low energy consumption during the operating hours.

HIGH EFFICIENCY COMPONENTS
In terms of improving performance and reducing power consumption, the electronic thermostatic valve is an important component that maximises system efficiency, same for the choise the hydronic kit with inverter water pump (optional) and the modulating the fans speed.

EXTENSIVE OPERATING LIMITS
Particular care is taken for winter mode, that thanks to inverter technology is guaranteed beyond traditional units working limits, supplying hot water up to 60°C and down to -20°external air.

Control

NADISYSTEM
Electronic control that provides great application flexibility and dynamic control of delivery temperature water, optimizing indoor comfort and increasing the energy efficiency. The electronic board allows you to manage: -Wired remote control, backlit display and with temperature probe and humidity probe -Outdoor temperature sensor for water plant side modular set point compensation -A zone of direct heating for radiator, floor heating or fan coil and a zone with mix valve for floor heating -Electrical heating element for possible integration and anti-legionella cycle for cylinder -Boiler or electric heater in substitution or in addition -Up to 6 time bands can be programmed
-Up to 4 heat pump in cascade (with N-CM component)
-Several solutions through appropriate configurations of the controller and use of dedicated extension modules (accessorie), up to 5 zones.

Accessories

- Integrated hydronic module with on/off pump or high efficiency inverter pump
- Wired room terminal with backlit display, and with temperature and umidity probe
- Extension module for system configuration
- Three-way valve for domestic hot water
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Cascade management kit
- Serial card RS485 for ModBus
- Hot water cylinder 300,500 liters
- 300 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump
- Copper-Copper heat exchanger coils
- Copper-Aluminum heat exchanger coils with epoxy treatment
- Electric heater for the base and for condensate collecting tray to avoid freezing

APPLICATION HYDRONIC TERMINAL

i-KIR-MTD			0075t	0091t	0095t	0101t	0121t	0135t	0151t
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
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	15,59	19,35	22,13	23,95	26,45	28,68	30,45
Total power input	(1)	kW	6,540	6,929	8,838	10,24	10,10	12,53	12,61
EER	(1)	kW/kW	2,385	2,785	2,500	2,353	2,614	2,296	2,421
ESEER	(1)	kW/kW	4,300	4,440	4,370	4,280	4,690	4,650	4,650
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	15,50	19,20	22,00	23,90	26,30	28,60	30,40
EER	(1)(2)	kW/kW	2,350	2,750	2,460	2,320	2,590	2,270	2,390
ESEER	(1)(2)	kW/kW	4,080	4,250	4,140	4,040	4,520	4,450	4,450
Cooling energy class			E	C	E	E	D	F	E
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	21,62	30,35	32,86	35,63	35,85	39,19	44,39
Total power input	(3)	kW	8,297	9,448	10,92	12,33	11,43	13,01	14,67
COP	(3)	kW/kW	2,602	3,217	3,018	2,894	3,140	3,015	3,020
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	20,50	24,00	27,80	30,30	32,10	35,20	38,30
COP	(3)(2)	kW/kW	2,760	3,340	3,070	2,940	3,390	3,260	3,270
Cooling energy class			D	A	B	C	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(11)	kW	-	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	16,0	23,1	25,2	27,4	25,8	28,4	32,4
SCOP	(4)(14)		3,58	4,05	4,00	3,94	4,13	4,12	4,28
Performance ηs	(4)(15)	%	140	159	157	155	162	162	168
Seasonal efficiency class	(16)		A+	A++	A++	A++	A++	A++	A++
PDesign	(5)	kW	16,6	22,5	24,7	27,2	25,8	28,7	32,5
SCOP	(5)(14)		2,87	3,26	3,25	3,22	3,31	3,32	3,41
Performance ηs	(5)(15)	%	112	127	127	126	130	130	133
Seasonal efficiency class	(17)		A+	A++	A++	A++	A++	A++	A++
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	0,745	0,925	1,059	1,145	1,265	1,371	1,456
Pressure drop	(1)	kPa	13,3	12,2	16,0	18,7	10,4	12,2	13,7
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	0,983	1,155	1,333	1,455	1,546	1,692	1,839
Pressure drop	(3)	kPa	23,2	19,0	25,3	30,2	15,5	18,6	21,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	5,90	9,30	9,30	9,30	10,8	10,8	10,8
NOISE LEVEL									
Sound power level in cooling	(6)(7)	dB(A)	71	72	74	75	76	77	77
Sound power level in heating	(6)(8)	dB(A)	72	73	75	76	77	78	78
Sound Pressure	(9)	dB(A)	55	56	58	59	60	61	61
SIZE AND WEIGHT									
A	(10)	mm	1470	1470	1470	1470	1720	1720	1720
B	(10)	mm	570	570	570	570	670	670	670
H	(10)	mm	1200	1700	1700	1700	1700	1700	1700
Operating weight	(10)	kg	220	285	285	285	330	330	330

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
17 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

i-KIR-MTD

0075t - 0151t 15,59-30,45 kW

Air cooled reversible heat pump, with axial fans and inverter driven compressor, for heating water up to 60°C

APPLICATION FLOOR HEATING

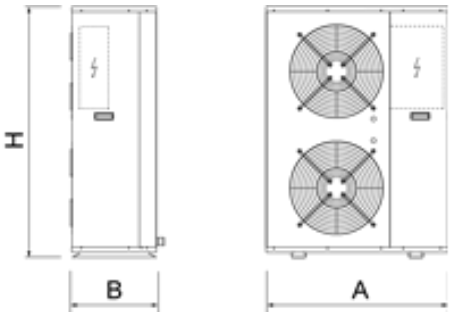
i-KIR-MTD			0075t	0091t	0095t	0101t	0121t	0135t	0151t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	20,78	26,29	29,85	32,15	35,42	38,14	40,50
Total power input	(1)	kW	6,915	7,215	9,304	10,85	10,64	13,32	13,41
EER	(1)	kW/kW	3,010	3,648	3,215	2,945	3,340	2,865	3,022
ESEER	(1)	kW/kW	4,300	4,440	4,370	4,280	4,690	4,650	4,650
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	19,30	24,30	27,50	30,20	30,40	34,30	36,20
EER	(1)(2)	kW/kW	3,210	3,880	3,590	3,320	3,880	3,690	3,510
ESEER	(1)(2)	kW/kW	4,080	4,250	4,140	4,040	4,520	4,450	4,450
Cooling energy class			E	C	E	E	D	F	E
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	21,74	30,93	33,27	35,96	36,75	40,06	45,35
Total power input	(3)	kW	6,833	7,866	9,073	10,22	9,357	10,72	12,08
COP	(3)	kW/kW	3,177	3,926	3,671	3,529	3,932	3,748	3,752
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	19,80	24,60	28,30	31,10	32,30	35,60	39,40
COP	(3)(2)	kW/kW	3,570	4,090	3,830	3,690	4,060	3,840	3,990
Cooling energy class			D	A	B	C	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(11)	kW	-	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	16,0	23,1	25,2	27,4	25,8	28,4	32,4
SCOP	(4)(14)		3,58	4,05	4,00	3,94	4,13	4,12	4,28
Performance ηs	(4)(15)	%	140	159	157	155	162	162	168
Seasonal efficiency class	(16)		A+	A++	A++	A++	A++	A++	A++
PDesign	(5)	kW	16,6	22,5	24,7	27,2	25,8	28,7	32,5
SCOP	(5)(14)		2,87	3,26	3,25	3,22	3,31	3,32	3,41
Performance ηs	(5)(15)	%	112	127	127	126	130	130	133
Seasonal efficiency class	(17)		A+	A++	A++	A++	A++	A++	A++
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	0,932	1,168	1,329	1,456	1,461	1,649	1,746
Pressure drop	(1)	kPa	20,8	19,4	25,2	30,2	13,8	17,6	19,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	0,947	1,180	1,353	1,485	1,549	1,710	1,884
Pressure drop	(3)	kPa	21,5	19,8	26,1	31,4	15,5	19,0	23,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	5,90	9,30	9,30	9,30	10,8	10,8	10,8
NOISE LEVEL									
Sound power level in cooling	(6)(7)	dB(A)	71	72	74	75	76	77	77
Sound power level in heating	(6)(8)	dB(A)	72	73	75	76	77	78	78
Sound Pressure	(9)	dB(A)	55	56	58	59	60	61	61
SIZE AND WEIGHT									
A	(10)	mm	1470	1470	1470	1470	1720	1720	1720
B	(10)	mm	570	570	570	570	670	670	670
H	(10)	mm	1200	1700	1700	1700	1700	1700	1700
Operating weight	(10)	kg	220	285	285	285	330	330	330

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
17 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

i-NRG

0061m - 0061t 14,70-14,70 kW

Reversible heat pump with inverter compressor, total heat recovery, air source for indoor/outdoor installation

The new i-NRG heat pump provides exactly the energy required by the system, perfectly following the real load of the building, thanks to the modulation of the DC inverter fan. DC frequency driven fans and circulating pumps (inverter) for both plant and domestic hot water circuits. i-NRG is the new generation heat pump for all year round operation in any operating mode: single cycle (air conditioning, heating, domestic hot water) as well as combined cycle in total heat recovery (domestic hot water together with cooling). Domestic hot water production is guaranteed by the dedicated exchanger for heat recovery: total, for free domestic hot water production, or partial. Domestic hot water is stored in a properly dimensioned storage tank.Extended operating limits for all year, specially in heating:
-Maximum flow temperature 60°C
-Maximum external air temperature 45°C
-Minimum external air temperature -15°C

Refrigerant

R410A

Versions

- Basic

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.
High efficiency and low pressure drop stainless steel AISI 316 plate exchangers (at the domestic hot water side). It is positioned next after the compressor and it ensures the domestic hot water production. The unit has full or partial recovery system, with the constant optimization of efficiency through logic advanced adjusting controller
High efficiency and low pressure drop stainless steel AISI 316 plate exchangers meet the supply of both hot and cold water for the facility, regardless of the domestic hot water
DC inverter scroll compressor with self-adaptive capacity adjustment. Reduced inrush current due to modulation by an inverter.
Electronic expansion valve
Finned coils made with copper pipes and aluminium fins with large exchange surface area (100% fully quality tested)
Axial electric fan in continuous current housed in aerodynamic conveyor profile with safety grill.
Low external air temperature device:
continuous fan speed regulation with pressure switch
The water circuit comes complete with:
Variable flow circulator plant side, the curves are selected by control. Class A energy efficiency
Variable flow circulator domestic hot water side. Class A energy efficiency.
Expansion tank
Safety valve
Pressure switch system side
Pressure gauge
Manual filling assembly

Control

NADISYSTEM
Electronic control for the dynamic control of delivery temperature water, optimizing indoor comfort and increasing the energy efficiency. The electronic board allows you to manage:
-Wired remote control, backlit display and with temperature probe and humidity probe
-Outdoor temperature sensor for water plant side modular set point compensation -A zone of direct heating for radiator, floor heating or fan coil and a zone with mix valve for floor heating
-Electrical heating element for possible integration and anti-legionella cycle for cylinder
-Boiler or electric heater in substitution or in addition-Up to 4 heat pump in cascade (with N-CM component)
-Several solutions through appropriate configurations of the controller and use of dedicated extension modules (accessories), up to 5 zones.

Accessories

- Wired room terminal with backlit display, and with temperature and umidity probe
- Extension module for system configuration
- Acoustic insulation casing kit (MANDATORY for outside installation)
- Rectangular air ducts kit and grills for indoor installation
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Cascade management kit
- Serial card RS485 for ModBus
- i-BT85 85 liters storage tank, to place under the heat pump
- Buffer tank 35,100,200 liters
- Hot water cylinder 300,500 liters
- 300 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump

APPLICATION HYDRONIC TERMINAL

i-NRG			0061m	0061t
Power supply		V/ph/Hz	230/1/50	400/3/50
COOLING ONLY (GROSS VALUE)				
Cooling capacity	(1)	kW	14,70	14,70
Total power input	(1)	kW	5,100	5,100
EER	(1)	kW/kW	2,882	2,882
ESEER	(1)	kW/kW	4,470	4,330
COOLING ONLY (EN14511 VALUE)				
Cooling capacity	(1)(2)	kW	14,70	14,70
EER	(1)(2)	kW/kW	2,850	2,850
ESEER	(1)(2)	kW/kW	4,240	4,200
HEATING ONLY (GROSS VALUE)				
Total heating capacity	(3)	kW	15,70	15,70
Total power input	(3)	kW	4,800	4,700
COP	(3)	kW/kW	3,271	3,340
HEATING ONLY (EN14511 VALUE)				
Total heating capacity	(2)(3)	kW	15,70	15,70
COP	(2)(3)	kW/kW	3,210	3,280
COOLING WITH TOTAL HEAT RECOVERY				
Cooling capacity	(4)	kW	13,72	13,83
Total power input	(4)	kW	4,400	4,401
Recovery heat exchanger capacity	(4)	kW	17,86	17,97
TOTAL RECOVERY ONLY				
Total heating capacity	(3)	kW	15,70	15,70
Total power input	(3)	kW	4,800	4,700
ENERGY EFFICIENCY				
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)				
Ambient refrigeration				
Prated,c	(11)	kW	-	-
SEER	(11)(12)		-	-
Performance ηs	(11)(13)	%	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)				
PDesign	(5)	kW	11,2	11,2
SCOP	(5)(14)		3,80	3,74
Performance ηs	(5)(15)	%	149	147
Seasonal efficiency class	(16)		A+	A+
EXCHANGERS				
HEAT EXCHANGER USER SIDE IN REFRIGERATION				
Water flow	(1)	l/s	0,703	0,703
Available unit's head	(1)	kPa	89,2	89,2
HEAT EXCHANGER USER SIDE IN HEATING				
Water flow	(3)	l/s	0,758	0,758
Available unit's head	(3)	kPa	84,3	84,3
HEAT EXCHANGER RECOVERY USER SIDE IN REFRIGERATION				
Water flow	(4)	l/s	0,862	0,867
Pressure drop	(4)	kPa	37,3	37,8
HEAT EXCHANGER RECOVERY USER SIDE IN HEATING				
Water flow	(4)	l/s	0,745	0,744
Pressure drop	(4)	kPa	27,9	27,8
REFRIGERANT CIRCUIT				
Compressors nr.		N°	1	1
No. Circuits		N°	1	1
Refrigerant charge		kg	6,55	6,55
NOISE LEVEL				
Sound power level in cooling	(6)(7)	dB(A)	68	69
Sound power level in heating	(6)(8)	dB(A)	69	70
Sound Pressure	(9)	dB(A)	52	53
SIZE AND WEIGHT				
A	(10)	mm	750	750
B	(10)	mm	1050	1050
H	(10)	mm	1600	1600
Operating weight	(10)	kg	260	260

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 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.
5 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

Reversible heat pump with inverter compressor, total heat recovery, air source for indoor/outdoor installation

APPLICATION FLOOR HEATING

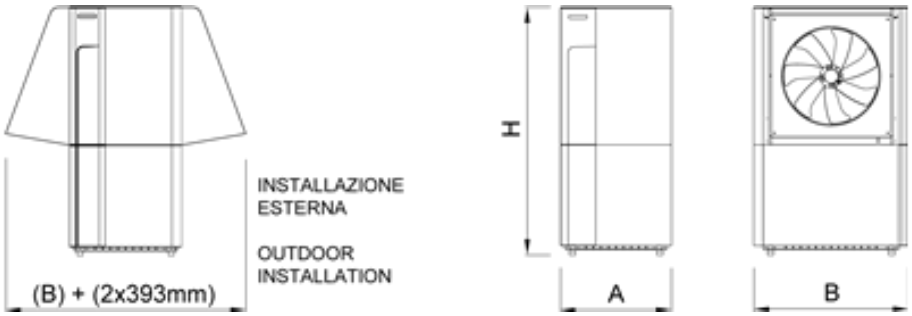
i-NRG			0061m	0061t
Power supply		V/ph/Hz	230/1/50	400/3/50
COOLING ONLY (GROSS VALUE)				
Cooling capacity	(1)	kW	19,66	19,65
Total power input	(1)	kW	5,378	5,384
EER	(1)	kW/kW	3,662	3,662
ESEER	(1)	kW/kW	4,470	4,330
COOLING ONLY (EN14511 VALUE)				
Cooling capacity	(1)(2)	kW	19,70	19,70
EER	(1)(2)	kW/kW	3,610	3,610
ESEER	(1)(2)	kW/kW	4,240	4,200
HEATING ONLY (GROSS VALUE)				
Total heating capacity	(3)	kW	16,24	16,27
Total power input	(3)	kW	4,024	3,956
COP	(3)	kW/kW	4,030	4,116
HEATING ONLY (EN14511 VALUE)				
Total heating capacity	(2)(3)	kW	16,20	16,20
COP	(2)(3)	kW/kW	3,960	4,030
COOLING WITH TOTAL HEAT RECOVERY				
Cooling capacity	(4)	kW	19,04	19,19
Total power input	(4)	kW	4,347	4,355
Recovery heat exchanger capacity	(4)	kW	23,13	23,28
TOTAL RECOVERY ONLY				
Total heating capacity	(3)	kW	16,24	16,27
Total power input	(3)	kW	4,024	3,956
ENERGY EFFICIENCY				
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)				
Ambient refrigeration				
Prated,c	(11)	kW	-	-
SEER	(11)(12)		-	-
Performance ηs	(11)(13)	%	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)				
PDesign	(5)	kW	11,2	11,2
SCOP	(5)(14)		3,80	3,74
Performance ηs	(5)(15)	%	149	147
Seasonal efficiency class	(16)		A+	A+
EXCHANGERS				
HEAT EXCHANGER USER SIDE IN REFRIGERATION				
Water flow	(1)	l/s	0,943	0,942
Available unit's head	(1)	kPa	65,1	65,2
HEAT EXCHANGER USER SIDE IN HEATING				
Water flow	(3)	l/s	0,781	0,783
Available unit's head	(3)	kPa	82,1	82,0
HEAT EXCHANGER RECOVERY USER SIDE IN REFRIGERATION				
Water flow	(4)	l/s	1,116	1,124
Pressure drop	(4)	kPa	62,6	63,4
HEAT EXCHANGER RECOVERY USER SIDE IN HEATING				
Water flow	(4)	l/s	0,745	0,744
Pressure drop	(4)	kPa	27,9	27,8
REFRIGERANT CIRCUIT				
Compressors nr.		N°	1	1
No. Circuits		N°	1	1
Refrigerant charge		kg	6,55	6,55
NOISE LEVEL				
Sound power level in cooling	(6)(7)	dB(A)	68	69
Sound power level in heating	(6)(8)	dB(A)	69	70
Sound Pressure	(9)	dB(A)	52	53
SIZE AND WEIGHT				
A	(10)	mm	750	750
B	(10)	mm	1050	1050
H	(10)	mm	1600	1600
Operating weight	(10)	kg	260	260

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.
5 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

AWR DHW2 XE

0021m - 0101ts 5,800-22,80 kW

Reversible heat pump, total heat recovery, air source for outdoor installation

PRANA DHW is the new HIGH EFFICIENCY heat pump for all year round operation in any operating mode: single cycle (air conditioning, heating, domestic hot water) as well as combined cycle in total heat recovery (domestic hot water together with cooling). Energy efficiency is highest during the summer cycle, when, thanks to the full recovery of the heat, the production of hot water is free. During the combined use, the DHW exchanger uses the temperature of the discharge gases to gets inside the accumulation sanitary water as high as 65° C.
The advanced electronic regulation developed by Climaveneta ensures the highest operational flexibility, fast working condition a significant increase in the overall COP, which go hand in hand with electricity and space reduction.

Control

NADISYSTEM
Electronic control for the dynamic control of delivery temperature water, optimizing indoor comfort and increasing the energy efficiency. The electronic board allows you to manage:
-Wired remote control, backlit display and with temperature probe and humidity probe
-Outdoor temperature sensor for water plant side modular set point compensation -A zone of direct heating for radiator, floor heating or fan coil and a zone with mix valve for floor heating
-Electrical heating element for possible integration and anti-legionella cycle for cylinder
-Boiler or electric heater in substitution or in addition-Up to 4 heat pump in cascade (with N-CM component)
-Several solutions through appropriate configurations of the controller and use of dedicated extension modules (accessories), up to 5 zones.

Refrigerant

R407C

Versions

- Basic
- SL Super-low noise version

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.
High efficiency and low pressure drop stainless steel AISI 316 plate exchangers (at the domestic hot water side). It is positioned next after the compressor and it ensures the domestic hot water production. The unit has full or partial recovery system, with the constant optimization of efficiency through logic advanced adjusting controller
High efficiency and low pressure drop stainless steel AISI 316 plate exchangers meet the supply of both hot and cold water for the facility, regardless of the domestic hot water
Hermetic scroll type compressors, equipped with the crankcase heater and thermal protection
Finned coils made with copper pipes and aluminium fins with large exchange surface area (100% fully quality tested)
Axial electric fans, external rotor, 6-pole electric motor fitted with thermal protection, housed in aerodynamic conveyor profile with safety grill
Low external air temperature device:
continuous fan speed regulation with pressure switch
Coil protection grille
Soft starter for 230V units /ms and 400V units /ts
The water circuit comes complete with:
Variable flow circulator plant side, the curves are selected by control. Class A energy efficiency
Variable flow circulator domestic hot water side. Class A energy efficiency.
Pressure switch system side
Expansion tank
Safety valve
Manual filling assembly
Pressure gauge
Air vent valve (plant side).

Accessories

- Wired room terminal with backlit display, and with temperature and umidity probe
- Extension module for system configuration
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Serial card RS485 for ModBus
- Cascade management kit
- Buffer tank 35,100,200 liters
- Hot water cylinder 300,500 liters
- 300 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump

APPLICATION HYDRONIC TERMINAL

AWR DHW2 XE / B			0021m	0025m	0041m	0025t	0041t
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	5,800	6,900	10,00	6,900	9,900
Total power input	(1)	kW	2,200	2,600	3,600	2,500	3,500
EER	(1)	kW/kW	2,636	2,654	2,778	2,760	2,829
ESEER	(1)	kW/kW					
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	5,810	6,930	10,00	6,930	9,940
EER	(1)(2)	kW/kW	2,670	2,680	2,830	2,790	2,880
ESEER	(1)(2)	kW/kW	3,090	3,150	3,310	3,280	3,380
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	7,300	8,700	12,50	8,600	12,30
Total power input	(3)	kW	2,300	2,700	3,800	2,600	3,700
COP	(3)	kW/kW	3,174	3,222	3,289	3,308	3,324
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	7,290	8,670	12,50	8,570	12,30
COP	(2)(3)	kW/kW	3,210	3,250	3,330	3,340	3,370
COOLING WITH TOTAL HEAT RECOVERY							
Cooling capacity	(4)	kW	4,952	6,020	8,908	6,003	8,835
Total power input	(4)	kW	2,121	2,469	3,543	2,467	3,374
Recovery heat exchanger capacity	(4)	kW	6,946	8,341	12,24	8,322	12,01
TOTAL RECOVERY ONLY							
Total heating capacity	(3)	kW	7,300	8,700	12,50	8,600	12,30
Total power input	(3)	kW	2,300	2,700	3,800	2,600	3,700
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(11)	kW	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(5)	kW	5,83	6,01	9,49	5,75	9,33
SCOP	(5)(14)		3,23	3,20	3,41	3,25	3,43
Performance ηs	(5)(15)	%	126	125	134	127	134
Seasonal efficiency class	(16)		A+	A+	A+	A+	A+
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	0,277	0,330	0,478	0,330	0,473
Available unit's head	(1)	kPa	60,4	105	95,2	105	95,7
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	0,352	0,420	0,603	0,415	0,594
Available unit's head	(3)	kPa	55,1	96,8	82,1	97,2	83,2
HEAT EXCHANGER RECOVERY USER SIDE IN REFRIGERATION							
Water flow	(4)	l/s	0,335	0,403	0,591	0,402	0,580
Pressure drop	(4)	kPa	8,27	8,54	11,3	8,50	10,9
HEAT EXCHANGER RECOVERY USER SIDE IN HEATING							
Water flow	(4)	l/s	0,346	0,414	0,595	0,410	0,588
Pressure drop	(4)	kPa	8,79	9,04	11,5	8,86	11,3
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	5,76	6,36	13,0	6,36	13,0
NOISE LEVEL							
Sound power level in cooling	(6)(7)	dB(A)	69	70	71	70	71
Sound power level in heating	(6)(8)	dB(A)	65	70	70	65	70
Sound Pressure	(9)	dB(A)	54	55	55	55	55
SIZE AND WEIGHT							
A	(10)	mm	1250	1250	1700	1250	1700
B	(10)	mm	420	420	650	420	650
H	(10)	mm	1125	1125	1200	1125	1200
Operating weight	(10)	kg	165	165	295	165	295

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 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.
5 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

AWR DHW2 XE

Reversible heat pump, total heat recovery, air source for outdoor installation

0021m - 0101ts 5,800-22,80 kW

APPLICATION FLOOR HEATING

AWR DHW2 XE / B			0021m	0025m	0041m	0025t	0041t
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	8,210	9,764	13,90	9,784	13,92
Total power input	(1)	kW	2,178	2,597	3,676	2,498	3,617
EER	(1)	kW/kW	3,766	3,754	3,777	3,912	3,840
ESEER	(1)	kW/kW					
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	8,220	9,790	13,90	9,810	13,90
EER	(1)(2)	kW/kW	3,830	3,830	3,850	3,990	3,910
ESEER	(1)(2)	kW/kW	3,090	3,150	3,310	3,280	3,380
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	7,591	8,996	12,86	8,842	12,60
Total power input	(3)	kW	1,866	2,174	3,060	2,085	2,987
COP	(3)	kW/kW	4,059	4,147	4,216	4,250	4,214
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	7,580	8,960	12,80	8,810	12,60
COP	(2)(3)	kW/kW	4,140	4,190	4,270	4,300	4,290
COOLING WITH TOTAL HEAT RECOVERY							
Cooling capacity	(4)	kW	7,202	8,764	12,75	8,728	12,76
Total power input	(4)	kW	2,015	2,350	3,435	2,348	3,311
Recovery heat exchanger capacity	(4)	kW	9,096	10,97	15,98	10,93	15,87
TOTAL RECOVERY ONLY							
Total heating capacity	(3)	kW	7,591	8,996	12,86	8,842	12,60
Total power input	(3)	kW	1,866	2,174	3,060	2,085	2,987
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(11)	kW	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(5)	kW	5,83	6,01	9,49	5,75	9,33
SCOP	(5)(14)		3,23	3,20	3,41	3,25	3,43
Performance ηs	(5)(15)	%	126	125	134	127	134
Seasonal efficiency class	(16)		A+	A+	A+	A+	A+
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	0,394	0,468	0,667	0,469	0,667
Available unit's head	(1)	kPa	51,7	91,7	74,3	91,6	74,2
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	0,365	0,433	0,619	0,425	0,606
Available unit's head	(3)	kPa	54,1	95,5	80,3	96,2	81,7
HEAT EXCHANGER RECOVERY USER SIDE IN REFRIGERATION							
Water flow	(4)	l/s	0,439	0,530	0,771	0,528	0,766
Pressure drop	(4)	kPa	14,2	14,8	19,3	14,7	19,1
HEAT EXCHANGER RECOVERY USER SIDE IN HEATING							
Water flow	(4)	l/s	0,346	0,414	0,595	0,410	0,588
Pressure drop	(4)	kPa	8,79	9,04	11,5	8,86	11,3
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	5,76	6,36	13,0	6,36	13,0
NOISE LEVEL							
Sound power level in cooling	(6)(7)	dB(A)	69	70	71	70	71
Sound power level in heating	(6)(8)	dB(A)	65	70	70	65	70
Sound Pressure	(9)	dB(A)	54	55	55	55	55
SIZE AND WEIGHT							
A	(10)	mm	1250	1250	1700	1250	1700
B	(10)	mm	420	420	650	420	650
H	(10)	mm	1125	1125	1200	1125	1200
Operating weight	(10)	kg	165	165	295	165	295

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.
5 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

APPLICATION HYDRONIC TERMINAL

AWR DHW2 XE / SL			0065t	0101t
Power supply		V/ph/Hz	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)				
Cooling capacity	(1)	kW	15,10	22,80
Total power input	(1)	kW	5,100	7,800
EER	(1)	kW/kW	2,961	2,923
ESEER	(1)	kW/kW		
COOLING ONLY (EN14511 VALUE)				
Cooling capacity	(1)(2)	kW	15,20	22,90
EER	(1)(2)	kW/kW	2,950	2,950
ESEER	(1)(2)	kW/kW	3,300	3,140
HEATING ONLY (GROSS VALUE)				
Total heating capacity	(3)	kW	19,00	28,80
Total power input	(3)	kW	5,900	8,800
COP	(3)	kW/kW	3,220	3,273
HEATING ONLY (EN14511 VALUE)				
Total heating capacity	(2)(3)	kW	18,90	28,70
COP	(2)(3)	kW/kW	3,210	3,290
COOLING WITH TOTAL HEAT RECOVERY				
Cooling capacity	(4)	kW	14,13	21,30
Total power input	(4)	kW	4,608	6,760
Recovery heat exchanger capacity	(4)	kW	18,46	27,65
TOTAL RECOVERY ONLY				
Total heating capacity	(3)	kW	19,00	28,80
Total power input	(3)	kW	5,900	8,800
ENERGY EFFICIENCY				
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)				
Ambient refrigeration				
Prated,c	(11)	kW	-	-
SEER	(11)(12)		-	-
Performance ηs	(11)(13)	%	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)				
PDesign	(5)	kW	15,1	20,5
SCOP	(5)(14)		3,43	3,30
Performance ηs	(5)(15)	%	134	129
Seasonal efficiency class	(16)		A+	A+
EXCHANGERS				
HEAT EXCHANGER USER SIDE IN REFRIGERATION				
Water flow	(1)	l/s	0,722	1,090
Available unit's head	(1)	kPa	110	107
HEAT EXCHANGER USER SIDE IN HEATING				
Water flow	(3)	l/s	0,917	1,390
Available unit's head	(3)	kPa	105	97,9
HEAT EXCHANGER RECOVERY USER SIDE IN REFRIGERATION				
Water flow	(4)	l/s	0,891	1,335
Pressure drop	(4)	kPa	10,1	9,65
HEAT EXCHANGER RECOVERY USER SIDE IN HEATING				
Water flow	(4)	l/s	0,910	1,377
Pressure drop	(4)	kPa	10,5	10,3
REFRIGERANT CIRCUIT				
Compressors nr.		N°	1	1
No. Circuits		N°	1	1
Refrigerant charge		kg	16,7	18,0
NOISE LEVEL				
Sound power level in cooling	(6)(7)	dB(A)	73	74
Sound power level in heating	(6)(8)	dB(A)	74	75
Sound Pressure	(9)	dB(A)	57	58
SIZE AND WEIGHT				
A	(10)	mm	1700	1700
B	(10)	mm	650	650
H	(10)	mm	1700	1700
Operating weight	(10)	kg	348	390

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 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.
5 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

AWR DHW2 XE

Reversible heat pump, total heat recovery, air source for outdoor installation

0021m - 0101ts 5,800-22,80 kW

APPLICATION FLOOR HEATING

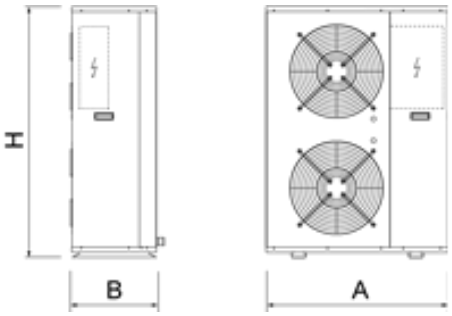
AWR DHW2 XE / SL			0065t	0101t
Power supply		V/ph/Hz	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)				
Cooling capacity	(1)	kW	20,96	31,31
Total power input	(1)	kW	5,574	8,471
EER	(1)	kW/kW	3,770	3,695
ESEER	(1)	kW/kW		
COOLING ONLY (EN14511 VALUE)				
Cooling capacity	(1)(2)	kW	21,10	31,40
EER	(1)(2)	kW/kW	3,800	3,750
ESEER	(1)(2)	kW/kW	3,300	3,140
HEATING ONLY (GROSS VALUE)				
Total heating capacity	(3)	kW	19,40	29,38
Total power input	(3)	kW	4,682	7,063
COP	(3)	kW/kW	4,145	4,164
HEATING ONLY (EN14511 VALUE)				
Total heating capacity	(2)(3)	kW	19,30	29,30
COP	(2)(3)	kW/kW	4,130	4,190
COOLING WITH TOTAL HEAT RECOVERY				
Cooling capacity	(4)	kW	20,45	30,41
Total power input	(4)	kW	4,674	6,779
Recovery heat exchanger capacity	(4)	kW	24,85	36,78
TOTAL RECOVERY ONLY				
Total heating capacity	(3)	kW	19,40	29,38
Total power input	(3)	kW	4,682	7,063
ENERGY EFFICIENCY				
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)				
Ambient refrigeration				
Prated,c	(11)	kW	-	-
SEER	(11)(12)		-	-
Performance ηs	(11)(13)	%	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)				
PDesign	(5)	kW	15,1	20,5
SCOP	(5)(14)		3,43	3,30
Performance ηs	(5)(15)	%	134	129
Seasonal efficiency class	(16)		A+	A+
EXCHANGERS				
HEAT EXCHANGER USER SIDE IN REFRIGERATION				
Water flow	(1)	l/s	1,005	1,501
Available unit's head	(1)	kPa	102	93,5
HEAT EXCHANGER USER SIDE IN HEATING				
Water flow	(3)	l/s	0,933	1,414
Available unit's head	(3)	kPa	104	97,0
HEAT EXCHANGER RECOVERY USER SIDE IN REFRIGERATION				
Water flow	(4)	l/s	1,199	1,775
Pressure drop	(4)	kPa	18,2	17,1
HEAT EXCHANGER RECOVERY USER SIDE IN HEATING				
Water flow	(4)	l/s	0,910	1,377
Pressure drop	(4)	kPa	10,5	10,3
REFRIGERANT CIRCUIT				
Compressors nr.		N°	1	1
No. Circuits		N°	1	1
Refrigerant charge		kg	16,7	18,0
NOISE LEVEL				
Sound power level in cooling	(6)(7)	dB(A)	73	74
Sound power level in heating	(6)(8)	dB(A)	74	75
Sound Pressure	(9)	dB(A)	57	58
SIZE AND WEIGHT				
A	(10)	mm	1700	1700
B	(10)	mm	650	650
H	(10)	mm	1700	1700
Operating weight	(10)	kg	348	390

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.
5 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

AWR-HT

0122 - 0302 34,00-91,70 kW

High efficiency reversible heat pump, air source for outdoor installation, high water temperature

AWR-HT represent the best solution for systems in which there is the need to combine both high temperature water for space heating and sanitary purposes, as well as air conditioning. With this solution the space heating can be easily provided by using radiators, so without any major changes on the already existing distribution system available on site. The EVI technology compressor with additional steam injection in the compressing cycle assures a water temperature of 65°C and operating limits as low as -20°C. Neither probes nor connections pipes to wells are needed; the installation is simple, this is a suitable solution for all applications.

Control

W3000SE

W3000SE controller dedicated to heat pump applications features a incorporated logic for high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit via a multilevel menu, with settable language. The controller provides temperature control for the heating and cooling systems, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with “black-box” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For multiple units' systems, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, thus ensuring more efficient energy distribution and simultaneous water delivery to the different distribution systems.

- Built-in clock to create operating profiles up to 4 typical days and 10 time bands, essential for efficient programming of energy production and for managing the Legionella prevention cycles.
- Proprietary self-adaptive logic for defrost involving monitoring of multiple operating and climate parameters. This reduces the number and duration of defrosts, consequently increasing overall energy efficiency.
- Supervision available using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
- Dedicated wall-mounted keypad for remote control of all the functions.

Refrigerant

R407C

Versions

CA-E	Premium efficiency version: Class A enhanced
LN-CA-E	Premium efficiency version, Class A enhanced, low-noise

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

PREMIUM ´CLASS A' EFFICIENCY

The full range is available with a premium efficiency rating, over the Class A (in heating). AWR-HT/CA-E and AWR-HT/LN-CA-E guaranty premium levels of efficiency and quietness, making this range the best solution for both residential and light commercial markets.

WIDE OPERATING RANGE

Production of high temperature hot water up to 65°C for space heating and sanitary purposes. The unit can operate as standard down to -20°C outdoor temperature.

MAXIMUM RELIABILITY

Maximum operating reliability, thanks to two main features:
- two independent circuits for all sizes;
- system to prevent formation of ice on the coil, ensuring shorter and more efficient defrost cycles.

RENEWABLE ENERGY FOR COMMERCIAL INSTALLATIONS

Best solution in centralised residential systems such as apartment buildings, where the cost of renovation needs to be limited by keeping the same distribution system with radiators, while offering a source of renewable energy.

MODULAR CONFIGURATION

Modular configuration with capacity extension up to 400kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

AWR-HT / CA-E			0122	0152	0202	0262	0302
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	34,10	43,80	60,30	76,40	91,70
Total power input	(1)	kW	11,60	14,70	20,40	25,80	31,30
EER	(1)	kW/kW	2,940	2,980	2,956	2,961	2,930
ESEER	(1)	kW/kW	3,400	3,340	3,400	3,380	3,350
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	34,00	43,70	60,20	76,20	91,40
EER	(1)(2)	kW/kW	2,910	2,950	2,940	2,930	2,890
ESEER	(1)(2)	kW/kW	3,340	3,260	3,330	3,300	3,270
Cooling energy class			B	B	B	B	B
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	38,00	51,30	68,80	84,90	102,0
Total power input	(3)	kW	10,70	14,40	19,40	23,60	27,70
COP	(3)	kW/kW	3,551	3,562	3,546	3,597	3,682
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(3)(2)	kW	38,10	51,40	69,00	85,20	102,3
COP	(3)(2)	kW/kW	3,530	3,540	3,520	3,560	3,650
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(11)	kW	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(4)	kW	28,4	33,8	47,5	58,5	70,6
SCOP	(4)(14)		3,24	3,16	3,22	3,26	3,35
Performance ηs	(4)(15)	%	127	124	126	127	131
Seasonal efficiency class	(16)		A+	A+	A+	A+	-
PDesign	(5)	kW	30,5	36,8	50,7	63,3	74,7
SCOP	(5)(14)		3,00	2,98	3,01	3,05	3,12
Performance ηs	(5)(15)	%	117	116	117	119	122
Seasonal efficiency class	(17)		A+	A+	A+	A+	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	1,631	2,095	2,884	3,654	4,385
Pressure drop	(1)	kPa	8,10	9,21	11,0	14,5	18,2
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	1,834	2,476	3,321	4,098	4,924
Pressure drop	(3)	kPa	10,2	12,9	14,6	18,3	22,9
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	13,0	22,0	27,6	35,0	42,0
NOISE LEVEL							
Sound power level in cooling	(6)(7)	dB(A)	84	86	87	87	87
Sound power level in heating	(6)(8)	dB(A)	84	86	87	87	87
Sound Pressure	(9)	dB(A)	67	69	70	69	69
SIZE AND WEIGHT							
A	(10)	mm	1695	2195	2745	2745	2745
B	(10)	mm	1120	1120	1120	1120	1120
H	(10)	mm	1465	1465	1465	1665	1665
Operating weight	(10)	kg	510	750	870	940	1030

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
17 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.
Certified data in EUROVENT

AWR-HT

0122 - 0302 34,00-91,70 kW

High efficiency reversible heat pump, air source for outdoor installation, high water temperature

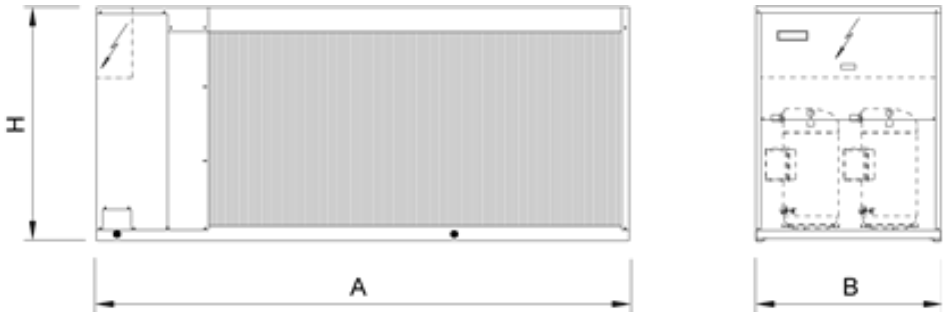
AWR-HT / LN-CA-E			0122	0152	0202	0262	0302
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	34,00	44,46	60,20	76,20	90,40
Total power input	(1)	kW	11,60	14,90	20,50	26,10	32,90
EER	(1)	kW/kW	2,931	2,987	2,937	2,920	2,748
ESEER	(1)	kW/kW	3,380	3,310	3,360	3,340	3,180
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	33,90	44,30	60,10	76,00	90,10
EER	(1)(2)	kW/kW	2,900	2,940	2,910	2,890	2,720
ESEER	(1)(2)	kW/kW	3,330	3,220	3,290	3,280	3,100
Cooling energy class			B	B	B	C	C
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	38,40	50,43	69,40	85,80	100,3
Total power input	(3)	kW	10,70	14,30	19,40	23,70	27,60
COP	(3)	kW/kW	3,589	3,524	3,577	3,620	3,634
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(3)(2)	kW	38,50	50,60	69,60	86,10	100,6
COP	(3)(2)	kW/kW	3,560	3,490	3,550	3,590	3,600
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(11)	kW	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(4)	kW	26,8	34,5	47,8	59,3	70,3
SCOP	(4)(14)		3,26	3,14	3,24	3,29	3,35
Performance ηs	(4)(15)	%	127	123	127	128	131
Seasonal efficiency class	(16)		A+	A+	A+	A+	-
PDesign	(5)	kW	28,8	37,1	50,9	63,3	75,2
SCOP	(5)(14)		3,00	2,97	3,02	3,05	3,11
Performance ηs	(5)(15)	%	117	116	118	119	121
Seasonal efficiency class	(17)		A+	A+	A+	A+	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	1,626	2,126	2,879	3,644	4,323
Pressure drop	(1)	kPa	8,05	17,7	11,0	14,5	17,7
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	1,854	2,434	3,350	4,142	4,842
Pressure drop	(3)	kPa	10,5	23,2	14,8	18,7	22,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	16,0	25,3	35,3	44,1	52,0
NOISE LEVEL							
Sound power level in cooling	(6)(7)	dB(A)	80	82	83	83	84
Sound power level in heating	(6)(8)	dB(A)	82	84	85	85	86
Sound Pressure	(9)	dB(A)	48	50	51	51	52
SIZE AND WEIGHT							
A	(10)	mm	1695	2195	2745	2745	2745
B	(10)	mm	1120	1120	1120	1120	1120
H	(10)	mm	1465	1465	1465	1665	1665
Operating weight	(10)	kg	550	780	940	1010	1060

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
17 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

AWR-HT

0404 - 0604 116,3-181,2 kW

High efficiency reversible heat pump, air source for outdoor installation, high water temperature

AWR-HT represent the best solution for systems in which there is the need to combine both high temperature water for space heating and sanitary purposes, as well as air conditioning. With this solution the space heating can be easily provided by using radiators, so without any major changes on the already existing distribution system available on site. The EVI technology compressor with additional steam injection in the compressing cycle assures a water temperature of 65°C and operating limits as low as -20°C. Neither probes nor connections pipes to wells are needed; the installation is simple, this is a suitable solution for all applications.

Control

W3000SE

W3000SE controller dedicated to heat pump applications features a incorporated logic for high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit via a multilevel menu, with settable language. The controller provides temperature control for the heating and cooling systems, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with “black-box” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For multiple units' systems, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, thus ensuring more efficient energy distribution and simultaneous water delivery to the different distribution systems.

- Built-in clock to create operating profiles up to 4 typical days and 10 time bands, essential for efficient programming of energy production and for managing the Legionella prevention cycles.
- Proprietary self-adaptive logic for defrost involving monitoring of multiple operating and climate parameters. This reduces the number and duration of defrosts, consequently increasing overall energy efficiency.
- Supervision available using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
- Dedicated wall-mounted keypad for remote control of all the functions.

Refrigerant

R407C

Versions

CA-E	Premium efficiency version: Class A enhanced
LN-CA-E	Premium efficiency version, Class A enhanced, low-noise

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

PREMIUM ´CLASS A' EFFICIENCY

The full range is available with a premium efficiency rating, over the Class A (in heating). AWR-HT/CA-E and AWR-HT/LN-CA-E guaranty premium levels of efficiency and quietness, making this range the best solution for both residential and light commercial markets.

WIDE OPERATING RANGE

Production of high temperature hot water up to 65°C for space heating and sanitary purposes. The unit can operate as standard down to -20°C outdoor temperature.

MAXIMUM RELIABILITY

Maximum operating reliability, thanks to two main features:
- two independent circuits for all sizes;
- system to prevent formation of ice on the coil, ensuring shorter and more efficient defrost cycles.

RENEWABLE ENERGY FOR COMMERCIAL INSTALLATIONS

Best solution in centralised residential systems such as apartment buildings, where the cost of renovation needs to be limited by keeping the same distribution system with radiators, while offering a source of renewable energy.

MODULAR CONFIGURATION

Modular configuration with capacity extension up to 1000 kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

AWR-HT / CA-E			0404	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)					
Cooling capacity	(1)	kW	119,7	146,5	181,2
Total power input	(1)	kW	43,80	53,30	65,80
EER	(1)	kW/kW	2,733	2,749	2,754
ESEER	(1)	kW/kW	3,340	3,420	3,310
COOLING ONLY (EN14511 VALUE)					
Cooling capacity	(1)(2)	kW	119,4	146,1	180,7
EER	(1)(2)	kW/kW	2,710	2,720	2,730
ESEER	(1)(2)	kW/kW	3,250	3,330	3,230
Cooling energy class			C	C	C
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(3)	kW	134,9	171,0	204,8
Total power input	(3)	kW	39,60	48,10	58,90
COP	(3)	kW/kW	3,407	3,555	3,477
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(3)(2)	kW	135,4	171,6	205,5
COP	(3)(2)	kW/kW	3,380	3,520	3,450
Cooling energy class			A	A	A
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)					
Ambient refrigeration					
Prated,c	(11)	kW	-	-	-
SEER	(11)(12)		-	-	-
Performance ηs	(11)(13)	%	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)					
PDesign	(4)	kW	92,6	117	139
SCOP	(4)(14)		3,23	3,40	3,29
Performance ηs	(4)(15)	%	126	133	129
Seasonal efficiency class	(16)		-	-	-
PDesign	(5)	kW	98,9	126	148
SCOP	(5)(14)		3,02	3,19	3,08
Performance ηs	(5)(15)	%	118	125	120
Seasonal efficiency class	(17)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	l/s	5,724	7,006	8,665
Pressure drop	(1)	kPa	19,6	20,6	24,0
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(3)	l/s	6,512	8,254	9,886
Pressure drop	(3)	kPa	25,4	28,6	31,3
REFRIGERANT CIRCUIT					
Compressors nr.		N°	4	4	4
No. Circuits		N°	2	2	2
Refrigerant charge		kg	66,0	108	108
NOISE LEVEL					
Sound power level in cooling	(6)(7)	dB(A)	92	93	94
Sound power level in heating	(6)(8)	dB(A)	92	93	94
Sound Pressure	(9)	dB(A)	73	73	74
SIZE AND WEIGHT					
A	(10)	mm	3110	4110	4110
B	(10)	mm	2220	2220	2220
H	(10)	mm	2150	2150	2150
Operating weight	(10)	kg	1950	2400	2530

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
17 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.
Certified data in EUROVENT

AWR-HT

0404 - 0604 116,3-181,2 kW

High efficiency reversible heat pump, air source for outdoor installation, high water temperature

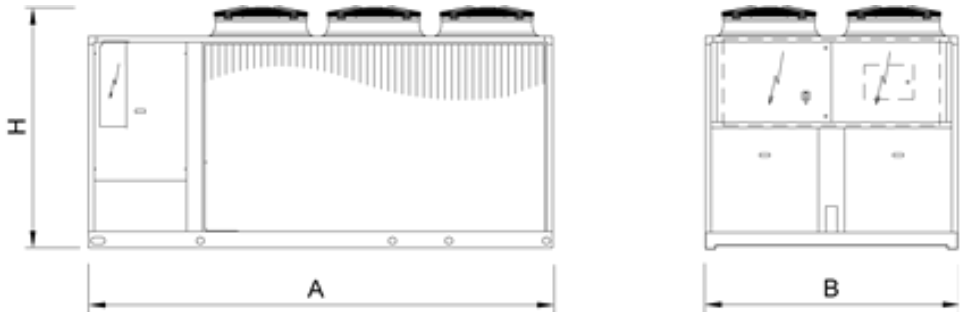
AWR-HT / LN-CA-E			0404	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)					
Cooling capacity	(1)	kW	116,3	144,7	175,8
Total power input	(1)	kW	42,00	52,20	63,20
EER	(1)	kW/kW	2,769	2,772	2,782
ESEER	(1)	kW/kW	3,390	3,470	3,370
COOLING ONLY (EN14511 VALUE)					
Cooling capacity	(1)(2)	kW	116,0	144,3	175,3
EER	(1)(2)	kW/kW	2,740	2,740	2,750
ESEER	(1)(2)	kW/kW	3,310	3,370	3,280
Cooling energy class			C	C	C
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(3)	kW	134,9	171,0	204,8
Total power input	(3)	kW	39,60	48,10	58,90
COP	(3)	kW/kW	3,407	3,555	3,477
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(3)(2)	kW	135,4	171,6	205,5
COP	(3)(2)	kW/kW	3,380	3,520	3,450
Cooling energy class			A	A	A
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)					
Ambient refrigeration					
Prated,c	(11)	kW	-	-	-
SEER	(11)(12)		-	-	-
Performance ηs	(11)(13)	%	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)					
PDesign	(4)	kW	92,6	117	139
SCOP	(4)(14)		3,23	3,40	3,29
Performance ηs	(4)(15)	%	126	133	129
Seasonal efficiency class	(16)		-	-	-
PDesign	(5)	kW	98,9	126	148
SCOP	(5)(14)		3,02	3,19	3,08
Performance ηs	(5)(15)	%	118	125	120
Seasonal efficiency class	(17)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	l/s	5,562	6,920	8,407
Pressure drop	(1)	kPa	18,5	20,1	22,6
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(3)	l/s	6,512	8,254	9,886
Pressure drop	(3)	kPa	25,4	28,6	31,3
REFRIGERANT CIRCUIT					
Compressors nr.		N°	4	4	4
No. Circuits		N°	2	2	2
Refrigerant charge		kg	70,0	110	110
NOISE LEVEL					
Sound power level in cooling	(6)(7)	dB(A)	86	86	87
Sound power level in heating	(6)(8)	dB(A)	88	88	89
Sound Pressure	(9)	dB(A)	67	66	67
SIZE AND WEIGHT					
A	(10)	mm	3110	4110	4110
B	(10)	mm	2220	2220	2220
H	(10)	mm	2150	2150	2150
Operating weight	(10)	kg	1960	2410	2540

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
17 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

MICS-N FFT

0072 - 0182 17,30-42,50 kW

Modular reversible unit, air source for outdoor installation

MICS-N is the Climaveneta range of reversible air-cooled heat pumps. They are outdoor units with axial fans, hermetic Scroll compressors and Full Floating technology. The latter is an intelligent electronic unit providing the perfect answer to residential market requirements: compactness, ease of installation and quietness.

Control

Keyboard Master Control
MICS features an innovative design that optimises the possibilities of connecting up several units, reducing the necessary access space to a minimum and thereby the overall size of the units.

Increasingly better capacity control
The possibility of controlling up to six units as a single product means that MICS can increase the number of available control steps, thereby ensuring practically perfect adaptation to the real heat load trend.

Modular design
KMC is the central control of the cascade modules. Its main function is to supervise operation of all the modules, making them operate synergically. As a user interface it has a graphic display and a keypad for navigating in the pull-down menus.

Full Floating technology
The full floating technology with automatic control of the airflow rate, water flow rate and water temperature gains a new function: Flex Energy, used to manage the capacity control steps in linear or alternating sequence in installations with several modules.

Refrigerant

R410A

Versions

FFT Basic version without hydronic kit

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.
High efficiency, low pressure drop AISI 316 stainless steel plate heat exchangers, fitted with heating element to provide frost protection.
External access to control with anti-tamper device.
Finned coils made with copper pipes and aluminium fins with large exchange surface area, tested for leaks with dried air at 30 bar.
User interface with display.
Electronic expansion valve
Available water pipe fittings in case of installation under appliance
Differential pressure switch.
Air vent valve
The hydronic circuit on the FF models includes:
- Multistage centrifugal pump
- Expansion tank
- Safety valve
- Pressure gauge
- Drain valve.

Accessories

- Remote control kit
- Kit for connecting the KMC keyboard
- KMC keyboard for modular system
- Coil protection grids
- Removable metal mesh water filter kit
- Rubber anti-vibration mounting kit

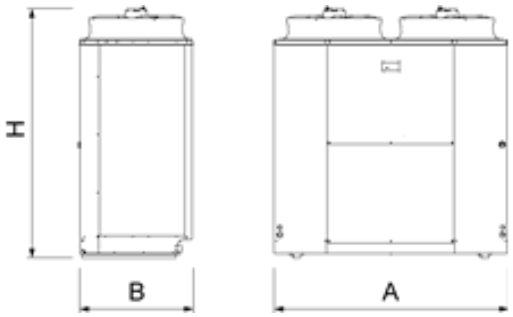
MICS-N FFT			0072	0092	0122	0152	0182
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	17,30	21,80	30,30	37,40	42,50
Total power input	(1)	kW	6,500	9,300	10,70	13,40	15,50
EER	(1)	kW/kW	2,662	2,344	2,832	2,791	2,742
ESEER	(1)	kW/kW	3,860	3,750	3,780	3,920	3,960
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	17,20	21,70	30,10	37,20	42,20
EER	(1)(2)	kW/kW	2,600	2,300	2,760	2,740	2,670
ESEER	(1)(2)	kW/kW	3,670	3,580	3,600	3,740	3,760
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	20,20	26,10	33,90	42,60	47,90
Total power input	(3)	kW	6,500	8,600	11,20	14,00	15,40
COP	(3)	kW/kW	3,108	3,035	3,027	3,043	3,110
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	20,40	26,30	34,10	42,90	48,30
COP	(2)(3)	kW/kW	3,060	2,990	2,980	3,000	3,060
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	14,9	18,3	30,6	31,2	34,0
SCOP	(4)(13)		3,38	3,45	3,26	3,39	3,43
Performance ηs	(4)(14)	%	132	135	127	133	134
Seasonal efficiency class	(15)		A+	A+	A+	A+	A+
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	0,827	1,043	1,449	1,789	2,032
Pressure drop	(1)	kPa	26,4	25,4	32,7	32,3	40,7
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	0,975	1,260	1,636	2,056	2,312
Pressure drop	(3)	kPa	36,7	37,0	41,6	42,7	52,7
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	6,60	6,90	11,0	13,3	14,5
NOISE LEVEL							
Sound power level in cooling	(5)(6)	dB(A)	80	80	83	83	83
Sound power level in heating	(5)(7)	dB(A)	78	78	83	83	83
Sound Pressure	(8)	dB(A)	64	64	66	66	66
SIZE AND WEIGHT							
A	(9)	mm	1040	1040	1630	1630	1630
B	(9)	mm	790	790	790	790	790
H	(9)	mm	1725	1725	1725	1725	1725
Operating weight	(9)	kg	330	350	440	480	510

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Sound power level in heating, outdoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

i-NX-N

0151P - 0502P 40,96-128,3 kW

Reversible unit, air source for outdoor installation

Outdoor unit for the production of chilled/hot water with fixed speed and variable speed (Inverter Driven) Scroll compressors, optimized for R410A in a single-circuit configuration, axial-flow fans, condensing coil with copper tubes and aluminum fins and electronic expansion valve as standard equipment.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise temperature control together with the use of inverter technology. The high performance's level, both full and partial load, is achieved thanks to the accurate unit's design and to the use of fixed speed motor together with variable speed (inverter) motor.

Refrigerant

R410A

Versions

- Basic
- SL Super-low noise version

Configurations

- Basic function
- D Partial condensing heat recovery function

Features

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

VARIABLE PRIMARY FLOW
Energy saving due to variable pump speed management based on load demand and the variable flow assures the functioning of the units also with critical working conditions.

INTEGRATED HYDRONIC MODULE
The built-in hydronic module already contains the main water circuit components; it is available as option with single or twin in-line pump, for achieving low or high head, fixed or variable speed and buffer tank.

TWO SOUND EMISSION LEVELS
Two different acustic versions are available to fit specific application requirements.

Control

Electronic control W3000+
The brand new W3000+ controller offers advanced functions and algorithms. The Compact keypad, 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. In addition to or as an alternative, the KIPlink is available - Keyboard In Your Pocket - is the innovative user interface based on WiFi technology that allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor in detail the status of the refrigerant circuits, the compressors, the fans and the pumps (if present) and display and reset the possible alarms. The regulation features the continuous modulation of capacity, based on sequential adjustment + DIP referring to the leaving water temperature (neutral zone adjustment + DIP on outlet temperature probe, for the 0151 size). Diagnostics include complete alarm management, with "blackbox" functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production. Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well. The variable primary flow control is always available as per standard (VPF.E function). Supervision is available with different options, using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols. A dedicated wall-mounted keypad can be used for remote control of all the functions.

Accessories

- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Compressor power factor correction
- Soft start
- Hydronic kit available in different configurations with 1 or 2 pumps fixed speed or variable speed and buffer tank
- VPF (Variable Primary Flow) system
- EC fans with electronic DC brushless motor
- LOW NOISE KIT (only on no silenced versions)
- User Limit Control (U.L.C.) allows the safe startup of the unit in critical conditions of water and air temperature.
- Night mode is a system setting to limit maximum noise level of the unit.
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.

i-NX-N			0151P	0182P	0202P	0262P	0302P	0352P	0402P	0502P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	43,87	50,90	62,09	74,40	85,27	104,7	113,8	128,3
Total power input	(1)	kW	15,79	18,34	22,11	26,13	30,40	37,39	41,10	46,15
EER	(1)	kW/kW	2,778	2,781	2,810	2,851	2,806	2,799	2,769	2,783
ESEER	(1)	kW/kW	4,270	4,300	4,140	4,350	4,260	4,450	4,380	4,470
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	43,60	50,60	61,70	74,00	84,90	104,2	113,3	127,7
EER	(1)(2)	kW/kW	2,710	2,720	2,750	2,790	2,760	2,750	2,720	2,730
ESEER	(1)(2)	kW/kW	4,000	4,000	3,860	4,060	4,010	4,160	4,100	4,200
Cooling energy class			C	C	C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	46,80	53,82	66,60	79,72	90,60	111,6	119,5	138,0
Total power input	(3)	kW	14,85	17,09	21,08	24,83	28,81	35,54	37,97	42,95
COP	(3)	kW/kW	3,141	3,146	3,156	3,214	3,146	3,144	3,145	3,209
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	47,10	54,10	67,00	80,20	91,10	112,2	120,1	138,7
COP	(3)(2)	kW/kW	3,100	3,100	3,110	3,170	3,110	3,110	3,110	3,170
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	-	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	34,7	41,4	45,9	61,2	68,9	85,4	85,2	106
SCOP	(4)(13)		3,73	3,80	3,68	3,83	3,84	4,02	3,98	3,97
Performance ηs	(4)(14)	%	146	149	144	150	151	158	156	156
Seasonal efficiency class	(15)		A+	A+	A+	A++	A++	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,098	2,434	2,969	3,558	4,078	5,008	5,442	6,137
Pressure drop	(1)	kPa	37,2	38,2	40,9	42,0	36,2	39,0	38,8	38,4
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	2,259	2,598	3,215	3,848	4,373	5,387	5,768	6,659
Pressure drop	(3)	kPa	43,1	43,6	48,0	49,1	41,6	45,1	43,6	45,2
REFRIGERANT CIRCUIT										
Compressors nr.		N°	1	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	14,4	19,5	22,9	27,1	26,8	38,7	39,2	50,9
NOISE LEVEL										
Sound Pressure	(5)	dB(A)	66	66	68	69	68	70	70	70
Sound power level in cooling	(6)(7)	dB(A)	84	84	86	87	87	89	89	89
Sound power level in heating	(6)(8)	dB(A)	84	84	85	86	87	89	89	89
SIZE AND WEIGHT										
Operating weight	(9)	kg	650	730	820	880	1030	1190	1210	1340
A	(9)	mm	2000	2000	2625	2625	3250	3250	3250	3875
B	(9)	mm	1350	1350	1350	1350	1350	1350	1350	1350
H	(9)	mm	2070	2070	2070	2070	2170	2170	2170	2170

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

i-NX-N

Reversible unit, air source for outdoor installation

0151P - 0502P 40,96-128,3 kW

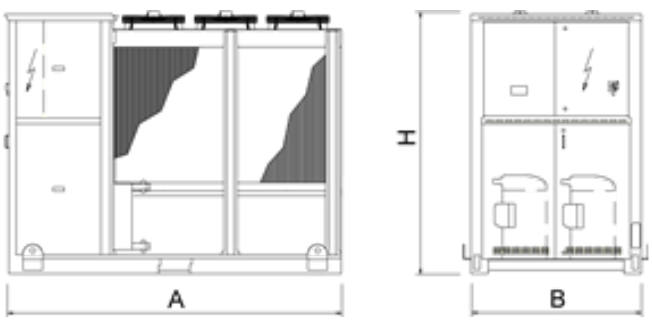
i-NX-N /SL			0151P	0182P	0202P	0262P	0302P	0352P	0402P	0502P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	40,96	48,39	59,30	72,40	81,36	98,56	111,7	125,7
Total power input	(1)	kW	14,76	17,30	21,37	25,36	28,32	35,56	40,19	43,83
EER	(1)	kW/kW	2,770	2,798	2,771	2,850	2,876	2,770	2,779	2,870
ESEER	(1)	kW/kW	4,360	4,300	4,230	4,380	4,450	4,500	4,580	4,520
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	40,80	48,10	59,00	72,00	81,00	98,20	111,2	125,1
EER	(1)(2)	kW/kW	2,720	2,740	2,720	2,790	2,820	2,730	2,730	2,820
ESEER	(1)(2)	kW/kW	4,110	4,020	3,970	4,080	4,180	4,250	4,320	4,250
Cooling energy class			C	C	C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	45,67	54,94	66,62	81,40	90,40	110,8	124,4	139,5
Total power input	(3)	kW	13,89	16,82	20,35	24,94	27,68	33,96	38,08	42,74
COP	(3)	kW/kW	3,288	3,268	3,281	3,269	3,264	3,259	3,265	3,267
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	46,00	55,30	67,00	81,90	90,90	111,4	125,1	140,2
COP	(3)(2)	kW/kW	3,240	3,220	3,230	3,220	3,220	3,220	3,220	3,230
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	(10)	kW	-	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	34,4	41,3	50,0	57,0	67,8	77,4	94,1	105
SCOP	(4)(13)		3,77	3,76	3,68	3,82	3,96	3,93	4,02	4,04
Performance ηs	(4)(14)	%	148	147	144	150	155	154	158	158
Seasonal efficiency class	(15)		A+	A+	A+	A++	A++	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	1,959	2,314	2,836	3,462	3,891	4,713	5,341	6,010
Pressure drop	(1)	kPa	32,4	34,6	37,3	39,8	33,0	34,6	37,3	36,8
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	2,205	2,652	3,216	3,929	4,364	5,348	6,004	6,732
Pressure drop	(3)	kPa	41,1	45,4	48,0	51,2	41,5	44,5	47,2	46,2
REFRIGERANT CIRCUIT										
Compressors nr.		N°	1	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	18,8	25,4	26,2	26,6	37,6	37,0	49,9	61,0
NOISE LEVEL										
Sound Pressure	(5)	dB(A)	60	60	61	61	61	63	63	63
Sound power level in cooling	(6)(7)	dB(A)	78	78	79	80	80	82	82	82
Sound power level in heating	(6)(8)	dB(A)	78	78	79	80	80	82	82	82
SIZE AND WEIGHT										
Operating weight	(9)	kg	670	830	860	1010	1080	1260	1320	1460
A	(9)	mm	2000	2625	2625	3250	3250	3875	3875	4500
B	(9)	mm	1350	1350	1350	1350	1350	1350	1350	1350
H	(9)	mm	2070	2070	2070	2170	2170	2170	2170	2170

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

NX-N

Reversible unit, air source for outdoor installation

0152P - 0812P 35,79-219,5 kW

Outdoor unit with heat pump for the production of chilled/hot water with hermetic rotary scroll compressors dedicated to the use of R410A, axial fans, plate heat exchanger, condensing coil with copper tubes and aluminum fins and thermostatic or electronic expansion valve, according to the version. The range is composed by units equipped with two compressors in a single-circuit configuration.

Control

W3000 Base – W3000SE Compact

Two different versions of controllers are available:
W3000 Base: complete with keypad, easy-to-use interface and LCD display, menu with up to three languages (Italian and English come standard, a further language can be chosen within French, Spanish, German, Russian and Swedish)
W3000SE Compact: complete with keypad, easy-to-use interface and LCD display, multi-language menu, with selectable language setting on site. Internal clock also included.
Both W3000 electronic controllers offer advanced functions and algorithms. The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting. Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available. Complete alarm management, with the “black-box” and alarm logging functions for enhanced analysis of the unit operation (available on W3000SE Compact only).
For multiple units’ systems, the regulation of the resources via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed and supervision can be executed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units. The internal real time clock allows to manage a weekly schedule operating on 4-day profiles with 10 hour belts (available on W3000SE Compact only, optional on W3000 Base controller).

Refrigerant

R410A

Versions

K	Key efficiency, compact version	CA	Class A of efficiency
LN-K	Low Noise, Key efficiency and compact version	LN-CA	Low Noise, Class A of efficiency

Configurations

- Basic function
- D Partial condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

ELECTRONIC EXPANSION VALVE

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It has been introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions. The electronic expansion valve comes standard in the high-efficieny CA version.

CLASS A EFFICIENCY

The full range is also available with the Class A efficiency rating (in heating). CA version guarantees within all the noise configurations premium levels of efficiency thanks to the generous sizing of the refrigerant-exchange surface areas and to an accurate control of the fans.

WIDE OPERATING RANGE

Unit´s operation guaranteed with external air temperature down to -10 °C during winter and up to 46 °C during summer.

COMPLIANCE WITH THE STRICTEST EUROPEAN STANDARDS

The main new feature that distinguishes the new NX-N units regards the calculation methods used to define the energy efficiency values.
These values are in fact now calculated not only based on the capacity delivered and power consumed by the unit, but also taking into account heat exchanger pressure drop, or the available pressure head if the unit is installed with pumps, as required by European standard EN14511.
In this way, energy efficiency is no longer an index for evaluating the unit alone, but rather extends the assessment by considering the unit within the system, consequently taking into account the energy required to pump the refrigerant or heat carrier fluid used in the system.

TWO SOUND EMISSION LEVELS

Two different sound emission levels available. This means the best unit can be identified based on requirements, according to the system where it will be installed and the application.

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Soft starters
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)

NX-N /K			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	38,74	43,77	51,01	58,34	64,63	74,11	84,40
Total power input	(1)	kW	13,72	15,79	18,40	20,55	23,26	28,18	32,15
EER	(1)	kW/kW	2,825	2,772	2,772	2,844	2,773	2,628	2,629
ESEER	(1)	kW/kW	4,010	4,030	4,180	3,940	3,960	3,890	4,030
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	38,50	43,50	50,70	58,00	64,30	73,80	83,90
EER	(1)(2)	kW/kW	2,770	2,710	2,710	2,790	2,720	2,590	2,570
ESEER	(1)(2)	kW/kW	3,830	3,850	4,000	3,780	3,820	3,770	3,840
Cooling energy class			C	C	C	C	C	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	42,92	47,38	55,34	65,03	70,69	80,07	92,14
Total power input	(3)	kW	14,03	15,46	18,04	21,30	22,78	25,97	29,56
COP	(3)	kW/kW	3,064	3,058	3,072	3,052	3,101	3,081	3,111
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	43,20	47,70	55,60	65,40	71,10	80,50	92,70
COP	(3)(2)	kW/kW	3,020	3,020	3,030	3,010	3,060	3,050	3,070
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	31,0	34,3	42,1	47,9	51,8	59,1	72,2
SCOP	(4)(13)		3,42	3,42	3,55	3,40	3,44	3,42	3,55
Performance ηs	(4)(14)	%	134	134	139	133	135	134	139
Seasonal efficiency class	(15)		A+	A+	A+	A+	A+	A+	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,853	2,093	2,440	2,790	3,091	3,544	4,036
Pressure drop	(1)	kPa	35,4	33,3	35,0	32,8	32,8	30,9	49,2
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	2,072	2,287	2,671	3,139	3,412	3,865	4,448
Pressure drop	(3)	kPa	44,2	39,8	42,0	41,5	40,0	36,8	59,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	12,0	13,3	15,6	17,1	17,2	18,1	26,0
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	67	67	67	67	67	67	68
Sound power level in cooling	(6)(7)	dB(A)	84	84	84	85	85	85	86
Sound power level in heating	(6)(8)	dB(A)	84	84	84	85	85	85	86
SIZE AND WEIGHT									
Operating weight	(9)	kg	510	550	570	640	650	660	790
A	(9)	mm	1825	1825	1825	2395	2395	2395	2395
B	(9)	mm	1195	1195	1195	1195	1195	1195	1195
H	(9)	mm	1865	1865	1865	1865	1865	1865	1865

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N

Reversible unit, air source for outdoor installation

0152P - 0812P 35,79-219,5 kW

NX-N /K			0402P	0452P	0502P	0552P	0602P	0702P	0802P
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	100,2	112,5	125,0	138,2	161,9	179,7	198,8
Total power input	(1)	kW	35,65	40,65	45,16	52,25	58,23	67,64	77,66
EER	(1)	kW/kW	2,807	2,764	2,765	2,642	2,782	2,658	2,559
ESEER	(1)	kW/kW	3,730	3,820	3,870	3,870	3,780	3,800	3,690
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	99,60	111,9	124,4	137,5	161,1	178,9	197,8
EER	(1)(2)	kW/kW	2,740	2,710	2,720	2,590	2,730	2,620	2,510
ESEER	(1)(2)	kW/kW	3,580	3,670	3,740	3,720	3,650	3,670	3,560
Cooling energy class			C	C	C	D	C	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	108,3	119,5	133,9	150,1	174,6	193,2	211,4
Total power input	(3)	kW	35,52	39,23	42,92	48,57	57,01	63,19	69,48
COP	(3)	kW/kW	3,051	3,048	3,121	3,088	3,063	3,057	3,042
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	109,0	120,2	134,7	150,9	175,5	194,1	212,6
COP	(3)(2)	kW/kW	3,010	3,010	3,080	3,050	3,030	3,030	3,010
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	80,1	92,5	103	119	133	157	183
SCOP	(4)(13)		3,22	3,23	3,26	3,36	3,24	3,28	3,22
Performance ηs	(4)(14)	%	126	126	127	131	126	128	126
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	4,790	5,381	5,977	6,611	7,740	8,594	9,506
Pressure drop	(1)	kPa	48,2	49,5	47,2	47,9	47,0	44,8	54,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	5,226	5,767	6,465	7,244	8,426	9,328	10,20
Pressure drop	(3)	kPa	57,3	56,9	55,3	57,5	55,8	52,8	63,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	30,5	35,1	46,8	47,2	48,9	50,4	52,8
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	70	70	70	72	71	71	72
Sound power level in cooling	(6)(7)	dB(A)	88	88	88	90	90	90	91
Sound power level in heating	(6)(8)	dB(A)	88	88	88	90	90	90	91
SIZE AND WEIGHT									
Operating weight	(9)	kg	970	1020	1150	1210	1330	1360	1380
A	(9)	mm	2825	2825	3360	3360	3980	3980	3980
B	(9)	mm	1195	1195	1195	1195	1195	1195	1195
H	(9)	mm	1980	1980	1980	1980	1980	1980	1980

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N /LN-K			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	35,79	39,83	46,78	53,44	60,38	69,88	77,90
Total power input	(1)	kW	15,18	17,57	19,87	22,43	25,78	29,89	34,94
EER	(1)	kW/kW	2,355	2,261	2,352	2,384	2,341	2,338	2,232
ESEER	(1)	kW/kW	3,910	3,750	4,070	3,820	3,840	3,850	3,920
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	35,60	39,60	46,60	53,10	60,10	69,60	77,50
EER	(1)(2)	kW/kW	2,310	2,220	2,320	2,350	2,300	2,300	2,200
ESEER	(1)(2)	kW/kW	3,750	3,620	3,910	3,680	3,710	3,720	3,770
Cooling energy class			E	F	E	E	E	E	F
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	42,92	47,38	55,34	65,03	70,69	80,07	92,14
Total power input	(3)	kW	14,03	15,46	18,04	21,30	22,78	25,97	29,56
COP	(3)	kW/kW	3,064	3,058	3,072	3,052	3,101	3,081	3,111
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	43,20	47,70	55,60	65,40	71,10	80,50	92,70
COP	(3)(2)	kW/kW	3,020	3,020	3,030	3,010	3,060	3,050	3,070
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	31,0	34,3	42,1	47,9	51,8	59,1	72,2
SCOP	(4)(13)		3,42	3,42	3,55	3,40	3,44	3,42	3,55
Performance ηs	(4)(14)	%	134	134	139	133	135	134	139
Seasonal efficiency class	(15)		A+	A+	A+	A+	A+	A+	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,712	1,905	2,237	2,556	2,887	3,342	3,725
Pressure drop	(1)	kPa	30,2	27,6	29,4	27,5	28,6	27,5	41,9
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	2,072	2,287	2,671	3,139	3,412	3,865	4,448
Pressure drop	(3)	kPa	44,2	39,8	42,0	41,5	40,0	36,8	59,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	12,0	13,3	15,6	17,1	17,2	18,1	26,0
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	60	60	60	60	61	62	64
Sound power level in cooling	(6)(7)	dB(A)	77	77	77	78	79	80	82
Sound power level in heating	(6)(8)	dB(A)	78	78	78	79	80	81	83
SIZE AND WEIGHT									
Operating weight	(9)	kg	510	560	580	650	660	670	800
A	(9)	mm	1825	1825	1825	2395	2395	2395	2395
B	(9)	mm	1195	1195	1195	1195	1195	1195	1195
H	(9)	mm	1865	1865	1865	1865	1865	1865	1865

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N

Reversible unit, air source for outdoor installation

0152P - 0812P 35,79-219,5 kW

NX-N /LN-K			0402P	0452P	0502P	0552P	0602P	0702P	0802P
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	94,49	103,6	113,9	131,6	154,3	168,3	179,5
Total power input	(1)	kW	36,72	42,46	47,78	54,13	60,50	71,63	83,80
EER	(1)	kW/kW	2,575	2,438	2,383	2,433	2,550	2,351	2,142
ESEER	(1)	kW/kW	3,890	3,890	3,850	3,990	3,960	3,910	3,620
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	94,00	103,1	113,4	131,0	153,6	167,6	178,7
EER	(1)(2)	kW/kW	2,530	2,400	2,350	2,390	2,510	2,320	2,110
ESEER	(1)(2)	kW/kW	3,750	3,750	3,730	3,850	3,820	3,780	3,500
Cooling energy class			D	E	E	E	D	E	F
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	108,3	119,5	133,9	150,1	174,6	193,2	211,4
Total power input	(3)	kW	35,52	39,23	42,92	48,57	57,01	63,19	69,48
COP	(3)	kW/kW	3,051	3,048	3,121	3,088	3,063	3,057	3,042
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	109,0	120,2	134,7	150,9	175,5	194,1	212,6
COP	(3)(2)	kW/kW	3,010	3,010	3,080	3,050	3,030	3,030	3,010
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	80,1	92,5	103	119	133	157	183
SCOP	(4)(13)		3,31	3,41	3,46	3,51	3,41	3,48	3,38
Performance ηs	(4)(14)	%	130	133	136	137	134	136	132
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	4,519	4,955	5,447	6,294	7,379	8,047	8,586
Pressure drop	(1)	kPa	42,9	42,0	39,2	43,4	42,8	39,3	44,7
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	5,226	5,767	6,465	7,244	8,426	9,328	10,20
Pressure drop	(3)	kPa	57,3	56,9	55,3	57,5	55,8	52,8	63,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	30,5	35,1	46,8	47,2	48,9	50,4	52,8
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	65	65	65	66	65	65	67
Sound power level in cooling	(6)(7)	dB(A)	83	83	83	84	84	84	86
Sound power level in heating	(6)(8)	dB(A)	84	84	84	85	85	85	87
SIZE AND WEIGHT									
Operating weight	(9)	kg	1010	1100	1200	1250	1360	1410	1430
A	(9)	mm	2825	2825	3360	3360	3980	3980	3980
B	(9)	mm	1195	1195	1195	1195	1195	1195	1195
H	(9)	mm	1980	1980	1980	1980	1980	1980	1980

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N /CA			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	40,00	45,28	51,24	59,61	66,85	80,91	91,97
Total power input	(1)	kW	13,05	14,98	18,03	19,90	22,45	27,02	30,81
EER	(1)	kW/kW	3,077	3,020	2,844	2,995	2,969	2,996	2,987
ESEER	(1)	kW/kW	4,190	4,240	4,220	4,050	4,120	4,010	4,120
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	39,70	45,00	50,90	59,30	66,50	80,50	91,40
EER	(1)(2)	kW/kW	3,000	2,950	2,780	2,940	2,920	2,940	2,910
ESEER	(1)(2)	kW/kW	3,970	4,030	4,030	3,880	3,960	3,850	3,890
Cooling energy class			B	B	C	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	46,11	50,95	59,03	69,51	74,54	86,77	98,61
Total power input	(3)	kW	14,11	15,52	18,10	21,35	22,90	26,67	30,27
COP	(3)	kW/kW	3,270	3,290	3,260	3,263	3,253	3,251	3,254
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	46,40	51,30	59,40	69,90	74,90	87,30	99,30
COP	(3)(2)	kW/kW	3,210	3,240	3,210	3,220	3,210	3,210	3,200
Cooling energy class			A	A	A	A	A	A	A
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	33,5	37,2	43,9	51,5	55,6	64,9	73,1
SCOP	(4)(13)		3,77	3,77	3,89	3,76	3,76	3,55	3,56
Performance ηs	(4)(14)	%	148	148	153	147	147	139	140
Seasonal efficiency class	(15)		A+	A+	A++	A+	A+	A+	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,913	2,165	2,450	2,851	3,197	3,869	4,398
Pressure drop	(1)	kPa	37,7	35,7	35,3	34,2	35,1	36,9	58,4
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	2,226	2,459	2,849	3,355	3,598	4,189	4,760
Pressure drop	(3)	kPa	51,0	46,0	47,8	47,4	44,5	43,2	68,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	14,3	15,0	15,0	16,5	16,9	20,0	27,6
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	66	66	66	67	67	70	70
Sound power level in cooling	(6)(7)	dB(A)	84	84	84	85	85	88	88
Sound power level in heating	(6)(8)	dB(A)	84	84	84	85	85	88	88
SIZE AND WEIGHT									
Operating weight	(9)	kg	590	640	640	670	670	800	990
A	(9)	mm	2395	2395	2395	2395	2395	2825	3360
B	(9)	mm	1195	1195	1195	1195	1195	1195	1195
H	(9)	mm	1865	1865	1865	1865	1865	1980	1980

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N

Reversible unit, air source for outdoor installation

0152P - 0812P 35,79-219,5 kW

NX-N /CA			0402P	0452P	0502P	0562P	0612P	0712P	0812P
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	102,2	116,2	130,9	152,5	169,7	197,7	219,5
Total power input	(1)	kW	34,37	39,11	43,52	51,30	56,48	66,46	72,23
EER	(1)	kW/kW	2,971	2,972	3,009	2,973	3,004	2,973	3,040
ESEER	(1)	kW/kW	4,130	4,170	4,050	4,040	4,050	3,930	3,860
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	101,6	115,5	130,2	151,6	168,8	196,7	218,3
EER	(1)(2)	kW/kW	2,900	2,900	2,950	2,900	2,940	2,910	2,970
ESEER	(1)(2)	kW/kW	3,940	3,960	3,880	3,840	3,890	3,770	3,700
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	110,4	122,2	138,2	161,4	180,6	209,2	232,2
Total power input	(3)	kW	33,87	37,61	42,39	49,67	55,59	64,39	71,18
COP	(3)	kW/kW	3,257	3,250	3,259	3,247	3,248	3,248	3,261
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	111,1	123,0	139,0	162,4	181,6	210,3	233,7
COP	(3)(2)	kW/kW	3,210	3,200	3,220	3,200	3,210	3,210	3,210
Cooling energy class			A	A	A	A	A	A	A
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	81,1	92,2	104	115	134	154	179
SCOP	(4)(13)		3,58	3,65	3,56	3,45	3,55	3,39	3,34
Performance ηs	(4)(14)	%	140	143	139	135	139	133	131
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	4,885	5,558	6,260	7,294	8,117	9,453	10,50
Pressure drop	(1)	kPa	50,1	52,8	51,8	58,3	51,7	54,2	66,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	5,328	5,898	6,670	7,791	8,719	10,10	11,21
Pressure drop	(3)	kPa	59,6	59,5	58,8	66,5	59,7	61,9	76,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	31,3	33,6	38,5	46,3	54,1	60,3	70,9
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	71	71	71	71	71	72	73
Sound power level in cooling	(6)(7)	dB(A)	89	89	90	91	91	92	93
Sound power level in heating	(6)(8)	dB(A)	89	89	90	91	91	92	93
SIZE AND WEIGHT									
Operating weight	(9)	kg	1120	1170	1290	1790	1890	2150	2260
A	(9)	mm	3360	3360	3980	4110	4110	5110	5110
B	(9)	mm	1195	1195	1195	2220	2220	2220	2220
H	(9)	mm	1980	1980	1980	2150	2150	2150	2150

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N /LN-CA			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	36,27	40,93	47,54	54,33	59,83	79,38	87,12
Total power input	(1)	kW	14,64	16,94	19,49	21,98	25,21	26,81	31,17
EER	(1)	kW/kW	2,486	2,420	2,436	2,468	2,373	2,963	2,792
ESEER	(1)	kW/kW	3,980	3,900	4,140	3,890	3,830	4,120	4,080
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	36,10	40,70	47,30	54,00	59,50	79,00	86,60
EER	(1)(2)	kW/kW	2,440	2,380	2,400	2,430	2,330	2,900	2,730
ESEER	(1)(2)	kW/kW	3,810	3,760	3,970	3,750	3,700	3,960	3,880
Cooling energy class			E	E	E	E	E	B	C
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	46,11	50,95	59,03	69,51	74,54	86,77	98,61
Total power input	(3)	kW	14,11	15,52	18,10	21,35	22,90	26,67	30,27
COP	(3)	kW/kW	3,270	3,290	3,260	3,263	3,253	3,251	3,254
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	46,40	51,30	59,40	69,90	74,90	87,30	99,30
COP	(3)(2)	kW/kW	3,210	3,240	3,210	3,220	3,210	3,210	3,200
Cooling energy class			A	A	A	A	A	A	A
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	33,5	37,2	43,9	51,5	55,6	64,9	73,1
SCOP	(4)(13)		3,77	3,77	3,89	3,76	3,76	3,55	3,56
Performance ηs	(4)(14)	%	148	148	153	147	147	139	140
Seasonal efficiency class	(15)		A+	A+	A++	A+	A+	A+	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,734	1,957	2,274	2,598	2,861	3,796	4,166
Pressure drop	(1)	kPa	31,0	29,1	30,4	28,4	28,1	35,5	52,4
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	2,226	2,459	2,849	3,355	3,598	4,189	4,760
Pressure drop	(3)	kPa	51,0	46,0	47,8	47,4	44,5	43,2	68,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	14,3	15,0	15,0	16,5	16,9	20,0	27,6
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	59	59	59	60	61	64	65
Sound power level in cooling	(6)(7)	dB(A)	77	77	77	78	79	82	83
Sound power level in heating	(6)(8)	dB(A)	78	78	78	79	80	83	84
SIZE AND WEIGHT									
Operating weight	(9)	kg	600	640	650	710	720	840	1000
A	(9)	mm	2395	2395	2395	2395	2395	2825	3360
B	(9)	mm	1195	1195	1195	1195	1195	1195	1195
H	(9)	mm	1865	1865	1865	1865	1865	1980	1980

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N

Reversible unit, air source for outdoor installation

0152P - 0812P 35,79-219,5 kW

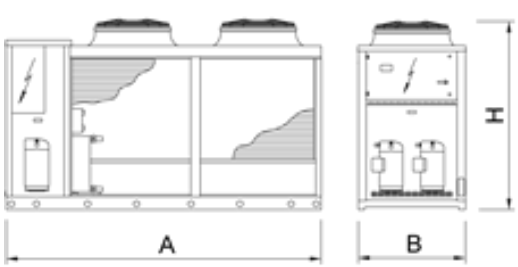
NX-N /LN-CA			0402P	0452P	0502P	0562P	0612P	0712P	0812P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	98,99	109,9	124,9	144,3	165,3	188,9	212,4
Total power input	(1)	kW	34,53	39,69	43,65	50,06	55,75	63,77	70,06
EER	(1)	kW/kW	2,870	2,768	2,858	2,880	2,968	2,961	3,030
ESEER	(1)	kW/kW	4,090	4,120	4,040	4,010	4,120	3,950	3,910
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	98,40	109,3	124,3	143,5	164,5	188,0	211,3
EER	(1)(2)	kW/kW	2,800	2,710	2,810	2,820	2,910	2,910	2,970
ESEER	(1)(2)	kW/kW	3,900	3,930	3,890	3,820	3,970	3,800	3,760
Cooling energy class			C	C	C	C	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	110,4	122,2	138,2	161,4	180,6	209,2	232,2
Total power input	(3)	kW	33,87	37,61	42,39	49,67	55,59	64,39	71,18
COP	(3)	kW/kW	3,257	3,250	3,259	3,247	3,248	3,248	3,261
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	111,1	123,0	139,0	162,4	181,6	210,3	233,7
COP	(3)(2)	kW/kW	3,210	3,200	3,220	3,200	3,210	3,210	3,210
Cooling energy class			A	A	A	A	A	A	A
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	81,1	92,2	104	115	134	154	179
SCOP	(4)(13)		3,58	3,65	3,56	3,45	3,55	3,39	3,34
Performance ηs	(4)(14)	%	140	143	139	135	139	133	131
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	4,734	5,256	5,971	6,900	7,906	9,034	10,16
Pressure drop	(1)	kPa	47,0	47,3	47,1	52,1	49,1	49,5	62,6
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	5,328	5,898	6,670	7,791	8,719	10,10	11,21
Pressure drop	(3)	kPa	59,6	59,5	58,8	66,5	59,7	61,9	76,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	31,3	33,6	38,5	46,3	54,1	60,3	70,9
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	66	66	65	65	65	66	67
Sound power level in cooling	(6)(7)	dB(A)	84	84	84	85	85	86	87
Sound power level in heating	(6)(8)	dB(A)	85	85	85	86	86	87	88
SIZE AND WEIGHT									
Operating weight	(9)	kg	1130	1190	1300	1800	1900	2160	2270
A	(9)	mm	3360	3360	3980	4110	4110	5110	5110
B	(9)	mm	1195	1195	1195	2220	2220	2220	2220
H	(9)	mm	1980	1980	1980	2150	2150	2150	2150

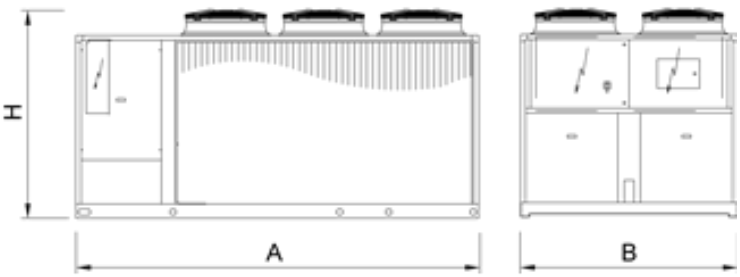
Notes

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing





HEAT PUMPS

NX-N

Reversible unit, air source for outdoor installation

0604P - 1204P 148,0-319,3 kW

Outdoor reversible unit for the production of chilled/hot water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, copper tubes aluminum fins air coils, braze-welded plate-type exchanger and thermostatic expansion valve. External panels in pre-clad sheet steel and base in galvanised steel with paint finish. The range is composed by units equipped with four compressors in tandem configuration on two independent refrigerant circuits.

Refrigerant

R410A

Versions

K	Key efficiency, compact version
LN-K	Low Noise, Key efficiency and compact version
SL-K	Super Low noise, Key efficiency and compact version

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)
- Soft starters
- Rubber anti-vibration mounting kit. Spring anti-vibration mounting kit (4 compressors models only)

Control

W3000SE Compact

W3000SE Compact offers advanced functions and algorithms.
The keypad features an easy-to-use interface and a LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.
Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional-integral regulations are also available.
The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.
For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks.
- Compatibility with the remote keyboard managing up to 10 units.
- Internal real time clock available for operation scheduling (4-day profiles with 10 hour belts).
The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

NX-N / K			0604P	0704P	0804P	0904P	1004P	1104P	1204P
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	160,1	185,8	211,0	245,2	274,1	298,0	319,3
Total power input	(1)	kW	56,89	67,41	75,89	88,76	99,42	106,4	115,9
EER	(1)	kW/kW	2,814	2,757	2,780	2,761	2,758	2,801	2,755
ESEER	(1)	kW/kW	3,870	4,010	4,070	3,950	3,990	4,050	4,040
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	159,4	185,0	210,1	244,1	272,9	296,9	318,0
EER	(1)(2)	kW/kW	2,770	2,710	2,740	2,720	2,710	2,760	2,710
ESEER	(1)(2)	kW/kW	3,700	3,830	3,890	3,770	3,810	3,880	3,870
Cooling energy class			C	C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	173,5	201,7	230,4	271,3	299,5	324,0	344,6
Total power input	(3)	kW	56,39	66,40	75,45	89,20	98,31	105,7	112,8
COP	(3)	kW/kW	3,076	3,038	3,056	3,041	3,047	3,065	3,055
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	174,4	202,6	231,5	272,7	301,0	325,4	346,3
COP	(3)(2)	kW/kW	3,040	3,010	3,030	3,010	3,020	3,040	3,020
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	127	148	172	200	226	242	260
SCOP	(4)(13)		3,23	3,27	3,27	3,21	3,24	3,26	3,21
Performance ηs	(4)(14)	%	126	128	128	125	126	127	125
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,655	8,885	10,09	11,73	13,11	14,25	15,27
Pressure drop	(1)	kPa	42,5	43,2	44,9	49,2	49,2	43,7	50,1
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,375	9,738	11,12	13,09	14,45	15,64	16,64
Pressure drop	(3)	kPa	50,9	51,9	54,5	61,3	59,8	52,6	59,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	35,8	55,6	79,1	79,2	82,8	104	104
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	73	72	73	74	75	75	75
Sound power level in cooling	(6)(7)	dB(A)	92	92	93	94	95	95	95
Sound power level in heating	(6)(8)	dB(A)	92	92	93	94	95	95	95
SIZE AND WEIGHT									
Operating weight	(9)	kg	1640	1990	2120	2360	2500	2850	2880
A	(9)	mm	3110	4110	4110	4110	4110	5110	5110
B	(9)	mm	2220	2220	2220	2220	2220	2220	2220
H	(9)	mm	2150	2150	2150	2150	2150	2150	2150

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N

Reversible unit, air source for outdoor installation

0604P - 1204P 148,0-319,3 kW

NX-N / LN-K			0604P	0704P	0804P	0904P	1004P	1104P	1204P
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	152,7	174,4	200,7	234,3	258,2	282,8	303,1
Total power input	(1)	kW	56,90	68,54	78,32	90,02	101,4	108,7	119,2
EER	(1)	kW/kW	2,684	2,546	2,563	2,603	2,546	2,602	2,543
ESEER	(1)	kW/kW	3,960	4,080	4,120	4,080	4,020	4,060	4,050
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	152,0	173,7	199,9	233,4	257,2	281,8	301,9
EER	(1)(2)	kW/kW	2,640	2,510	2,530	2,570	2,510	2,570	2,510
ESEER	(1)(2)	kW/kW	3,780	3,900	3,950	3,900	3,860	3,910	3,880
Cooling energy class			D	D	D	D	D	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	165,4	192,2	221,4	255,0	283,8	310,1	329,1
Total power input	(3)	kW	52,69	62,99	71,89	83,89	92,88	100,4	107,3
COP	(3)	kW/kW	3,139	3,051	3,079	3,039	3,055	3,089	3,067
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	166,2	193,1	222,4	256,2	285,1	311,4	330,6
COP	(3)(2)	kW/kW	3,110	3,020	3,050	3,010	3,030	3,060	3,040
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	126	132	170	196	223	239	257
SCOP	(4)(13)		3,34	3,30	3,51	3,37	3,38	3,42	3,43
Performance ηs	(4)(14)	%	130	129	137	132	132	134	134
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,304	8,339	9,597	11,20	12,35	13,52	14,49
Pressure drop	(1)	kPa	38,7	38,0	40,6	44,9	43,7	39,3	45,2
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	7,982	9,279	10,69	12,31	13,70	14,97	15,88
Pressure drop	(3)	kPa	46,2	47,1	50,3	54,2	53,7	48,2	54,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	35,8	55,6	79,1	79,2	82,8	104	104
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	67	66	67	68	69	70	70
Sound power level in cooling	(6)(7)	dB(A)	86	86	87	88	89	90	90
Sound power level in heating	(6)(8)	dB(A)	87	87	88	89	90	91	91
SIZE AND WEIGHT									
Operating weight	(9)	kg	1690	2040	2170	2410	2550	2900	2930
A	(9)	mm	3110	4110	4110	4110	4110	5110	5110
B	(9)	mm	2220	2220	2220	2220	2220	2220	2220
H	(9)	mm	2150	2150	2150	2150	2150	2150	2150

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

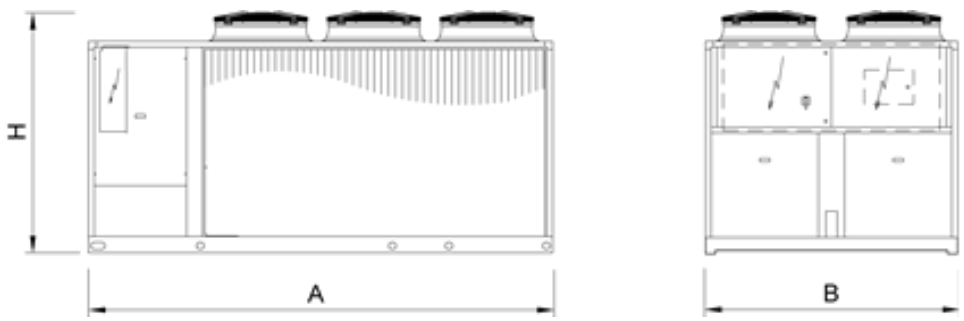
NX-N / SL-K			0604P	0704P	0804P	0904P	1004P	1104P	1204P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	148,0	175,5	201,7	232,0	255,7	281,1	303,4
Total power input	(1)	kW	57,83	68,54	78,93	88,21	100,4	110,5	119,3
EER	(1)	kW/kW	2,561	2,562	2,556	2,630	2,547	2,544	2,543
ESEER	(1)	kW/kW	4,070	4,070	4,110	4,120	4,120	4,090	4,090
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	147,4	174,8	200,9	231,1	254,7	280,1	302,2
EER	(1)(2)	kW/kW	2,520	2,530	2,520	2,590	2,510	2,510	2,510
ESEER	(1)(2)	kW/kW	3,900	3,890	3,930	3,930	3,950	3,940	3,920
Cooling energy class			D	D	D	D	D	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	160,2	193,0	223,2	256,8	282,7	307,3	330,1
Total power input	(3)	kW	51,18	63,61	72,49	82,20	91,24	100,2	108,2
COP	(3)	kW/kW	3,129	3,035	3,079	3,124	3,100	3,067	3,051
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	160,9	193,9	224,2	258,0	284,0	308,5	331,6
COP	(3)(2)	kW/kW	3,100	3,010	3,050	3,090	3,070	3,040	3,020
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	125	135	172	197	219	239	258
SCOP	(4)(13)		3,45	3,24	3,47	3,54	3,46	3,40	3,41
Performance ηs	(4)(14)	%	135	127	136	139	136	133	133
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,079	8,392	9,645	11,10	12,23	13,44	14,51
Pressure drop	(1)	kPa	36,4	38,5	41,0	44,0	42,8	38,9	45,3
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	7,734	9,316	10,78	12,40	13,65	14,83	15,93
Pressure drop	(3)	kPa	43,4	47,5	51,2	55,0	53,3	47,3	54,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	35,8	59,6	79,1	79,2	82,8	104	104
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	63	63	63	64	65	66	67
Sound power level in cooling	(6)(7)	dB(A)	82	83	83	84	85	86	87
Sound power level in heating	(6)(8)	dB(A)	83	84	84	85	86	87	88
SIZE AND WEIGHT									
Operating weight	(9)	kg	1690	2130	2260	2690	2830	3020	3040
A	(9)	mm	3110	4110	4110	5110	5110	5110	5110
B	(9)	mm	2220	2220	2220	2220	2220	2220	2220
H	(9)	mm	2150	2150	2150	2150	2150	2150	2150

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

NECS-N

Reversible unit, air source for outdoor installation

0202T - 0612T 48,00-150,5 kW

Outdoor reversible heat pump for the production of chilled/hot water with hermetic rotary Scroll compressors, axial-flow fans, shell and tubes heat exchanger and thermostatic expansion valve. External panels in Peraluman and structure in aluminium sections. The range is equipped with two compressors on two independent refrigerant circuits.

Control

W3000 Base – W3000SE Compact

Two different versions of controllers are available:
W3000 Base: complete with keypad, easy-to-use interface and LCD display, menu with up to three languages (Italian and English come standard, a further language can be chosen within French, Spanish, German, Russian and Swedish)
W3000SE Compact: complete with keypad, easy-to-use interface and LCD display, multi-language menu, with selectable language setting on site. Internal clock also included.
Both W3000 electronic controllers offer advanced functions and algorithms. The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting. Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available. Complete alarm management, with the “black-box” and alarm logging functions for enhanced analysis of the unit operation (available on W3000SE Compact only).
For multiple units’ systems, the regulation of the resources via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed and supervision can be executed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units. The internal real time clock allows to manage a weekly schedule operating on 4-day profiles with 10 hour belts (available on W3000SE Compact only, optional on W3000 Base controller).

Refrigerant

R410A

Versions

B Basic

LN Low noise

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the units installation, keeping the efficiency at the maximum level. For this reason, NECS represents the best choice for all the hydronic application on the residential, commercial and industrial markets.

INTEGRATED HYDRONIC GROUP

The built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

MAXIMUM RELIABILITY

Unit with two independent refrigerant circuit, designed to ensure maximum efficiency at full load, ensuring uninterrupted operation even in the event of temporary stop of one of the two circuits.

Accessories

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)
- Soft starters
- Rubber anti-vibration mounting kit
- Compact keyboard with LCD display and multi-language user interface (referred to the shown picture)

NECS-N / B			0202T	0252T	0302T	0352T	0412T	0452T	0512T	0552T	0612T
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	50,26	57,51	72,05	82,47	93,87	106,6	120,1	137,6	150,5
Total power input	(1)	kW	18,42	20,40	28,03	32,01	35,96	39,84	43,96	50,37	58,90
EER	(1)	kW/kW	2,734	2,819	2,571	2,578	2,608	2,678	2,730	2,730	2,555
ESEER	(1)	kW/kW	3,520	3,590	3,310	3,300	3,310	3,390	3,450	3,460	3,260
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	50,20	57,40	71,80	82,30	93,70	106,3	119,8	137,2	150,0
EER	(1)(2)	kW/kW	2,710	2,800	2,550	2,560	2,590	2,650	2,700	2,700	2,530
ESEER	(1)(2)	kW/kW	3,480	3,530	3,250	3,250	3,260	3,330	3,390	3,380	3,180
Cooling energy class			C	C	D	D	D	D	C	C	D
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	55,10	65,16	81,04	93,45	105,4	120,7	135,7	156,5	172,5
Total power input	(3)	kW	18,47	21,23	26,10	29,77	33,91	37,89	42,29	48,36	54,39
COP	(3)	kW/kW	2,978	3,075	3,103	3,138	3,109	3,185	3,208	3,233	3,171
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	55,20	65,30	81,20	93,80	105,7	121,1	136,1	157,0	173,1
COP	(3)(2)	kW/kW	2,970	3,060	3,090	3,120	3,090	3,160	3,190	3,210	3,150
Cooling energy class			C	B	B	B	B	B	B	A	B
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	42,2	47,8	60,6	71,7	76,5	91,3	97,5	117	132
SCOP	(4)(13)		3,22	3,24	3,22	3,27	3,21	3,30	3,29	3,36	3,31
Performance ηs	(4)(14)	%	126	127	126	128	125	129	129	131	129
Seasonal efficiency class	(15)		A+	A+	A+	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	2,404	2,750	3,445	3,944	4,489	5,100	5,744	6,580	7,199
Pressure drop	(1)	kPa	5,60	7,29	11,6	15,1	11,9	15,4	14,1	19,6	23,4
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	2,660	3,145	3,912	4,511	5,089	5,824	6,551	7,556	8,329
Pressure drop	(3)	kPa	6,86	9,54	14,9	19,8	15,3	20,0	18,4	25,8	31,4
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	17,4	20,4	20,5	23,0	23,1	27,5	30,9	35,6	41,2
NOISE LEVEL											
Sound Pressure	(5)	dB(A)	68	68	68	69	69	69	69	69	69
Sound power level in cooling	(6)(7)	dB(A)	85	85	85	86	86	86	87	87	87
Sound power level in heating	(6)(8)	dB(A)	85	85	85	86	86	86	87	87	87
SIZE AND WEIGHT											
Operating weight	(9)	kg	645	670	710	800	985	1030	1175	1220	1265
A	(9)	mm	2195	2195	2195	2195	2745	2745	3245	3245	3245
B	(9)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120
H	(9)	mm	1465	1465	1465	1465	1465	1465	1665	1665	1665

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NECS-N

Reversible unit, air source for outdoor installation

0202T - 0612T 48,00-150,5 kW

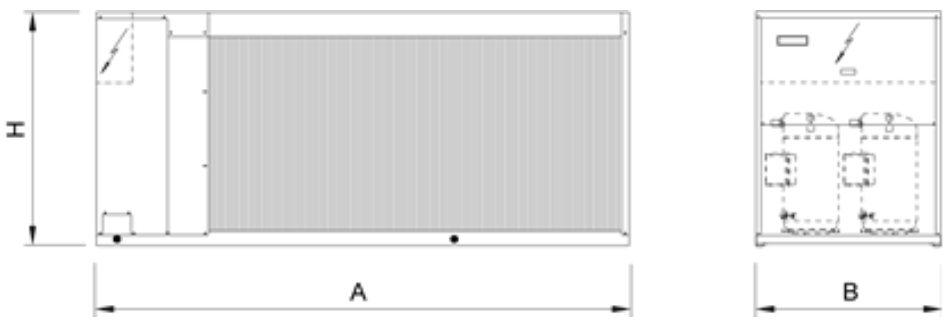
NECS-N / LN			0202T	0252T	0302T	0352T	0412T	0452T	0512T	0552T	0612T
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	48,00	54,63	73,17	83,52	93,89	103,2	118,9	131,7	143,1
Total power input	(1)	kW	19,05	21,35	27,18	31,94	35,95	41,59	44,56	53,33	62,75
EER	(1)	kW/kW	2,526	2,563	2,691	2,618	2,608	2,481	2,666	2,471	2,282
ESEER	(1)	kW/kW	3,520	3,310	3,460	3,330	3,330	3,170	3,380	3,160	2,930
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	47,90	54,50	73,00	83,30	93,70	102,9	118,6	131,4	142,7
EER	(1)(2)	kW/kW	2,510	2,550	2,660	2,600	2,590	2,460	2,640	2,450	2,260
ESEER	(1)(2)	kW/kW	3,260	3,260	3,390	3,270	3,270	3,110	3,320	3,110	2,880
Cooling energy class			D	D	D	D	D	E	D	E	F
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	54,05	63,60	84,07	96,18	108,9	120,6	137,5	153,9	169,4
Total power input	(3)	kW	18,07	20,63	26,05	30,42	34,10	37,89	42,38	48,27	54,25
COP	(3)	kW/kW	2,989	3,087	3,222	3,164	3,194	3,182	3,243	3,186	3,120
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	54,20	63,70	84,30	96,50	109,2	121,0	137,9	154,4	170,0
COP	(3)(2)	kW/kW	2,980	3,070	3,200	3,140	3,170	3,160	3,220	3,160	3,100
Cooling energy class			C	B	A	B	B	B	A	B	B
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	38,3	45,3	59,2	66,7	79,5	90,6	103	116	130
SCOP	(4)(13)		3,32	3,37	3,44	3,33	3,47	3,45	3,51	3,32	3,27
Performance ηs	(4)(14)	%	130	132	135	130	136	135	138	130	128
Seasonal efficiency class	(15)		A+	A+	A+	A+	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	2,295	2,613	3,499	3,994	4,490	4,937	5,686	6,298	6,842
Pressure drop	(1)	kPa	5,11	6,58	11,9	15,5	11,9	14,4	13,8	17,9	21,2
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	2,609	3,070	4,058	4,643	5,257	5,824	6,636	7,429	8,176
Pressure drop	(3)	kPa	6,60	9,09	16,1	20,9	16,4	20,0	18,8	25,0	30,2
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	17,4	20,4	20,5	29,9	33,9	27,5	41,2	41,2	41,2
NOISE LEVEL											
Sound Pressure	(5)	dB(A)	63	63	64	65	65	65	66	66	66
Sound power level in cooling	(6)(7)	dB(A)	80	80	81	83	83	83	84	84	84
Sound power level in heating	(6)(8)	dB(A)	81	81	82	84	84	84	85	85	85
SIZE AND WEIGHT											
Operating weight	(9)	kg	645	670	795	935	1060	1065	1230	1220	1265
A	(9)	mm	2195	2195	2745	2745	2745	2745	3245	3245	3245
B	(9)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120
H	(9)	mm	1465	1465	1465	1665	1665	1665	1665	1665	1665

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

NX-N

Reversible unit, air source for outdoor installation

0604T - 1204T 148,0-335,3 kW

Outdoor reversible unit for the production of chilled/hot water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, copper tubes aluminum fins air coils, shell and tubes heat exchanger, and thermostatic or electronic expansion valve, according to the model. External panels in pre-clad sheet steel and base in galvanised steel with paint finish. The range is composed by units equipped with four compressors in tandem configuration on two independent refrigerant circuits.

Control

W3000SE Compact

W3000SE Compact offers advanced functions and algorithms. The keypad features an easy-to-use interface and a LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.
Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional-integral regulations are also available.
The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.
For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks.
- Compatibility with the remote keyboard managing up to 10 units.
- Internal real time clock available for operation scheduling (4-day profiles with 10 hour belts).
The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

K	Key efficiency, compact version
LN-K	Low Noise, Key efficiency and compact version
SL-K	Super Low noise, Key efficiency and compact version
CA	Class A of efficiency
LN-CA	Low Noise, Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency

Configurations

- Basic function
- D Partial condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It has been introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions. The electronic expansion valve comes standard in the high-efficieny CA version, optional for the compact K versions.

CLASS A EFFICIENCY

The full range is also available with the Class A efficiency rating (in heating). CA version guarantees within all the noise configurations premium levels of efficiency thanks to the generous sizing of the refrigerant-exchange surface areas and to an accurate control of the fans.

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the unit's installation, keeping on the hydronic side the pressure drops at the minimum level, thus representing the best choice for all the hydronic applications on the residential, commercial and industrial markets.

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)
- Soft starters
- Electronic expansion valve

NX-N / K			0604T	0704T	0804T	0904T	1004T	1104T	1204T
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	160,1	185,8	211,0	245,2	274,1	298,0	319,3
Total power input	(1)	kW	56,89	67,41	75,89	88,76	99,42	106,4	115,9
EER	(1)	kW/kW	2,814	2,757	2,780	2,761	2,758	2,801	2,755
ESEER	(1)	kW/kW	3,870	4,010	4,070	3,950	3,990	4,050	4,040
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	159,6	185,2	210,1	244,2	272,8	297,0	318,2
EER	(1)(2)	kW/kW	2,780	2,720	2,740	2,720	2,710	2,770	2,720
ESEER	(1)(2)	kW/kW	3,770	3,860	3,870	3,780	3,800	3,910	3,890
Cooling energy class			C	C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	173,5	201,7	230,4	271,3	299,5	324,0	344,6
Total power input	(3)	kW	56,39	66,40	75,45	89,20	98,31	105,7	112,8
COP	(3)	kW/kW	3,076	3,038	3,056	3,041	3,047	3,065	3,055
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	174,0	202,4	231,6	272,6	301,1	325,2	346,0
COP	(3)(2)	kW/kW	3,060	3,010	3,020	3,010	3,010	3,040	3,030
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	127	148	172	200	226	241	260
SCOP	(4)(13)		3,27	3,29	3,26	3,21	3,22	3,27	3,22
Performance ηs	(4)(14)	%	128	129	127	125	126	128	126
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,655	8,885	10,09	11,73	13,11	14,25	15,27
Pressure drop	(1)	kPa	22,0	29,7	47,8	44,4	55,5	35,5	40,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,375	9,738	11,12	13,09	14,45	15,64	16,64
Pressure drop	(3)	kPa	26,4	35,6	58,0	55,3	67,4	42,8	48,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	36,0	56,2	77,2	77,3	77,4	99,1	99,2
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	73	72	73	74	75	75	75
Sound power level in cooling	(6)(7)	dB(A)	92	92	93	94	95	95	95
Sound power level in heating	(6)(8)	dB(A)	92	92	93	94	95	95	95
SIZE AND WEIGHT									
Operating weight	(9)	kg	1810	2180	2340	2560	2650	3150	3190
A	(9)	mm	3110	4110	4110	4110	4110	5110	5110
B	(9)	mm	2220	2220	2220	2220	2220	2220	2220
H	(9)	mm	2150	2150	2150	2150	2150	2150	2150

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N

Reversible unit, air source for outdoor installation

0604T - 1204T 148,0-335,3 kW

NX-N / LN-K			0604T	0704T	0804T	0904T	1004T	1104T	1204T
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	152,7	174,4	200,7	234,3	258,2	282,8	303,1
Total power input	(1)	kW	56,90	68,54	78,32	90,02	101,4	108,7	119,2
EER	(1)	kW/kW	2,684	2,546	2,563	2,603	2,546	2,602	2,543
ESEER	(1)	kW/kW	3,960	4,080	4,120	4,080	4,020	4,060	4,050
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	152,3	173,9	199,9	233,4	257,1	281,9	302,1
EER	(1)(2)	kW/kW	2,660	2,520	2,530	2,570	2,510	2,570	2,510
ESEER	(1)(2)	kW/kW	3,850	3,940	3,940	3,910	3,840	3,930	3,910
Cooling energy class			D	D	D	D	D	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	165,4	192,2	221,4	255,0	283,8	310,1	329,1
Total power input	(3)	kW	52,69	62,99	71,89	83,89	92,88	100,4	107,3
COP	(3)	kW/kW	3,139	3,051	3,079	3,039	3,055	3,089	3,067
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	165,9	192,9	222,5	256,1	285,2	311,2	330,3
COP	(3)(2)	kW/kW	3,120	3,030	3,050	3,010	3,020	3,070	3,040
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	126	132	170	196	223	239	257
SCOP	(4)(13)		3,38	3,33	3,50	3,39	3,36	3,43	3,45
Performance ηs	(4)(14)	%	132	130	137	132	131	134	135
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,304	8,339	9,597	11,20	12,35	13,52	14,49
Pressure drop	(1)	kPa	20,1	26,1	43,2	40,5	49,2	32,0	36,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	7,982	9,279	10,69	12,31	13,70	14,97	15,88
Pressure drop	(3)	kPa	23,9	32,4	53,6	48,9	60,5	39,2	44,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	36,0	56,2	77,2	77,3	77,4	99,1	99,2
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	67	66	67	68	69	70	70
Sound power level in cooling	(6)(7)	dB(A)	86	86	87	88	89	90	90
Sound power level in heating	(6)(8)	dB(A)	87	87	88	89	90	91	91
SIZE AND WEIGHT									
Operating weight	(9)	kg	1860	2230	2390	2610	2700	3200	3240
A	(9)	mm	3110	4110	4110	4110	4110	5110	5110
B	(9)	mm	2220	2220	2220	2220	2220	2220	2220
H	(9)	mm	2150	2150	2150	2150	2150	2150	2150

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N / SL-K			0604T	0704T	0804T	0904T	1004T	1104T	1204T
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	148,0	175,5	201,7	232,0	255,7	281,1	303,4
Total power input	(1)	kW	57,83	68,54	78,93	88,21	100,4	110,5	119,3
EER	(1)	kW/kW	2,561	2,562	2,556	2,630	2,547	2,544	2,543
ESEER	(1)	kW/kW	4,070	4,070	4,110	4,120	4,120	4,090	4,090
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	147,6	174,9	200,8	231,1	254,6	280,2	302,4
EER	(1)(2)	kW/kW	2,540	2,530	2,520	2,590	2,510	2,520	2,510
ESEER	(1)(2)	kW/kW	3,960	3,940	3,930	3,950	3,940	3,960	3,940
Cooling energy class			D	D	D	D	D	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	160,2	193,0	223,2	256,8	282,7	307,3	330,1
Total power input	(3)	kW	51,18	63,61	72,49	82,20	91,24	100,2	108,2
COP	(3)	kW/kW	3,129	3,035	3,079	3,124	3,100	3,067	3,051
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	160,7	193,7	224,3	257,9	284,1	308,4	331,4
COP	(3)(2)	kW/kW	3,110	3,010	3,050	3,100	3,070	3,040	3,030
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	124	134	172	196	220	238	257
SCOP	(4)(13)		3,49	3,28	3,46	3,55	3,44	3,41	3,43
Performance ηs	(4)(14)	%	136	128	135	139	135	134	134
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,079	8,392	9,645	11,10	12,23	13,44	14,51
Pressure drop	(1)	kPa	18,8	26,5	43,6	39,7	48,2	31,6	36,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	7,734	9,316	10,78	12,40	13,65	14,83	15,93
Pressure drop	(3)	kPa	22,5	32,6	54,5	49,6	60,1	38,5	44,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	36,0	56,2	77,2	77,3	77,4	99,1	99,2
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	63	63	63	64	65	66	67
Sound power level in cooling	(6)(7)	dB(A)	82	83	83	84	85	86	87
Sound power level in heating	(6)(8)	dB(A)	83	84	84	85	86	87	88
SIZE AND WEIGHT									
Operating weight	(9)	kg	1860	2310	2470	2870	2980	3320	3370
A	(9)	mm	3110	4110	4110	5110	5110	5110	5110
B	(9)	mm	2220	2220	2220	2220	2220	2220	2220
H	(9)	mm	2150	2150	2150	2150	2150	2150	2150

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N

Reversible unit, air source for outdoor installation

0604T - 1204T 148,0-335,3 kW

NX-N / CA			0604T	0704T	0804T	0904T	1004T	1104T	1204T
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	164,1	190,8	222,4	253,3	283,2	310,1	335,3
Total power input	(1)	kW	55,71	64,57	73,83	85,32	95,97	104,8	113,3
EER	(1)	kW/kW	2,946	2,954	3,014	2,970	2,950	2,959	2,959
ESEER	(1)	kW/kW	4,130	4,250	4,220	4,250	4,220	4,160	4,180
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	163,6	190,1	221,4	252,2	282,3	309,1	334,0
EER	(1)(2)	kW/kW	2,910	2,910	2,960	2,920	2,910	2,920	2,910
ESEER	(1)(2)	kW/kW	4,000	4,080	4,010	4,050	4,080	4,010	4,010
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	171,5	199,0	237,6	265,8	292,9	329,0	349,7
Total power input	(3)	kW	52,96	61,51	73,10	81,95	90,60	101,5	108,0
COP	(3)	kW/kW	3,236	3,236	3,250	3,241	3,233	3,241	3,238
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	172,0	199,7	238,9	267,0	293,9	330,2	351,2
COP	(3)(2)	kW/kW	3,210	3,210	3,210	3,210	3,210	3,210	3,210
Cooling energy class			A	A	A	A	A	A	A
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	120	150	176	199	223	246	264
SCOP	(4)(13)		3,65	3,86	3,76	3,83	3,79	3,71	3,74
Performance ηs	(4)(14)	%	143	151	147	150	149	145	147
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,848	9,122	10,63	12,11	13,54	14,83	16,03
Pressure drop	(1)	kPa	23,1	31,3	53,1	47,4	32,1	38,5	45,0
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,276	9,607	11,47	12,83	14,14	15,88	16,88
Pressure drop	(3)	kPa	25,7	34,7	61,7	53,1	35,0	44,1	49,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	45,0	69,8	90,4	90,5	90,6	115	115
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	72	72	74	74	75	77	77
Sound power level in cooling	(6)(7)	dB(A)	92	92	94	94	95	97	97
Sound power level in heating	(6)(8)	dB(A)	92	92	94	94	95	97	97
SIZE AND WEIGHT									
Operating weight	(9)	kg	2070	2360	2750	2870	3150	3640	3660
A	(9)	mm	4110	4110	5110	5110	5110	6110	6110
B	(9)	mm	2220	2220	2220	2220	2220	2220	2220
H	(9)	mm	2150	2150	2150	2150	2150	2150	2150

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N / LN-CA			0604T	0704T	0804T	0904T	1004T	1104T	1204T
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	158,6	187,4	216,0	247,9	276,5	300,4	324,7
Total power input	(1)	kW	53,77	62,45	70,77	82,25	93,65	100,7	109,2
EER	(1)	kW/kW	2,948	2,998	3,051	3,012	2,951	2,983	2,973
ESEER	(1)	kW/kW	4,300	4,310	4,320	4,310	4,280	4,300	4,260
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	158,2	186,8	215,0	246,9	275,7	299,4	323,5
EER	(1)(2)	kW/kW	2,920	2,960	2,990	2,960	2,920	2,940	2,930
ESEER	(1)(2)	kW/kW	4,160	4,150	4,110	4,100	4,140	4,150	4,080
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	170,0	207,4	238,7	274,8	303,9	328,7	358,3
Total power input	(3)	kW	51,90	64,10	73,20	84,73	93,91	101,3	110,5
COP	(3)	kW/kW	3,276	3,236	3,261	3,244	3,236	3,245	3,243
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	170,5	208,2	240,0	276,1	304,9	329,9	359,8
COP	(3)(2)	kW/kW	3,250	3,210	3,220	3,210	3,210	3,220	3,210
Cooling energy class			A	A	A	A	A	A	A
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	119	153	177	203	227	245	266
SCOP	(4)(13)		3,85	3,88	3,93	3,91	3,84	3,87	3,84
Performance ηs	(4)(14)	%	151	152	154	153	151	152	150
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,585	8,960	10,33	11,85	13,22	14,37	15,53
Pressure drop	(1)	kPa	21,6	30,2	50,1	45,3	30,6	36,1	42,2
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,204	10,01	11,52	13,27	14,67	15,87	17,30
Pressure drop	(3)	kPa	25,3	37,7	62,3	56,8	37,6	44,1	52,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	45,0	69,8	90,4	90,5	90,6	115	115
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	66	67	68	69	70	70	71
Sound power level in cooling	(6)(7)	dB(A)	86	87	88	89	90	90	91
Sound power level in heating	(6)(8)	dB(A)	87	88	89	90	91	91	92
SIZE AND WEIGHT									
Operating weight	(9)	kg	2070	2440	2750	2970	3250	3610	3740
A	(9)	mm	4110	4110	5110	5110	5110	6110	6110
B	(9)	mm	2220	2220	2220	2220	2220	2220	2220
H	(9)	mm	2150	2150	2150	2150	2150	2150	2150

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N

Reversible unit, air source for outdoor installation

0604T - 1204T 148,0-335,3 kW

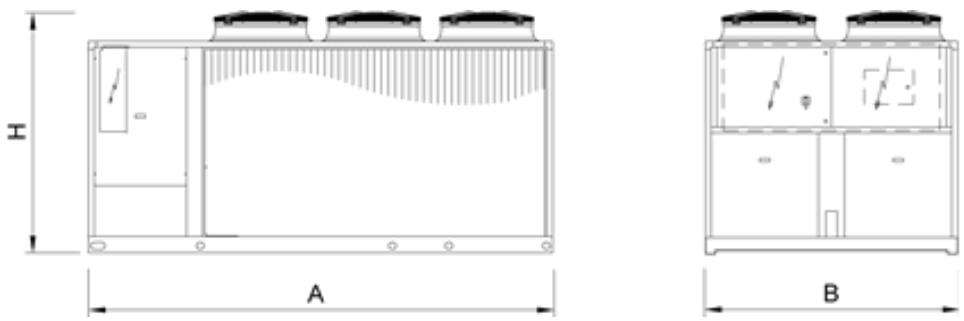
NX-N / SL-CA			0604T	0704T	0804T	0904T	1004T	1104T	1204T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	157,7	185,5	215,6	244,7	274,8	298,6	324,2
Total power input	(1)	kW	53,51	62,89	71,03	82,67	92,84	100,9	109,7
EER	(1)	kW/kW	2,948	2,949	3,037	2,959	2,961	2,959	2,955
ESEER	(1)	kW/kW	4,340	4,410	4,380	4,400	4,340	4,320	4,280
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	157,3	184,9	214,6	243,7	274,0	297,6	323,0
EER	(1)(2)	kW/kW	2,920	2,910	2,980	2,910	2,930	2,920	2,910
ESEER	(1)(2)	kW/kW	4,190	4,230	4,150	4,190	4,200	4,170	4,110
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	169,3	202,8	237,7	268,3	299,5	325,1	355,9
Total power input	(3)	kW	51,20	62,61	73,20	82,71	92,12	100,6	109,6
COP	(3)	kW/kW	3,307	3,240	3,247	3,244	3,252	3,232	3,247
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	169,8	203,6	239,0	269,5	300,5	326,3	357,4
COP	(3)(2)	kW/kW	3,280	3,210	3,210	3,210	3,230	3,210	3,220
Cooling energy class			A	A	A	A	A	A	A
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	117	152	176	201	224	243	266
SCOP	(4)(13)		3,75	3,91	3,85	3,94	3,86	3,87	3,85
Performance ηs	(4)(14)	%	147	153	151	155	151	152	151
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,541	8,871	10,31	11,70	13,14	14,28	15,50
Pressure drop	(1)	kPa	21,4	29,6	49,9	44,2	30,2	35,7	42,0
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,170	9,791	11,47	12,95	14,46	15,69	17,18
Pressure drop	(3)	kPa	25,1	36,0	61,8	54,1	36,6	43,1	51,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	45,0	69,8	90,4	90,5	106	115	115
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	63	63	64	65	66	67	68
Sound power level in cooling	(6)(7)	dB(A)	83	83	84	85	86	87	88
Sound power level in heating	(6)(8)	dB(A)	84	84	85	86	87	88	89
SIZE AND WEIGHT									
Operating weight	(9)	kg	2150	2440	2850	2970	3550	3610	3740
A	(9)	mm	4110	4110	5110	5110	6110	6110	6110
B	(9)	mm	2220	2220	2220	2220	2220	2220	2220
H	(9)	mm	2150	2150	2150	2150	2150	2150	2150

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

NECS-N

1314 - 3218 319,6-833,2 kW

Reversible unit, air source for outdoor installation

Outdoor heat pump for the production of chilled/hot water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, shell and tubes exchanger and electronic expansion valve. The range is composed by units equipped with four, six and eight compressors in multi-circuit configuration.

Control

W3000SE Compact

W3000SE Compact offers advanced functions and algorithms. The keypad features an easy-to-use interface and a LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.
Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional-integral regulations are also available.
The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.
For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks.
- Compatibility with the remote keyboard managing up to 10 units.
- Internal real time clock available for operation scheduling (4-day profiles with 10 hour belts).
The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

B Basic
SL Super-low noise version
CA High efficiency version

Configurations

- Basic function
D Partial condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the unit's installation, keeping the efficiency at the maximum level. For this reason, NECS-N represents the best choice for all the hydronic application on the residential, commercial and industrial markets.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Soft starters
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- Remote control keyboard (distance to 200m and to 500m)
- LT kit for extending the operating limits in heat pump mode down to -10 °C (/SL-CA versions) and -12 °C (/CA versions)

NECS-N / B			1314	1414	1614	1716	1816
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	339,4	363,4	396,4	434,9	477,8
Total power input	(1)	kW	126,4	132,0	151,4	164,6	177,8
EER	(1)	kW/kW	2,685	2,753	2,618	2,642	2,687
ESEER	(1)	kW/kW	3,800	3,880	3,790	3,880	3,780
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	338,0	362,1	394,7	433,6	476,2
EER	(1)(2)	kW/kW	2,640	2,720	2,580	2,610	2,650
ESEER	(1)(2)	kW/kW	3,640	3,730	3,640	3,740	3,640
Cooling energy class			D	C	D	D	D
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	371,0	398,0	435,7	472,9	514,6
Total power input	(3)	kW	122,4	129,7	142,7	157,2	170,6
COP	(3)	kW/kW	3,031	3,069	3,053	3,008	3,016
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(3)(2)	kW	372,8	399,7	437,9	474,5	516,6
COP	(3)(2)	kW/kW	3,000	3,040	3,020	2,990	2,990
Cooling energy class			B	B	B	C	C
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	274	311	358	373	387
SCOP	(4)(13)		3,47	3,54	3,44	3,59	3,49
Performance ηs	(4)(14)	%	136	139	134	141	137
Seasonal efficiency class	(15)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	16,23	17,38	18,95	20,80	22,85
Pressure drop	(1)	kPa	49,5	43,4	51,7	35,3	42,6
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	17,91	19,21	21,03	22,83	24,84
Pressure drop	(3)	kPa	60,3	53,1	63,6	42,5	50,4
REFRIGERANT CIRCUIT							
Compressors nr.		N°	4	4	4	6	6
No. Circuits		N°	2	2	2	3	3
Refrigerant charge		kg	72,0	76,0	76,0	93,0	97,0
NOISE LEVEL							
Sound Pressure	(5)	dB(A)	76	76	76	76	76
Sound power level in cooling	(6)(7)	dB(A)	96	96	96	96	97
Sound power level in heating	(6)(8)	dB(A)	96	96	96	96	97
SIZE AND WEIGHT							
Operating weight	(9)	kg	3170	3250	3280	4220	4610
A	(9)	mm	3905	3905	3905	4515	5690
B	(9)	mm	2260	2260	2260	2260	2260
H	(9)	mm	2450	2450	2450	2450	2450

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NECS-N

1314 - 3218 319,6-833,2 kW

Reversible unit, air source for outdoor installation

NECS-N / SL			1314	1414	1614	1716	1816	2016	2116
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	319,6	343,2	382,8	412,6	444,5	493,1	515,8
Total power input	(1)	kW	131,2	138,1	154,5	170,4	185,0	199,5	207,3
EER	(1)	kW/kW	2,436	2,485	2,478	2,421	2,403	2,472	2,488
ESEER	(1)	kW/kW	3,990	4,000	3,970	4,050	3,990	4,070	4,060
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	318,4	342,1	381,3	411,5	443,1	491,7	514,2
EER	(1)(2)	kW/kW	2,400	2,460	2,440	2,400	2,380	2,450	2,460
ESEER	(1)(2)	kW/kW	3,830	3,870	3,810	3,920	3,840	3,930	3,910
Cooling energy class			E	E	E	E	E	E	E
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	368,3	390,5	441,8	474,3	512,9	564,1	585,9
Total power input	(3)	kW	117,3	125,3	139,1	152,3	164,5	179,8	187,5
COP	(3)	kW/kW	3,140	3,117	3,176	3,114	3,118	3,137	3,125
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	370,1	392,1	444,0	476,0	514,9	566,1	588,1
COP	(3)(2)	kW/kW	3,110	3,090	3,140	3,090	3,090	3,110	3,100
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	221	254	350	282	390	352	380
SCOP	(4)(13)		3,54	3,58	3,65	3,55	3,77	3,61	3,59
Performance ηs	(4)(14)	%	139	140	143	139	148	141	140
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	15,28	16,41	18,31	19,73	21,26	23,58	24,66
Pressure drop	(1)	kPa	43,9	38,7	48,2	31,8	36,9	34,6	37,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	17,78	18,85	21,33	22,90	24,76	27,23	28,28
Pressure drop	(3)	kPa	59,4	51,1	65,4	42,8	50,0	46,1	49,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	6	6	6	6
No. Circuits		N°	2	2	2	3	3	3	3
Refrigerant charge		kg	79,9	82,3	94,7	107	118	125	126
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	68	68	68	68	68	69	69
Sound power level in cooling	(6)(7)	dB(A)	88	88	88	89	89	90	90
Sound power level in heating	(6)(8)	dB(A)	89	89	89	90	90	91	91
SIZE AND WEIGHT									
Operating weight	(9)	kg	3400	3530	3680	4720	4860	5160	5270
A	(9)	mm	4515	5080	5080	5690	5690	6865	7430
B	(9)	mm	2260	2260	2260	2260	2260	2260	2260
H	(9)	mm	2450	2450	2450	2450	2450	2450	2450

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NECS-N / CA			1314	1414	1614	1716	1816	2016	2116
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	351,7	371,8	416,8	453,2	504,4	537,6	559,0
Total power input	(1)	kW	121,2	127,8	143,4	155,5	172,6	184,7	191,7
EER	(1)	kW/kW	2,902	2,909	2,907	2,914	2,922	2,911	2,916
ESEER	(1)	kW/kW	4,120	4,200	4,070	4,190	4,080	4,180	4,170
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	350,2	370,4	414,9	451,8	502,5	535,8	557,1
EER	(1)(2)	kW/kW	2,850	2,870	2,860	2,880	2,880	2,870	2,880
ESEER	(1)(2)	kW/kW	3,930	4,020	3,870	4,030	3,900	4,010	4,000
Cooling energy class			C	C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	383,2	409,4	449,2	496,7	533,2	586,5	614,1
Total power input	(3)	kW	119,5	127,8	139,8	154,8	166,2	182,6	191,2
COP	(3)	kW/kW	3,207	3,203	3,213	3,209	3,208	3,212	3,212
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	385,1	411,2	451,5	498,6	535,4	588,8	616,6
COP	(3)(2)	kW/kW	3,170	3,170	3,180	3,180	3,180	3,180	3,180
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	-	-	-	-	-	536	557
SEER	(10)(11)		-	-	-	-	-	4,18	4,17
Performance ηs	(10)(12)	%	-	-	-	-	-	164	164
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	275	309	353	368	381	-	-
SCOP	(4)(13)		3,65	3,73	3,63	3,78	3,68	-	-
Performance ηs	(4)(14)	%	143	146	142	148	144	-	-
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	16,82	17,78	19,93	21,67	24,12	25,71	26,73
Pressure drop	(1)	kPa	53,2	45,5	57,1	38,4	47,5	41,1	44,4
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	18,50	19,76	21,68	23,98	25,74	28,31	29,64
Pressure drop	(3)	kPa	64,3	56,2	67,6	46,9	54,1	49,9	54,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	6	6	6	6
No. Circuits		N°	2	2	2	3	3	3	3
Refrigerant charge		kg	90,0	96,0	96,5	121	125	138	148
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	77	77	77	76	77	77	77
Sound power level in cooling	(6)(7)	dB(A)	97	97	97	97	98	98	98
Sound power level in heating	(6)(8)	dB(A)	97	97	97	97	98	0	0
SIZE AND WEIGHT									
Operating weight	(9)	kg	3490	3580	3610	4840	5120	5270	5350
A	(9)	mm	5080	5080	5080	6255	7430	7430	7430
B	(9)	mm	2260	2260	2260	2260	2260	2260	2260
H	(9)	mm	2450	2450	2450	2450	2450	2450	2450

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NECS-N

1314 - 3218 319,6-833,2 kW

Reversible unit, air source for outdoor installation

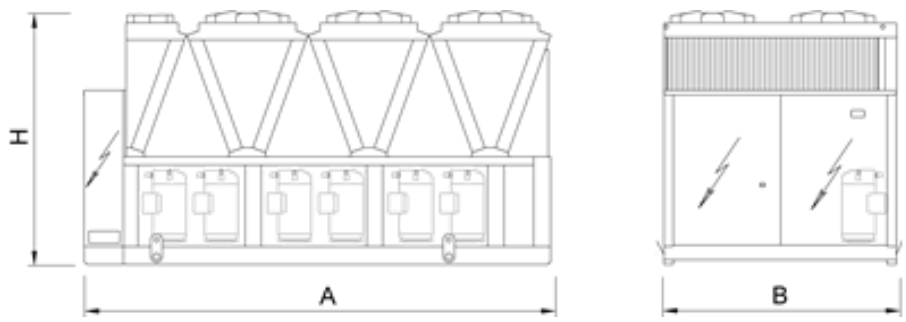
NECS-N / CA			2416	2418	2618	2818	3018	3218
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	624,8	666,7	709,6	745,4	789,3	833,2
Total power input	(1)	kW	215,0	228,2	242,3	255,7	269,9	286,7
EER	(1)	kW/kW	2,906	2,922	2,929	2,915	2,924	2,906
ESEER	(1)	kW/kW	4,090	4,090	4,140	4,180	4,170	4,090
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	622,5	664,3	706,7	743,1	786,6	830,1
EER	(1)(2)	kW/kW	2,860	2,880	2,880	2,880	2,890	2,860
ESEER	(1)(2)	kW/kW	3,920	3,920	3,940	4,020	4,000	3,910
Cooling energy class			C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	673,6	708,5	766,4	818,9	860,0	898,4
Total power input	(3)	kW	209,9	221,3	239,4	254,9	268,7	279,8
COP	(3)	kW/kW	3,209	3,202	3,201	3,213	3,201	3,211
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	676,4	711,4	770,0	821,9	863,4	902,3
COP	(3)(2)	kW/kW	3,180	3,170	3,170	3,190	3,170	3,180
Cooling energy class			B	B	B	B	B	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(10)	kW	622	664	707	743	787	830
SEER	(10)(11)		4,11	4,10	4,11	4,17	4,18	4,11
Performance ηs	(10)(12)	%	161	161	162	164	164	161
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(4)	kW	-	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-	-
Seasonal efficiency class	(15)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	29,88	31,88	33,93	35,65	37,75	39,84
Pressure drop	(1)	kPa	47,4	48,7	55,2	41,2	46,2	51,4
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	32,52	34,20	36,99	39,53	41,51	43,36
Pressure drop	(3)	kPa	56,2	56,1	65,6	50,6	55,8	60,9
REFRIGERANT CIRCUIT								
Compressors nr.		N°	6	8	8	8	8	8
No. Circuits		N°	3	4	4	4	4	4
Refrigerant charge		kg	148	168	180	192	193	195
NOISE LEVEL								
Sound Pressure	(5)	dB(A)	78	77	77	78	78	78
Sound power level in cooling	(6)(7)	dB(A)	99	99	99	100	100	100
Sound power level in heating	(6)(8)	dB(A)	0	0	0	0	0	0
SIZE AND WEIGHT								
Operating weight	(9)	kg	5400	6610	6760	6940	6970	7000
A	(9)	mm	7430	9780	9780	9780	9780	9780
B	(9)	mm	2260	2260	2260	2260	2260	2260
H	(9)	mm	2450	2450	2450	2450	2450	2450

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

FOCS-N

Reversible unit, air source for outdoor installation

2022 - 4822 440,7-1162 kW

Outdoor heat pump unit for the production of chilled/hot water with semi-hermetic screw compressors optimized for R134a, axial-flow fans, external coil with copper tubes and aluminium fines, shell and tubes heat exchanger designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are galvanized epoxy powder coated steel with increased thickness.
These units are designed for two-pipes systems and are able to produce hot or cold water according to the selected operation mode; the precise thermoregulation guarantees an optimal response to load´s changes, in every operating conditions.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

B	Basic
CA	Class A of efficiency
LN-CA	Low Noise, Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

HIGH EFFICIENCY
Unit in Class A as per Eurovent (in heating). High efficiency for low energy consumption during the operating hours.

SMART DEFROST
The advanced self-adaptive proprietary defrosting logics take into account all the operating parameters and the external conditions: the number and duration of the defrost cycles are therefore reduced to the minimum necessary ensuring an increase in efficiency and net heating capacity of the units.

COMPACTNESS
Reduced dimensions, for easy installation even in sites with space´ constraints

WIDE OPERATING RANGE
Unit´s operation guaranteed with external air temperature down to -10 °C during winter and up to 50 °C during summer.

HOT WATER SUPPLY
Supply of hot water in use up to 60°C, offering maximum versatility with respect to different plant engineering solutions

Accessories

- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Kit HWT, High Water Temperature, to produce hot water up to 60°C
- Soft start

FOCS-N / B			2022	2222	2422	2722	3222	3622	4222	4822
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	449,7	494,0	530,9	662,8	790,9	916,2	1029	1146
Total power input	(1)	kW	163,0	177,2	186,6	224,6	267,4	292,7	336,8	381,6
EER	(1)	kW/kW	2,759	2,788	2,845	2,951	2,958	3,130	3,055	3,003
ESEER	(1)	kW/kW	3,710	3,750	3,810	4,180	4,060	4,080	4,200	4,130
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	448,5	492,6	529,3	661,1	788,7	913,9	1026	1143
EER	(1)(2)	kW/kW	2,730	2,760	2,810	2,920	2,930	3,100	3,020	2,970
ESEER	(1)(2)	kW/kW	3,610	3,640	3,690	4,060	3,940	3,980	4,060	4,010
Cooling energy class			C	C	C	B	B	A	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	478,6	523,7	566,5	698,6	823,9	945,9	1073	1195
Total power input	(3)	kW	152,4	166,1	178,0	210,5	247,1	277,0	315,7	355,8
COP	(3)	kW/kW	3,140	3,153	3,183	3,319	3,334	3,415	3,399	3,359
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	480,0	525,3	568,5	700,6	826,4	948,5	1077	1199
COP	(3)(2)	kW/kW	3,120	3,130	3,160	3,300	3,310	3,390	3,370	3,340
Cooling energy class			B	B	B	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(10)	kW	-	-	-	661	789	914	1026	1143
SEER	(10)(11)		-	-	-	4,18	4,10	4,14	4,24	4,18
Performance ηs	(10)(12)	%	-	-	-	164	161	162	166	164
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	336	362	399	-	-	-	-	-
SCOP	(4)(13)		3,20	3,20	3,20	-	-	-	-	-
Performance ηs	(4)(14)	%	125	125	125	-	-	-	-	-
Seasonal efficiency class	(15)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	21,50	23,62	25,39	31,69	37,82	43,81	49,20	54,80
Pressure drop	(1)	kPa	30,0	33,3	38,4	32,5	36,7	33,3	42,3	37,0
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	23,10	25,28	27,35	33,72	39,77	45,66	51,78	57,69
Pressure drop	(3)	kPa	34,6	38,1	44,6	36,8	40,6	36,2	46,9	41,0
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	160	185	200	224	270	335	380	420
NOISE LEVEL										
Sound Pressure	(5)	dB(A)	79	80	80	80	81	80	82	81
Sound power level in cooling	(6)(7)	dB(A)	99	101	101	101	102	102	104	104
Sound power level in heating	(6)(8)	dB(A)	99	101	101	101	102	102	104	104
SIZE AND WEIGHT										
Operating weight	(9)	kg	5900	6330	6420	7290	9390	10400	10700	11310
A	(9)	mm	4900	5800	5800	7000	7900	10000	10000	11800
B	(9)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(9)	mm	2430	2430	2430	2430	2430	2430	2430	2430

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS-N

Reversible unit, air source for outdoor installation

2022 - 4822 440,7-1162 kW

FOCS-N / CA			2022	2222	2422	2622	2722	3222	3622	4222	4822
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	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	459,6	502,8	537,8	586,0	671,6	802,9	928,9	1041	1162
Total power input	(1)	kW	157,8	169,6	181,0	201,6	217,8	259,3	285,0	335,5	370,4
EER	(1)	kW/kW	2,913	2,965	2,971	2,907	3,084	3,096	3,259	3,103	3,137
ESEER	(1)	kW/kW	3,890	3,930	3,930	3,960	4,370	4,220	4,240	4,250	4,280
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	458,4	501,4	536,1	584,7	669,8	800,6	926,5	1038	1159
EER	(1)(2)	kW/kW	2,880	2,930	2,930	2,880	3,050	3,060	3,220	3,060	3,100
ESEER	(1)(2)	kW/kW	3,790	3,820	3,800	3,870	4,230	4,080	4,120	4,100	4,150
Cooling energy class			C	B	B	C	B	B	A	B	A
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	470,2	520,1	553,2	589,7	682,5	804,4	922,8	1051	1166
Total power input	(3)	kW	143,4	156,2	167,3	177,2	197,3	231,9	258,2	300,2	332,8
COP	(3)	kW/kW	3,279	3,330	3,307	3,328	3,459	3,469	3,574	3,501	3,504
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	471,5	521,7	555,1	591,1	684,4	806,8	925,2	1054	1169
COP	(3)(2)	kW/kW	3,260	3,310	3,280	3,310	3,440	3,440	3,550	3,470	3,480
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(10)	kW	-	-	-	-	670	801	926	1038	1159
SEER	(10)(11)		-	-	-	-	4,32	4,23	4,29	4,29	4,34
Performance ηs	(10)(12)	%	-	-	-	-	170	166	168	168	171
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(4)	kW	339	368	400	390	-	-	-	-	-
SCOP	(4)(13)		3,44	3,46	3,50	3,61	-	-	-	-	-
Performance ηs	(4)(14)	%	134	135	137	141	-	-	-	-	-
Seasonal efficiency class	(15)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	21,98	24,05	25,72	28,02	32,11	38,39	44,42	49,77	55,59
Pressure drop	(1)	kPa	31,3	34,5	39,4	26,5	33,4	37,8	34,3	43,3	38,0
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	22,70	25,11	26,70	28,47	32,95	38,83	44,55	50,74	56,29
Pressure drop	(3)	kPa	33,4	37,6	42,5	27,3	35,2	38,7	34,5	45,0	39,0
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	203	223	220	240	250	340	430	450	537
NOISE LEVEL											
Sound Pressure	(5)	dB(A)	79	80	80	80	80	81	80	81	81
Sound power level in cooling	(6)(7)	dB(A)	99	101	101	101	101	102	102	104	104
Sound power level in heating	(6)(8)	dB(A)	99	101	101	101	101	102	102	104	104
SIZE AND WEIGHT											
Operating weight	(9)	kg	6050	6630	6710	6950	7480	9620	10650	11260	11690
A	(9)	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
B	(9)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(9)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS-N / LN-CA			2022	2222	2422	2622	2722	3222	3622	4222	4822
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	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	444,3	492,0	524,2	564,0	654,5	779,5	903,5	1013	1130
Total power input	(1)	kW	160,1	169,3	182,4	205,4	219,1	261,5	283,2	333,8	371,8
EER	(1)	kW/kW	2,775	2,906	2,874	2,746	2,987	2,981	3,190	3,035	3,039
ESEER	(1)	kW/kW	3,850	3,920	3,920	3,930	4,330	4,200	4,220	4,230	4,270
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	443,2	490,6	522,6	562,8	652,8	777,4	901,3	1010	1127
EER	(1)(2)	kW/kW	2,750	2,870	2,840	2,720	2,960	2,950	3,160	3,000	3,010
ESEER	(1)(2)	kW/kW	3,760	3,810	3,800	3,850	4,210	4,080	4,110	4,100	4,140
Cooling energy class			C	C	C	C	B	B	A	B	B
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	466,9	520,1	553,2	585,6	682,5	804,4	922,8	1051	1166
Total power input	(3)	kW	143,4	156,2	167,3	177,2	197,3	231,9	258,2	300,2	332,8
COP	(3)	kW/kW	3,256	3,330	3,307	3,305	3,459	3,469	3,574	3,501	3,504
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	468,2	521,7	555,1	586,9	684,4	806,8	925,2	1054	1169
COP	(3)(2)	kW/kW	3,240	3,310	3,280	3,290	3,440	3,440	3,550	3,470	3,480
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(10)	kW	-	-	-	-	653	777	901	1010	1127
SEER	(10)(11)		-	-	-	-	4,31	4,20	4,26	4,26	4,31
Performance ηs	(10)(12)	%	-	-	-	-	169	165	167	167	169
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(4)	kW	336	368	400	387	-	-	-	-	-
SCOP	(4)(13)		3,41	3,46	3,50	3,58	-	-	-	-	-
Performance ηs	(4)(14)	%	134	135	137	140	-	-	-	-	-
Seasonal efficiency class	(15)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	21,25	23,53	25,07	26,97	31,30	37,28	43,21	48,44	54,04
Pressure drop	(1)	kPa	29,3	33,0	37,5	24,5	31,7	35,7	32,4	41,1	36,0
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	22,54	25,11	26,70	28,27	32,95	38,83	44,55	50,74	56,29
Pressure drop	(3)	kPa	32,9	37,6	42,5	26,9	35,2	38,7	34,5	45,0	39,0
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	210	232	247	266	275	340	470	465	518
NOISE LEVEL											
Sound Pressure	(5)	dB(A)	73	74	74	74	74	75	74	75	75
Sound power level in cooling	(6)(7)	dB(A)	93	95	95	95	95	96	96	98	98
Sound power level in heating	(6)(8)	dB(A)	94	96	96	96	96	97	97	99	99
SIZE AND WEIGHT											
Operating weight	(9)	kg	6120	6610	6700	6930	7580	9730	10800	11400	11860
A	(9)	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
B	(9)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(9)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS-N

Reversible unit, air source for outdoor installation

2022 - 4822 440,7-1162 kW

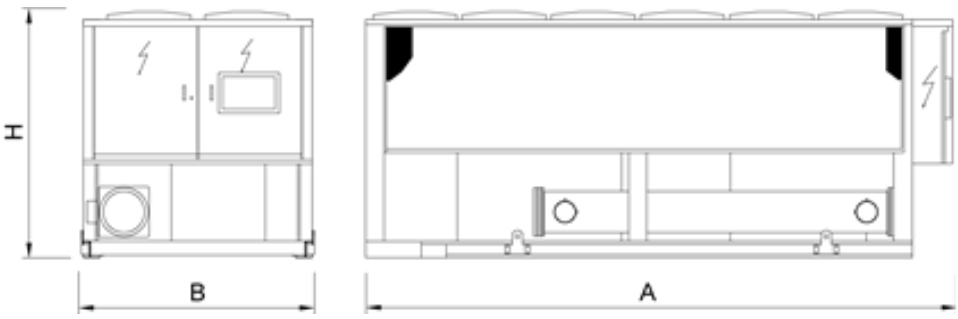
FOCS-N / SL-CA			2022	2222	2422	2622	2722	3222	3622	4222	4822
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	440,7	487,9	519,6	558,6	648,7	771,5	895,0	1004	1119
Total power input	(1)	kW	162,6	171,6	184,8	208,7	221,5	264,5	285,2	336,2	375,4
EER	(1)	kW/kW	2,710	2,843	2,812	2,677	2,929	2,917	3,138	2,986	2,981
ESEER	(1)	kW/kW	3,840	3,910	3,910	3,930	4,360	4,200	4,240	4,270	4,290
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	439,6	486,6	518,0	557,4	647,1	769,4	892,8	1001	1116
EER	(1)(2)	kW/kW	2,690	2,810	2,780	2,660	2,900	2,890	3,110	2,950	2,950
ESEER	(1)(2)	kW/kW	3,740	3,810	3,790	3,840	4,240	4,080	4,130	4,130	4,160
Cooling energy class			D	C	C	D	B	C	A	B	B
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	461,0	514,4	546,4	578,1	674,3	794,3	910,8	1039	1151
Total power input	(3)	kW	141,8	154,5	165,5	175,3	194,5	228,6	254,3	295,6	327,9
COP	(3)	kW/kW	3,251	3,329	3,302	3,298	3,467	3,475	3,582	3,515	3,510
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	462,3	516,0	548,2	579,4	676,1	796,6	913,1	1042	1154
COP	(3)(2)	kW/kW	3,230	3,310	3,280	3,280	3,440	3,450	3,560	3,490	3,490
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(10)	kW	-	-	-	-	647	769	893	1001	1116
SEER	(10)(11)		-	-	-	-	4,32	4,19	4,27	4,28	4,31
Performance ηs	(10)(12)	%	-	-	-	-	170	165	168	168	170
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(4)	kW	337	368	361	389	-	-	-	-	-
SCOP	(4)(13)		3,44	3,49	3,46	3,61	-	-	-	-	-
Performance ηs	(4)(14)	%	135	137	135	142	-	-	-	-	-
Seasonal efficiency class	(15)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	21,08	23,33	24,85	26,71	31,02	36,90	42,80	48,01	53,53
Pressure drop	(1)	kPa	28,8	32,5	36,8	24,0	31,2	34,9	31,8	40,3	35,3
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	22,25	24,83	26,37	27,90	32,55	38,34	43,96	50,17	55,56
Pressure drop	(3)	kPa	32,1	36,8	41,5	26,2	34,3	37,7	33,6	44,0	38,0
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	211	233	248	267	276	340	470	466	520
NOISE LEVEL											
Sound Pressure	(5)	dB(A)	69	70	70	70	70	71	70	71	71
Sound power level in cooling	(6)(7)	dB(A)	89	91	91	91	91	92	92	94	94
Sound power level in heating	(6)(8)	dB(A)	90	92	92	92	92	93	93	95	95
SIZE AND WEIGHT											
Operating weight	(9)	kg	6190	6680	6770	7010	7650	9820	10890	11510	11950
A	(9)	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
B	(9)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(9)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

FOCS-N-G05

Reversible unit, air source for outdoor installation

2022 - 4822 440,7-1162 kW

Outdoor heat pump unit for the production of chilled/hot water with semi-hermetic screw compressors optimized for R513A, axial-flow fans, external coil with copper tubes and aluminium fines, shell and tubes heat exchanger designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are galvanized epoxy powder coated steel with increased thickness.
These units are designed for two-pipes systems and are able to produce hot or cold water according to the selected operation mode; the precise thermoregulation guarantees an optimal response to load´s changes, in every operating condition.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

B	Basic	SL-CA	Super Low noise version, Class A of efficiency
CA	Class A of efficiency		
LN-CA	Low Noise, Class A of efficiency		

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

HIGH EFFICIENCY
Unit in Class A as per Eurovent (in heating). High efficiency for low energy consumption during the operating hours.

LOW GWP REFRIGERANT
New generation refrigerant R513A, with reduced greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of R513A = 572, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer. Not flammable (ASHRAE 34, ISO 817: class A1).

SMART DEFROST
The advanced self-adaptive proprietary defrosting logics take into account all the operating parameters and the external conditions: the number and duration of the defrost cycles are therefore reduced to the minimum necessary ensuring an increase in efficiency and net heating capacity of the units.

COMPACTNESS
Reduced dimensions, for easy installation even in sites with space´ constraints

WIDE OPERATING RANGE
Unit´s operation guaranteed with external air temperature down to -10 °C during winter and up to 50 °C during summer.

HOT WATER SUPPLY
Supply of hot water in use up to 60°C, offering maximum versatility with respect to different plant engineering solutions

Accessories

- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Kit HWT, High Water Temperature, to produce hot water up to 60°C
- Soft start

FOCS-N-G05/B			2022	2222	2422	2722	3222	3622	4222	4822
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	449,7	494,0	530,9	662,8	790,9	916,2	1029	1146
Total power input	(1)	kW	169,5	184,1	193,9	233,6	278,2	304,4	350,4	396,9
EER	(1)	kW/kW	2,653	2,683	2,738	2,837	2,843	3,010	2,937	2,887
ESEER	(1)	kW/kW	3,640	3,680	3,740	4,130	4,020	4,000	4,120	4,040
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	448,5	492,6	529,3	661,1	788,7	913,9	1026	1143
EER	(1)(2)	kW/kW	2,630	2,660	2,710	2,810	2,810	2,980	2,900	2,860
ESEER	(1)(2)	kW/kW	3,540	3,580	3,620	4,020	3,910	3,900	3,980	3,930
Cooling energy class			D	D	C	C	C	B	B	C
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	483,4	528,9	568,2	705,5	832,1	955,4	1083	1207
Total power input	(3)	kW	158,4	172,5	185,0	218,9	257,0	288,0	328,4	369,9
COP	(3)	kW/kW	3,052	3,066	3,071	3,223	3,238	3,317	3,298	3,263
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	484,8	530,6	570,2	707,6	834,7	958,0	1087	1211
COP	(3)(2)	kW/kW	3,030	3,050	3,050	3,200	3,220	3,300	3,270	3,240
Cooling energy class			B	B	B	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(10)	kW	-	-	-	661	789	914	1026	1143
SEER	(10)(11)		-	-	-	4,14	4,10	4,10	4,15	4,11
Performance ηs	(10)(12)	%	-	-	-	163	161	161	163	161
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	339	366	400	-	-	-	-	-
SCOP	(4)(13)		3,19	3,20	3,19	-	-	-	-	-
Performance ηs	(4)(14)	%	125	125	125	-	-	-	-	-
Seasonal efficiency class	(15)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	21,50	23,62	25,39	31,69	37,82	43,81	49,20	54,80
Pressure drop	(1)	kPa	30,0	33,3	38,4	32,5	36,7	33,3	42,3	37,0
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	23,33	25,53	27,43	34,06	40,17	46,12	52,30	58,27
Pressure drop	(3)	kPa	35,3	38,9	44,8	37,6	41,4	36,9	47,9	41,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	184	213	230	258	311	385	437	483
NOISE LEVEL										
Sound Pressure	(5)	dB(A)	79	80	80	80	81	80	82	81
Sound power level in cooling	(6)(7)	dB(A)	99	101	101	101	102	102	104	104
Sound power level in heating	(6)(8)	dB(A)	99	101	101	101	102	102	104	104
SIZE AND WEIGHT										
Operating weight	(9)	kg	5900	6330	6420	7290	9390	10400	10700	11310
A	(9)	mm	4900	5800	5800	7000	7900	10000	10000	11800
B	(9)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(9)	mm	2430	2430	2430	2430	2430	2430	2430	2430

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS-N-G05

Reversible unit, air source for outdoor installation

2022 - 4822 440,7-1162 kW

FOCS-N-G05/CA			2022	2222	2422	2622	2722	3222	3622	4222	4822
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	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	459,6	502,8	537,8	586,0	671,6	802,9	928,9	1041	1162
Total power input	(1)	kW	164,0	176,2	188,1	209,6	226,5	269,8	296,3	348,8	385,2
EER	(1)	kW/kW	2,802	2,854	2,859	2,796	2,965	2,976	3,135	2,985	3,017
ESEER	(1)	kW/kW	3,820	3,850	3,850	3,880	4,290	4,130	4,150	4,160	4,190
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	458,4	501,4	536,1	584,7	669,8	800,6	926,5	1038	1159
EER	(1)(2)	kW/kW	2,770	2,820	2,820	2,770	2,930	2,940	3,100	2,950	2,980
ESEER	(1)(2)	kW/kW	3,720	3,750	3,730	3,800	4,150	4,000	4,040	4,020	4,070
Cooling energy class			C	C	C	C	B	B	A	B	B
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	474,9	525,3	558,7	595,6	689,4	812,5	932,0	1062	1178
Total power input	(3)	kW	149,3	162,5	174,2	184,5	205,6	241,7	269,1	312,8	346,9
COP	(3)	kW/kW	3,181	3,233	3,207	3,228	3,353	3,362	3,463	3,395	3,396
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	476,3	526,9	560,6	597,0	691,4	814,9	934,5	1065	1181
COP	(3)(2)	kW/kW	3,160	3,210	3,180	3,210	3,330	3,340	3,440	3,370	3,370
Cooling energy class			B	A	B	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(10)	kW	-	-	-	-	670	801	926	1038	1159
SEER	(10)(11)		-	-	-	-	4,23	4,14	4,20	4,19	4,24
Performance ηs	(10)(12)	%	-	-	-	-	166	163	165	165	167
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(4)	kW	342	372	361	393	-	-	-	-	-
SCOP	(4)(13)		3,38	3,41	3,38	3,56	-	-	-	-	-
Performance ηs	(4)(14)	%	132	133	132	139	-	-	-	-	-
Seasonal efficiency class	(15)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	21,98	24,05	25,72	28,02	32,11	38,39	44,42	49,77	55,59
Pressure drop	(1)	kPa	31,3	34,5	39,4	26,5	33,4	37,8	34,3	43,3	38,0
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	22,92	25,36	26,97	28,75	33,28	39,22	44,99	51,24	56,85
Pressure drop	(3)	kPa	34,1	38,3	43,4	27,9	35,9	39,5	35,2	45,9	39,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	233	256	253	276	288	391	495	518	618
NOISE LEVEL											
Sound Pressure	(5)	dB(A)	79	80	80	80	80	81	80	81	81
Sound power level in cooling	(6)(7)	dB(A)	99	101	101	101	101	102	102	104	104
Sound power level in heating	(6)(8)	dB(A)	99	101	101	101	101	102	102	104	104
SIZE AND WEIGHT											
Operating weight	(9)	kg	6050	6630	6710	6950	7480	9620	10650	11260	11690
A	(9)	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
B	(9)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(9)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS-N-G05/LN-CA			2022	2222	2422	2622	2722	3222	3622	4222	4822
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	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	444,3	492,0	524,2	564,0	654,5	779,5	903,5	1013	1130
Total power input	(1)	kW	166,8	176,3	189,9	214,0	228,4	272,7	295,2	347,9	387,6
EER	(1)	kW/kW	2,664	2,791	2,760	2,636	2,866	2,858	3,061	2,912	2,915
ESEER	(1)	kW/kW	3,780	3,850	3,840	3,860	4,250	4,110	4,140	4,150	4,190
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	443,2	490,6	522,6	562,8	652,8	777,4	901,3	1010	1127
EER	(1)(2)	kW/kW	2,640	2,760	2,730	2,620	2,840	2,830	3,030	2,880	2,890
ESEER	(1)(2)	kW/kW	3,680	3,740	3,730	3,780	4,130	4,000	4,030	4,020	4,070
Cooling energy class			D	C	C	D	C	C	B	C	C
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	471,6	525,3	558,7	591,5	689,4	812,5	932,0	1062	1178
Total power input	(3)	kW	149,3	162,5	174,2	184,5	205,6	241,7	269,1	312,8	346,9
COP	(3)	kW/kW	3,159	3,233	3,207	3,206	3,353	3,362	3,463	3,395	3,396
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	472,9	526,9	560,6	592,9	691,4	814,9	934,5	1065	1181
COP	(3)(2)	kW/kW	3,140	3,210	3,180	3,190	3,330	3,340	3,440	3,370	3,370
Cooling energy class			B	A	B	B	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(10)	kW	-	-	-	-	653	777	901	1010	1127
SEER	(10)(11)		-	-	-	-	4,22	4,11	4,17	4,18	4,22
Performance ηs	(10)(12)	%	-	-	-	-	166	162	164	164	166
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(4)	kW	340	372	361	391	-	-	-	-	-
SCOP	(4)(13)		3,36	3,41	3,38	3,53	-	-	-	-	-
Performance ηs	(4)(14)	%	131	133	132	138	-	-	-	-	-
Seasonal efficiency class	(15)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	21,25	23,53	25,07	26,97	31,30	37,28	43,21	48,44	54,04
Pressure drop	(1)	kPa	29,3	33,0	37,5	24,5	31,7	35,7	32,4	41,1	36,0
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	22,77	25,36	26,97	28,55	33,28	39,22	44,99	51,24	56,85
Pressure drop	(3)	kPa	33,6	38,3	43,4	27,5	35,9	39,5	35,2	45,9	39,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	242	267	284	306	316	391	541	535	596
NOISE LEVEL											
Sound Pressure	(5)	dB(A)	73	74	74	74	74	75	74	75	75
Sound power level in cooling	(6)(7)	dB(A)	93	95	95	95	95	96	96	98	98
Sound power level in heating	(6)(8)	dB(A)	94	96	96	96	96	97	97	99	99
SIZE AND WEIGHT											
Operating weight	(9)	kg	6120	6610	6700	6930	7580	9730	10800	11400	11860
A	(9)	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
B	(9)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(9)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS-N-G05

Reversible unit, air source for outdoor installation

2022 - 4822 440,7-1162 kW

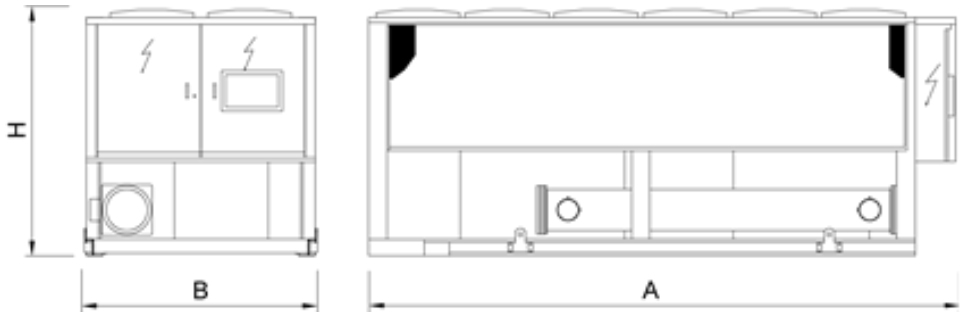
FOCS-N-G05/SL-CA			2022	2222	2422	2622	2722	3222	3622	4222	4822
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	440,7	487,9	519,6	558,6	648,7	771,5	895,0	1004	1119
Total power input	(1)	kW	169,4	178,7	192,6	217,5	231,0	275,9	297,4	350,6	391,5
EER	(1)	kW/kW	2,602	2,730	2,698	2,568	2,808	2,796	3,009	2,864	2,858
ESEER	(1)	kW/kW	3,760	3,840	3,830	3,850	4,270	4,110	4,150	4,180	4,200
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	439,6	486,6	518,0	557,4	647,1	769,4	892,8	1001	1116
EER	(1)(2)	kW/kW	2,580	2,700	2,670	2,550	2,780	2,770	2,980	2,830	2,830
ESEER	(1)(2)	kW/kW	3,670	3,740	3,710	3,770	4,160	3,990	4,040	4,040	4,080
Cooling energy class			D	C	D	D	C	C	B	C	C
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	465,6	519,6	551,8	583,9	681,1	802,2	919,9	1050	1162
Total power input	(3)	kW	147,7	160,8	172,4	182,6	202,8	238,4	265,1	308,1	341,9
COP	(3)	kW/kW	3,152	3,231	3,201	3,198	3,358	3,365	3,470	3,408	3,399
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	466,9	521,2	553,7	585,2	683,0	804,6	922,3	1053	1165
COP	(3)(2)	kW/kW	3,130	3,210	3,180	3,180	3,340	3,340	3,450	3,380	3,380
Cooling energy class			B	A	B	B	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(10)	kW	-	-	-	-	647	769	893	1001	1116
SEER	(10)(11)		-	-	-	-	4,23	4,10	4,18	4,19	4,22
Performance ηs	(10)(12)	%	-	-	-	-	166	161	164	165	166
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(4)	kW	340	371	365	393	-	-	-	-	-
SCOP	(4)(13)		3,39	3,44	3,41	3,56	-	-	-	-	-
Performance ηs	(4)(14)	%	132	135	134	139	-	-	-	-	-
Seasonal efficiency class	(15)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	21,08	23,33	24,85	26,71	31,02	36,90	42,80	48,01	53,53
Pressure drop	(1)	kPa	28,8	32,5	36,8	24,0	31,2	34,9	31,8	40,3	35,3
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	22,47	25,08	26,64	28,18	32,88	38,72	44,40	50,67	56,11
Pressure drop	(3)	kPa	32,7	37,5	42,3	26,8	35,0	38,5	34,2	44,9	38,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	243	268	285	307	317	391	541	536	598
NOISE LEVEL											
Sound Pressure	(5)	dB(A)	69	70	70	70	70	71	70	71	71
Sound power level in cooling	(6)(7)	dB(A)	89	91	91	91	91	92	92	94	94
Sound power level in heating	(6)(8)	dB(A)	90	92	92	92	92	93	93	95	95
SIZE AND WEIGHT											
Operating weight	(9)	kg	6190	6680	6770	7010	7650	9820	10890	11510	11950
A	(9)	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
B	(9)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(9)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430

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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

MICS-CN

0072 - 0122 17,30-30,30 kW

Reversible unit, air source for indoor installation

MICS-CN is the Climaveneta range air-cooled heat pumps with gas R410A. These are indoor units that, thanks to the ducted centrifugal fans, may also be installed outdoors. They are fitted with hermetic Scroll compressors and Full Floating technology. The latter is an intelligent electronic unit providing the perfect answer to residential market requirements: compactness, ease of installation and quietness.

Control

Full Floating technology

The new generation electronic controller allows to manage the chiller by using the Full Floating technology, designed by Climaveneta for improving the system´s efficiency for the fans (Floating Fans), for the circulating pump (Floating Flow) and finally for the working temperature (Floating Setpoint). This also allows to achieve all the following benefits: improvement of efficiency in both standard and extreme conditions, much lower operating noise in part load conditions, lower installation time, lower time for system set-up, broader operating limits, faster transient after defrosts.

Refrigerant

R410A

Versions

FF Basic version, with built-in hydronic kit

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.
High efficiency, low pressure drop AISI 316 stainless steel plate heat exchangers, fitted with heating element to provide frost protection.
Control with foolproof device accessible from the outside.
Finned coils made with copper pipes and aluminium fins with large exchange surface area, tested for leaks with dried air at 30 bar.
User interface with display.
Electronic expansion valve
Available water pipe fittings in case of installation under appliance
The circuit includes:

- Multistage centrifugal pump
- Air vent valve
- Differential pressure switch.
- Expansion tank
- Safety valve
- Pressure gauge
- Drain valve.

The full range is also available with the Class A efficiency rating (in heating).

Accessories

- Rubber anti-vibration mounting kit
- Removable metal mesh water filter kit
- Coil protection grids
- Remote control kit

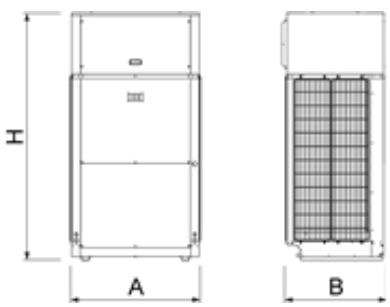
MICS-CN / FF			0072	0092	0122
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
PERFORMANCE					
COOLING ONLY (GROSS VALUE)					
Cooling capacity	(1)	kW	17,30	21,80	30,30
Total power input	(1)	kW	6,500	9,300	10,70
EER	(1)	kW/kW	2,662	2,344	2,832
ESEER	(1)	kW/kW	3,860	3,750	3,780
COOLING ONLY (EN14511 VALUE)					
Cooling capacity	(1)(2)	kW	17,40	21,90	30,40
EER	(1)(2)	kW/kW	2,780	2,440	3,160
ESEER	(1)(2)	kW/kW	4,270	4,090	4,800
Cooling energy class			A	C	A
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(3)	kW	20,20	26,10	33,90
Total power input	(3)	kW	6,500	8,600	11,20
COP	(3)	kW/kW	3,108	3,035	3,027
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(3)(2)	kW	20,10	26,00	33,80
COP	(3)(2)	kW/kW	3,200	3,140	3,320
Cooling energy class			A	A	A
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	14,6	18,0	24,8
SCOP	(4)(13)		3,27	3,36	3,60
Performance ηs	(4)(14)	%	128	132	141
Seasonal efficiency class	(15)		A+	A+	A+
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	l/s	0,827	1,043	1,449
Available unit's head	(1)	kPa	134	150	111
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(3)	l/s	0,975	1,260	1,636
Available unit's head	(3)	kPa	102	122	86,7
REFRIGERANT CIRCUIT					
Compressors nr.		N°	2	2	2
No. Circuits		N°	1	1	1
Refrigerant charge		kg	6,60	6,90	11,0
FANS					
Air flow		m³/s	2,50	2,50	5,00
Available static pressure		Pa	120	120	120
NOISE LEVEL					
Sound power level in cooling	(5)(6)	dB(A)	86	86	89
Sound power level in heating	(5)(7)	dB(A)	86	86	89
Sound power level in heating	(5)(8)	dB(A)	78	78	78
SIZE AND WEIGHT					
A	(9)	mm	1040	1040	1630
B	(9)	mm	790	790	790
H	(9)	mm	2000	2000	2000
Operating weight	(9)	kg	350	370	480

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 application in AVERAGE climate conditions according to [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, indoors.
7 Sound power level in heating, indoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

NX-CN

0072 - 1104 18,03-265,3 kW

Reversible unit, air source for indoor installation

Heat pump for indoor installation to produce chilled/hot water with hermetic rotary Scroll compressors, centrifugal plug fans with EC motor, braze-welded plate-type exchanger and thermal expansion valve. Structure and the external paneling made from hot-galvanised metal plate and painted with epoxy powder coat RAL 7035. The panels are easy to remove for quick and easy access to the inside components from either side of the unit.
The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Control

Electronic control W3000TE
W3000TE Compact features function controls and LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. As alternative, the innovative KIPlink user interface allows one to operate on the unit directly from the smartphone or tablet. The controller provides water temperature control for the heating systems, cooling systems (only for reversible units), as well as for domestic hot water (only for reversible units). These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives, the proportional- or proportional- integral regulations are also available. Complete alarm management system is available, with the “black-box” and the alarm history display functions.
For multiple units’ systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Built-in clock can create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production and fundamental for managing the Legionella prevention cycles. Supervision is available either using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols. A dedicated wall-mounted keypad can be used for remote control of all the functions.
Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Refrigerant

R410A

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency
A	High efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP READY
The highest level of efficiency at part load can meet and exceed the minimum seasonal efficiency for heating, SCOP according with the eco-sustainable design requirements for all products using energy.

PLUG FUN WITH EC MOTOR
More air flow by smaller diameter.
Energy cost saving by highest efficiency at the operating point.
Fan is directly coupling with motor, no energy lost due to the transmission (belts and pulleys). External rotor fitted with permanent magnets. Outstanding efficiency even at partial load range, due to the lack of brushes and lower consumption in every working condition in order to achieve a better seasonal efficiency in accordance with ErP Directive.

TOTAL VERSATILITY
Horizontal or vertical air flow.

INTEGRATED HYDRONIC MODULE
The built-in hydronic module already contains the main water circuit components; it is available as option with single or twin in-line pump, for achieving low or high head, fixed or variable speed.

Accessories

- Soft starters
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Outside air temperature probe for plant water set point compensation.
- Horizontal or vertical air outflow
- Hydronic module available in different configurations with 1 or 2 pumps fixed speed or variable speed, for achieving both low or high head.
- VPF (Variable Primary Flow) system
- Electronic expansion valve

NX-CN /K			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	18,37	22,60	25,76	30,34	37,95	44,87	51,74	57,71
Total power input	(1)	kW	6,265	8,327	9,752	11,60	12,81	14,82	17,67	20,36
EER	(1)	kW/kW	2,935	2,713	2,646	2,612	2,969	3,034	2,921	2,828
ESEER	(1)	kW/kW	4,410	4,190	4,100	3,180	4,250	4,260	4,180	4,100
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	18,30	22,50	25,70	30,20	37,80	44,70	51,50	57,50
EER	(1)(2)	kW/kW	2,940	2,710	2,660	2,630	2,980	3,060	2,940	2,850
ESEER	(1)(2)	kW/kW	4,290	4,090	4,030	3,140	4,170	4,210	4,140	4,050
Cooling energy class			A	A	B	B	A	A	A	A
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	19,16	23,87	28,02	31,79	41,48	48,41	55,64	61,74
Total power input	(3)	kW	6,864	8,851	10,57	12,08	13,78	15,96	18,58	21,11
COP	(3)	kW/kW	2,799	2,701	2,642	2,628	3,007	3,025	2,989	2,924
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	19,30	24,00	28,10	31,90	41,70	48,60	55,80	61,90
COP	(3)(2)	kW/kW	2,830	2,720	2,670	2,650	3,040	3,060	3,020	2,950
Cooling energy class			B	C	C	C	A	A	A	B
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	14,5	17,9	21,4	24,5	32,1	37,5	43,0	47,9
SCOP	(4)(13)		3,56	3,53	3,52	3,46	3,71	3,71	3,67	3,64
Performance ηs	(4)(14)	%	140	138	138	136	145	145	144	142
Seasonal efficiency class	(15)		A+	A+	A+	A+	A+	A+	A+	A+
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	0,878	1,081	1,232	1,451	1,815	2,146	2,474	2,760
Pressure drop	(1)	kPa	16,7	18,2	16,6	18,3	19,1	16,6	17,3	17,1
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	0,925	1,152	1,352	1,535	2,002	2,337	2,686	2,980
Pressure drop	(3)	kPa	18,6	20,7	20,1	20,4	23,2	19,6	20,4	19,9
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	8,90	9,10	19,0	20,2	21,1	21,5
FANS										
Air flow		m³/s	2,08	2,50	3,33	3,47	4,44	5,42	5,69	5,97
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(5)(6)(16)	dB(A)	80	81	82	82	81	84	85	86
Sound power level in heating	(5)(7)(16)	dB(A)	70	70	70	70	80	80	80	80
Sound power level in heating	(5)(8)(16)	dB(A)	80	81	82	82	81	84	85	86
SIZE AND WEIGHT										
A	(9)	mm	1500	1500	1500	1500	2480	2480	2480	2480
B	(9)	mm	900	900	900	900	1100	1100	1100	1100
H	(9)	mm	1910	1910	1910	1910	2100	2100	2100	2100
Operating weight	(9)	kg	430	440	460	470	810	840	840	860

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 application in AVERAGE climate conditions according to [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 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 application 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 HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-CN

0072 - 1104 18,03-265,3 kW

Reversible unit, air source for indoor installation

NX-CN /K			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	66,12	74,94	85,04	94,47	106,8	121,1	135,9	151,4
Total power input	(1)	kW	23,80	27,29	32,31	35,39	40,67	44,20	52,32	59,85
EER	(1)	kW/kW	2,777	2,744	2,632	2,669	2,624	2,740	2,598	2,532
ESEER	(1)	kW/kW	4,090	3,930	3,820	3,830	3,780	3,910	3,760	3,700
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	65,90	74,70	84,80	94,30	106,6	120,8	135,6	151,1
EER	(1)(2)	kW/kW	2,790	2,770	2,650	2,690	2,650	2,760	2,620	2,550
ESEER	(1)(2)	kW/kW	4,060	3,920	3,790	3,830	3,760	3,900	3,740	3,680
Cooling energy class			A	A	B	B	B	A	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	70,72	79,49	89,35	102,2	114,6	131,1	146,9	162,9
Total power input	(3)	kW	24,29	28,02	32,71	36,57	41,21	45,16	52,95	60,43
COP	(3)	kW/kW	2,909	2,839	2,734	2,792	2,782	2,900	2,777	2,697
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	70,90	79,70	89,60	102,5	114,9	131,4	147,3	163,3
COP	(3)(2)	kW/kW	2,940	2,870	2,760	2,820	2,810	2,930	2,810	2,730
Cooling energy class			B	B	C	B	B	B	B	C
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	54,9	61,7	69,1	78,7	88,2	101	113	126
SCOP	(4)(13)		3,55	3,49	3,40	3,42	3,40	3,56	3,47	3,33
Performance ηs	(4)(14)	%	139	137	133	134	133	139	136	130
Seasonal efficiency class	(15)		A+	A+	A+	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	3,162	3,584	4,067	4,518	5,107	5,791	6,500	7,240
Pressure drop	(1)	kPa	12,9	12,6	13,5	13,2	13,5	13,3	14,3	14,9
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	3,414	3,837	4,313	4,932	5,532	6,328	7,091	7,864
Pressure drop	(3)	kPa	15,1	14,4	15,2	15,7	15,8	15,9	17,0	17,6
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	27,1	23,6	24,6	32,2	33,0	38,9	39,9	40,8
FANS										
Air flow		m³/s	7,50	8,06	8,89	10,56	11,11	12,50	13,89	15,83
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(5)(6)(16)	dB(A)	84	85	87	87	84	90	92	90
Sound power level in heating	(5)(7)(16)	dB(A)	80	80	80	82	83	83	84	85
Sound power level in heating	(5)(8)(16)	dB(A)	84	85	87	87	84	90	92	90
SIZE AND WEIGHT										
A	(9)	mm	2480	2480	2480	2980	2980	3970	3970	3970
B	(9)	mm	1100	1100	1100	1260	1260	1260	1260	1260
H	(9)	mm	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(9)	kg	920	960	1020	1260	1280	1510	1530	1610

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 application in AVERAGE climate conditions according to [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 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 application 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 HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-CN /K			0702	0524	0604	0704	0804	0904	1004	1104
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	173,1	124,8	144,0	167,2	186,9	216,9	241,1	265,3
Total power input	(1)	kW	66,44	47,29	56,52	63,94	74,42	81,79	93,22	108,2
EER	(1)	kW/kW	2,607	2,638	2,549	2,617	2,512	2,652	2,587	2,452
ESEER	(1)	kW/kW	3,790	4,050	3,920	4,070	3,890	4,060	3,960	3,920
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	172,7	124,4	143,6	166,8	186,4	216,4	240,5	264,7
EER	(1)(2)	kW/kW	2,620	2,650	2,560	2,640	2,530	2,670	2,600	2,460
ESEER	(1)(2)	kW/kW	3,770	3,960	3,830	4,000	3,820	3,990	3,890	3,860
Cooling energy class			B	B	B	B	B	B	B	C
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	187,1	135,0	156,7	179,9	199,1	231,1	256,0	283,1
Total power input	(3)	kW	65,32	48,20	57,36	65,09	74,79	82,87	93,29	105,0
COP	(3)	kW/kW	2,865	2,801	2,730	2,763	2,662	2,788	2,744	2,696
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	187,6	135,4	157,2	180,4	199,6	231,7	256,7	283,8
COP	(3)(2)	kW/kW	2,900	2,830	2,760	2,790	2,690	2,820	2,770	2,720
Cooling energy class			B	B	C	C	C	B	C	C
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	144	105	122	139	153	178	196	218
SCOP	(4)(13)		3,46	3,62	3,51	3,56	3,44	3,55	3,55	3,52
Performance ηs	(4)(14)	%	135	142	137	139	135	139	139	138
Seasonal efficiency class	(15)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	8,277	5,966	6,887	7,998	8,935	10,37	11,53	12,69
Pressure drop	(1)	kPa	15,5	19,6	19,6	19,9	19,9	20,4	20,5	19,6
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	9,034	6,518	7,564	8,685	9,613	11,16	12,36	13,67
Pressure drop	(3)	kPa	18,5	23,4	23,7	23,5	23,0	23,5	23,5	22,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	4	4	4	4	4	4	4
No. Circuits		N°	1	2	2	2	2	2	2	2
Refrigerant charge		kg	51,4	43,0	44,3	51,5	53,5	68,5	71,0	72,8
FANS										
Air flow		m³/s	18,06	13,06	15,28	17,78	19,44	22,50	24,17	24,17
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(5)(6)(16)	dB(A)	94	91	90	94	96	91	93	93
Sound power level in heating	(5)(7)(16)	dB(A)	85	85	85	86	86	88	90	90
Sound power level in heating	(5)(8)(16)	dB(A)	94	91	90	94	96	91	93	93
SIZE AND WEIGHT										
A	(9)	mm	4670	3970	3970	4670	4670	5670	5670	5670
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	1820	1490	1590	1910	2060	2430	2490	2540

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 application in AVERAGE climate conditions according to [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 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 application 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 HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-CN

0072 - 1104 18,03-265,3 kW

Reversible unit, air source for indoor installation

NX-CN /SL-K			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	18,03	22,02	24,45	28,64	37,03	43,88	50,75	56,21
Total power input	(1)	kW	6,123	8,027	9,278	11,11	12,49	14,36	17,16	19,76
EER	(1)	kW/kW	2,941	2,740	2,640	2,577	2,960	3,049	2,953	2,838
ESEER	(1)	kW/kW	4,470	4,240	4,130	4,270	4,240	4,310	4,230	4,250
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	17,90	21,90	24,40	28,50	36,90	43,70	50,60	56,00
EER	(1)(2)	kW/kW	2,950	2,740	2,660	2,590	2,980	3,070	2,970	2,840
ESEER	(1)(2)	kW/kW	4,390	4,160	4,090	4,200	4,200	4,270	4,190	4,210
Cooling energy class			A	A	B	B	A	A	A	A
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	18,92	23,48	27,08	30,78	40,70	47,57	54,82	60,97
Total power input	(3)	kW	6,526	8,199	9,203	10,53	12,96	14,98	17,50	19,90
COP	(3)	kW/kW	2,894	2,866	2,946	2,933	3,131	3,173	3,131	3,065
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	19,00	23,60	27,20	30,90	40,90	47,80	55,00	61,20
COP	(3)(2)	kW/kW	2,920	2,890	2,990	2,960	3,170	3,210	3,160	3,090
Cooling energy class			B	B	B	B	A	A	A	A
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	14,3	17,6	20,6	23,6	31,4	36,7	42,4	47,2
SCOP	(4)(13)		3,73	3,75	3,90	3,88	3,86	3,87	3,84	3,84
Performance ηs	(4)(14)	%	146	147	153	152	151	152	151	150
Seasonal efficiency class	(15)		A+	A+	A++	A++	A++	A++	A++	A++
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	0,862	1,053	1,169	1,370	1,771	2,098	2,427	2,688
Pressure drop	(1)	kPa	16,1	17,3	15,0	16,3	18,2	15,8	16,7	16,2
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	0,913	1,133	1,307	1,486	1,964	2,296	2,646	2,943
Pressure drop	(3)	kPa	18,1	20,0	18,7	19,2	22,3	19,0	19,8	19,4
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	1,81	2,08	2,22	2,36	3,61	4,44	4,86	5,14
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(5)(6)(16)	dB(A)	70	72	71	72	79	76	78	79
Sound power level in heating	(5)(7)(16)	dB(A)	60	61	59	60	73	72	74	73
Sound power level in heating	(5)(8)(16)	dB(A)	70	72	71	72	79	76	78	79
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 application in AVERAGE climate conditions according to [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 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 application 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 HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-CN /SL-K			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	64,42	72,59	82,03	91,09	102,9	118,8	132,6	145,7
Total power input	(1)	kW	22,59	26,26	30,86	34,70	38,98	43,05	50,48	56,85
EER	(1)	kW/kW	2,850	2,760	2,654	2,625	2,638	2,763	2,626	2,561
ESEER	(1)	kW/kW	4,350	3,970	4,020	3,830	3,940	3,960	3,960	3,760
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	64,20	72,40	81,80	90,90	102,7	118,5	132,3	145,4
EER	(1)(2)	kW/kW	2,870	2,770	2,660	2,640	2,650	2,780	2,640	2,570
ESEER	(1)(2)	kW/kW	4,340	3,970	3,990	3,820	3,910	3,930	3,930	3,740
Cooling energy class			A	A	B	B	B	A	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	69,20	77,93	87,39	99,80	111,9	129,4	144,6	159,1
Total power input	(3)	kW	22,82	25,75	29,62	33,98	37,33	42,76	49,29	54,28
COP	(3)	kW/kW	3,035	3,019	2,953	2,935	3,000	3,023	2,933	2,930
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	69,40	78,10	87,60	100,1	112,2	129,7	145,0	159,5
COP	(3)(2)	kW/kW	3,070	3,050	2,980	2,960	3,030	3,050	2,960	2,960
Cooling energy class			A	A	B	B	A	A	B	B
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	53,7	60,3	67,3	76,5	85,8	99,2	111	122
SCOP	(4)(13)		3,86	3,69	3,67	3,56	3,67	3,69	3,66	3,57
Performance ηs	(4)(14)	%	151	145	144	139	144	145	143	140
Seasonal efficiency class	(15)		A++	A+	A+	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	3,081	3,471	3,923	4,356	4,922	5,682	6,342	6,967
Pressure drop	(1)	kPa	12,3	11,8	12,5	12,2	12,5	12,8	13,6	13,8
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	3,340	3,762	4,218	4,818	5,403	6,246	6,982	7,680
Pressure drop	(3)	kPa	14,4	13,9	14,5	15,0	15,1	15,5	16,5	16,7
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	6,11	6,39	6,94	8,06	8,61	10,83	11,67	12,22
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(5)(6)(16)	dB(A)	83	77	78	81	78	83	84	86
Sound power level in heating	(5)(7)(16)	dB(A)	75	72	71	76	77	76	76	81
Sound power level in heating	(5)(8)(16)	dB(A)	83	77	78	81	78	83	84	86
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 application in AVERAGE climate conditions according to [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 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 application 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 HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-CN

0072 - 1104 18,03-265,3 kW

Reversible unit, air source for indoor installation

NX-CN /SL-K			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	166,5	121,9	139,6	161,4	179,8	212,2	234,1
Total power input	(1)	kW	64,25	45,91	54,26	61,38	70,85	80,14	90,90
EER	(1)	kW/kW	2,593	2,656	2,571	2,629	2,540	2,649	2,575
ESEER	(1)	kW/kW	3,920	4,140	4,000	4,210	3,990	4,160	4,020
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	166,1	121,6	139,2	161,0	179,4	211,7	233,6
EER	(1)(2)	kW/kW	2,610	2,670	2,580	2,640	2,550	2,660	2,590
ESEER	(1)(2)	kW/kW	3,900	4,050	3,920	4,130	3,920	4,070	3,950
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	181,8	133,1	153,7	175,9	194,3	227,8	251,1
Total power input	(3)	kW	61,22	45,27	52,59	59,23	67,03	78,57	86,97
COP	(3)	kW/kW	2,971	2,938	2,922	2,971	2,900	2,898	2,886
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	182,2	133,5	154,2	176,4	194,8	228,4	251,7
COP	(3)(2)	kW/kW	3,000	2,960	2,950	3,000	2,920	2,920	2,910
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	140	103	118	135	148	175	191
SCOP	(4)(13)		3,67	3,79	3,70	3,82	3,66	3,70	3,71
Performance ηs	(4)(14)	%	144	148	145	150	144	145	145
Seasonal efficiency class	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,963	5,832	6,675	7,721	8,596	10,15	11,19
Pressure drop	(1)	kPa	14,4	18,7	18,4	18,5	18,4	19,5	19,3
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,777	6,427	7,420	8,491	9,379	10,99	12,12
Pressure drop	(3)	kPa	17,5	22,7	22,8	22,4	21,9	22,9	22,7
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	44,3	51,5	53,5	68,5	71,0
FANS									
Air flow		m³/s	13,89	11,11	12,22	13,89	15,00	19,17	19,72
Available static pressure		Pa	30	30	30	30	30	30	30
NOISE LEVEL									
Sound power level in cooling	(5)(6)(16)	dB(A)	89	83	85	81	83	88	88
Sound power level in heating	(5)(7)(16)	dB(A)	80	77	80	73	73	85	85
Sound power level in heating	(5)(8)(16)	dB(A)	89	83	85	81	83	88	88
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	2120	1610	1840	2310	2460	2550	2610

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 application in AVERAGE climate conditions according to [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 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 application 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 HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

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	6,090	8,036	8,822	10,59	12,51	14,50	17,28	19,89
EER	(1)	kW/kW	3,071	2,861	2,948	2,915	3,064	3,131	3,035	2,930
ESEER	(1)	kW/kW	4,610	4,370	4,520	4,600	4,370	4,380	4,290	4,270
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	18,60	22,90	25,90	30,80	38,10	45,20	52,30	58,10
EER	(1)(2)	kW/kW	3,090	2,870	2,980	2,930	3,090	3,170	3,060	2,950
ESEER	(1)(2)	kW/kW	4,550	4,290	4,510	4,530	4,290	4,340	4,240	4,230
Cooling energy class			A	A	A	A	A	A	A	A
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	6,883	8,795	9,828	11,43	13,67	15,91	18,60	21,23
COP	(3)	kW/kW	2,820	2,753	2,879	2,833	3,051	3,075	3,027	2,953
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	19,50	24,30	28,40	32,40	42,00	49,10	56,50	62,80
COP	(3)(2)	kW/kW	2,860	2,790	2,930	2,870	3,090	3,130	3,070	2,990
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	-	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-	-
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	(15)		A+	A+	A++	A+	A+	A+	A+	A+
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	0,896	1,100	1,246	1,479	1,831	2,170	2,509	2,790
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	0,937	1,168	1,364	1,558	2,016	2,358	2,717	3,022
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)(16)	dB(A)	76	79	82	84	86	83	84	85
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)	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	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 application in AVERAGE climate conditions according to [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 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 application 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 HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-CN

0072 - 1104 18,03-265,3 kW

Reversible unit, air source for indoor installation

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	22,87	26,54	31,09	36,00	39,03	43,81	51,52	57,66
EER	(1)	kW/kW	2,908	2,868	2,762	2,633	2,777	2,785	2,652	2,646
ESEER	(1)	kW/kW	4,350	4,090	4,080	3,880	4,020	3,970	3,930	3,830
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	66,40	75,80	85,70	94,60	108,0	121,7	136,3	152,4
EER	(1)(2)	kW/kW	2,940	2,890	2,780	2,660	2,810	2,810	2,670	2,670
ESEER	(1)(2)	kW/kW	4,330	4,080	4,070	3,870	4,010	3,960	3,900	3,830
Cooling energy class			A	A	A	A	A	A	B	B
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	24,27	27,82	31,97	37,35	40,38	45,26	52,51	58,92
COP	(3)	kW/kW	2,918	2,888	2,816	2,761	2,866	2,907	2,810	2,784
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	71,10	80,50	90,30	103,3	116,1	132,0	147,9	164,4
COP	(3)(2)	kW/kW	2,960	2,930	2,850	2,790	2,900	2,940	2,840	2,820
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	-	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-	-
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	(15)		A+	A+	A+	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	3,186	3,635	4,110	4,531	5,178	5,835	6,532	7,301
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	3,421	3,875	4,347	4,974	5,589	6,356	7,120	7,918
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)(16)	dB(A)	89	84	85	88	86	87	89	93
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)	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	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 application in AVERAGE climate conditions according to [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 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 application 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 HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

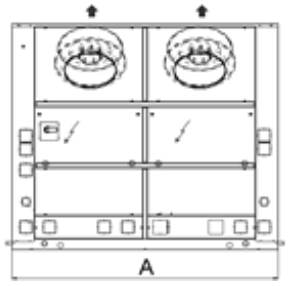
NX-CN /A			0702	0524	0604	0704	0804	0904	1004
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	173,7	124,8	144,3	169,3	187,2	216,9	238,0
Total power input	(1)	kW	64,96	46,32	55,18	62,04	70,82	81,01	91,54
EER	(1)	kW/kW	2,672	2,695	2,614	2,731	2,644	2,678	2,601
ESEER	(1)	kW/kW	3,950	4,120	4,000	4,210	4,060	4,080	3,990
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	173,3	124,4	143,9	168,8	186,7	216,4	237,4
EER	(1)(2)	kW/kW	2,700	2,710	2,630	2,750	2,660	2,690	2,610
ESEER	(1)(2)	kW/kW	3,940	4,030	3,920	4,130	3,990	4,010	3,920
Cooling energy class			B	A	B	A	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	186,8	134,8	156,8	181,2	199,6	230,8	253,9
Total power input	(3)	kW	65,86	47,22	56,14	64,22	71,33	82,01	89,80
COP	(3)	kW/kW	2,835	2,856	2,795	2,822	2,799	2,815	2,827
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	187,3	135,2	157,3	181,7	200,2	231,4	254,6
COP	(3)(2)	kW/kW	2,870	2,880	2,820	2,860	2,830	2,840	2,850
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
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	(15)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,308	5,966	6,903	8,094	8,952	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	9,019	6,508	7,570	8,749	9,635	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)(16)	dB(A)	95	87	90	88	88	91	91
Sound power level in heating	(5)(7)(16)	dB(A)	85	81	85	80	81	88	88
Sound power level in heating	(5)(8)(16)	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	2120	1610	1840	2310	2460	2550	2610

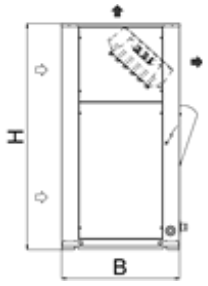
Notes

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 application in AVERAGE climate conditions according to [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 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 application 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 HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing





HEAT PUMPS

i-KI-MTD

0075t - 0151t 21,62-44,39 kW

Air cooled heat pump only heating, with axial fans and inverter driven compressor, for heating water up to 60°C.

The system is based on a packaged external units with integrated hydronic module and an internal unit with the electronic regulation. The heat pump provides chilled and domestic hot water production. Particular care is taken of winter mode, that thanks to the Inverter technology is guaranteed beyond traditional units working limits, water production up to 60°C.
The heating only heat pump features high seasonal efficiency in heating, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the installation.
The units can be coupled with traditional systems or radiant panels, guaranteeing always a very high energy efficiency. Intallation is strongly simplified thanks to the integrated hydronic module.

Refrigerant

R410A

Versions

B Basic

Features

WIDE RANGE
Extended capacity range.

SYSTEM EFFICIENCY
The unit is designed as a system: all components are regulated using proprietary control's logic for the highest efficiency.

HIGH EFFICIENCY AT PARTIAL LOAD
High seasonal efficiency in both heating and cooling mode, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the building. High efficiency for low energy consumption during the operating hours.

HIGH EFFICIENCY COMPONENTS
In terms of improving performance and reducing power consumption, the electronic thermostatic valve is an important component that maximises system efficiency, same for the choise the hydronic kit with inverter water pump (optional) and the modulating the fans speed.

EXTENSIVE OPERATING LIMITS
Particular care is taken for winter mode, that thanks to inverter technology is guaranteed beyond traditional units working limits, supplying hot water up to 60°C and down to -20°external air.

Control

NADISYSTEM
Electronic control that provides great application flexibility and dynamic control of delivery temperature water, optimizing indoor comfort and increasing the energy efficiency. The electronic board allows you to manage: -Wired remote control, backlit display and with temperature probe and humidity probe -Outdoor temperature sensor for water plant side modular set point compensation -A zone of direct heating for radiator, floor heating or fan coil and a zone with mix valve for floor heating -Electrical heating element for possible integration and anti-legionella cycle for cylinder -Boiler or electric heater in substitution or in addition -Up to 6 time bands can be programmed
-Up to 4 heat pump in cascade (with N-CM component)
-Several solutions through appropriate configurations of the controller and use of dedicated extension modules (accessorie), up to 5 zones.

Accessories

- Integrated hydronic module with on/off pump or high efficiency inverter pump
- Wired room terminal with backlit display, and with temperature and umidity probe
- Extension module for system configuration
- Three-way valve for domestic hot water
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Cascade management kit
- Serial card RS485 for ModBus
- Buffer tank 35,100,200 liters
- Hot water cylinder 300,500 liters
- 300 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump
- Copper-Copper heat exchanger coils
- Copper-Aluminum heat exchanger coils with epoxy treatment
- Electric heater for the base and for condensate collecting tray to avoid freezing

APPLICATION HYDRONIC TERMINAL

i-KI-MTD 0075-0151			0075t	0091t	0095t	0101t	0121t	0135t	0151t
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
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(1)	kW	21,62	30,35	32,86	35,63	35,85	39,19	44,39
Total power input	(1)	kW	8,297	9,448	10,92	12,33	11,43	13,01	14,67
COP	(1)	kW/kW	2,602	3,217	3,018	2,894	3,140	3,015	3,020
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(1)(2)	kW	21,70	30,60	33,10	35,90	36,00	39,40	44,60
COP	(1)(2)	kW/kW	2,570	3,180	2,980	2,860	3,110	2,990	2,990
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(3)	kW	16,0	23,1	25,2	27,4	25,8	28,4	32,4
SCOP	(3)(9)		3,50	3,98	3,93	3,88	4,06	4,06	4,22
Performance ηs	(3)(10)	%	137	156	154	152	159	159	166
Seasonal efficiency class	(11)		A+	A++	A++	A++	A++	A++	A++
PDesign	(4)	kW	16,6	22,5	24,7	27,2	25,8	28,7	32,5
SCOP	(4)(9)		2,82	3,21	3,21	3,18	3,27	3,28	3,37
Performance ηs	(4)(10)	%	110	125	125	124	128	128	132
Seasonal efficiency class	(12)		A+	A++	A++	A+	A++	A++	A++
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(1)	l/s	1,044	1,465	1,586	1,720	1,731	1,892	2,143
Pressure drop	(1)	kPa	26,1	30,6	35,9	42,2	19,4	23,2	29,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	5,90	9,30	9,30	9,30	10,8	10,8	10,8
NOISE LEVEL									
Sound power level in heating	(5)(6)	dB(A)	72	73	75	76	77	78	78
Sound Pressure	(7)	dB(A)	56	57	59	60	61	62	62
SIZE AND WEIGHT									
A	(8)	mm	1470	1470	1470	1470	1720	1720	1720
B	(8)	mm	570	570	570	570	670	670	670
H	(8)	mm	1200	1700	1700	1700	1700	1700	1700
Operating weight	(8)	kg	220	285	285	285	330	330	330

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

HEAT PUMPS

i-KI-MTD

0075t - 0151t 21,62-44,39 kW

Air cooled heat pump only heating, with axial fans and inverter driven compressor, for heating water up to 60°C.

APPLICATION FLOOR HEATING

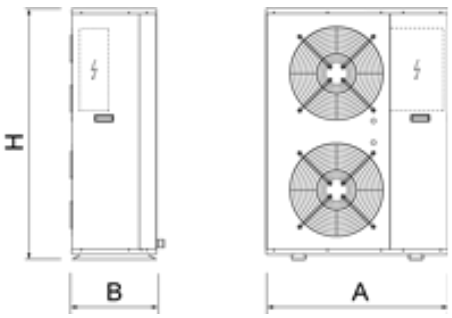
i-KI-MTD 0075-0151			0075t	0091t	0095t	0101t	0121t	0135t	0151t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(1)	kW	21,74	30,93	33,27	35,96	36,75	40,06	45,35
Total power input	(1)	kW	6,833	7,866	9,073	10,22	9,357	10,72	12,08
COP	(1)	kW/kW	3,177	3,926	3,671	3,529	3,932	3,748	3,752
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(1)(2)	kW	21,80	31,10	33,50	36,30	37,00	40,30	45,60
COP	(1)(2)	kW/kW	3,130	3,850	3,610	3,470	3,890	3,700	3,700
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(3)	kW	16,0	23,1	25,2	27,4	25,8	28,4	32,4
SCOP	(3)(9)		3,50	3,98	3,93	3,88	4,06	4,06	4,22
Performance ηs	(3)(10)	%	137	156	154	152	159	159	166
Seasonal efficiency class	(11)		A+	A++	A++	A++	A++	A++	A++
PDesign	(4)	kW	16,6	22,5	24,7	27,2	25,8	28,7	32,5
SCOP	(4)(9)		2,82	3,21	3,21	3,18	3,27	3,28	3,37
Performance ηs	(4)(10)	%	110	125	125	124	128	128	132
Seasonal efficiency class	(12)		A+	A++	A++	A+	A++	A++	A++
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(1)	l/s	1,046	1,488	1,600	1,730	1,768	1,927	2,182
Pressure drop	(1)	kPa	26,2	31,6	36,5	42,7	20,3	24,1	30,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	5,90	9,30	9,30	9,30	10,8	10,8	10,8
NOISE LEVEL									
Sound power level in heating	(5)(6)	dB(A)	72	73	75	76	77	78	78
Sound Pressure	(7)	dB(A)	56	57	59	60	61	62	62
SIZE AND WEIGHT									
A	(8)	mm	1470	1470	1470	1470	1720	1720	1720
B	(8)	mm	570	570	570	570	670	670	670
H	(8)	mm	1200	1700	1700	1700	1700	1700	1700
Operating weight	(8)	kg	220	285	285	285	330	330	330

Notes

1 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

AW-HT

0122 - 0302 38,00-102,0 kW

High efficiency heat pump, air source for outdoor installation, high water temperature

AW-HT represent the best solution for systems in which there is the need to produce high temperature hot water for both space heating and sanitary purposes. With this solution the space heating can be easily provided by using radiators, so without any major changes on the already existing distribution system available on site. The EVI technology compressor with additional steam injection in the compressing cycle assures a water temperature of 65°C and operating limits as low as -20°C. Neither probes nor connections pipes to wells are needed; the installation is simple, this is a suitable solution for all applications.

Control

W3000SE

W3000SE controller dedicated to heat pump applications features a incorporated logic for high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit via a multilevel menu, with settable language. The controller provides temperature control for the heating and cooling systems, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with “black-box” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For multiple units' systems, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, thus ensuring more efficient energy distribution and simultaneous water delivery to the different distribution systems.

- Built-in clock to create operating profiles up to 4 typical days and 10 time bands, essential for efficient programming of energy production and for managing the Legionella prevention cycles.
- Proprietary self-adaptive logic for defrost involving monitoring of multiple operating and climate parameters. This reduces the number and duration of defrosts, consequently increasing overall energy efficiency.
- Supervision available using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
- Dedicated wall-mounted keypad for remote control of all the functions.

Refrigerant

R407C

Versions

CA-E	Premium efficiency version: Class A enhanced
LN-CA-E	Premium efficiency version, Class A enhanced, low-noise

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

PREMIUM ´CLASS A' EFFICIENCY

The full range is available with a premium efficiency rating, over the Class A. AW-HT/CA-E and AW-HT/LN-CA-E guaranty premium levels of efficiency and quietness, making this range the best solution for both residential and light commercial markets.

MAXIMUM RELIABILITY

Maximum operating reliability, thanks to two main features:
- two independent circuits for all sizes;
- system to prevent formation of ice on the coil, ensuring shorter and more efficient defrost cycles.

WIDE OPERATING RANGE

Production of high temperature hot water up to 65°C for space heating and sanitary purposes. The unit can operate as standard down to -20°C outdoor temperature.

RENEWABLE ENERGY FOR COMMERCIAL INSTALLATIONS

Best solution in centralised residential systems such as apartment buildings, where the cost of renovation needs to be limited by keeping the same distribution system with radiators, while offering a source of renewable energy.

MODULAR CONFIGURATION

Modular configuration with capacity extension up to 400kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

APPLICATION HYDRONIC TERMINAL

AW-HT / CA-E			0122	0152	0202	0262	0302
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(1)	kW	38,00	51,30	68,80	84,90	102,0
Total power input	(1)	kW	10,70	14,40	19,40	23,60	27,70
COP	(1)	kW/kW	3,551	3,562	3,546	3,597	3,682
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(1)(2)	kW	38,10	51,40	69,00	85,20	102,3
COP	(1)(2)	kW/kW	3,530	3,540	3,520	3,570	3,650
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(3)	kW	28,4	33,8	47,5	58,5	70,6
SCOP	(3)(9)		3,12	3,07	3,14	3,20	3,30
Performance ηs	(3)(10)	%	122	120	123	125	129
Seasonal efficiency class	(11)		A	A	A+	A+	-
PDesign	(4)	kW	30,5	36,8	50,7	63,3	74,7
SCOP	(4)(9)		2,90	2,90	2,95	3,00	3,07
Performance ηs	(4)(10)	%	113	113	115	117	120
Seasonal efficiency class	(12)		A+	A+	A+	A+	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(1)	l/s	1,834	2,476	3,321	4,098	4,924
Pressure drop	(1)	kPa	10,2	12,9	14,6	18,3	22,9
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	13,0	22,0	27,6	35,0	42,0
NOISE LEVEL							
Sound power level in heating	(5)(6)	dB(A)	84	86	87	87	87
Sound Pressure	(7)	dB(A)	67	69	70	69	69
SIZE AND WEIGHT							
A	(8)	mm	1695	2195	2745	2745	2745
B	(8)	mm	1120	1120	1120	1120	1120
H	(8)	mm	1465	1465	1465	1665	1665
Operating weight	(8)	kg	510	750	870	940	1030

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

AW-HT

0122 - 0302 38,00-102,0 kW

High efficiency heat pump, air source for outdoor installation, high water temperature

APPLICATION FLOOR HEATING

AW-HT / CA-E			0122	0152	0202	0262	0302
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(1)	kW	37,60	50,60	67,90	83,70	100,7
Total power input	(1)	kW	8,900	12,20	16,30	19,90	23,20
COP	(1)	kW/kW	4,225	4,148	4,166	4,206	4,341
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(1)(2)	kW	37,70	50,70	68,10	84,00	101,0
COP	(1)(2)	kW/kW	4,190	4,110	4,130	4,170	4,290
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(3)	kW	28,4	33,8	47,5	58,5	70,6
SCOP	(3)(9)		3,12	3,07	3,14	3,20	3,30
Performance ηs	(3)(10)	%	122	120	123	125	129
Seasonal efficiency class	(11)		A	A	A+	A+	-
PDesign	(4)	kW	30,5	36,8	50,7	63,3	74,7
SCOP	(4)(9)		2,90	2,90	2,95	3,00	3,07
Performance ηs	(4)(10)	%	113	113	115	117	120
Seasonal efficiency class	(12)		A+	A+	A+	A+	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(1)	l/s	1,809	2,434	3,267	4,027	4,845
Pressure drop	(1)	kPa	9,97	12,4	14,1	17,7	22,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	13,0	22,0	27,6	35,0	42,0
NOISE LEVEL							
Sound power level in heating	(5)(6)	dB(A)	84	86	87	87	87
Sound Pressure	(7)	dB(A)	67	69	70	69	69
SIZE AND WEIGHT							
A	(8)	mm	1695	2195	2745	2745	2745
B	(8)	mm	1120	1120	1120	1120	1120
H	(8)	mm	1465	1465	1465	1665	1665
Operating weight	(8)	kg	510	750	870	940	1030

Notes

1 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

APPLICATION HYDRONIC TERMINAL

AW-HT / LN-CA-E			0122	0152	0202	0262	0302
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(1)	kW	38,40	51,00	69,40	85,80	100,3
Total power input	(1)	kW	10,70	14,30	19,40	23,70	27,60
COP	(1)	kW/kW	3,589	3,566	3,577	3,620	3,634
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(1)(2)	kW	38,50	51,10	69,60	86,10	100,6
COP	(1)(2)	kW/kW	3,560	3,540	3,550	3,590	3,600
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(3)	kW	28,7	34,4	47,8	59,3	70,3
SCOP	(3)(9)		3,15	3,07	3,17	3,23	3,30
Performance ηs	(3)(10)	%	123	120	124	126	129
Seasonal efficiency class	(11)		A+	A	A+	A+	-
PDesign	(4)	kW	30,7	37,0	50,9	63,3	75,2
SCOP	(4)(9)		2,92	2,91	2,97	3,00	3,07
Performance ηs	(4)(10)	%	114	113	116	117	120
Seasonal efficiency class	(12)		A+	A+	A+	A+	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(1)	l/s	1,854	2,462	3,350	4,142	4,842
Pressure drop	(1)	kPa	10,5	12,7	14,8	18,7	22,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	15,0	24,3	33,3	42,1	50,0
NOISE LEVEL							
Sound power level in heating	(5)(6)	dB(A)	82	84	85	85	86
Sound Pressure	(7)	dB(A)	65	67	68	67	68
SIZE AND WEIGHT							
A	(8)	mm	1695	2195	2745	2745	2745
B	(8)	mm	1120	1120	1120	1120	1120
H	(8)	mm	1465	1465	1465	1665	1665
Operating weight	(8)	kg	530	760	910	980	1030

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

AW-HT

0122 - 0302 38,00-102,0 kW

High efficiency heat pump, air source for outdoor installation, high water temperature

APPLICATION FLOOR HEATING

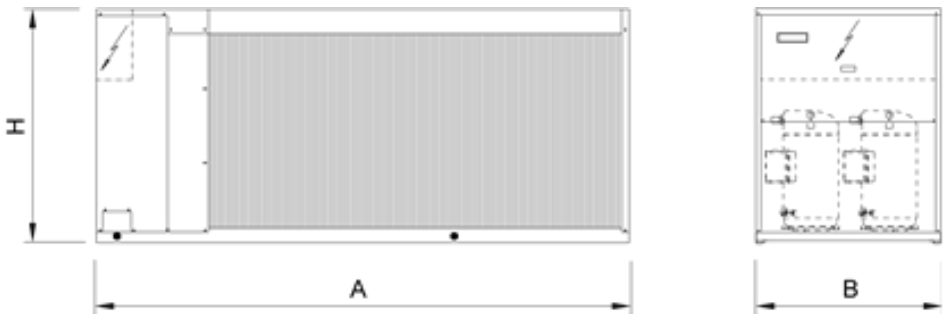
AW-HT / LN-CA-E			0122	0152	0202	0262	0302
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(1)	kW	38,00	50,20	68,50	84,70	99,00
Total power input	(1)	kW	8,900	12,10	16,30	20,00	23,00
COP	(1)	kW/kW	4,270	4,149	4,202	4,235	4,304
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(1)(2)	kW	38,10	50,30	68,70	85,00	99,30
COP	(1)(2)	kW/kW	4,230	4,110	4,170	4,190	4,260
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(3)	kW	28,7	34,4	47,8	59,3	70,3
SCOP	(3)(9)		3,15	3,07	3,17	3,23	3,30
Performance ηs	(3)(10)	%	123	120	124	126	129
Seasonal efficiency class	(11)		A+	A	A+	A+	-
PDesign	(4)	kW	30,7	37,0	50,9	63,3	75,2
SCOP	(4)(9)		2,92	2,91	2,97	3,00	3,07
Performance ηs	(4)(10)	%	114	113	116	117	120
Seasonal efficiency class	(12)		A+	A+	A+	A+	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(1)	l/s	1,828	2,415	3,296	4,075	4,763
Pressure drop	(1)	kPa	10,2	12,2	14,4	18,1	21,5
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	15,0	24,3	33,3	42,1	50,0
NOISE LEVEL							
Sound power level in heating	(5)(6)	dB(A)	82	84	85	85	86
Sound Pressure	(7)	dB(A)	65	67	68	67	68
SIZE AND WEIGHT							
A	(8)	mm	1695	2195	2745	2745	2745
B	(8)	mm	1120	1120	1120	1120	1120
H	(8)	mm	1465	1465	1465	1665	1665
Operating weight	(8)	kg	530	760	910	980	1030

Notes

1 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

AW-HT

0404 - 0604 134,9-204,8 kW

High efficiency heat pump, air source for outdoor installation, high water temperature

AW-HT represent the best solution for systems in which there is the need to combine both high temperature water for space heating and sanitary purposes, as well as air conditioning. With this solution the space heating can be easily provided by using radiators, so without any major changes on the already existing distribution system available on site. The EVI technology compressor with additional steam injection in the compressing cycle assures a water temperature of 65°C and operating limits as low as -20°C. Neither probes nor connections pipes to wells are needed; the installation is simple, this is a suitable solution for all applications.

Control

W3000SE

W3000SE controller dedicated to heat pump applications features a incorporated logic for high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit via a multilevel menu, with settable language. The controller provides temperature control for the heating and cooling systems, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with “black-box” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For multiple units' systems, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, thus ensuring more efficient energy distribution and simultaneous water delivery to the different distribution systems.

- Built-in clock to create operating profiles up to 4 typical days and 10 time bands, essential for efficient programming of energy production and for managing the Legionella prevention cycles.
- Proprietary self-adaptive logic for defrost involving monitoring of multiple operating and climate parameters. This reduces the number and duration of defrosts, consequently increasing overall energy efficiency.
- Supervision available using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
- Dedicated wall-mounted keypad for remote control of all the functions.

Refrigerant

R407C

Versions

CA-E	Premium efficiency version: Class A enhanced
LN-CA-E	Premium efficiency version, Class A enhanced, low-noise

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

PREMIUM ´CLASS A' EFFICIENCY

The full range is available with a premium efficiency rating, over the Class A. AW-HT/CA-E and AW-HT/LN-CA-E guaranty premium levels of efficiency and quietness, making this range the best solution for both residential and light commercial markets.

WIDE OPERATING RANGE

Production of high temperature hot water up to 65°C for space heating and sanitary purposes. The unit can operate as standard down to -20°C outdoor temperature.

MAXIMUM RELIABILITY

Maximum operating reliability, thanks to two main features:
- two independent circuits for all sizes;
- system to prevent formation of ice on the coil, ensuring shorter and more efficient defrost cycles.

RENEWABLE ENERGY FOR COMMERCIAL INSTALLATIONS

Best solution in centralised residential systems such as apartment buildings, where the cost of renovation needs to be limited by keeping the same distribution system with radiators, while offering a source of renewable energy.

MODULAR CONFIGURATION

Modular configuration with capacity extension up to 1000 kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

APPLICATION HYDRONIC TERMINAL

AW-HT / CA-E			0404	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(1)	kW	134,9	171,0	204,8
Total power input	(1)	kW	39,60	48,10	58,90
COP	(1)	kW/kW	3,407	3,555	3,477
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(1)(2)	kW	135,4	171,6	205,5
COP	(1)(2)	kW/kW	3,380	3,520	3,450
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)					
PDesign	(3)	kW	92,6	117	139
SCOP	(3)(9)		3,15	3,32	3,22
Performance ηs	(3)(10)	%	123	130	126
Seasonal efficiency class	(11)		-	-	-
PDesign	(4)	kW	98,9	126	148
SCOP	(4)(9)		2,95	3,13	3,02
Performance ηs	(4)(10)	%	115	122	118
Seasonal efficiency class	(12)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(1)	l/s	6,512	8,254	9,886
Pressure drop	(1)	kPa	25,4	28,6	31,3
REFRIGERANT CIRCUIT					
Compressors nr.		N°	4	4	4
No. Circuits		N°	2	2	2
Refrigerant charge		kg	66,0	108	108
NOISE LEVEL					
Sound power level in heating	(5)(6)	dB(A)	92	93	94
Sound Pressure	(7)	dB(A)	73	73	74
SIZE AND WEIGHT					
A	(8)	mm	3110	4110	4110
B	(8)	mm	2220	2220	2220
H	(8)	mm	2150	2150	2150
Operating weight	(8)	kg	1950	2400	2530

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

AW-HT

0404 - 0604 134,9-204,8 kW

High efficiency heat pump, air source for outdoor installation, high water temperature

APPLICATION FLOOR HEATING

AW-HT / CA-E			0404	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(1)	kW	132,9	168,7	202,2
Total power input	(1)	kW	33,50	40,70	49,70
COP	(1)	kW/kW	3,967	4,145	4,068
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(1)(2)	kW	133,3	169,3	202,9
COP	(1)(2)	kW/kW	3,930	4,100	4,030
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)					
PDesign	(3)	kW	92,6	117	139
SCOP	(3)(9)		3,15	3,32	3,22
Performance ηs	(3)(10)	%	123	130	126
Seasonal efficiency class	(11)		-	-	-
PDesign	(4)	kW	98,9	126	148
SCOP	(4)(9)		2,95	3,13	3,02
Performance ηs	(4)(10)	%	115	122	118
Seasonal efficiency class	(12)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(1)	l/s	6,394	8,116	9,728
Pressure drop	(1)	kPa	24,5	27,7	30,3
REFRIGERANT CIRCUIT					
Compressors nr.		N°	4	4	4
No. Circuits		N°	2	2	2
Refrigerant charge		kg	66,0	108	108
NOISE LEVEL					
Sound power level in heating	(5)(6)	dB(A)	92	93	94
Sound Pressure	(7)	dB(A)	73	73	74
SIZE AND WEIGHT					
A	(8)	mm	3110	4110	4110
B	(8)	mm	2220	2220	2220
H	(8)	mm	2150	2150	2150
Operating weight	(8)	kg	1950	2400	2530

Notes

1 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

APPLICATION HYDRONIC TERMINAL

AW-HT / LN-CA-E			0404	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(1)	kW	134,9	171,0	204,8
Total power input	(1)	kW	39,60	48,10	58,90
COP	(1)	kW/kW	3,407	3,555	3,477
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(1)(2)	kW	135,4	171,6	205,5
COP	(1)(2)	kW/kW	3,380	3,520	3,450
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)					
PDesign	(3)	kW	92,6	117	139
SCOP	(3)(9)		3,15	3,32	3,22
Performance ηs	(3)(10)	%	123	130	126
Seasonal efficiency class	(11)		-	-	-
PDesign	(4)	kW	98,9	126	148
SCOP	(4)(9)		2,95	3,13	3,02
Performance ηs	(4)(10)	%	115	122	118
Seasonal efficiency class	(12)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(1)	l/s	6,512	8,254	9,886
Pressure drop	(1)	kPa	25,4	28,6	31,3
REFRIGERANT CIRCUIT					
Compressors nr.		N°	4	4	4
No. Circuits		N°	2	2	2
Refrigerant charge		kg	70,0	110	110
NOISE LEVEL					
Sound power level in heating	(5)(6)	dB(A)	88	88	89
Sound Pressure	(7)	dB(A)	69	68	69
SIZE AND WEIGHT					
A	(8)	mm	3110	4110	4110
B	(8)	mm	2220	2220	2220
H	(8)	mm	2150	2150	2150
Operating weight	(8)	kg	1960	2410	2540

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

AW-HT

0404 - 0604 134,9-204,8 kW

High efficiency heat pump, air source for outdoor installation, high water temperature

APPLICATION FLOOR HEATING

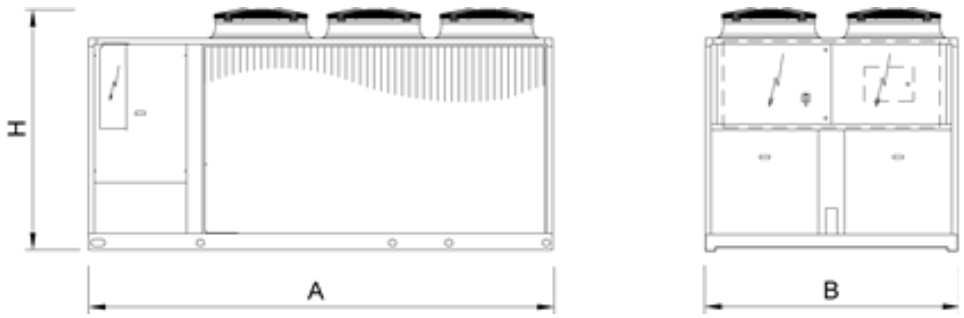
AW-HT / LN-CA-E			0404	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(1)	kW	132,9	168,7	202,2
Total power input	(1)	kW	33,50	40,70	49,70
COP	(1)	kW/kW	3,967	4,145	4,068
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(1)(2)	kW	133,3	169,3	202,9
COP	(1)(2)	kW/kW	3,930	4,100	4,030
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)					
PDesign	(3)	kW	92,6	117	139
SCOP	(3)(9)		3,15	3,32	3,22
Performance ηs	(3)(10)	%	123	130	126
Seasonal efficiency class	(11)		-	-	-
PDesign	(4)	kW	98,9	126	148
SCOP	(4)(9)		2,95	3,13	3,02
Performance ηs	(4)(10)	%	115	122	118
Seasonal efficiency class	(12)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(1)	l/s	6,394	8,116	9,728
Pressure drop	(1)	kPa	24,5	27,7	30,3
REFRIGERANT CIRCUIT					
Compressors nr.		N°	4	4	4
No. Circuits		N°	2	2	2
Refrigerant charge		kg	70,0	110	110
NOISE LEVEL					
Sound power level in heating	(5)(6)	dB(A)	88	88	89
Sound Pressure	(7)	dB(A)	69	68	69
SIZE AND WEIGHT					
A	(8)	mm	3110	4110	4110
B	(8)	mm	2220	2220	2220
H	(8)	mm	2150	2150	2150
Operating weight	(8)	kg	1960	2410	2540

Notes

1 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

WWR MTD2

Reversible heat pump, water source

0011ms - 0121ts 5,200-33,40 kW

The MTD2 water-cooled heat pumps are reversible units for heating, cooling and domestic hot water by external three-way valve (accessory). Both the MTD2 heat pumps are suitable for traditional heating systems and radiant panels. The reversible heat pumps, working with water at lower temperatures, ensure a higher yield and are particularly suitable in new buildings with low energy consumption that point on using renewable energy resources. The installation is greatly simplified through the integration of the group simply by connecting the unit the water plant and the electricity so that it can be put into operation.

Control

NADISYSTEM

Electronic control Nadisystem provides great application flexibility. The remote keyboard kit wired indoor and outdoor temperature sensors allow dynamic control of delivery temperature water, optimizing comfort in the room and increasing the energy efficiency. The electronic board allows you to manage:

-wired remote control, backlit display complete with remote temperature and humidity probe

-outdoor temperature sensor for water plant side modular set point compensation

-a zone of direct heating for radiator, floor heating or fan coil

-domestic hot water production by external three-way valve (accessory)

-Electrical heating element for possible integration and anti-legionella cycle for cylinder

-boiler or electric heater in substitution or in addition

-the room controller can customise up to six time bands. The presence of the programmable timer allows the creation of an operating profile containing up to 6 time bands.

-up to 4 heat pump in cascade (with N-CM component)

-several solutions through appropriate configurations of the controller and use of dedicated extension modules (accessorie), up to 5 zone.

Refrigerant

R410A

Versions

- Basic

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.
High efficiency, low pressure drop AISI 316 stainless steel plate heat exchangers, fitted with heating element to provide frost protection.
Hermetic scroll type compressors, equipped with the crankcase heater and thermal protection
Case panels are insulated within low noise material for further improvement of silence
Rubber vibration damper.
Soft starter for 230V/1/50Hz units (ms)
Phase sequence control relay for three phase models
The water circuit comes complete with:

- Variable flow circulator for 0011÷0061 models and centrifugal variable flow pump for 0071 ÷ 0121 models, plant side
- Modulating valve to reduce water consumption (source side).
- Safety valve
- Expansion tank
- Manual filling assembly
- Pressure gauge
- Air vent valve
- Drain valve on both the plant and the source circuits.
- Differential pressure switch on source side and system side

Accessories

- Wired room terminal with backlit display, and with temperature and umidity probe
- Extension module for system configuration
- Three-way valve for domestic hot water
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Cascade management kit
- Serial card RS485 for ModBus
- Buffer tank 35,100,200 liters
- Hot water cylinder 300,500 liters
- 300 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump

APPLICATION HYDRONIC TERMINAL

WWR MTD2			0011ms	0025ms	0031ms	0041ms	0025t	0031t
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	5,200	7,200	8,800	11,30	7,300	8,900
Total power input	(1)	kW	1,500	2,000	2,600	3,200	1,900	2,400
EER	(1)	kW/kW	3,467	3,600	3,385	3,531	3,842	3,708
ESEER	(1)	kW/kW	3,810	4,210	3,940	3,950	4,540	4,180
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	5,210	7,210	8,830	11,30	7,310	8,930
EER	(1)(2)	kW/kW	3,160	3,360	3,020	3,220	3,570	3,280
ESEER	(1)(2)	kW/kW	3,430	3,850	3,420	3,530	4,150	3,610
Cooling energy class			F	F	G	F	E	F
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	7,200	9,800	12,20	15,40	9,600	12,10
Total power input	(3)	kW	1,700	2,300	3,000	3,600	2,200	2,800
COP	(3)	kW/kW	4,235	4,261	4,067	4,278	4,364	4,321
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	7,200	9,800	12,20	15,40	9,600	12,10
COP	(3)(2)	kW/kW	3,850	3,920	3,600	3,830	4,020	3,780
Cooling energy class			D	D	E	D	C	D
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	8,76	11,5	14,5	18,4	11,9	14,6
SCOP	(4)(13)		4,70	4,86	4,42	4,51	5,20	4,58
Performance ηs	(4)(14)	%	180	186	169	172	200	175
Seasonal efficiency class	(15)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,249	0,344	0,421	0,540	0,349	0,426
Available unit's head	(1)	kPa	61,5	67,1	96,2	91,8	66,7	95,7
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,348	0,473	0,589	0,743	0,463	0,584
Available unit's head	(3)	kPa	52,2	54,6	77,3	70,8	55,6	77,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,318	0,437	0,541	0,688	0,437	0,537
Pressure drop	(1)	kPa	12,3	18,3	27,5	30,8	18,3	27,1
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	0,446	0,609	0,747	0,957	0,600	0,754
Pressure drop	(3)	kPa	24,2	35,5	52,5	59,5	34,6	53,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,10	1,15	1,24	1,55	1,15	1,24
NOISE LEVEL								
Sound power level in cooling	(5)(6)	dB(A)	52	53	53	58	53	53
Sound power level in heating	(5)(7)	dB(A)	52	53	53	58	53	53
Sound Pressure	(8)	dB(A)	37	38	38	43	38	38
SIZE AND WEIGHT								
A	(9)	mm	845	845	845	845	845	845
B	(9)	mm	680	680	680	680	680	680
H	(9)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(9)	kg	188	190	195	210	190	195

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, indoors.
7 Sound power level in heating, indoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

WWR MTD2

Reversible heat pump, water source

0011ms - 0121ts 5,200-33,40 kW

APPLICATION HYDRONIC TERMINAL

WWR MTD2			0041t	0061t	0071t	0091t	0101t	0121t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	11,80	15,70	19,80	22,90	26,00	33,40
Total power input	(1)	kW	3,200	4,000	5,100	5,800	6,800	8,400
EER	(1)	kW/kW	3,688	3,925	3,882	3,948	3,824	3,976
ESEER	(1)	kW/kW	4,190	4,330	4,380	4,440	4,310	4,300
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	11,80	15,70	19,90	23,00	26,20	33,60
EER	(1)(2)	kW/kW	3,350	3,640	3,500	3,620	3,460	3,680
ESEER	(1)(2)	kW/kW	3,740	3,970	3,870	4,000	3,830	3,920
Cooling energy class			F	E	E	E	E	E
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	16,10	21,20	26,20	30,50	34,90	44,00
Total power input	(3)	kW	3,700	4,600	5,900	6,500	7,700	9,600
COP	(3)	kW/kW	4,351	4,609	4,441	4,692	4,532	4,583
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	16,10	21,20	26,10	30,40	34,70	43,80
COP	(3)(2)	kW/kW	3,880	4,170	3,910	4,180	3,990	4,130
Cooling energy class			C	B	C	C	C	C
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	19,1	25,4	31,4	36,6	41,8	52,2
SCOP	(4)(13)		4,68	4,88	4,64	4,91	4,74	4,76
Performance ηs	(4)(14)	%	179	187	177	188	182	182
Seasonal efficiency class	(15)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,564	0,751	0,947	1,095	1,243	1,597
Available unit's head	(1)	kPa	89,7	85,0	159	151	184	172
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,777	1,023	1,265	1,472	1,685	2,124
Available unit's head	(3)	kPa	66,7	59,7	117	105	147	129
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,712	0,936	1,183	1,364	1,558	1,987
Pressure drop	(1)	kPa	32,9	33,5	37,0	31,7	43,2	44,0
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	1,006	1,345	1,646	1,944	2,204	2,787
Pressure drop	(3)	kPa	65,7	69,1	71,5	64,4	86,5	86,6
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,55	1,70	2,65	3,10	3,50	3,70
NOISE LEVEL								
Sound power level in cooling	(5)(6)	dB(A)	58	59	66	66	70	70
Sound power level in heating	(5)(7)	dB(A)	58	59	66	66	70	70
Sound Pressure	(8)	dB(A)	43	44	51	51	55	55
SIZE AND WEIGHT								
A	(9)	mm	845	845	845	845	845	845
B	(9)	mm	680	680	680	680	680	680
H	(9)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(9)	kg	210	225	230	245	250	270

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, indoors.
7 Sound power level in heating, indoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

APPLICATION FLOOR HEATING

WWR MTD2			0011ms	0025ms	0031ms	0041ms	0025t	0031t
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	7,100	9,800	12,00	15,10	9,500	12,00
Total power input	(1)	kW	1,600	2,000	2,500	3,300	1,800	2,500
EER	(1)	kW/kW	4,438	4,900	4,800	4,576	5,278	4,800
ESEER	(1)	kW/kW	3,810	4,210	3,940	3,950	4,540	4,180
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	7,110	9,800	12,00	15,10	9,510	12,00
EER	(1)(2)	kW/kW	4,040	4,500	4,190	4,100	4,830	4,190
ESEER	(1)(2)	kW/kW	3,430	3,850	3,420	3,530	4,150	3,610
Cooling energy class			F	F	G	F	E	F
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	7,700	10,20	12,80	16,20	10,40	12,80
Total power input	(3)	kW	1,400	1,800	2,300	2,900	1,700	2,200
COP	(3)	kW/kW	5,500	5,667	5,565	5,586	6,118	5,818
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	7,700	10,20	12,80	16,20	10,40	12,80
COP	(3)(2)	kW/kW	4,840	5,050	4,670	4,790	5,380	4,830
Cooling energy class			D	D	E	D	C	D
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	8,76	11,5	14,5	18,4	11,9	14,6
SCOP	(4)(13)		4,70	4,86	4,42	4,51	5,20	4,58
Performance ηs	(4)(14)	%	180	186	169	172	200	175
Seasonal efficiency class	(15)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,340	0,470	0,575	0,724	0,456	0,575
Available unit's head	(1)	kPa	52,9	54,9	79,0	73,1	56,5	79,0
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,370	0,491	0,616	0,779	0,500	0,616
Available unit's head	(3)	kPa	49,6	52,6	73,7	66,5	51,4	73,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,414	0,562	0,690	0,876	0,538	0,690
Pressure drop	(1)	kPa	20,8	30,3	44,8	49,8	27,8	44,8
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	0,509	0,678	0,848	1,074	0,701	0,855
Pressure drop	(3)	kPa	31,4	44,1	67,5	74,8	47,2	68,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,10	1,15	1,24	1,55	1,15	1,24
NOISE LEVEL								
Sound power level in cooling	(5)(6)	dB(A)	52	53	53	58	53	53
Sound power level in heating	(5)(7)	dB(A)	52	53	53	58	53	53
Sound Pressure	(8)	dB(A)	37	38	38	43	38	38
SIZE AND WEIGHT								
A	(9)	mm	845	845	845	845	845	845
B	(9)	mm	680	680	680	680	680	680
H	(9)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(9)	kg	188	190	195	210	190	195

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, indoors.
7 Sound power level in heating, indoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

WWR MTD2

Reversible heat pump, water source

0011ms - 0121ts 5,200-33,40 kW

APPLICATION FLOOR HEATING

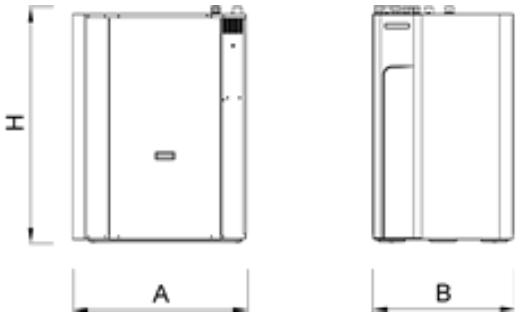
WWR MTD2			0041t	0061t	0071t	0091t	0101t	0121t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	15,70	21,30	26,90	30,70	34,80	44,80
Total power input	(1)	kW	3,300	4,100	5,200	6,000	7,000	8,800
EER	(1)	kW/kW	4,758	5,195	5,173	5,117	4,971	5,091
ESEER	(1)	kW/kW	4,190	4,330	4,380	4,440	4,310	4,300
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	15,70	21,30	27,00	30,80	35,00	45,00
EER	(1)(2)	kW/kW	4,250	4,710	4,550	4,590	4,430	4,620
ESEER	(1)(2)	kW/kW	3,740	3,970	3,870	4,000	3,830	3,920
Cooling energy class			F	E	E	E	E	E
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	16,80	22,40	27,80	32,30	37,00	46,20
Total power input	(3)	kW	2,900	3,700	4,700	5,200	6,100	7,700
COP	(3)	kW/kW	5,793	6,054	5,915	6,212	6,066	6,000
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	16,80	22,40	27,70	32,20	36,80	46,00
COP	(3)(2)	kW/kW	4,930	5,240	4,950	5,280	5,080	5,170
Cooling energy class			C	B	C	C	C	C
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	19,1	25,4	31,4	36,6	41,8	52,2
SCOP	(4)(13)		4,68	4,88	4,64	4,91	4,74	4,76
Performance ηs	(4)(14)	%	179	187	177	188	182	182
Seasonal efficiency class	(15)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,753	1,021	1,290	1,472	1,669	2,148
Available unit's head	(1)	kPa	69,7	59,9	113	105	148	127
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,808	1,078	1,338	1,554	1,780	2,223
Available unit's head	(3)	kPa	62,8	53,8	106	94,2	137	120
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,905	1,210	1,529	1,748	1,991	2,553
Pressure drop	(1)	kPa	53,1	56,0	61,7	52,1	70,5	72,7
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	1,121	1,508	1,863	2,184	2,491	3,105
Pressure drop	(3)	kPa	81,6	86,9	91,6	81,4	110	107
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,55	1,70	2,65	3,10	3,50	3,70
NOISE LEVEL								
Sound power level in cooling	(5)(6)	dB(A)	58	59	66	66	70	70
Sound power level in heating	(5)(7)	dB(A)	58	59	66	66	70	70
Sound Pressure	(8)	dB(A)	43	44	51	51	55	55
SIZE AND WEIGHT								
A	(9)	mm	845	845	845	845	845	845
B	(9)	mm	680	680	680	680	680	680
H	(9)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(9)	kg	210	225	230	245	250	270

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, indoors.
7 Sound power level in heating, indoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

WWR DHW2

Reversible heat pump, total heat recovery, water source

0011ms - 0121t 5,100-34,80 kW

The PRANA DHW2 water-cooled heat pumps are reversible units for all year round operation in any operating mode: single cycle (air conditioning, heating, domestic hot water) as well as combined cycle in total heat recovery (domestic hot water together with cooling). Energy efficiency is highest during the summer cycle, when, thanks to the full recovery of the heat, the production of hot water is free. During the combined use, the DHW exchanger uses the temperature of the discharge gases to gets inside the accumulation sanitary water as high as 65° C. The advanced electronic regulation developed by Climaveneta ensures the highest operational flexibility, fast working condition a significant increase in the overall COP, which go hand in hand with electricity and space reduction. Advantages, combined with the possibility of completely eliminating the traditional boiler, making heat pumps PRANA DHW2 the ideal solution for energy saving applications in residential, hotel and small sector.

Control

NADISYSTEM

Electronic control that provides great application flexibility and dynamic control of delivery temperature water, optimizing indoor comfort and increasing the energy efficiency. The electronic board allows you to manage: -Wired remote control, backlit display and with temperature probe and humidity probe -Outdoor temperature sensor for water plant side modular set point compensation -A zone of direct heating for radiator, floor heating or fan coil and a zone with mix valve for floor heating -Electrical heating element for possible integration and anti-legionella cycle for cylinder -Boiler or electric heater in substitution or in addition -Up to 6 time bands can be programmed
-Up to 4 heat pump in cascade (with N-CM component)
-Several solutions through appropriate configurations of the controller and use of dedicated extension modules (accessorie), up to 5 zones.

Refrigerant

R407C

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.
Case panels are insulated within low noise material for further improvement of silence
Rubber vibration damper.
Hermetic scroll type compressors, equipped with the crankcase heater and thermal protection
High efficiency and low pressure drop stainless steel AISI 316 plate exchangers (at the domestic hot water side). It is positioned next after the compressor and it ensures the domestic hot water production. The unit has full or partial recovery system, with the constant optimization of efficiency through logic advanced adjusting controller
High efficiency and low pressure drop stainless steel AISI 316 plate exchangers (plant side) meet the supply of both hot or cold water for the facility, regardless of the domestic hot water
High efficiency and low pressure drop stainless steel (AISI 316) source side plate exchanger
Soft starter for 230V/1/50Hz units (ms)
Phase sequence control relay for three phase models
The water circuit comes complete with:

- Circulator for the 0011÷0061 models and centrifugal for the 0071÷0121 models, plant side
- Circulator for the 0011÷0091 models and centrifugal pump for the 0101÷0121 models, hot water side
- Modulating valve to reduce water consumption (source side).
- Safety valve
- Expansion tank
- Manual filling assembly
- Drain valve on both the plant and the source circuits.
- Pressure gauge
- Air vent valve
- Differential pressure switch on source side and system side

Accessories

- Wired room terminal with backlit display, and with temperature and umidity probe
- Extension module for system configuration
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Cascade management kit
- Serial card RS485 for ModBus
- Buffer tank 35,100,200 liters
- Hot water cylinder 300,500 liters
- 300 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump

APPLICATION HYDRONIC TERMINAL

WWR DHW2			0011ms	0025ms	0031ms	0041ms	0025t	0031t
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	5,100	7,700	8,900	11,00	7,700	8,800
Total power input	(1)	kW	1,300	2,000	2,400	2,900	2,000	2,300
EER	(1)	kW/kW	3,923	3,850	3,708	3,793	3,850	3,826
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	5,110	7,710	8,930	11,00	7,710	8,830
EER	(1)(2)	kW/kW	3,540	3,590	3,280	3,440	3,590	3,370
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	5,998	9,201	10,61	13,08	9,098	10,52
Total power input	(3)	kW	1,700	2,600	3,100	3,700	2,500	3,000
COP	(3)	kW/kW	3,529	3,538	3,419	3,541	3,640	3,500
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	5,990	9,190	10,60	13,10	9,090	10,50
COP	(2)(3)	kW/kW	3,250	3,320	3,080	3,240	3,410	3,140
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	4,390	6,728	7,707	9,670	6,716	7,697
Total power input	(4)	kW	1,685	2,566	3,108	3,643	2,564	3,017
Recovery heat exchanger capacity	(4)	kW	5,973	9,140	10,63	13,09	9,127	10,53
TOTAL RECOVERY ONLY								
Total heating capacity	(3)	kW	5,998	9,201	10,61	13,08	9,098	10,52
Total power input	(3)	kW	1,700	2,600	3,100	3,700	2,500	3,000
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(11)	kW	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(5)	kW	7,19	10,9	12,5	15,5	10,8	12,4
SCOP	(5)(14)		4,02	4,12	3,72	3,71	4,23	3,81
Performance ηs	(5)(15)	%	153	157	141	140	161	144
Seasonal efficiency class	(16)		A++	A++	A+	A+	A++	A+
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,244	0,368	0,426	0,526	0,368	0,421
Available unit's head	(1)	kPa	62,4	65,9	96,5	93,9	65,9	96,9
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,290	0,444	0,512	0,631	0,439	0,508
Available unit's head	(3)	kPa	58,7	58,9	87,7	84,3	59,4	88,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,304	0,461	0,537	0,660	0,461	0,527
Pressure drop	(1)	kPa	10,4	19,1	25,8	27,1	19,1	24,9
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	0,351	0,538	0,614	0,765	0,538	0,614
Pressure drop	(3)	kPa	13,8	26,0	33,8	36,3	25,9	33,8
HEAT EXCHANGER RECOVERY USER SIDE IN REFRIGERATION								
Water flow	(4)	l/s	0,288	0,441	0,513	0,632	0,441	0,508
Pressure drop	(4)	kPa	9,36	17,5	23,6	24,8	17,4	23,2
HEAT EXCHANGER RECOVERY USER SIDE IN HEATING								
Water flow	(4)	l/s	0,280	0,457	0,512	0,646	0,432	0,498
Pressure drop	(4)	kPa	8,81	18,7	23,6	25,9	16,7	22,2
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,00	1,05	1,05	1,20	1,05	1,05
NOISE LEVEL								
Sound power level in cooling	(6)(7)	dB(A)	52	53	53	58	53	53
Sound power level in heating	(6)(8)	dB(A)	52	53	53	58	53	53
Sound Pressure	(9)	dB(A)	37	38	38	43	38	38
SIZE AND WEIGHT								
A	(10)	mm	845	845	845	845	845	845
B	(10)	mm	680	680	680	680	680	680
H	(10)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(10)	kg	205	210	215	230	210	215

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.
5 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

WWR DHW2

Reversible heat pump, total heat recovery, water source

0011ms - 0121t 5,100-34,80 kW

APPLICATION HYDRONIC TERMINAL

WWR DHW2			0041t	0061t	0071t	0091t	0101t	0121t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	10,90	16,10	21,70	24,60	28,00	34,80
Total power input	(1)	kW	2,800	4,000	5,400	5,900	7,000	8,900
EER	(1)	kW/kW	3,893	4,025	4,019	4,169	4,000	3,910
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	10,90	16,10	21,80	24,70	28,20	35,10
EER	(1)(2)	kW/kW	3,520	3,760	3,630	3,820	3,630	3,630
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	12,99	19,00	25,49	28,66	32,87	40,73
Total power input	(3)	kW	3,500	5,000	6,800	7,400	8,800	11,20
COP	(3)	kW/kW	3,714	3,800	3,750	3,878	3,739	3,634
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	13,00	19,00	25,40	28,60	32,70	40,50
COP	(2)(3)	kW/kW	3,380	3,550	3,380	3,540	3,390	3,360
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	9,646	14,22	19,15	21,73	24,60	30,18
Total power input	(4)	kW	3,565	5,004	6,852	7,436	8,831	11,17
Recovery heat exchanger capacity	(4)	kW	13,00	18,93	25,59	28,72	32,90	40,68
TOTAL RECOVERY ONLY								
Total heating capacity	(3)	kW	12,99	19,00	25,49	28,66	32,87	40,73
Total power input	(3)	kW	3,500	5,000	6,800	7,400	8,800	11,20
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(11)	kW	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(5)	kW	15,2	22,6	30,3	34,0	38,9	48,7
SCOP	(5)(14)		4,05	4,31	4,05	4,19	4,04	4,07
Performance ηs	(5)(15)	%	154	164	154	159	154	155
Seasonal efficiency class	(16)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,521	0,770	1,038	1,176	1,339	1,664
Available unit's head	(1)	kPa	94,3	87,6	149	143	180	169
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,627	0,917	1,231	1,383	1,587	1,966
Available unit's head	(3)	kPa	84,8	76,2	124	119	161	145
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,651	0,956	1,288	1,450	1,664	2,077
Pressure drop	(1)	kPa	26,3	28,6	41,3	33,9	44,1	45,6
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	0,773	1,139	1,522	1,729	1,960	2,406
Pressure drop	(3)	kPa	37,1	40,6	57,6	48,2	61,3	61,2
HEAT EXCHANGER RECOVERY USER SIDE IN REFRIGERATION								
Water flow	(4)	l/s	0,627	0,914	1,235	1,386	1,588	1,963
Pressure drop	(4)	kPa	24,4	26,1	37,9	31,0	40,2	40,7
HEAT EXCHANGER RECOVERY USER SIDE IN HEATING								
Water flow	(4)	l/s	0,617	0,898	1,201	1,354	1,548	1,908
Pressure drop	(4)	kPa	23,6	25,2	35,9	29,5	38,2	38,4
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,20	1,80	2,00	2,20	2,60	3,00
NOISE LEVEL								
Sound power level in cooling	(6)(7)	dB(A)	58	59	66	66	70	70
Sound power level in heating	(6)(8)	dB(A)	58	59	66	66	70	70
Sound Pressure	(9)	dB(A)	43	44	51	51	55	55
SIZE AND WEIGHT								
A	(10)	mm	845	845	845	845	845	845
B	(10)	mm	680	680	680	680	680	680
H	(10)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(10)	kg	230	245	270	280	290	315

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.
5 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

APPLICATION FLOOR HEATING

WWR DHW2			0011ms	0025ms	0031ms	0041ms	0025t	0031t
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	7,261	10,95	12,57	15,37	10,97	12,47
Total power input	(1)	kW	1,288	1,962	2,370	2,894	1,963	2,274
EER	(1)	kW/kW	5,628	5,612	5,316	5,329	5,612	5,507
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	7,270	11,00	12,60	15,40	11,00	12,50
EER	(1)(2)	kW/kW	5,030	5,110	4,610	4,720	5,110	4,750
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	6,347	9,637	11,09	13,67	9,497	10,96
Total power input	(3)	kW	1,331	2,029	2,431	2,915	1,944	2,347
COP	(3)	kW/kW	4,774	4,749	4,568	4,708	4,897	4,681
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	6,340	9,630	11,10	13,70	9,490	11,00
COP	(2)(3)	kW/kW	4,260	4,340	3,960	4,160	4,460	4,040
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	6,418	9,772	11,05	13,80	9,703	11,06
Total power input	(4)	kW	1,681	2,514	3,052	3,659	2,511	2,970
Recovery heat exchanger capacity	(4)	kW	7,999	12,13	13,92	17,24	12,06	13,86
TOTAL RECOVERY ONLY								
Total heating capacity	(3)	kW	6,347	9,637	11,09	13,67	9,497	10,96
Total power input	(3)	kW	1,331	2,029	2,431	2,915	1,944	2,347
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(11)	kW	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(5)	kW	7,19	10,9	12,5	15,5	10,8	12,4
SCOP	(5)(14)		4,02	4,12	3,72	3,71	4,23	3,81
Performance ηs	(5)(15)	%	153	157	141	140	161	144
Seasonal efficiency class	(16)		A++	A++	A+	A+	A++	A+
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,348	0,525	0,603	0,737	0,526	0,598
Available unit's head	(1)	kPa	53,2	50,2	77,1	73,1	50,1	77,6
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,305	0,464	0,534	0,658	0,457	0,528
Available unit's head	(3)	kPa	57,3	56,9	85,4	81,7	57,6	86,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,408	0,616	0,712	0,870	0,617	0,703
Pressure drop	(1)	kPa	18,7	34,0	45,4	47,0	34,1	44,3
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	0,406	0,616	0,702	0,871	0,611	0,698
Pressure drop	(3)	kPa	18,6	34,0	44,1	47,1	33,5	43,7
HEAT EXCHANGER RECOVERY USER SIDE IN REFRIGERATION								
Water flow	(4)	l/s	0,386	0,586	0,672	0,832	0,582	0,669
Pressure drop	(4)	kPa	16,8	30,8	40,5	42,9	30,4	40,1
HEAT EXCHANGER RECOVERY USER SIDE IN HEATING								
Water flow	(4)	l/s	0,280	0,457	0,512	0,646	0,432	0,498
Pressure drop	(4)	kPa	8,81	18,7	23,6	25,9	16,7	22,2
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,00	1,05	1,05	1,20	1,05	1,05
NOISE LEVEL								
Sound power level in cooling	(6)(7)	dB(A)	52	53	53	58	53	53
Sound power level in heating	(6)(8)	dB(A)	52	53	53	58	53	53
Sound Pressure	(9)	dB(A)	37	38	38	43	38	38
SIZE AND WEIGHT								
A	(10)	mm	845	845	845	845	845	845
B	(10)	mm	680	680	680	680	680	680
H	(10)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(10)	kg	205	210	215	230	210	215

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.
5 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

WWR DHW2

Reversible heat pump, total heat recovery, water source

0011ms - 0121t 5,100-34,80 kW

APPLICATION FLOOR HEATING

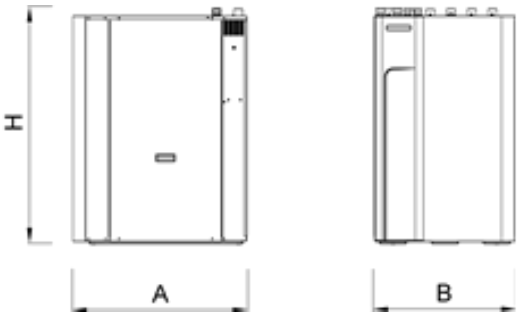
WWR DHW2			0041t	0061t	0071t	0091t	0101t	0121t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	15,41	22,50	30,16	34,41	38,97	49,79
Total power input	(1)	kW	2,823	4,102	5,468	6,108	7,281	9,239
EER	(1)	kW/kW	5,461	5,488	5,521	5,630	5,357	5,390
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	15,40	22,50	30,30	34,50	39,20	50,00
EER	(1)(2)	kW/kW	4,830	5,000	4,820	4,990	4,760	4,850
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	13,51	19,87	26,77	30,10	34,50	43,14
Total power input	(3)	kW	2,764	3,973	5,371	5,935	6,993	8,927
COP	(3)	kW/kW	4,891	5,013	4,991	5,076	4,936	4,826
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	13,50	19,90	26,70	30,00	34,30	42,90
COP	(2)(3)	kW/kW	4,300	4,540	4,330	4,480	4,320	4,320
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	13,83	20,01	27,24	30,83	34,91	44,13
Total power input	(4)	kW	3,623	5,097	6,885	7,596	9,124	11,45
Recovery heat exchanger capacity	(4)	kW	17,24	24,80	33,71	37,97	43,49	54,89
TOTAL RECOVERY ONLY								
Total heating capacity	(3)	kW	13,51	19,87	26,77	30,10	34,50	43,14
Total power input	(3)	kW	2,764	3,973	5,371	5,935	6,993	8,927
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(11)	kW	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(5)	kW	15,2	22,6	30,3	34,0	38,9	48,7
SCOP	(5)(14)		4,05	4,31	4,05	4,19	4,04	4,07
Performance ηs	(5)(15)	%	154	164	154	159	154	155
Seasonal efficiency class	(16)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,739	1,079	1,446	1,650	1,869	2,387
Available unit's head	(1)	kPa	72,9	61,7	92,4	83,3	134	107
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,650	0,956	1,288	1,448	1,660	2,075
Available unit's head	(3)	kPa	82,5	72,9	116	110	154	136
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,869	1,268	1,698	1,932	2,204	2,813
Pressure drop	(1)	kPa	46,9	50,3	71,7	60,1	77,4	83,6
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	0,869	1,286	1,731	1,954	2,225	2,769
Pressure drop	(3)	kPa	46,9	51,8	74,5	61,5	78,9	81,0
HEAT EXCHANGER RECOVERY USER SIDE IN REFRIGERATION								
Water flow	(4)	l/s	0,832	1,197	1,627	1,833	2,099	2,650
Pressure drop	(4)	kPa	42,9	44,8	65,8	54,1	70,3	74,2
HEAT EXCHANGER RECOVERY USER SIDE IN HEATING								
Water flow	(4)	l/s	0,617	0,898	1,201	1,354	1,548	1,908
Pressure drop	(4)	kPa	23,6	25,2	35,9	29,5	38,2	38,4
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,20	1,80	2,00	2,20	2,60	3,00
NOISE LEVEL								
Sound power level in cooling	(6)(7)	dB(A)	58	59	66	66	70	70
Sound power level in heating	(6)(8)	dB(A)	58	59	66	66	70	70
Sound Pressure	(9)	dB(A)	43	44	51	51	55	55
SIZE AND WEIGHT								
A	(10)	mm	845	845	845	845	845	845
B	(10)	mm	680	680	680	680	680	680
H	(10)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(10)	kg	230	245	270	280	290	315

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.
5 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency
16 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

NX-WN

Reversible heat pump, water source

0122 - 1204 37,48-396,2 kW

Water to water indoor unit for the production of chilled/hot water with hermetic rotary Scroll compressors, braze-welded plate-type exchanger and electronic expansion valve. Basement and frame in hot-galvanised shaped sheet steel with a suitable thickness. All parts polyester-powder painted to assure total weather resistance, RAL 7035.
The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Refrigerant

R410A

Versions

- Basic

Configurations

- Basic function

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP READY
The highest level of efficiency at part load can meet and exceed the minimum seasonal efficiency for heating, SCOP (only for reversible units) and for cooling, SEER, according with the eco-sustainable design requirements for all products using energy. The units already comply with the minimum seasonal energy efficiency requirements that will start from 2021.

VARIBLE PRIMARY FLOW (OPTION)
Energy saving due to variable pump speed management based on load demand and the variable flow assures the functioning of the units also with critical working conditions. VPF (Variable Primary Flow) available for sizes 0604-1204.

EXTREMELY SILENT OPERATION
Extremely silent operation together with high efficiency, tank to dedicated acoustic devices and a precise design for the choice of the components.

INTEGRATED HYDRONIC MODULE
The built-in hydronic module already contains the main water circuit components; it is available as option with single or twin in-line pump, for achieving low head, fixed or variable speed, available for user side and source side (up to 4 pumps).

INTEGRATED CONDENSATION´S CONTROL
The electronics of the units manages the most suitable condensing control for each type of application: pressure-controlled valve, two or three-way modulating valv, 0-10V signal for variable speed driven pumps.

TOTAL VERSATILITY
The units have been designed with a range of integrated accessories, keeping in mind the operation with open loop (well water or ground water), dry cooler or cooling tower and suitable for geothermal application so as to satisfy all service system and installation requirements.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and at different working conditions. It guaranteed energy saving due to efficiency optimization in various different working conditions. The electronic thermostatic valve allows you to obtain speed in reaching machine stability and an extension of the operating limits.

Control

Electronic control W3000TE
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.
The controller provides water temperature control for the heating systems, cooling systems (only for reversible units), as well as for domestic hot water (only for reversible units). These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application.
The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available.
Complete alarm management system is available, with the “black-box” and the alarm history display functions. For systems made up of multiple units, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, thus ensuring more efficient energy distribution and guaranteeing simultaneous water delivery to the different distribution systems. The built-in clock can create an operating profile up to 4 typical days and 10 time bands, essential for efficient programming of energy production and fundamental for managing the Legionella prevention cycles. Available time bands also for DHW production.
Supervision is available either using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
A dedicated wall-mounted keypad can be used for remote control of all the functions.
Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Accessories

- Touch Screen visual display
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Outside air temperature probe for plant water set point compensation.
- Integral acoustical enclosure (type base)
- Thicker soundproofing cladding
- User side and source side hydronic kit available in different configurations
- VPF (Variable Primary Flow) system
- Condensing control device: two or three-way modulating pressure-controlled valve and inverter on pumps

NX-WN			0122	0152	0182	0202	0252	0262	0302	0352
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	37,48	46,65	54,98	63,93	70,84	80,47	94,59	108,8
Total power input	(1)	kW	7,728	9,524	11,05	12,87	14,09	16,33	19,25	22,13
EER	(1)	kW/kW	4,851	4,905	4,955	4,953	5,021	4,939	4,927	4,923
ESEER	(1)	kW/kW	6,290	6,450	6,180	6,220	6,460	6,160	6,240	6,380
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	37,40	46,60	54,80	63,70	70,60	80,30	94,40	108,5
EER	(1)(2)	kW/kW	4,670	4,730	4,780	4,780	4,850	4,780	4,770	4,760
ESEER	(1)(2)	kW/kW	5,800	5,950	5,730	5,780	5,990	5,730	5,830	5,900
Cooling energy class			B	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	41,81	52,11	61,18	71,49	78,57	89,53	105,3	120,9
Total power input	(3)	kW	9,692	11,90	13,71	16,04	17,74	20,25	23,69	27,23
COP		kW/kW	4,314	4,378	4,467	4,469	4,441	4,409	4,443	4,445
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	41,90	52,30	61,40	71,70	78,80	89,80	105,6	121,2
COP	(3)(2)	kW/kW	4,160	4,220	4,320	4,320	4,290	4,280	4,300	4,310
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	(11)	kW	-	-	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	50,4	62,6	73,6	85,6	94,8	108	127	146
SCOP	(4)(14)		5,64	5,95	5,89	5,92	6,07	5,89	5,94	6,00
Performance ηs	(4)(15)	%	218	230	228	229	235	227	230	232
Seasonal efficiency class	(4)		A++	A++	A++	-	-	-	-	-
PDesign	(5)	kW	45,4	56,7	66,4	78,1	85,4	97,0	114	131
SCOP	(5)(14)		4,50	4,58	4,64	4,64	4,67	4,62	4,64	4,69
Performance ηs	(5)(15)	%	172	175	178	178	179	177	178	179
Seasonal efficiency class	(5)		A++	A++	A++	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	1,792	2,231	2,629	3,057	3,388	3,848	4,523	5,202
Pressure drop	(1)	kPa	12,3	13,1	13,3	13,7	14,1	14,6	14,7	15,5
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	2,018	2,516	2,953	3,451	3,793	4,322	5,085	5,834
Pressure drop	(3)	kPa	15,6	16,7	16,8	17,5	17,7	18,4	18,6	19,5
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,153	2,675	3,145	3,658	4,045	4,610	5,421	6,235
Pressure drop	(1)	kPa	17,7	18,9	19,1	19,7	20,1	21,0	21,1	22,2
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(3)	l/s	2,606	3,262	3,848	4,495	4,932	5,617	6,620	7,592
Pressure drop	(3)	kPa	26,0	28,0	28,5	29,7	29,9	31,2	31,5	32,9
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	3,80	4,20	5,20	5,50	6,70	8,00	9,60	11,0
NOISE LEVEL										
Sound Pressure	(6)	dB(A)	57	57	58	58	58	59	60	60
Sound power level in cooling	(7)(8)	dB(A)	73	73	74	74	74	75	76	77
Sound power level in heating	(7)(9)	dB(A)	74	74	75	75	75	76	77	78
SIZE AND WEIGHT										
A	(10)	mm	1225	1225	1225	1225	1225	1225	1225	1570
B	(10)	mm	885	885	885	885	885	885	885	885
H	(10)	mm	1495	1495	1495	1495	1495	1495	1495	1805
Operating weight	(10)	kg	390	400	430	440	480	500	540	680

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 10°C/7°C; Source (side) heat exchanger water (in/out) 40°C/45°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7 Sound power on the basis of measurements made in compliance with ISO 9614.
8 Sound power level in cooling, indoors.
9 Sound power level in heating, indoors.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-WN

Reversible heat pump, water source

0122 - 1204 37,48-396,2 kW

NX-WN			0402	0452	0502	0552	0602	0702	0802	0604
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	123,2	138,5	153,9	176,9	199,7	225,0	251,9	187,2
Total power input	(1)	kW	24,92	28,24	31,51	35,92	40,40	46,17	52,08	39,19
EER	(1)	kW/kW	4,948	4,911	4,886	4,928	4,943	4,870	4,835	4,776
ESEER	(1)	kW/kW	6,130	6,230	6,080	6,220	6,180	6,270	5,990	6,350
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	122,9	138,2	153,5	176,5	199,2	224,4	251,2	186,8
EER	(1)(2)	kW/kW	4,800	4,770	4,740	4,780	4,790	4,700	4,660	4,660
ESEER	(1)(2)	kW/kW	5,770	5,810	5,710	5,810	5,790	5,790	5,550	5,910
Cooling energy class			B	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	136,5	154,0	171,5	196,7	221,6	250,8	281,3	208,4
Total power input	(3)	kW	30,66	34,75	38,77	44,14	49,60	56,35	63,24	47,91
COP		kW/kW	4,446	4,438	4,420	4,460	4,468	4,447	4,451	4,351
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	136,9	154,4	172,0	197,2	222,2	251,6	282,3	208,9
COP	(3)(2)	kW/kW	4,320	4,310	4,290	4,330	4,330	4,290	4,280	4,250
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	(11)	kW	-	-	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	165	186	207	237	268	302	337	251
SCOP	(4)(14)		5,93	5,97	5,91	5,95	5,96	5,87	5,70	6,05
Performance ηs	(4)(15)	%	229	231	229	230	230	227	220	234
Seasonal efficiency class	(4)		-	-	-	-	-	-	-	-
PDesign	(5)	kW	148	167	186	213	240	272	306	226
SCOP	(5)(14)		4,67	4,70	4,65	4,72	4,70	4,71	4,60	4,71
Performance ηs	(5)(15)	%	179	180	178	181	180	181	176	180
Seasonal efficiency class	(5)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	5,893	6,622	7,359	8,461	9,551	10,76	12,04	8,952
Pressure drop	(1)	kPa	15,7	16,2	16,8	17,9	19,6	24,9	28,6	13,4
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	6,591	7,433	8,280	9,493	10,70	12,11	13,58	10,06
Pressure drop	(3)	kPa	19,6	20,4	21,3	22,5	24,6	31,5	36,3	16,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	7,056	7,940	8,829	10,14	11,44	12,91	14,47	10,78
Pressure drop	(1)	kPa	22,5	23,3	24,2	25,7	28,1	35,9	41,3	19,4
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(3)	l/s	8,583	9,668	10,76	12,37	13,95	15,77	17,68	13,02
Pressure drop	(3)	kPa	33,3	34,5	36,0	38,2	41,8	53,5	61,6	28,3
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	4
No. Circuits		N°	1	1	1	1	1	1	1	2
Refrigerant charge		kg	12,5	13,9	14,8	18,1	21,4	21,9	22,0	20,0
NOISE LEVEL										
Sound Pressure	(6)	dB(A)	60	61	61	62	62	65	66	69
Sound power level in cooling	(7)(8)	dB(A)	77	78	78	79	79	82	83	86
Sound power level in heating	(7)(9)	dB(A)	78	79	79	80	80	83	84	87
SIZE AND WEIGHT										
A	(10)	mm	1570	1570	1570	1570	1570	1570	1570	2210
B	(10)	mm	885	885	885	885	885	885	885	885
H	(10)	mm	1805	1805	1805	1805	1805	1805	1805	1805
Operating weight	(10)	kg	760	810	850	890	930	950	970	920

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 10°C/7°C; Source (side) heat exchanger water (in/out) 40°C/45°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7 Sound power on the basis of measurements made in compliance with ISO 9614.
8 Sound power level in cooling, indoors.
9 Sound power level in heating, indoors.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-WN			0704	0804	0904	1004	1104	1204
Power supply		V/ph/Hz	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	215,5	244,1	274,7	305,6	351,3	396,2
Total power input	(1)	kW	44,95	50,66	57,25	63,76	72,67	81,89
EER	(1)	kW/kW	4,789	4,815	4,802	4,790	4,832	4,838
ESEER	(1)	kW/kW	6,410	6,330	6,410	6,300	6,390	6,360
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	215,1	243,6	274,1	304,9	350,5	395,2
EER	(1)(2)	kW/kW	4,680	4,700	4,670	4,650	4,690	4,680
ESEER	(1)(2)	kW/kW	5,950	5,900	5,900	5,810	5,830	5,780
Cooling energy class			B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	239,3	270,4	305,1	340,1	389,8	439,1
Total power input	(3)	kW	54,99	61,99	70,05	78,01	88,80	99,95
COP		kW/kW	4,351	4,361	4,352	4,360	4,390	4,395
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	239,8	271,0	305,9	341,0	390,9	440,4
COP	(3)(2)	kW/kW	4,250	4,260	4,240	4,240	4,250	4,240
Cooling energy class			B	B	B	B	B	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(11)	kW	-	-	-	-	350	395
SEER	(11)(12)		-	-	-	-	5,69	5,63
Performance ηs	(11)(13)	%	-	-	-	-	220	217
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(4)	kW	289	327	368	410	-	-
SCOP	(4)(14)		6,04	6,07	6,02	5,90	-	-
Performance ηs	(4)(15)	%	234	235	233	228	-	-
Seasonal efficiency class	(4)		-	-	-	-	-	-
PDesign	(5)	kW	259	293	331	369	-	-
SCOP	(5)(14)		4,69	4,76	4,78	4,72	-	-
Performance ηs	(5)(15)	%	180	182	183	181	-	-
Seasonal efficiency class	(5)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	10,30	11,67	13,14	14,62	16,80	18,94
Pressure drop	(1)	kPa	14,4	15,4	18,9	21,7	24,6	28,8
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	11,55	13,05	14,73	16,42	18,82	21,20
Pressure drop	(3)	kPa	18,2	19,3	23,8	27,4	30,8	36,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	12,40	14,03	15,80	17,59	20,19	22,76
Pressure drop	(1)	kPa	20,9	22,3	27,4	31,4	35,5	41,6
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	14,95	16,90	19,06	21,25	24,41	27,50
Pressure drop	(3)	kPa	30,4	32,4	39,9	45,9	51,9	60,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	26,0	27,5	33,3	36,2	42,5	48,7
NOISE LEVEL								
Sound Pressure	(6)	dB(A)	70	71	72	73	74	74
Sound power level in cooling	(7)(8)	dB(A)	87	88	89	90	91	91
Sound power level in heating	(7)(9)	dB(A)	88	89	90	91	92	92
SIZE AND WEIGHT								
A	(10)	mm	2210	2650	2650	2650	2650	2650
B	(10)	mm	885	885	885	885	885	885
H	(10)	mm	1805	1805	1805	1805	1805	1805
Operating weight	(10)	kg	1100	1300	1450	1530	1630	1740

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 10°C/7°C; Source (side) heat exchanger water (in/out) 40°C/45°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7 Sound power on the basis of measurements made in compliance with ISO 9614.
8 Sound power level in cooling, indoors.
9 Sound power level in heating, indoors.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

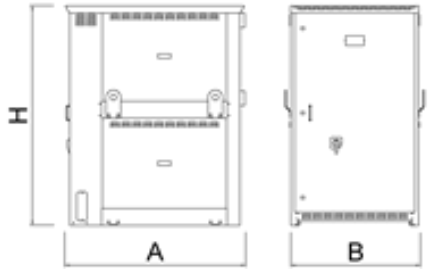
NX-WN

Reversible heat pump, water source

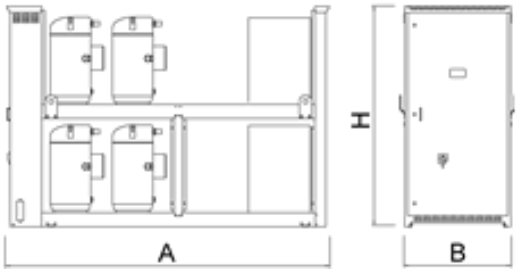
0122 - 1204 37,48-396,2 kW

Dimensional drawing

Size 0122-802



Size 0604-1204



HEAT PUMPS

WW-HT

0071 - 0302 27,52-109,2 kW

Water cooled optimized heat pumps for heating, high water temperature

WW(H)-HT represent the best solution for systems in which there is the need to produce high temperature hot water for both space heating and hot water purposes. The special compressor used guarantees hot water production up to 65°C.
Version WW-HT, heating only, or version WWH-HT, reversible on hydraulic side, can completely meet any system and application requirements, with a vast range of models, hydronic configurations and accessories.
The new WW(H)-HT range is ideal for commercial (offices, hotels), domestic (homes, apartments) or industrial installations (domestic hot water production only).

Control

Electronic control W3000TE
The W3000TE controller is the new device designed especially for heat pump applications with incorporated logic for high and very high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. The controller provides temperature control for the heating and cooling systems in the air-conditioned rooms, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with “blackbox” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For systems made up of multiple units, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, in this way ensuring more efficient energy distribution and, at the same time, guaranteeing simultaneous water delivery to the different distribution systems. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production, and fundamental for managing the Legionella prevention cycles.
Supervision is available with different options, using proprietarydevices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
A dedicated wall-mounted keypad can be used for remote control of all the functions.

Refrigerant

R410A

Versions

B Basic

Configurations

- Basic function

Features

REFRIGERANT GAS R410A
The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

EXTENSIVE RANGE OF OPERATION
Production of high temperature hot water up to 65°C for space heating and hot water purposes.

STACKABLE UNITS
The special structure of the units (without on-board pumps) is designed to allow two units to be stacked on top of each other without any additional accessories, reducing the space requirements when needing to expand system capacity. The capacity of two heat pumps with the footprint of a single unit.

INTEGRATED HYDRONIC MODULE
The units can be supplied with a hydronic kit on the user side and a hydronic kit on the source side. These kits include all the water circuit components so as to optimize installation space, times and costs.
In addition, a vast selection of pumps available, up to 13 different models, for both the user side and the source side, means the best solution can always be configured in terms of flow-rate, available pressure head and power consumption.

INTEGRATED CONDENSATION´S CONTROL
The electronics of the units manages the most suitable condensing control for each type of application: two-way modulating valve, inverter control for the pumps.

RENEWABLE ENERGY FOR COMMERCIAL INSTALLATIONS
Best solution in centralised residential systems such as apartment buildings, where the cost of renovation needs to be limited by keeping the same distribution system with radiators, while offering a source of renewable energy.

MODULAR CONFIGURATION
Modular configuration with capacity extension up to 400kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

Accessories

- Soft start
- Stackable units
- User side and source side hydronic kit (n°13 single pumps and n°13 twin head-pumps available)
- Water connections can be placed on the right-hand side, top or rear.
- Extra soundproof lining to reduce the noise emissions.
- Outside air temperature probe for plant water set point compensation.
- Three-way valve for domestic hot water
- Set-up for remote connectivity with ModBus/Echelon protocol cards

WW-HT			0071	0091	0101	0121	0131	0151
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(1)	kW	27,52	32,84	37,04	42,58	47,79	54,59
Total power input	(1)	kW	6,200	7,331	8,149	9,330	10,39	11,87
COP		kW/kW	4,435	4,475	4,540	4,566	4,596	4,588
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(1)(2)	kW	27,60	32,90	37,10	42,70	48,00	54,80
COP	(1)(2)	kW/kW	4,210	4,260	4,320	4,340	4,380	4,380
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(3)	kW	32,5	38,7	43,9	50,1	56,5	64,7
SCOP	(3)(9)		5,00	4,97	5,16	5,15	5,26	5,18
Performance ηs	(3)(10)	%	192	191	199	198	203	199
Seasonal efficiency class	(11)		A++	A++	A++	A++	A++	A++
PDesign	(4)	kW	30,1	36,0	40,4	46,6	52,2	59,6
SCOP	(4)(9)		4,03	4,08	4,15	4,19	4,21	4,19
Performance ηs	(4)(10)	%	153	155	158	160	160	160
Seasonal efficiency class	(12)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(1)	l/s	1,328	1,585	1,788	2,055	2,307	2,635
Pressure drop	(1)	kPa	11,2	11,7	13,1	14,0	15,2	16,5
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(1)	l/s	1,728	2,068	2,341	2,694	3,029	3,460
Pressure drop	(1)	kPa	42,2	44,0	43,5	45,8	45,7	44,0
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	2,80	3,30	3,70	4,30	4,90	5,50
NOISE LEVEL								
Sound Pressure	(5)	dB(A)	51	52	53	54	55	55
Sound power level in heating	(6)(7)	dB(A)	66	67	68	69	70	70
SIZE AND WEIGHT								
A	(8)	mm	1200	1200	1200	1200	1200	1200
B	(8)	mm	600	600	600	600	600	600
H	(8)	mm	855	855	855	855	855	855
Operating weight	(8)	kg	235	245	250	255	265	275

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in heating, indoors.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

HEAT PUMPS

WW-HT

0071 - 0302 27,52-109,2 kW

Water cooled optimized heat pumps for heating, high water temperature

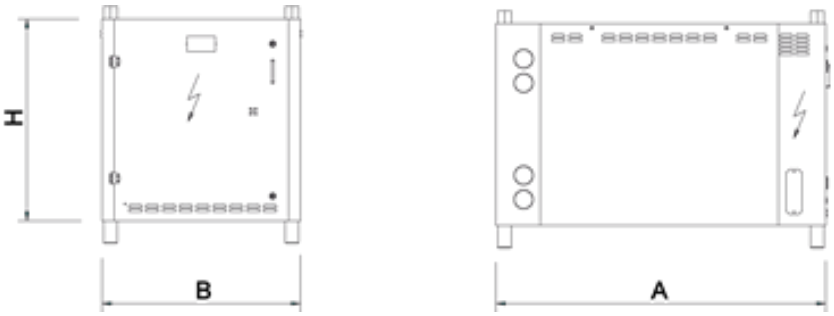
WW-HT			0152	0182	0202	0252	0262	0302
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(1)	kW	54,98	65,69	74,03	85,26	95,49	109,2
Total power input	(1)	kW	12,38	14,64	16,27	18,70	20,76	23,73
COP		kW/kW	4,435	4,500	4,540	4,561	4,591	4,608
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(1)(2)	kW	55,20	65,90	74,30	85,70	95,90	109,6
COP	(1)(2)	kW/kW	4,240	4,320	4,340	4,370	4,390	4,410
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(3)	kW	65,1	77,4	87,9	101	113	129
SCOP	(3)(9)		5,39	5,41	5,56	5,57	5,67	5,59
Performance ηs	(3)(10)	%	208	208	214	215	219	216
Seasonal efficiency class	(11)		A++	-	-	-	-	-
PDesign	(4)	kW	60,1	72,0	80,8	93,4	104	119
SCOP	(4)(9)		4,45	4,51	4,59	4,60	4,67	4,64
Performance ηs	(4)(10)	%	170	172	176	176	179	178
Seasonal efficiency class	(12)		A++	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(1)	l/s	2,654	3,171	3,574	4,116	4,609	5,271
Pressure drop	(1)	kPa	16,8	20,1	27,9	28,6	29,7	30,6
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(1)	l/s	3,454	4,138	4,681	5,393	6,054	6,924
Pressure drop	(1)	kPa	43,8	38,2	41,1	42,4	44,2	45,6
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	5,70	5,90	6,70	7,80	8,80	10,3
NOISE LEVEL								
Sound Pressure	(5)	dB(A)	56	56	57	57	58	58
Sound power level in heating	(6)(7)	dB(A)	71	71	72	72	73	73
SIZE AND WEIGHT								
A	(8)	mm	1470	1470	1470	1470	1470	1470
B	(8)	mm	885	885	885	885	885	885
H	(8)	mm	900	900	900	900	900	900
Operating weight	(8)	kg	405	435	445	465	475	495

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in heating, indoors.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

EW-HT

0152 - 0612 70,18-279,2 kW

Water to water heat pumps, heating only, very high temperature water production

EW-HT represents the best solution for systems where very high temperature water is needed, for domestic hot water production, space heating or industrial process purpose.
The special compressor adopted grants hot water production up to 78°C and allows high evaporation temperature (evaporator leaving water temperature up to 40°C). The extraordinary operating limits ensure the perfect integration of the unit in any application, such as 4-pipe systems for residential and commercial buildings, industrial process heat recovery, district heating systems, IT-cooling plants.

Control

Electronic control W3000TE
W3000TE Compact control features an easy-to-use interface and a complete LCD display that allows consulting and intervening on the unit by means of a multi-language menu (19 languages are available).
The regulation is based on the patented “Quickmind” water temperature regulation logic uses self-adapting control to maintain flow temperatures and optimise performance even in low water content scenarios. As an alternative, the proportional or proportional-integral regulations are also available.
The diagnostics comprises a complete alarm management system, with the “black-box” (via PC) and the alarm history display (via display or also PC) for enhanced analysis of the unit operation
Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well.
Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with the remote keyboard (up to 8 units).
The programmable timer manages a weekly schedule organised into time bands to optimise unit performance by minimising power consumption during periods of inactivity. Up to 10 daily time bands can be associated with different operating set points.
The defrosting (air source reversible unit only) follows a proprietary self-adaptive logic, which features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R134a

Versions

B Basic

Configurations

- Basic function

Features

WIDE OPERATING RANGE
Hot water production up to 78°C (evaporator water outlet up to 40°C).

MAXIMUM RELIABILITY
Unit with two independent refrigerant circuit, designed to ensure maximum efficiency at full load, ensuring uninterrupted operation even in the event of temporary stop of one of the two circuits.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

RENEWABLE ENERGY FOR COMMERCIAL INSTALLATIONS
Best solution in centralised residential systems such as apartment buildings, where the cost of renovation needs to be limited by keeping the same distribution system with radiators, while offering a source of renewable energy.

COMPACTNESS
Reduced dimensions, for easy installation even in sites with space´ constraints

Accessories

- Soft starters
- Thicker soundproofing cladding
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)

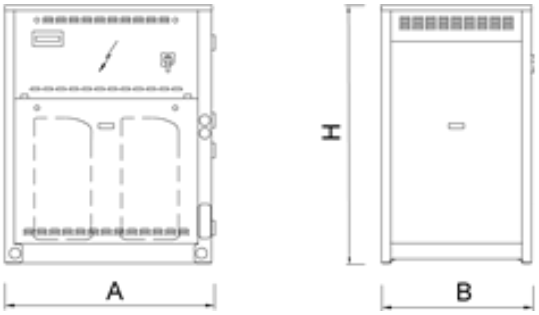
EW-HT			0152	0182	0202	0262	0302	0412	0512	0612
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(1)	kW	70,18	79,27	92,48	112,9	139,4	180,7	224,8	279,2
Total power input	(1)	kW	17,00	18,90	22,00	27,90	34,20	43,70	55,10	67,60
COP	(1)	kW/kW	4,129	4,196	4,205	4,047	4,076	4,135	4,080	4,130
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(1)(2)	kW	70,40	79,50	92,70	113,2	139,7	181,0	225,2	279,7
COP	(1)(2)	kW/kW	4,010	4,070	4,080	3,940	3,980	4,040	4,010	4,060
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(3)	kW	38,6	43,6	50,0	61,6	78,1	104	128	157
SCOP	(3)(8)		3,27	3,39	3,45	3,30	3,30	3,25	3,27	3,30
Performance ηs	(3)(9)	%	123	128	130	124	124	122	123	124
Seasonal efficiency class	(10)		A+	A++	A++	A+	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(1)	l/s	2,145	2,423	2,827	3,452	4,262	5,522	6,871	8,535
Pressure drop	(1)	kPa	23,9	25,0	24,2	24,2	19,7	19,8	19,8	20,1
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(1)	l/s	2,616	2,969	3,466	4,185	5,179	6,739	8,351	10,41
Pressure drop	(1)	kPa	45,4	46,7	51,8	53,8	49,7	50,1	37,6	37,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	6,00	7,00	8,10	9,10	9,90	11,0	13,2	14,3
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	58	58	58	60	60	62	62	64
Sound power level in heating	(5)(6)	dB(A)	74	74	74	76	76	78	78	80
SIZE AND WEIGHT										
A	(7)	mm	1223	1223	1223	1223	1223	1223	1223	1223
B	(7)	mm	877	877	877	877	877	877	877	877
H	(7)	mm	1496	1496	1496	1496	1496	1496	1496	1496
Operating weight	(7)	kg	365	380	390	415	430	610	675	740

Notes

1 Plant (side) heat exchanger water (in/out) 70°C/78°C; Source (side) heat exchanger water (in/out) 45°C/40°C.
2 Values in compliance with EN14511
3 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, indoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

WWH-HT

0071 - 0302 23,63-94,21 kW

Water cooled optimized heat pumps for heating, high water temperature

WW(H)-HT represent the best solution for systems in which there is the need to produce high temperature hot water for both space heating and hot water purposes. The special compressor used guarantees hot water production up to 65°C.
Version WW-HT, heating only, or version WWH-HT, reversible on hydraulic side, can completely meet any system and application requirements, with a vast range of models, hydronic configurations and accessories.
The new WW(H)-HT range is ideal for commercial (offices, hotels), domestic (homes, apartments) or industrial installations (domestic hot water production only).

Control

Electronic control W3000TE
The W3000TE controller is the new device designed especially for heat pump applications with incorporated logic for high and very high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. The controller provides temperature control for the heating and cooling systems in the air-conditioned rooms, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with “blackbox” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For systems made up of multiple units, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, in this way ensuring more efficient energy distribution and, at the same time, guaranteeing simultaneous water delivery to the different distribution systems. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production, and fundamental for managing the Legionella prevention cycles.
Supervision is available with different options, using proprietarydevices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
A dedicated wall-mounted keypad can be used for remote control of all the functions.

Refrigerant

R410A

Versions

B Basic

Configurations

- Basic function

H Function with heat pump, reversible on hydraulic side

Features

REFRIGERANT GAS R410A
The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

EXTENSIVE RANGE OF OPERATION
Production of high temperature hot water up to 65°C for space heating and hot water purposes.

STACKABLE UNITS
The special structure of the units (without on-board pumps) is designed to allow two units to be stacked on top of each other without any additional accessories, reducing the space requirements when needing to expand system capacity. The capacity of two heat pumps with the footprint of a single unit.

INTEGRATED HYDRONIC MODULE
The units can be supplied with a hydronic kit on the user side and a hydronic kit on the source side. These kits include all the water circuit components so as to optimize installation space, times and costs.
In addition, a vast selection of pumps available, up to 13 different models, for both the user side and the source side, means the best solution can always be configured in terms of flow-rate, available pressure head and power consumption.

INTEGRATED CONDENSATION´S CONTROL
The electronics of the units manages the most suitable condensing control for each type of application: two-way modulating valve, inverter control for the pumps.

RENEWABLE ENERGY FOR COMMERCIAL INSTALLATIONS
Best solution in centralised residential systems such as apartment buildings, where the cost of renovation needs to be limited by keeping the same distribution system with radiators, while offering a source of renewable energy.

MODULAR CONFIGURATION
Modular configuration with capacity extension up to 400kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

Accessories

- Soft start
- Stackable units
- User side and source side hydronic kit (n°13 single pumps and n°13 twin head-pumps available)
- Water connections can be placed on the right-hand side, top or rear.
- Extra soundproof lining to reduce the noise emissions.
- Outside air temperature probe for plant water set point compensation.
- Three-way valve for domestic hot water
- Set-up for remote connectivity with ModBus/Echelon protocol cards

WWH-HT			0071	0091	0101	0121	0131	0151
Power supply		V/ph/Hz	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	23,63	28,01	32,00	36,56	41,30	47,10
Total power input	(1)	kW	5,220	6,220	6,856	7,856	8,679	10,11
EER	(1)	kW/kW	4,521	4,502	4,665	4,656	4,758	4,663
ESEER	(1)	kW/kW	4,810	4,730	4,970	4,920	5,020	4,900
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	23,50	27,90	31,90	36,40	41,10	46,90
EER	(1)(2)	kW/kW	4,340	4,330	4,480	4,470	4,560	4,480
ESEER	(1)(2)	kW/kW	4,590	4,530	4,760	4,700	4,790	4,690
Cooling energy class			C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	27,52	32,84	37,04	42,58	47,79	54,59
Total power input	(3)	kW	6,200	7,331	8,149	9,330	10,39	11,87
COP		kW/kW	4,435	4,475	4,540	4,566	4,596	4,588
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	27,60	32,90	37,10	42,70	48,00	54,80
COP	(3)(2)	kW/kW	4,210	4,260	4,320	4,340	4,360	4,380
Cooling energy class			B	B	B	B	B	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(11)	kW	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(4)	kW	32,5	38,7	43,9	50,1	56,5	64,7
SCOP	(4)(14)		5,12	5,07	5,26	5,23	5,34	5,24
Performance ηs	(4)(15)	%	197	195	202	201	206	202
Seasonal efficiency class	(4)		A++	A++	A++	A++	A++	A++
PDesign	(5)	kW	30,1	36,0	40,4	46,6	52,2	59,6
SCOP	(5)(14)		4,12	4,15	4,22	4,25	4,26	4,24
Performance ηs	(5)(15)	%	157	158	161	162	162	162
Seasonal efficiency class	(5)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	1,130	1,340	1,530	1,748	1,975	2,252
Pressure drop	(1)	kPa	18,0	18,5	18,6	19,3	19,4	18,6
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	1,728	2,068	2,341	2,694	3,029	3,460
Pressure drop	(3)	kPa	42,2	44,0	43,5	45,8	45,7	44,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	1,373	1,629	1,850	2,114	2,379	2,723
Pressure drop	(1)	kPa	11,9	12,4	14,0	14,8	16,2	17,6
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	1,328	1,585	1,788	2,055	2,307	2,635
Pressure drop	(3)	kPa	11,2	11,7	13,1	14,0	15,2	16,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	2,80	3,30	3,70	4,30	4,90	5,50
NOISE LEVEL								
Sound Pressure	(6)	dB(A)	51	52	53	54	55	55
Sound power level in cooling	(7)(8)	dB(A)	66	67	68	69	70	70
Sound power level in heating	(7)(9)	dB(A)	66	67	68	69	70	70
SIZE AND WEIGHT								
A	(10)	mm	1200	1200	1200	1200	1200	1200
B	(10)	mm	600	600	600	600	600	600
H	(10)	mm	855	855	855	855	855	855
Operating weight	(10)	kg	235	245	250	255	265	275

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7 Sound power on the basis of measurements made in compliance with ISO 9614.
8 Sound power level in cooling, indoors.
9 Sound power level in heating, indoors.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

WWH-HT

0071 - 0302 23,63-94,21 kW

Water cooled optimized heat pumps for heating, high water temperature

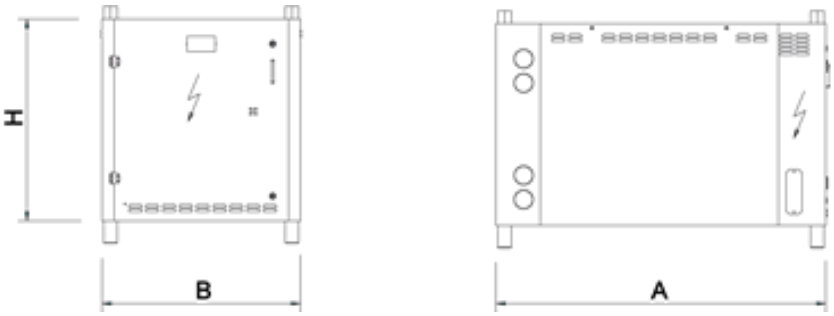
WWH-HT			0152	0182	0202	0252	0262	0302
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	47,21	56,04	63,97	73,19	82,50	94,21
Total power input	(1)	kW	10,43	12,44	13,71	15,74	17,34	20,19
EER	(1)	kW/kW	4,538	4,516	4,672	4,662	4,769	4,663
ESEER	(1)	kW/kW	5,630	5,490	5,800	5,760	5,860	5,720
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	47,00	55,80	63,80	73,00	82,20	93,90
EER	(1)(2)	kW/kW	4,360	4,350	4,460	4,480	4,570	4,480
ESEER	(1)(2)	kW/kW	5,190	5,090	5,310	5,290	5,380	5,270
Cooling energy class			C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	54,98	65,69	74,03	85,26	95,49	109,2
Total power input	(3)	kW	12,38	14,64	16,27	18,70	20,76	23,73
COP		kW/kW	4,435	4,500	4,540	4,561	4,591	4,608
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	55,20	65,90	74,30	85,70	95,90	109,6
COP	(3)(2)	kW/kW	4,250	4,320	4,340	4,370	4,400	4,410
Cooling energy class			B	B	B	B	B	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(11)	kW	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(4)	kW	65,1	77,4	87,9	101	113	129
SCOP	(4)(14)		5,52	5,52	5,66	5,66	5,75	5,66
Performance ηs	(4)(15)	%	213	213	218	218	222	219
Seasonal efficiency class	(4)		A++	-	-	-	-	-
PDesign	(5)	kW	60,1	72,0	80,8	93,4	104	119
SCOP	(5)(14)		4,54	4,59	4,66	4,66	4,73	4,70
Performance ηs	(5)(15)	%	174	175	178	179	181	180
Seasonal efficiency class	(5)		A++	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	2,258	2,680	3,059	3,500	3,945	4,505
Pressure drop	(1)	kPa	18,7	16,0	17,5	17,8	18,8	19,3
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	3,454	4,138	4,681	5,393	6,054	6,924
Pressure drop	(3)	kPa	43,8	38,2	41,1	42,4	44,2	45,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	2,743	3,259	3,698	4,233	4,753	5,446
Pressure drop	(1)	kPa	17,9	21,2	29,8	30,3	31,6	32,6
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	2,654	3,171	3,574	4,116	4,609	5,271
Pressure drop	(3)	kPa	16,8	20,1	27,9	28,6	29,7	30,6
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	5,70	5,90	7,10	7,80	8,80	10,3
NOISE LEVEL								
Sound Pressure	(6)	dB(A)	56	56	57	57	58	58
Sound power level in cooling	(7)(8)	dB(A)	71	71	72	72	73	73
Sound power level in heating	(7)(9)	dB(A)	71	71	72	72	73	73
SIZE AND WEIGHT								
A	(10)	mm	1470	1470	1470	1470	1470	1470
B	(10)	mm	885	885	885	885	885	885
H	(10)	mm	900	900	900	900	900	900
Operating weight	(10)	kg	405	435	445	465	475	495

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7 Sound power on the basis of measurements made in compliance with ISO 9614.
8 Sound power level in cooling, indoors.
9 Sound power level in heating, indoors.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

NX-W /H

Water to water heat pump, reversible on hydraulic side

0122 - 1204 38,14-397,8 kW

Water to water indoor unit for the production of chilled/hot water with hermetic rotary Scroll compressors, braze-welded plate-type exchanger and electronic expansion valve. Basement and frame in hot-galvanised shaped sheet steel with a suitable thickness. All parts polyester-powder painted to assure total weather resistance, RAL 7035.
The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Control

Electronic control W3000TE
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.
The controller provides water temperature control for the heating systems, cooling systems (only for reversible units), as well as for domestic hot water (only for reversible units). These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application.
The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available.
Complete alarm management system is available, with the “black-box” and the alarm history display functions. For systems made up of multiple units, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, thus ensuring more efficient energy distribution and guaranteeing simultaneous water delivery to the different distribution systems. The built-in clock can create an operating profile up to 4 typical days and 10 time bands, essential for efficient programming of energy production and fundamental for managing the Legionella prevention cycles. Available time bands also for DHW production.
Supervision is available either using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
A dedicated wall-mounted keypad can be used for remote control of all the functions.
Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Refrigerant

R410A

Versions

- Basic

Configurations

H Function with heat pump, reversible on hydraulic side

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP READY
The highest level of efficiency at part load can meet and exceed the minimum seasonal efficiency for heating, SCOP (only for reversible units) and for cooling, SEER, according with the eco-sustainable design requirements for all products using energy. The units already comply with the minimum seasonal energy efficiency requirements that will start from 2021.

VARIBLE PRIMARY FLOW (OPTION)
Energy saving due to variable pump speed management based on load demand and the variable flow assures the functioning of the units also with critical working conditions. VPF (Variable Primary Flow) available for sizes 0604-1204.

EXTREMELY SILENT OPERATION
Extremely silent operation together with high efficiency, tank to dedicated acoustic devices and a precise design for the choice of the components.

INTEGRATED CONDENSATION´S CONTROL
The electronics of the units manages the most suitable condensing control for each type of application: two or three-way modulating valve and 0-10V signal for variable speed driven pumps.

TOTAL VERSATILITY
The units have been designed with a range of integrated accessories, keeping in mind the operation with open loop (well water or ground water), dry cooler or cooling tower and suitable for geothermal application so as to satisfy all service system and installation requirements.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and at different working conditions. It guaranteed energy saving due to efficiency optimization in various different working conditions. The electronic thermostatic valve allows you to obtain speed in reaching machine stability and an extension of the operating limits.

Accessories

- Touch Screen visual display
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Outside air temperature probe for plant water set point compensation.
- Integral acoustical enclosure (type base)
- Thicker soundproofing cladding
- VPF (Variable Primary Flow) system
- Condensing control device: two or three-way modulating pressure-controlled valve and inverter on pumps

NX-W /H			0122	0152	0182	0202	0252	0262	0302	0352
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	38,14	47,70	56,19	65,31	72,33	82,33	96,67	111,4
Total power input	(1)	kW	7,525	9,312	10,84	12,62	13,84	15,99	18,88	21,68
EER	(1)	kW/kW	5,060	5,124	5,204	5,183	5,239	5,144	5,116	5,134
ESEER	(1)	kW/kW	6,460	6,760	6,420	6,470	6,720	6,410	6,490	6,630
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	37,90	47,50	55,90	65,10	72,00	82,00	96,40	111,0
EER	(1)(2)	kW/kW	4,850	4,890	4,960	4,970	5,010	4,960	4,940	4,960
ESEER	(1)(2)	kW/kW	5,890	6,100	5,810	5,930	6,120	5,950	6,040	6,130
Cooling energy class			B	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	42,41	52,95	62,57	72,58	80,09	91,03	107,2	123,1
Total power input	(3)	kW	9,438	11,54	13,30	15,55	17,25	19,62	23,14	26,53
COP		kW/kW	4,492	4,609	4,707	4,654	4,657	4,643	4,641	4,645
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	42,50	53,20	62,80	72,80	80,40	91,20	107,4	123,4
COP	(3)(2)	kW/kW	4,280	4,360	4,450	4,450	4,440	4,460	4,460	4,470
Cooling energy class			B	B	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(11)	kW	-	-	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	51,0	63,7	75,5	87,2	96,9	110	129	149
SCOP	(4)(14)		5,89	5,99	5,87	6,02	6,14	6,07	6,09	6,16
Performance ηs	(4)(15)	%	228	232	227	233	238	235	236	238
Seasonal efficiency class	(4)		A++	A++	A++	-	-	-	-	-
PDesign	(5)	kW	46,1	57,5	67,8	79,1	86,9	98,5	116	133
SCOP	(5)(14)		4,62	4,68	4,73	4,78	4,80	4,79	4,80	4,85
Performance ηs	(5)(15)	%	177	179	181	183	184	184	184	186
Seasonal efficiency class	(5)		A++	A++	A++	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	1,824	2,281	2,687	3,123	3,459	3,937	4,623	5,326
Pressure drop	(1)	kPa	21,6	26,6	26,7	21,8	21,6	21,8	22,7	22,9
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	2,672	3,355	3,990	4,619	5,090	5,785	6,806	7,819
Pressure drop	(3)	kPa	46,4	57,4	59,0	47,8	46,9	47,1	49,3	49,4
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,175	2,716	3,194	3,713	4,106	4,684	5,505	6,339
Pressure drop	(1)	kPa	11,8	15,7	18,1	20,6	23,1	13,5	14,2	14,6
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(3)	l/s	2,047	2,556	3,020	3,504	3,866	4,394	5,172	5,940
Pressure drop	(3)	kPa	10,4	13,9	16,2	18,3	20,5	11,9	12,5	12,8
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	3,80	4,20	5,20	5,50	6,70	8,00	9,60	11,0
NOISE LEVEL										
Sound Pressure	(6)	dB(A)	57	57	58	58	58	59	60	60
Sound power level in cooling	(7)(8)	dB(A)	73	73	74	74	74	75	76	77
Sound power level in heating	(7)(9)	dB(A)	74	74	75	75	75	76	77	78
SIZE AND WEIGHT										
A	(10)	mm	1225	1225	1225	1225	1225	1225	1225	1570
B	(10)	mm	885	885	885	885	885	885	885	885
H	(10)	mm	1495	1495	1495	1495	1495	1495	1495	1805
Operating weight	(10)	kg	360	360	390	410	440	480	520	660

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7 Sound power on the basis of measurements made in compliance with ISO 9614.
8 Sound power level in cooling, indoors.
9 Sound power level in heating, indoors.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-W /H

Water to water heat pump, reversible on hydraulic side

0122 - 1204 38,14-397,8 kW

NX-W /H			0402	0452	0502	0552	0602	0702	0802	0604
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	126,1	141,8	157,5	181,1	204,4	230,5	254,3	191,8
Total power input	(1)	kW	24,48	27,68	30,88	35,20	39,59	45,24	51,16	38,29
EER	(1)	kW/kW	5,147	5,119	5,097	5,145	5,162	5,100	4,967	5,008
ESEER	(1)	kW/kW	6,340	6,470	6,320	6,420	6,420	6,500	6,060	6,600
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	125,7	141,4	157,0	180,6	203,8	229,8	253,4	191,4
EER	(1)(2)	kW/kW	4,990	4,960	4,930	4,990	5,000	4,930	4,790	4,880
ESEER	(1)(2)	kW/kW	5,950	6,040	5,920	6,000	6,010	6,030	5,630	6,140
Cooling energy class			B	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	139,0	156,8	174,6	200,2	225,7	255,3	283,3	211,7
Total power input	(3)	kW	29,93	33,85	37,78	43,02	48,35	54,61	61,48	46,86
COP		kW/kW	4,649	4,625	4,619	4,656	4,673	4,676	4,607	4,514
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	139,3	157,1	175,0	200,6	226,2	255,9	284,0	212,1
COP	(3)(2)	kW/kW	4,480	4,470	4,450	4,490	4,510	4,490	4,400	4,400
Cooling energy class			A	A	A	A	A	A	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(11)	kW	-	-	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	169	190	211	242	273	308	339	255
SCOP	(4)(14)		6,07	6,10	6,01	6,10	6,11	6,07	5,82	6,18
Performance ηs	(4)(15)	%	235	236	232	236	236	235	225	239
Seasonal efficiency class	(4)		-	-	-	-	-	-	-	-
PDesign	(5)	kW	150	170	189	217	244	277	308	229
SCOP	(5)(14)		4,81	4,85	4,80	4,87	4,86	4,90	4,72	4,81
Performance ηs	(5)(15)	%	184	186	184	187	186	188	181	184
Seasonal efficiency class	(5)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	6,030	6,780	7,532	8,659	9,777	11,02	12,16	9,174
Pressure drop	(1)	kPa	23,1	23,8	24,4	24,9	25,5	30,7	37,4	17,1
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	8,832	9,959	11,09	12,73	14,36	16,25	17,97	13,36
Pressure drop	(3)	kPa	49,6	51,4	52,9	53,8	55,1	66,7	81,6	36,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	7,174	8,074	8,974	10,30	11,63	13,14	14,55	10,96
Pressure drop	(1)	kPa	15,4	15,9	18,5	18,3	21,0	23,5	28,8	16,2
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(3)	l/s	6,708	7,569	8,430	9,665	10,90	12,32	13,68	10,22
Pressure drop	(3)	kPa	13,5	14,0	16,3	16,1	18,5	20,7	25,4	14,1
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	4
No. Circuits		N°	1	1	1	1	1	1	1	2
Refrigerant charge		kg	12,5	13,9	14,8	18,1	21,4	21,9	22,0	19,3
NOISE LEVEL										
Sound Pressure	(6)	dB(A)	60	61	61	62	62	65	66	69
Sound power level in cooling	(7)(8)	dB(A)	77	78	78	79	79	82	83	86
Sound power level in heating	(7)(9)	dB(A)	78	79	79	80	80	83	84	87
SIZE AND WEIGHT										
A	(10)	mm	1570	1570	1570	1570	1570	1570	1570	2210
B	(10)	mm	885	885	885	885	885	885	885	885
H	(10)	mm	1805	1805	1805	1805	1805	1805	1805	1805
Operating weight	(10)	kg	740	790	820	870	920	940	960	870

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7 Sound power on the basis of measurements made in compliance with ISO 9614.
8 Sound power level in cooling, indoors.
9 Sound power level in heating, indoors.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-W /H			0704	0804	0904	1004	1104	1204
Power supply		V/ph/Hz	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	221,0	250,0	281,3	312,7	359,3	397,8
Total power input	(1)	kW	43,95	49,61	56,09	62,55	71,34	79,96
EER	(1)	kW/kW	5,034	5,040	5,014	5,003	5,039	4,972
ESEER	(1)	kW/kW	6,640	6,580	6,640	6,530	6,610	6,570
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	220,5	249,4	280,6	311,9	358,4	396,6
EER	(1)(2)	kW/kW	4,910	4,910	4,880	4,860	4,880	4,800
ESEER	(1)(2)	kW/kW	6,160	6,120	6,130	6,020	6,030	5,960
Cooling energy class			B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	243,1	274,5	309,4	345,1	395,5	440,3
Total power input	(3)	kW	53,75	60,65	68,25	76,49	87,15	98,14
COP		kW/kW	4,519	4,530	4,537	4,511	4,541	4,488
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	243,6	275,1	310,1	345,9	396,5	441,5
COP	(3)(2)	kW/kW	4,410	4,410	4,400	4,370	4,390	4,310
Cooling energy class			B	B	B	B	B	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(11)	kW	-	-	-	-	358	397
SEER	(11)(12)		-	-	-	-	5,89	5,79
Performance ηs	(11)(13)	%	-	-	-	-	228	224
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(4)	kW	294	332	371	416	-	-
SCOP	(4)(14)		6,17	6,17	6,27	6,05	-	-
Performance ηs	(4)(15)	%	239	239	243	234	-	-
Seasonal efficiency class	(4)		-	-	-	-	-	-
PDesign	(5)	kW	263	297	335	374	-	-
SCOP	(5)(14)		4,83	4,90	4,93	4,85	-	-
Performance ηs	(5)(15)	%	185	188	189	186	-	-
Seasonal efficiency class	(5)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	10,57	11,96	13,45	14,95	17,18	19,02
Pressure drop	(1)	kPa	18,1	20,0	21,3	24,9	28,2	34,6
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	15,34	17,33	19,54	21,77	24,99	27,73
Pressure drop	(3)	kPa	38,1	42,0	45,0	52,7	59,7	73,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	12,62	14,27	16,07	17,87	20,51	22,75
Pressure drop	(1)	kPa	17,4	19,6	22,0	24,8	30,0	36,1
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	11,73	13,25	14,93	16,66	19,09	21,25
Pressure drop	(3)	kPa	15,1	16,9	19,0	21,6	26,0	31,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	23,1	25,5	29,9	37,7	44,5	44,6
NOISE LEVEL								
Sound Pressure	(6)	dB(A)	70	71	72	73	74	74
Sound power level in cooling	(7)(8)	dB(A)	87	88	89	90	91	91
Sound power level in heating	(7)(9)	dB(A)	88	89	90	91	92	92
SIZE AND WEIGHT								
A	(10)	mm	2210	2650	2650	2650	2650	2650
B	(10)	mm	885	885	885	885	885	885
H	(10)	mm	1805	1805	1805	1805	1805	1805
Operating weight	(10)	kg	1050	1240	1330	1530	1630	1710

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7 Sound power on the basis of measurements made in compliance with ISO 9614.
8 Sound power level in cooling, indoors.
9 Sound power level in heating, indoors.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

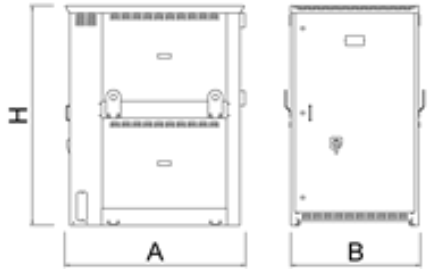
NX-W /H

0122 - 1204 38,14-397,8 kW

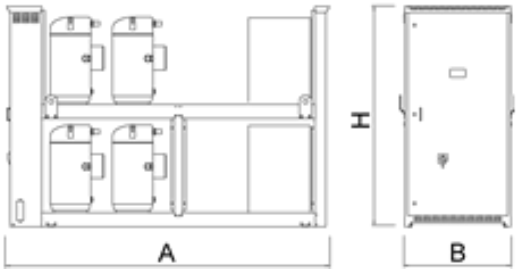
Water to water heat pump, reversible on hydraulic side

Dimensional drawing

Size 0122-802



Size 0604-1204



HEAT PUMPS

FOCS-W /H

Water to water heat pump, reversible on hydraulic side

0401 - 1302 86,96-297,9 kW

Indoor unit for the production of chilled/hot water with semi-hermetic screw compressors optimized for R134a, thermostatic expansion valve, shell and tube condenser and evaporator.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation. The high performance's level is achieved thanks to the accurate sizing of all internal components.

Refrigerant

R134a

Versions

B Basic

Configurations

H Function with heat pump, reversible on hydraulic side

Features

FLEXIBILITY
Flexibility in applications thanks to the many available functions and versions

ADAPTABILITY
Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

Accessories

- Compressor power factor correction
- Electronic expansion valve
- Pressostatic control valve
- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

FOCS-W / B /H			0401	0501	0551	0651	0751	0802
Power supply		V/ph/Hz	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	86,96	106,6	130,2	147,4	164,6	177,5
Total power input	(1)	kW	19,58	24,49	28,12	32,70	36,89	39,33
EER	(1)	kW/kW	4,439	4,351	4,633	4,508	4,461	4,517
ESEER	(1)	kW/kW	5,150	5,320	5,250	5,290	5,400	5,390
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	86,70	106,3	129,9	147,0	164,1	177,1
EER	(1)(2)	kW/kW	4,270	4,170	4,460	4,340	4,290	4,350
ESEER	(1)(2)	kW/kW	4,490	4,330	4,930	4,530	4,460	4,560
Cooling energy class			C	D	G	C	C	C
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	99,51	122,7	147,6	168,0	188,6	202,2
Total power input	(3)	kW	23,49	29,23	34,15	39,23	44,00	47,14
COP		kW/kW	4,234	4,202	4,316	4,286	4,286	4,293
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	99,90	123,3	148,2	168,7	189,4	203,1
COP	(3)(2)	kW/kW	4,080	4,040	4,180	4,140	4,130	4,150
Cooling energy class			C	C	G	C	C	C
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(11)	kW	-	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(4)	kW	120	148	179	203	227	245
SCOP	(4)(14)		5,33	5,41	5,53	5,46	5,50	5,48
Performance ηs	(4)(15)	%	205	208	213	210	212	211
Seasonal efficiency class	(4)		-	-	-	-	-	-
PDesign	(5)	kW	107	133	159	180	204	217
SCOP	(5)(14)		4,01	4,23	3,93	4,07	4,26	4,18
Performance ηs	(5)(15)	%	152	161	149	155	162	159
Seasonal efficiency class	(5)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	4,159	5,100	6,228	7,047	7,871	8,489
Pressure drop	(1)	kPa	17,7	17,5	14,1	18,1	22,6	17,6
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	6,170	7,588	9,204	10,45	11,73	12,58
Pressure drop	(3)	kPa	39,0	38,8	30,9	39,7	50,1	38,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	5,069	6,238	7,537	8,569	9,587	10,32
Pressure drop	(1)	kPa	32,6	52,5	43,1	44,0	44,7	51,8
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	4,804	5,923	7,125	8,109	9,103	9,759
Pressure drop	(3)	kPa	29,3	47,3	38,6	39,4	40,3	46,3
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	2
No. Circuits		N°	1	1	0	1	1	2
Refrigerant charge		kg	18,5	21,0	31,0	29,9	28,9	41,9
NOISE LEVEL								
Sound Pressure	(6)	dB(A)	74	75	77	77	77	76
Sound power level in cooling	(7)(8)	dB(A)	91	92	94	94	94	94
Sound power level in heating	(7)(9)	dB(A)	91	92	94	94	94	94
SIZE AND WEIGHT								
A	(10)	mm	2300	2500	2500	2500	2500	3200
B	(10)	mm	1000	1000	1000	1000	1000	1200
H	(10)	mm	1500	1500	1500	1500	1500	1500
Operating weight	(10)	kg	800	840	1160	1180	1190	1470

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7 Sound power on the basis of measurements made in compliance with ISO 9614.
8 Sound power level in cooling, indoors.
9 Sound power level in heating, indoors.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS-W /H

Water to water heat pump, reversible on hydraulic side

0401 - 1302 86,96-297,9 kW

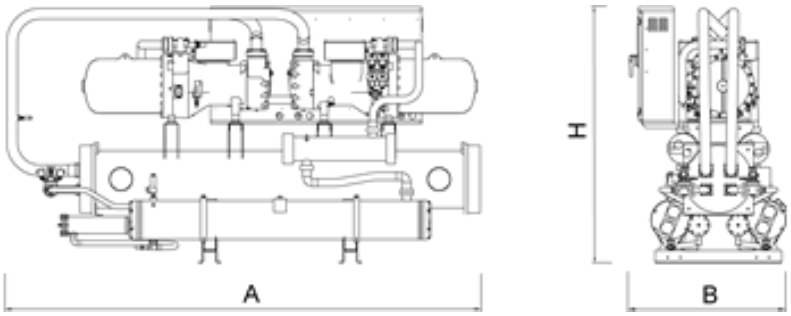
FOCS-W / B /H			0851	0951	1002	1102	1302
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	197,7	221,1	217,0	250,7	297,9
Total power input	(1)	kW	42,74	49,61	49,20	55,79	65,56
EER	(1)	kW/kW	4,630	4,458	4,411	4,493	4,541
ESEER	(1)	kW/kW	5,540	5,420	5,520	5,240	5,490
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	197,2	220,2	216,2	249,6	296,7
EER	(1)(2)	kW/kW	4,450	4,280	4,210	4,300	4,350
ESEER	(1)(2)	kW/kW	4,660	4,450	4,380	4,530	4,560
Cooling energy class			C	C	D	C	C
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	223,4	252,3	248,7	286,7	338,8
Total power input	(3)	kW	51,23	59,07	58,66	67,87	78,62
COP		kW/kW	4,363	4,269	4,237	4,222	4,310
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(3)(2)	kW	224,3	253,2	249,8	287,6	340,0
COP	(3)(2)	kW/kW	4,210	4,070	4,040	4,000	4,100
Cooling energy class			C	C	C	C	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(11)	kW	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(4)	kW	272	305	300	346	410
SCOP	(4)(14)		5,64	5,36	5,26	5,02	5,22
Performance ηs	(4)(15)	%	218	206	202	193	201
Seasonal efficiency class	(4)		-	-	-	-	-
PDesign	(5)	kW	239	272	269	311	363
SCOP	(5)(14)		4,24	4,25	4,27	3,83	4,11
Performance ηs	(5)(15)	%	161	162	163	145	156
Seasonal efficiency class	(5)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	9,455	10,57	10,38	11,99	14,25
Pressure drop	(1)	kPa	21,8	41,3	39,8	53,1	46,0
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	13,96	15,68	15,42	17,77	21,11
Pressure drop	(3)	kPa	47,5	90,8	87,8	117	101
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	11,45	12,88	12,67	14,59	17,30
Pressure drop	(1)	kPa	52,5	38,7	54,1	40,5	45,0
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	10,78	12,18	12,00	13,84	16,35
Pressure drop	(3)	kPa	46,6	34,6	48,6	36,5	40,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	2	2	2
No. Circuits		N°	1	1	2	2	2
Refrigerant charge		kg	35,6	50,6	42,6	51,0	53,7
NOISE LEVEL							
Sound Pressure	(6)	dB(A)	76	76	77	79	79
Sound power level in cooling	(7)(8)	dB(A)	94	94	95	97	97
Sound power level in heating	(7)(9)	dB(A)	94	94	95	97	97
SIZE AND WEIGHT							
A	(10)	mm	3200	3200	3200	3200	3500
B	(10)	mm	1000	1000	1200	1200	1200
H	(10)	mm	1500	1500	1500	1500	1800
Operating weight	(10)	kg	1270	1350	1490	1930	2220

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
6 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7 Sound power on the basis of measurements made in compliance with ISO 9614.
8 Sound power level in cooling, indoors.
9 Sound power level in heating, indoors.
10 Unit in standard configuration/execution, without optional accessories.
11 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
12 Seasonal energy efficiency ratio
13 Seasonal space cooling energy efficiency
14 Seasonal coefficient of performance
15 Seasonal space heating energy efficiency

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

FOCS2-W /H

1301 - 9604 306,0-2416 kW

Water to water high efficiency heat pump, reversible on hydraulic side

Unit for indoor installation for chilled/hot water production. Semihermetic screw compressors optimized to operate with low compression ratio and R134a; shell and tubes condenser and direct expansion evaporator; electronic expansion valve. Frame in polyester-painted galvanized steel. High efficiency unit: the innovative optimized compressors and the high performing heat exchangers enhance EER values up to 5,1 (CA version) and even up to 5,6 (CA-E version) at Eurovent standars conditions.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

CA High efficiency version

CA-E Premium efficiency version: Class A enhanced

Configurations

H Function with heat pump, reversible on hydraulic side

Features

HIGH EFFICIENCY

The version ´CA-E´ is characterized by efficiency beyond the ´Class A´ for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

ADAPTABILITY

Adaptability at the building's heating request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

SILENT OPERATION

Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

Accessories

- Kit HWT, High Water Temperature, to produce hot water up to 60°C
- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards

FOCS2-W /CA / H			1301	1401	3202	3602	4202	4502	4802
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	306,0	348,3	843,9	957,3	1071	1145	1213
Total power input	(1)	kW	60,47	68,70	166,7	188,8	211,6	226,1	239,8
EER	(1)	kW/kW	5,058	5,070	5,062	5,070	5,061	5,064	5,058
ESEER	(1)	kW/kW	5,940	5,950	5,870	6,140	6,080	6,230	6,170
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	304,9	347,0	841,1	954,1	1069	1142	1210
EER	(1)(2)	kW/kW	4,860	4,870	4,890	4,900	4,920	4,910	4,900
ESEER	(1)(2)	kW/kW	5,450	5,450	5,410	5,630	5,670	5,780	5,700
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	343,5	391,6	927,7	1068	1210	1284	1354
Total power input	(3)	kW	76,72	87,23	208,0	236,3	264,9	282,2	299,2
COP		kW/kW	4,478	4,491	4,460	4,520	4,568	4,550	4,525
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	344,5	392,7	929,9	1071	1213	1287	1357
COP	(3)(2)	kW/kW	4,320	4,320	4,340	4,350	4,430	4,420	4,400
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	-	-	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	14,64	16,66	40,35	45,78	51,23	54,74	58,02
Pressure drop	(1)	kPa	41,9	45,0	45,4	46,4	30,6	34,2	38,4
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	18,89	21,94	47,22	63,05	73,89	73,89	73,89
Pressure drop	(3)	kPa	69,8	78,0	62,1	88,1	63,7	62,3	62,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	17,46	19,87	48,14	54,60	61,11	65,30	69,22
Pressure drop	(1)	kPa	35,9	35,0	34,8	34,8	34,4	35,4	36,0
HEAT EXCHANGER SOURCE SIDE IN HEATING									
Water flow	(3)	l/s	16,58	18,90	44,78	51,57	58,39	61,96	65,35
Pressure drop	(3)	kPa	32,4	31,7	30,1	31,0	31,4	31,8	32,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	2	2	2	2	2
No. Circuits		N°	1	1	2	2	2	2	2
Refrigerant charge		kg	42,0	43,0	126	130	130	125	140
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	79	79	80	80	80	80	80
Sound power level in cooling	(6)(7)	dB(A)	97	97	99	99	99	99	99
Sound power level in heating	(6)(8)	dB(A)	0	0	0	0	0	0	0
SIZE AND WEIGHT									
A	(9)	mm	3830	3830	4750	4750	4750	4750	4750
B	(9)	mm	900	900	1150	1150	1150	1150	1150
H	(9)	mm	1700	1700	2050	2050	2200	2200	2200
Operating weight	(9)	kg	2050	2110	5110	5400	6070	6120	6180

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,57°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Unit in standard configuration/execution, 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

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS2-W /H

Water to water high efficiency heat pump, reversible on hydraulic side

1301 - 9604 306,0-2416 kW

FOCS2-W /CA / H			5402	6002	8103	9003	9004	9604
Power supply		V/ph/Hz	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	1348	1490	2024	2236	2278	2416
Total power input	(1)	kW	266,9	295,0	400,4	442,0	450,7	478,2
EER	(1)	kW/kW	5,051	5,051	5,055	5,059	5,054	5,052
ESEER	(1)	kW/kW	6,000	6,090	6,090	6,140	6,240	6,170
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	1344	1485	2018	2228	2273	2410
EER	(1)(2)	kW/kW	4,880	4,870	4,900	4,890	4,920	4,910
ESEER	(1)(2)	kW/kW	5,540	5,570	5,610	5,600	5,800	5,710
Cooling energy class			B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	1481	1620	2226	2434	2582	2739
Total power input	(3)	kW	329,6	363,1	494,7	544,4	563,9	598,6
COP		kW/kW	4,493	4,462	4,500	4,471	4,579	4,576
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	1484	1624	2231	2439	2588	2745
COP	(3)(2)	kW/kW	4,380	4,360	4,390	4,370	4,430	4,420
Cooling energy class			B	B	B	B	B	B
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	-	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	64,47	71,27	96,81	106,9	108,9	115,5
Pressure drop	(1)	kPa	47,4	54,6	43,7	53,3	32,3	36,3
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	73,89	73,89	112,5	112,5	163,5	173,4
Pressure drop	(3)	kPa	62,3	58,7	59,0	59,0	72,7	81,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	76,93	85,04	115,5	127,5	130,0	137,9
Pressure drop	(1)	kPa	34,5	36,6	34,6	35,8	35,0	37,0
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	71,47	78,19	107,4	117,5	124,6	132,2
Pressure drop	(3)	kPa	29,8	30,9	29,9	30,4	32,2	34,0
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	3	3	4	4
No. Circuits		N°	2	2	3	3	4	4
Refrigerant charge		kg	164	180	269	261	267	260
NOISE LEVEL								
Sound Pressure	(5)	dB(A)	82	82	82	82	82	82
Sound power level in cooling	(6)(7)	dB(A)	101	101	102	102	102	102
Sound power level in heating	(6)(8)	dB(A)	0	0	0	0	0	0
SIZE AND WEIGHT								
A	(9)	mm	4850	4850	4950	4950	4650	4650
B	(9)	mm	1150	1150	1700	1700	2250	2250
H	(9)	mm	2200	2200	2150	2150	2230	2230
Operating weight	(9)	kg	6950	7090	10170	10350	14330	14390

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,57°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Unit in standard configuration/execution, 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

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS2-W / CA-E / H			1301	1401	1601	1801	2101	2401	2802	3202	3602
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	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	320,7	364,7	441,9	506,3	573,7	649,4	729,4	884,2	1012
Total power input	(1)	kW	57,30	65,10	79,06	90,27	102,6	116,1	130,3	158,1	180,4
EER	(1)	kW/kW	5,597	5,602	5,587	5,607	5,592	5,593	5,598	5,593	5,610
ESEER	(1)	kW/kW	6,490	6,500	6,300	6,400	6,370	6,400	6,660	6,570	6,730
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	319,5	363,3	440,0	504,2	571,4	646,5	726,6	880,5	1009
EER	(1)(2)	kW/kW	5,320	5,330	5,300	5,320	5,310	5,300	5,340	5,320	5,380
ESEER	(1)(2)	kW/kW	5,830	5,830	5,650	5,720	5,720	5,700	5,960	5,840	6,060
Cooling energy class			A	A	A	A	A	A	A	A	A
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	357,5	406,5	486,9	558,4	637,5	719,9	813,2	976,6	1118
Total power input	(3)	kW	73,14	83,10	99,44	113,6	129,1	146,0	166,4	199,0	227,1
COP		kW/kW	4,891	4,892	4,898	4,915	4,938	4,931	4,887	4,908	4,923
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	358,8	407,9	488,7	560,5	639,9	722,6	815,8	979,9	1122
COP	(3)(2)	kW/kW	4,600	4,600	4,610	4,620	4,630	4,620	4,610	4,610	4,690
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(10)	kW	320	363	-	-	571	-	727	880	1009
SEER	(10)(11)		5,88	5,90	-	-	5,88	-	6,16	6,08	6,31
Performance ηs	(10)(12)	%	227	228	-	-	227	-	238	235	244
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(4)	kW	-	-	-	-	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,33	17,44	21,13	24,21	27,44	31,06	34,88	42,28	48,41
Pressure drop	(1)	kPa	45,7	47,7	53,5	53,4	52,8	60,2	51,9	58,6	41,3
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	23,01	26,17	30,56	35,56	41,13	45,28	52,34	62,92	72,05
Pressure drop	(3)	kPa	103	107	112	115	119	128	117	130	91,5
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	18,02	20,49	24,84	28,44	32,24	36,50	40,99	49,69	56,86
Pressure drop	(1)	kPa	48,4	46,6	51,6	52,6	54,3	56,3	46,6	51,5	52,8
HEAT EXCHANGER SOURCE SIDE IN HEATING											
Water flow	(3)	l/s	17,26	19,62	23,50	26,95	30,77	34,75	39,25	47,14	53,95
Pressure drop	(3)	kPa	44,4	42,8	46,2	47,3	49,5	51,0	42,7	46,4	47,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	1	1	1	2	2	2
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	50,0	60,0	75,0	72,0	80,0	100	124	140	160
NOISE LEVEL											
Sound Pressure	(5)	dB(A)	79	78	78	78	78	78	80	80	80
Sound power level in cooling	(6)(7)	dB(A)	97	97	97	97	97	97	99	99	99
Sound power level in heating	(6)(8)	dB(A)	0	0	0	0	0	0	0	0	0
SIZE AND WEIGHT											
A	(9)	mm	4250	4250	4150	4150	4130	4350	4550	4950	5170
B	(9)	mm	900	900	900	900	900	900	1150	1150	1150
H	(9)	mm	1815	1910	1990	1990	1990	2090	2050	2200	2200
Operating weight	(9)	kg	2470	2770	3570	3750	3790	4230	5390	6460	6920

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Unit in standard configuration/execution, 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

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS2-W /H

1301 - 9604 306,0-2416 kW

Water to water high efficiency heat pump, reversible on hydraulic side

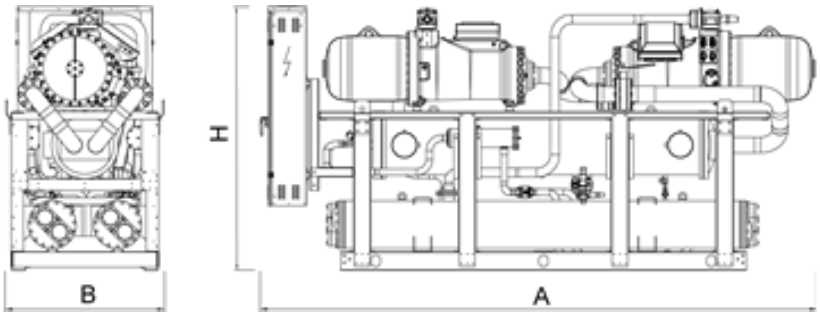
FOCS2-W / CA-E / H			4202	4802	2701	3001	5402	7204	7804	8404
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	1147	1299	706,7	781,3	1411	2025	2157	2294
Total power input	(1)	kW	205,1	232,3	127,8	140,9	255,6	360,7	385,5	410,3
EER	(1)	kW/kW	5,592	5,592	5,530	5,545	5,520	5,614	5,595	5,591
ESEER	(1)	kW/kW	6,640	6,660	6,380	6,410	6,660	6,760	6,640	6,650
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	1143	1293	704,0	778,6	1407	2019	2149	2286
EER	(1)(2)	kW/kW	5,330	5,310	5,270	5,300	5,300	5,400	5,350	5,350
ESEER	(1)(2)	kW/kW	5,910	5,870	5,760	5,810	6,000	6,130	5,940	5,970
Cooling energy class			A	A	A	A	A	A	A	A
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	1271	1423	780,5	862,7	1558	2235	2352	2543
Total power input	(3)	kW	258,0	291,5	159,6	176,0	319,2	454,1	484,1	516,0
COP		kW/kW	4,926	4,882	4,890	4,902	4,881	4,922	4,859	4,928
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	1275	1428	783,2	865,5	1563	2242	2359	2551
COP	(3)(2)	kW/kW	4,650	4,650	4,610	4,640	4,640	4,700	4,660	4,680
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	(10)	kW	-	-	704	779	-	-	-	-
SEER	(10)(11)		-	-	5,89	5,90	-	-	-	-
Performance ηs	(10)(12)	%	-	-	228	228	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	-	-	-	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	54,85	62,10	33,80	37,36	67,48	96,82	103,2	109,7
Pressure drop	(1)	kPa	55,0	65,0	51,5	47,2	46,0	41,3	59,3	54,6
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	80,00	80,00	50,24	55,56	99,72	144,1	129,4	160,0
Pressure drop	(3)	kPa	117	108	114	104	101	91,5	93,4	116
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	64,46	72,98	39,78	43,96	79,45	113,7	121,2	128,9
Pressure drop	(1)	kPa	54,4	56,6	51,7	49,3	51,5	52,0	53,3	53,8
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(3)	l/s	61,38	68,70	37,67	41,64	75,22	107,9	113,5	122,8
Pressure drop	(3)	kPa	49,3	50,2	46,4	44,3	46,2	46,8	46,8	48,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	1	1	2	4	4	4
No. Circuits		N°	2	2	1	1	2	4	4	4
Refrigerant charge		kg	174	210	115	105	220	320	348	348
NOISE LEVEL										
Sound Pressure	(5)	dB(A)	79	79	80	80	81	82	82	82
Sound power level in cooling	(6)(7)	dB(A)	99	99	99	99	101	102	102	102
Sound power level in heating	(6)(8)	dB(A)	0	0	0	0	0	0	0	0
SIZE AND WEIGHT										
A	(9)	mm	4920	4920	4350	4350	5200	5220	4900	4900
B	(9)	mm	1150	1285	900	900	1285	2250	2250	2250
H	(9)	mm	2350	2430	2180	2180	2440	2305	2455	2455
Operating weight	(9)	kg	7900	8560	4760	4870	8850	13720	15850	16100

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Unit in standard configuration/execution, 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

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

FOCS2-W-G05 /H

1301 - 9604 306,0-2416 kW

Water to water high efficiency heat pump, reversible on hydraulic side

Unit for indoor installation for chilled/hot water production. Semihermetic screw compressors optimized to operate with low compression ratio and R513A; shell and tubes condenser and direct expansion evaporator; electronic expansion valve. Frame in polyester-painted galvanized steel. High efficiency unit: the innovative optimized compressors and the high performing heat exchangers enhance EER values up to 5,1 (CA version) and even up to 5,6 (CA-E version) at Eurovent standars conditions.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

CA High efficiency version

CA-E Premium efficiency version: Class A enhanced

Configurations

H Function with heat pump, reversible on hydraulic side

Features

HIGH EFFICIENCY

The version ´CA-E´ is characterized by efficiency beyond the ´Class A´ for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

ADAPTABILITY

Adaptability at the building's heating request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

SILENT OPERATION

Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

Accessories

- Kit HWT, High Water Temperature, to produce hot water up to 60°C
- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards

FOCS2-W-G05 /H /CA			1301	1401	3202	3602	4202	4502	4802
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	306,0	348,3	843,9	957,3	1071	1145	1213
Total power input	(1)	kW	63,01	71,59	173,7	196,7	220,5	235,6	249,9
EER	(1)	kW/kW	4,857	4,865	4,858	4,867	4,857	4,860	4,854
ESEER	(1)	kW/kW	5,820	5,830	5,870	6,140	6,080	6,170	6,170
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	304,9	347,0	841,1	954,1	1069	1142	1210
EER	(1)(2)	kW/kW	4,670	4,680	4,690	4,700	4,730	4,720	4,710
ESEER	(1)(2)	kW/kW	5,340	5,350	5,400	5,620	5,660	5,720	5,690
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	346,5	395,1	935,9	1078	1220	1295	1366
Total power input	(3)	kW	79,94	90,89	216,7	246,2	276,0	294,0	311,8
COP		kW/kW	4,337	4,347	4,319	4,379	4,420	4,405	4,381
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	347,5	396,2	938,1	1081	1223	1298	1369
COP	(3)(2)	kW/kW	4,190	4,180	4,200	4,220	4,290	4,280	4,260
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	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(4)	kW	-	-	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	14,64	16,66	40,35	45,78	51,23	54,74	58,02
Pressure drop	(1)	kPa	41,9	45,0	45,4	46,4	30,6	34,2	38,4
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	18,89	21,94	47,22	63,05	73,89	73,89	73,89
Pressure drop	(3)	kPa	69,8	78,0	62,1	88,1	63,7	62,3	62,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	17,57	20,00	48,46	54,95	61,51	65,73	69,67
Pressure drop	(1)	kPa	36,4	35,4	35,3	35,2	34,8	35,8	36,5
HEAT EXCHANGER SOURCE SIDE IN HEATING									
Water flow	(3)	l/s	16,73	19,07	45,18	52,02	58,89	62,50	65,92
Pressure drop	(3)	kPa	33,0	32,2	30,7	31,6	31,9	32,4	32,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	2	2	2	2	2
No. Circuits		N°	1	1	2	2	2	2	2
Refrigerant charge		kg	45,0	46,0	133	137	137	132	147
NOISE LEVEL									
Sound Pressure	(5)	dB(A)	79	79	80	80	80	80	80
Sound power level in cooling	(6)(7)	dB(A)	97	97	99	99	99	99	99
Sound power level in heating	(6)(8)	dB(A)	0	0	0	0	0	0	0
SIZE AND WEIGHT									
A	(9)	mm	3830	3830	4750	4750	4750	4750	4750
B	(9)	mm	900	900	1150	1150	1150	1150	1150
H	(9)	mm	1700	1700	2050	2050	2200	2200	2200
Operating weight	(9)	kg	2050	2110	5110	5400	6070	6120	6180

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,57°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Unit in standard configuration/execution, 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

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS2-W-G05 /H

Water to water high efficiency heat pump, reversible on hydraulic side

1301 - 9604 306,0-2416 kW

FOCS2-W-G05 /H /CA			5402	6002	8103	9003	9004	9604
Power supply		V/ph/Hz	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	1348	1490	2024	2236	2278	2416
Total power input	(1)	kW	278,1	307,4	417,3	460,6	469,7	498,3
EER	(1)	kW/kW	4,847	4,847	4,850	4,855	4,850	4,848
ESEER	(1)	kW/kW	6,010	6,090	5,970	6,010	6,110	6,050
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	1344	1485	2018	2228	2273	2410
EER	(1)(2)	kW/kW	4,690	4,680	4,710	4,700	4,730	4,720
ESEER	(1)(2)	kW/kW	5,540	5,560	5,500	5,500	5,680	5,600
Cooling energy class			B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	1494	1634	2245	2456	2604	2763
Total power input	(3)	kW	343,5	378,3	515,5	567,2	587,6	623,8
COP		kW/kW	4,349	4,319	4,355	4,330	4,432	4,429
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	1497	1638	2250	2461	2610	2769
COP	(3)(2)	kW/kW	4,240	4,220	4,250	4,240	4,290	4,280
Cooling energy class			B	B	B	B	B	B
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	-	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	64,47	71,27	96,81	106,9	108,9	115,5
Pressure drop	(1)	kPa	47,4	54,6	43,7	53,3	32,3	36,3
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	73,89	73,89	112,5	112,5	163,5	173,4
Pressure drop	(3)	kPa	62,3	58,7	59,0	59,0	72,7	81,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	77,44	85,60	116,3	128,4	130,8	138,8
Pressure drop	(1)	kPa	35,0	37,0	35,0	36,3	35,5	37,4
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	72,10	78,88	108,4	118,5	125,7	133,4
Pressure drop	(3)	kPa	30,3	31,4	30,4	31,0	32,8	34,6
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	3	3	4	4
No. Circuits		N°	2	2	3	3	4	4
Refrigerant charge		kg	173	189	283	275	281	273
NOISE LEVEL								
Sound Pressure	(5)	dB(A)	82	82	82	82	82	82
Sound power level in cooling	(6)(7)	dB(A)	101	101	102	102	102	102
Sound power level in heating	(6)(8)	dB(A)	0	0	0	0	0	0
SIZE AND WEIGHT								
A	(9)	mm	4850	4850	4950	4950	4650	4650
B	(9)	mm	1150	1150	1700	1700	2250	2250
H	(9)	mm	2200	2200	2150	2150	2230	2230
Operating weight	(9)	kg	6950	7090	10170	10350	14330	14390

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,57°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Unit in standard configuration/execution, 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

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS2-W-G05 /H /CA-E			1301	1401	1601	1801	2101	2401	2802	3202	3602
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	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	320,7	364,7	441,9	506,3	573,7	649,4	729,4	884,2	1012
Total power input	(1)	kW	59,70	67,84	82,38	94,07	106,9	121,0	135,8	164,8	187,9
EER	(1)	kW/kW	5,372	5,379	5,363	5,380	5,367	5,367	5,371	5,365	5,386
ESEER	(1)	kW/kW	6,370	6,370	6,300	6,390	6,380	6,400	6,520	6,440	6,600
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	319,5	363,3	440,0	504,2	571,4	646,5	726,6	880,5	1009
EER	(1)(2)	kW/kW	5,110	5,120	5,090	5,110	5,100	5,090	5,130	5,110	5,170
ESEER	(1)(2)	kW/kW	5,710	5,720	5,630	5,720	5,710	5,700	5,850	5,720	5,940
Cooling energy class			A	A	A	A	A	A	A	A	A
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	360,4	409,8	490,8	562,9	642,6	725,7	819,7	984,4	1127
Total power input	(3)	kW	76,22	86,59	103,6	118,4	134,5	152,1	173,3	207,3	236,6
COP		kW/kW	4,730	4,732	4,737	4,754	4,778	4,771	4,730	4,749	4,763
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	361,8	411,3	492,6	565,0	645,1	728,5	822,4	987,7	1131
COP	(3)(2)	kW/kW	4,460	4,470	4,470	4,480	4,500	4,480	4,470	4,470	4,540
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(10)	kW	320	363	-	-	571	-	727	880	1009
SEER	(10)(11)		5,75	5,78	-	-	5,88	-	6,04	5,96	6,17
Performance ηs	(10)(12)	%	222	223	-	-	227	-	233	230	239
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(4)	kW	-	-	-	-	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,33	17,44	21,13	24,21	27,44	31,06	34,88	42,28	48,41
Pressure drop	(1)	kPa	45,7	47,7	53,5	53,4	52,8	60,2	51,9	58,6	41,3
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	23,01	26,17	30,56	35,56	41,13	45,28	52,34	62,92	72,05
Pressure drop	(3)	kPa	103	107	112	115	119	128	117	130	91,5
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	18,13	20,62	24,99	28,62	32,44	36,72	41,24	49,99	57,20
Pressure drop	(1)	kPa	49,0	47,2	52,2	53,3	55,0	57,0	47,2	52,1	53,4
HEAT EXCHANGER SOURCE SIDE IN HEATING											
Water flow	(3)	l/s	17,39	19,78	23,69	27,17	31,02	35,03	39,57	47,52	54,38
Pressure drop	(3)	kPa	45,1	43,5	46,9	48,0	50,3	51,8	43,4	47,1	48,3
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	1	1	1	2	2	2
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	53,0	63,0	79,0	76,0	84,0	105	131	147	168
NOISE LEVEL											
Sound Pressure	(5)	dB(A)	79	78	78	78	78	78	80	80	80
Sound power level in cooling	(6)(7)	dB(A)	97	97	97	97	97	97	99	99	99
Sound power level in heating	(6)(8)	dB(A)	0	0	0	0	0	0	0	0	0
SIZE AND WEIGHT											
A	(9)	mm	4250	4250	4150	4150	4130	4350	4550	4950	5170
B	(9)	mm	900	900	900	900	900	900	1150	1150	1150
H	(9)	mm	1815	1910	1990	1990	1990	2090	2050	2200	2200
Operating weight	(9)	kg	2470	2770	3570	3750	3790	4230	5390	6460	6920

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Unit in standard configuration/execution, 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

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS2-W-G05 /H

Water to water high efficiency heat pump, reversible on hydraulic side

1301 - 9604 306,0-2416 kW

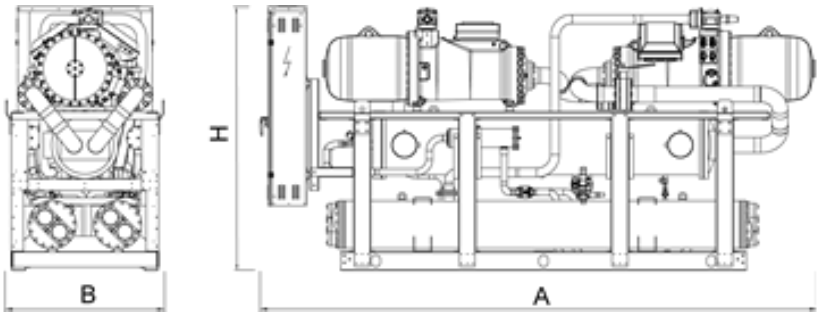
FOCS2-W-G05 /H /CA-E			4202	4802	2701	3001	5402	7204	7804	8404
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	1147	1299	706,7	781,3	1411	2025	2157	2294
Total power input	(1)	kW	213,8	242,0	133,2	146,9	266,3	375,9	401,7	427,5
EER	(1)	kW/kW	5,365	5,368	5,306	5,319	5,299	5,387	5,370	5,366
ESEER	(1)	kW/kW	6,520	6,530	6,380	6,400	6,540	6,620	6,510	6,520
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	1143	1293	704,0	778,6	1407	2019	2149	2286
EER	(1)(2)	kW/kW	5,120	5,110	5,060	5,090	5,090	5,190	5,140	5,140
ESEER	(1)(2)	kW/kW	5,800	5,750	5,750	5,810	5,890	6,020	5,830	5,860
Cooling energy class			A	A	A	A	A	A	A	A
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	1282	1435	786,8	869,6	1571	2253	2371	2563
Total power input	(3)	kW	268,8	303,7	166,3	183,4	332,6	473,2	504,4	537,7
COP		kW/kW	4,769	4,725	4,731	4,742	4,723	4,761	4,701	4,767
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	1286	1440	789,6	872,5	1576	2260	2378	2571
COP	(3)(2)	kW/kW	4,510	4,510	4,470	4,500	4,500	4,560	4,520	4,530
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	(10)	kW	-	-	704	779	-	-	-	-
SEER	(10)(11)		-	-	5,88	5,88	-	-	-	-
Performance ηs	(10)(12)	%	-	-	227	227	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4)	kW	-	-	-	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	54,85	62,10	33,80	37,36	67,48	96,82	103,2	109,7
Pressure drop	(1)	kPa	55,0	65,0	51,5	47,2	46,0	41,3	59,3	54,6
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	80,00	80,00	50,24	55,56	99,72	144,1	129,4	160,0
Pressure drop	(3)	kPa	117	108	114	104	101	91,5	93,4	116
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	64,85	73,42	40,02	44,23	79,94	114,4	121,9	129,7
Pressure drop	(1)	kPa	55,0	57,3	52,3	49,9	52,2	52,6	54,0	54,5
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(3)	l/s	61,87	69,25	37,98	41,98	75,82	108,8	114,4	123,7
Pressure drop	(3)	kPa	50,1	51,0	47,1	45,0	46,9	47,5	47,5	49,6
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	1	1	2	4	4	4
No. Circuits		N°	2	2	1	1	2	4	4	4
Refrigerant charge		kg	183	221	121	111	231	336	366	366
NOISE LEVEL										
Sound Pressure	(5)	dB(A)	79	79	80	80	81	82	82	82
Sound power level in cooling	(6)(7)	dB(A)	99	99	99	99	101	102	102	102
Sound power level in heating	(6)(8)	dB(A)	0	0	0	0	0	0	0	0
SIZE AND WEIGHT										
A	(9)	mm	4920	4920	4350	4350	5200	5220	4900	4900
B	(9)	mm	1150	1285	900	900	1285	2250	2250	2250
H	(9)	mm	2350	2430	2180	2180	2440	2305	2455	2455
Operating weight	(9)	kg	7900	8560	4760	4870	8850	13720	15850	16100

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Unit in standard configuration/execution, 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

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

i-FX-W (1+i) /H

1402 - 4652 532,3-1784 kW

Water to water high efficiency heat pump, reversible on hydraulic side

Single circuit indoor unit for the production of chilled/hot water, with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R134a, electronic expansion valve, high performing shell and tube condenser and shell and tube flooded evaporator, both designed and produced by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A.. These technological solutions enhance the EER values over 5,7 at Eurovent standard conditions.
The resulting unit is extremely compact, thanks to the strategic layout, designed without base, frame and panels.

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

CA High energy efficiency units

Configurations

H Function with heat pump, reversible on hydraulic side

Features

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

FLEXIBILITY
Unit featured by remarkable application flexibility thanks to the inverter tecnology which allows to obtain, taking in consideration the cooling capacity needed, the best result about costs/performances and maximum efficiency.

TOTAL VERSATILITY
Unit designed gathering in a single circuit a compressor with step regulation and one working with inverter, in order to guarantee the best answer to plant necessities both at full and at part loads.

MAXIMUM COMPACTNESS
Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

Accessories

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control

i-FX-W (1+i) /H			1402	1752	1902	2152	2602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	532,3	665,0	721,0	819,3	998,7
Total power input	(1)	kW	97,87	119,5	129,9	148,3	181,7
EER	(1)	kW/kW	5,437	5,565	5,550	5,525	5,496
ESEER	(1)	kW/kW	8,520	8,570	8,470	8,620	8,630
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	486,7	608,1	659,4	750,0	914,3
EER	(1)(2)	kW/kW	5,370	5,490	5,480	5,470	5,470
ESEER	(1)(2)	kW/kW	7,460	7,510	7,400	7,530	7,530
Cooling energy class			A	A	A	A	A
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	587,7	725,1	795,0	903,5	1089
Total power input	(3)	kW	123,7	150,9	164,6	188,0	226,9
COP		kW/kW	4,751	4,805	4,830	4,806	4,799
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(3)(2)	kW	540,1	666,6	730,6	830,5	1000
COP	(3)(2)	kW/kW	4,650	4,730	4,730	4,730	4,740
Cooling energy class			A	A	A	A	A
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	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	23,34	29,16	31,62	35,96	43,84
Pressure drop	(1)	kPa	30,5	34,7	33,8	33,2	37,1
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	34,17	38,89	44,44	50,00	59,72
Pressure drop	(3)	kPa	65,4	61,7	66,8	64,1	68,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	27,44	34,18	37,07	42,16	51,41
Pressure drop	(1)	kPa	37,4	35,4	41,7	41,5	38,7
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	26,00	32,10	35,17	39,97	48,17
Pressure drop	(3)	kPa	33,6	31,2	37,5	37,3	34,0
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	118	160	164	177	258
NOISE LEVEL							
Sound Pressure	(5)	dB(A)	82	82	81	83	83
Sound power level in cooling	(6)(7)	dB(A)	100	100	100	102	102
Sound power level in heating	(6)(8)	dB(A)	100	100	100	102	102
SIZE AND WEIGHT							
A	(9)	mm	2950	3310	3310	3310	4475
B	(9)	mm	1320	1425	1445	1480	1410
H	(9)	mm	1805	1935	2000	2150	2250
Operating weight	(9)	kg	3350	4280	4410	4830	6630

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Unit in standard configuration/execution, 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

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-W (1+i) /H

Water to water high efficiency heat pump, reversible on hydraulic side

1402 - 4652 532,3-1784 kW

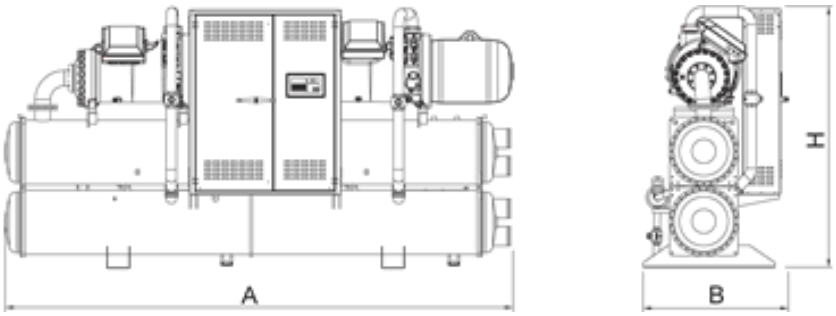
i-FX-W (1+i) /H			3002	3402	3852	4252	4652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1143	1296	1472	1607	1784
Total power input	(1)	kW	207,3	233,3	264,5	291,6	329,6
EER	(1)	kW/kW	5,514	5,555	5,565	5,511	5,413
ESEER	(1)	kW/kW	8,550	8,560	8,600	8,440	8,390
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1046	1186	1348	1482	1632
EER	(1)(2)	kW/kW	5,520	5,580	5,620	5,520	5,470
ESEER	(1)(2)	kW/kW	7,590	7,650	7,740	7,490	7,440
Cooling energy class			A	A	A	A	A
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	1245	1433	1627	1758	1932
Total power input	(3)	kW	258,9	291,6	330,4	362,2	407,1
COP		kW/kW	4,809	4,914	4,924	4,854	4,746
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(3)(2)	kW	1142	1313	1490	1624	1769
COP	(3)(2)	kW/kW	4,770	4,860	4,890	4,810	4,760
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(10)	kW	-	1186	1348	-	-
SEER	(10)(11)		-	7,55	7,67	-	-
Performance ηs	(10)(12)	%	-	294	299	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(4)	kW	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	50,15	56,88	64,63	71,06	78,30
Pressure drop	(1)	kPa	37,5	31,9	30,9	37,3	45,3
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	68,06	84,97	96,56	97,22	97,22
Pressure drop	(3)	kPa	69,0	71,1	68,9	69,8	69,8
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	58,76	66,56	75,57	83,27	91,86
Pressure drop	(1)	kPa	30,0	33,3	29,6	35,9	29,5
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	55,03	63,24	71,79	78,19	85,24
Pressure drop	(3)	kPa	26,3	30,1	26,7	31,7	25,4
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	295	315	323	338	338
NOISE LEVEL							
Sound Pressure	(5)	dB(A)	83	82	82	84	84
Sound power level in cooling	(6)(7)	dB(A)	102	102	102	104	104
Sound power level in heating	(6)(8)	dB(A)	102	102	102	104	104
SIZE AND WEIGHT							
A	(9)	mm	4475	4570	4650	4650	4850
B	(9)	mm	1405	1435	1495	1495	1495
H	(9)	mm	2250	2380	2500	2500	2500
Operating weight	(9)	kg	7470	8220	8800	8930	9340

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Unit in standard configuration/execution, 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

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

i-FX-W (1+i)-G05/H

1402 - 4652 532,3-1784 kW

Water to water high efficiency heat pump, reversible on hydraulic side

Single circuit indoor unit for the production of chilled/hot water, with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R513A, electronic expansion valve, high performing shell and tube condenser and shell and tube flooded evaporator, both designed and produced by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A.. These technological solutions enhance the EER values over 5,7 at Eurovent standard conditions.
The resulting unit is extremely compact, thanks to the strategic layout, designed without base, frame and panels.

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

CA High energy efficiency units

Configurations

H Function with heat pump, reversible on hydraulic side

Features

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

FLEXIBILITY
Unit featured by remarkable application flexibility thanks to the inverter tecnology which allows to obtain, taking in consideration the cooling capacity needed, the best result about costs/performances and maximum efficiency.

TOTAL VERSATILITY
Unit designed gathering in a single circuit a compressor with step regulation and one working with inverter, in order to guarantee the best answer to plant necessities both at full and at part loads.

MAXIMUM COMPACTNESS
Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

Accessories

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control

i-FX-W (1+i)-G05			1402	1752	1902	2152	2602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	532,3	665,0	721,0	819,3	998,7
Total power input	(1)	kW	102,0	124,6	135,4	154,6	189,4
EER	(1)	kW/kW	5,219	5,337	5,325	5,299	5,273
ESEER	(1)	kW/kW	8,360	8,410	8,310	8,450	8,440
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	486,7	608,1	659,4	750,0	914,3
EER	(1)(2)	kW/kW	5,160	5,280	5,260	5,260	5,260
ESEER	(1)(2)	kW/kW	7,340	7,380	7,270	7,390	7,400
Cooling energy class			A	A	A	A	A
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	592,6	731,1	801,5	910,9	1098
Total power input	(3)	kW	128,9	157,3	171,5	195,9	236,4
COP		kW/kW	4,597	4,648	4,673	4,650	4,645
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(3)(2)	kW	544,5	672,0	736,5	837,2	1009
COP	(3)(2)	kW/kW	4,500	4,580	4,590	4,580	4,600
Cooling energy class			A	A	A	A	A
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	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	23,34	29,16	31,62	35,96	43,84
Pressure drop	(1)	kPa	30,5	34,7	33,8	33,2	37,1
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	34,17	38,89	44,44	50,00	59,72
Pressure drop	(3)	kPa	65,4	61,7	66,8	64,1	68,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	27,61	34,38	37,29	42,42	51,72
Pressure drop	(1)	kPa	37,8	35,8	42,2	42,0	39,2
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	26,21	32,35	35,45	40,30	48,55
Pressure drop	(3)	kPa	34,1	31,7	38,1	37,9	34,5
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	130	176	181	195	284
NOISE LEVEL							
Sound Pressure	(5)	dB(A)	82	82	81	83	83
Sound power level in cooling	(6)(7)	dB(A)	100	100	100	102	102
Sound power level in heating	(6)(8)	dB(A)	100	100	100	102	102
SIZE AND WEIGHT							
A	(9)	mm	2950	3310	3310	3310	4475
B	(9)	mm	1320	1425	1445	1480	1410
H	(9)	mm	1805	1935	2000	2150	2250
Operating weight	(9)	kg	3350	4280	4410	4830	6630

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Unit in standard configuration/execution, 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

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-W (1+i)-G05/H

1402 - 4652 532,3-1784 kW

Water to water high efficiency heat pump, reversible on hydraulic side

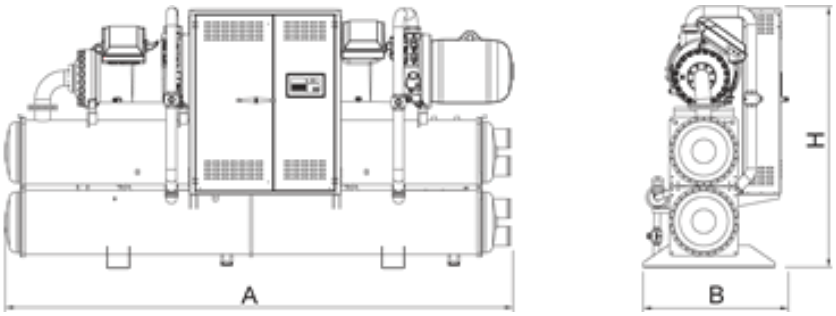
i-FX-W (1+i)-G05			3002	3402	3852	4252	4652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1143	1296	1472	1607	1784
Total power input	(1)	kW	216,0	243,1	275,6	303,9	343,4
EER	(1)	kW/kW	5,292	5,331	5,341	5,288	5,195
ESEER	(1)	kW/kW	8,380	8,400	8,430	8,280	8,230
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1046	1186	1348	1482	1632
EER	(1)(2)	kW/kW	5,310	5,360	5,400	5,300	5,260
ESEER	(1)(2)	kW/kW	7,460	7,500	7,600	7,360	7,300
Cooling energy class			A	A	A	A	A
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	1255	1445	1640	1772	1948
Total power input	(3)	kW	269,8	303,8	344,3	377,4	424,2
COP		kW/kW	4,652	4,756	4,763	4,695	4,592
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(3)(2)	kW	1151	1323	1502	1637	1783
COP	(3)(2)	kW/kW	4,620	4,710	4,740	4,660	4,610
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(10)	kW	-	1186	1348	-	-
SEER	(10)(11)		-	7,40	7,53	-	-
Performance ηs	(10)(12)	%	-	288	293	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(4)	kW	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	50,15	56,88	64,63	71,06	78,30
Pressure drop	(1)	kPa	37,5	31,9	30,9	37,3	45,3
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	68,06	84,97	96,56	97,22	97,22
Pressure drop	(3)	kPa	69,0	71,1	68,9	69,8	69,8
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	59,11	66,96	76,02	83,76	92,41
Pressure drop	(1)	kPa	30,3	33,7	30,0	36,4	29,9
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	55,47	63,73	72,34	78,81	85,93
Pressure drop	(3)	kPa	26,7	30,5	27,1	32,2	25,8
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	325	347	356	372	372
NOISE LEVEL							
Sound Pressure	(5)	dB(A)	83	82	82	84	84
Sound power level in cooling	(6)(7)	dB(A)	102	102	102	104	104
Sound power level in heating	(6)(8)	dB(A)	102	102	102	104	104
SIZE AND WEIGHT							
A	(9)	mm	4475	4570	4650	4650	4850
B	(9)	mm	1405	1435	1495	1495	1495
H	(9)	mm	2250	2380	2500	2500	2500
Operating weight	(9)	kg	7470	8220	8800	8930	9340

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,7°C
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in cooling, indoors.
8 Sound power level in heating, indoors.
9 Unit in standard configuration/execution, 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

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

BWR MTD2

Reversible heat pump, geothermal source

0011ms - 0121ts 5,080-43,63 kW

The MTD2 heat pumps optimized for geothermal systems are reversible units for heating, cooling and domestic hot water by external three-way valve (accessory). Both the MTD2 heat pumps are suitable for traditional heating systems and radiant panels. The geothermal systems, working with water at lower temperatures, ensure a higher yield and are a particularly suitable in new buildings with low energy consumption that point on using renewable energy resources. The installation is greatly simplified through the integration of the group simply by connecting the unit the water plant and the electricity so that it can be put into operation.

Control

NADISYSTEM

Electronic control Nadisystem provides great application flexibility. The remote keyboard kit wired indoor and outdoor temperature sensors allow dynamic control of delivery temperature water, optimizing comfort in the room and increasing the energy efficiency. The electronic board allows you to manage:

-wired remote control, backlit display complete with remote temperature and humidity probe

-outdoor temperature sensor for water plant side modular set point compensation

-a zone of direct heating for radiator, floor heating or fan coil

-domestic hot water production by external three-way valve (accessory)

-Electrical heating element for possible integration and anti-legionella cycle for cylinder

-boiler or electric heater in substitution or in addition

-the room controller can customise up to six time bands. The presence of the programmable timer allows the creation of an operating profile containing up to 6 time bands.

-up to 4 heat pump in cascade (with N-CM component)

-several solutions through appropriate configurations of the controller and use of dedicated extension modules (accessorie), up to 5 zone.

Refrigerant

R410A

Versions

- Basic

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.

High efficiency, low pressure drop AISI 316 stainless steel plate heat exchangers, fitted with heating element to provide frost protection.

Hermetic scroll type compressors, equipped with the crankcase heater and thermal protection

Case panels are insulated within low noise material for further improvement of silence

Rubber vibration damper.

Soft starter for 230V/1/50Hz units (ms)

Phase sequence control relay for three phase models

The water circuit comes complete with:

- Variable flow circulator for 0011÷0061 models and centrifugal variable flow pump for 0071 ÷ 0121 models, plant side
- Variable flow circulator for 0011÷0031 models, centrifugal variable flow pump for 0041÷0121 models on source side (for geothermal systems, closed vertical or horizontal loops)
- Safety valve
- Expansion tank
- Manual filling assembly
- Pressure gauge
- Air vent valve
- Drain valve on both the plant and the source circuits.
- Differential pressure switch on source side and system side

Accessories

- Wired room terminal with backlit display, and with temperature and umidity probe
- Extension module for system configuration
- Three-way valve for domestic hot water
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Cascade management kit
- Serial card RS485 for ModBus
- Buffer tank 35,100,200 liters
- Hot water cylinder 300,500 liters
- 300 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump

APPLICATION HYDRONIC TERMINAL - GEOTHERMAL SOURCE

BWR MTD2			0011ms	0025ms	0031ms	0041ms	0025t	0031t
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	5,080	6,972	8,566	10,96	7,171	8,665
Total power input	(1)	kW	1,607	2,008	2,611	3,213	1,908	2,510
EER	(1)	kW/kW	3,155	3,468	3,284	3,427	3,754	3,454
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	5,090	6,980	8,600	11,00	7,180	8,700
EER	(1)(2)	kW/kW	2,780	2,960	2,770	2,760	3,180	2,900
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
Cooling energy class			G	F	G	G	F	G
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	5,186	7,080	8,975	11,27	6,980	8,675
Total power input	(3)	kW	1,700	2,300	3,000	3,600	2,200	2,700
COP	(3)	kW/kW	3,053	3,078	2,993	3,139	3,173	3,215
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)	kW	5,180	7,070	8,950	11,30	6,970	8,650
COP	(3)	kW/kW	2,680	2,660	2,560	2,570	2,720	2,700
Cooling energy class	(3)		G	G	G	G	G	G
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	6,08	8,24	10,3	13,2	8,49	10,3
SCOP	(4)(13)		3,59	3,35	3,32	3,34	3,62	3,60
Performance ηs	(4)(14)	%	135	126	125	126	137	136
Seasonal efficiency class	(15)		A+	A+	A+	A+	A+	A+
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,243	0,333	0,410	0,524	0,343	0,414
Available unit's head	(1)	kPa	61,9	68,0	97,2	93,3	67,2	96,8
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,250	0,342	0,433	0,544	0,337	0,419
Available unit's head	(3)	kPa	61,3	67,3	95,0	91,5	67,7	96,4
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,344	0,463	0,575	0,730	0,468	0,576
Pressure drop	(1)	kPa	17,1	24,5	37,1	41,2	25,1	37,1
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	0,320	0,438	0,549	0,703	0,438	0,547
Pressure drop	(3)	kPa	14,8	22,0	33,7	38,2	21,9	33,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,10	1,15	1,24	1,55	1,15	1,24
NOISE LEVEL								
Sound power level in cooling	(5)(6)	dB(A)	52	53	53	58	53	53
Sound power level in heating	(5)(7)	dB(A)	52	53	53	58	53	53
Sound Pressure	(8)	dB(A)	37	38	38	43	38	38
SIZE AND WEIGHT								
A	(9)	mm	845	845	845	845	845	845
B	(9)	mm	680	680	680	680	680	680
H	(9)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(9)	kg	188	190	195	210	190	195

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 0°C/-3°C (Gly 30%).
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, indoors.
7 Sound power level in heating, indoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

BWR MTD2

Reversible heat pump, geothermal source

0011ms - 0121ts 5,080-43,63 kW

APPLICATION HYDRONIC TERMINAL - GEOTHERMAL SOURCE

BWR MTD2			0041t	0061t	0071t	0091t	0101t	0121t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	11,45	15,34	19,32	22,31	25,30	32,47
Total power input	(1)	kW	3,314	4,117	5,121	5,924	6,928	8,635
EER	(1)	kW/kW	3,474	3,714	3,770	3,767	3,651	3,762
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	11,50	15,30	19,40	22,40	25,50	32,70
EER	(1)(2)	kW/kW	2,810	3,190	3,150	3,260	3,110	3,350
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
Cooling energy class			G	F	F	F	F	E
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	11,77	15,16	18,75	21,74	25,03	31,81
Total power input	(3)	kW	3,700	4,400	5,600	6,200	7,400	9,000
COP	(3)	kW/kW	3,189	3,455	3,339	3,500	3,378	3,533
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)	kW	11,80	15,20	18,60	21,60	24,80	31,60
COP	(3)	kW/kW	2,620	2,990	2,790	3,000	2,840	3,100
Cooling energy class	(3)		G	F	G	F	G	F
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	13,8	17,9	22,1	25,7	29,6	37,2
SCOP	(4)(13)		3,38	3,76	3,55	3,85	3,70	3,84
Performance ηs	(4)(14)	%	127	143	134	146	140	145
Seasonal efficiency class	(15)		A+	A+	A+	A+	A+	A+
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,548	0,734	0,924	1,067	1,210	1,553
Available unit's head	(1)	kPa	91,2	86,4	162	154	187	175
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,568	0,732	0,905	1,049	1,208	1,535
Available unit's head	(3)	kPa	89,3	86,5	164	156	187	176
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,761	1,003	1,260	1,456	1,661	2,120
Pressure drop	(1)	kPa	44,8	45,8	50,0	43,1	58,5	59,7
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	0,739	0,982	1,202	1,418	1,611	2,081
Pressure drop	(3)	kPa	42,2	43,9	45,4	40,9	55,0	57,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,55	1,70	2,65	3,10	3,50	3,70
NOISE LEVEL								
Sound power level in cooling	(5)(6)	dB(A)	58	59	66	66	70	70
Sound power level in heating	(5)(7)	dB(A)	58	59	66	66	70	70
Sound Pressure	(8)	dB(A)	43	44	51	51	55	55
SIZE AND WEIGHT								
A	(9)	mm	845	845	845	845	845	845
B	(9)	mm	680	680	680	680	680	680
H	(9)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(9)	kg	210	225	230	245	250	270

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 0°C/-3°C (Gly 30%).
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, indoors.
7 Sound power level in heating, indoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

APPLICATION FLOOR HEATING - GEOTHERMAL SOURCE

BWR MTD2			0011ms	0025ms	0031ms	0041ms	0025t	0031t
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	6,972	9,562	11,65	14,64	9,263	11,75
Total power input	(1)	kW	1,607	2,008	2,611	3,314	1,908	2,510
EER	(1)	kW/kW	4,329	4,756	4,483	4,411	4,848	4,701
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	6,980	9,570	11,70	14,60	9,270	11,80
EER	(1)(2)	kW/kW	3,840	4,070	3,760	3,540	4,120	3,920
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
Cooling energy class			G	F	G	G	F	G
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	5,383	7,278	9,172	11,66	7,476	9,072
Total power input	(3)	kW	1,300	1,800	2,300	2,800	1,700	2,100
COP	(3)	kW/kW	4,138	4,044	3,987	4,179	4,400	4,319
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)	kW	5,370	7,270	9,140	11,70	7,470	9,040
COP	(3)	kW/kW	3,530	3,380	3,260	3,240	3,640	3,480
Cooling energy class	(3)		G	G	G	G	G	G
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	6,08	8,24	10,3	13,2	8,49	10,3
SCOP	(4)(13)		3,59	3,35	3,32	3,34	3,62	3,60
Performance ηs	(4)(14)	%	135	126	125	126	137	136
Seasonal efficiency class	(15)		A+	A+	A+	A+	A+	A+
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,334	0,458	0,559	0,702	0,444	0,564
Available unit's head	(1)	kPa	53,6	56,2	81,1	75,6	57,7	80,5
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,259	0,350	0,441	0,561	0,360	0,436
Available unit's head	(3)	kPa	60,6	66,6	94,2	90,0	65,8	94,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,443	0,598	0,737	0,927	0,577	0,737
Pressure drop	(1)	kPa	28,4	40,9	60,8	66,5	38,1	60,8
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	0,371	0,498	0,625	0,805	0,524	0,633
Pressure drop	(3)	kPa	19,9	28,3	43,7	50,1	31,4	44,8
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,10	1,15	1,24	1,55	1,15	1,24
NOISE LEVEL								
Sound power level in cooling	(5)(6)	dB(A)	52	53	53	58	53	53
Sound power level in heating	(5)(7)	dB(A)	52	53	53	58	53	53
Sound Pressure	(8)	dB(A)	37	38	38	43	38	38
SIZE AND WEIGHT								
A	(9)	mm	845	845	845	845	845	845
B	(9)	mm	680	680	680	680	680	680
H	(9)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(9)	kg	188	190	195	210	190	195

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger water (in/out) 0°C/-3°C (Gly 30%).
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, indoors.
7 Sound power level in heating, indoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

BWR MTD2

Reversible heat pump, geothermal source

0011ms - 0121ts 5,080-43,63 kW

APPLICATION FLOOR HEATING - GEOTHERMAL SOURCE

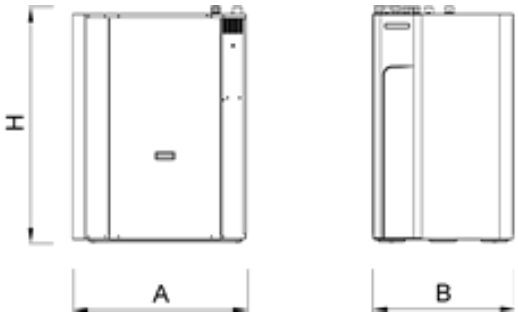
BWR MTD2			0041t	0061t	0071t	0091t	0101t	0121t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	15,34	20,72	26,19	29,88	33,86	43,63
Total power input	(1)	kW	3,414	4,217	5,322	6,125	7,129	8,937
EER	(1)	kW/kW	4,487	4,905	4,925	4,878	4,755	4,877
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	15,30	20,70	26,30	30,00	34,10	43,80
EER	(1)(2)	kW/kW	3,590	4,180	4,120	4,210	4,060	4,290
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
Cooling energy class			G	F	F	F	F	E
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	12,16	15,85	19,64	22,83	26,32	33,09
Total power input	(3)	kW	2,800	3,500	4,400	4,900	5,800	7,300
COP	(3)	kW/kW	4,357	4,514	4,455	4,653	4,534	4,534
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)	kW	12,20	15,80	19,50	22,70	26,10	32,90
COP	(3)	kW/kW	3,370	3,760	3,570	3,860	3,680	3,880
Cooling energy class	(3)		G	F	G	F	G	F
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	13,8	17,9	22,1	25,7	29,6	37,2
SCOP	(4)(13)		3,38	3,76	3,55	3,85	3,70	3,84
Performance ηs	(4)(14)	%	127	143	134	146	140	145
Seasonal efficiency class	(15)		A+	A+	A+	A+	A+	A+
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,735	0,993	1,256	1,433	1,624	2,092
Available unit's head	(1)	kPa	71,8	62,8	118	110	152	132
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,585	0,763	0,945	1,098	1,266	1,592
Available unit's head	(3)	kPa	87,7	84,1	159	151	183	172
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,969	1,289	1,629	1,861	2,118	2,717
Pressure drop	(1)	kPa	72,6	75,7	83,5	70,4	95,2	98,0
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	0,849	1,119	1,382	1,624	1,860	2,338
Pressure drop	(3)	kPa	55,8	57,1	60,0	53,6	73,3	72,6
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,55	1,70	2,65	3,10	3,50	3,70
NOISE LEVEL								
Sound power level in cooling	(5)(6)	dB(A)	58	59	66	66	70	70
Sound power level in heating	(5)(7)	dB(A)	58	59	66	66	70	70
Sound Pressure	(8)	dB(A)	43	44	51	51	55	55
SIZE AND WEIGHT								
A	(9)	mm	845	845	845	845	845	845
B	(9)	mm	680	680	680	680	680	680
H	(9)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(9)	kg	210	225	230	245	250	270

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger water (in/out) 0°C/-3°C (Gly 30%).
4 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, indoors.
7 Sound power level in heating, indoors.
8 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
9 Unit in standard configuration/execution, 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 application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

BW-HT

0071 - 0302 20,34-79,10 kW

Heat pump only heating for geothermal system, high water temperature

BW-HT represent the best solution for systems in which there is the need to produce high water temperature for both space heating and hot water purposes. The units are optimized for geothermal application. The special compressor used guarantees hot water production up to 65°C thanks to a liquid injection system.
The unit BW-HT, heating only, can completely meet any system and application requirements, with a vast range of models, hydronic configurations and accessories.
The new BW-HT range is ideal for commercial (offices, hotels), residential (homes, apartments) or industrial installations (domestic hot water production only).

Control

Electronic control W3000TE

The W3000TE controller is the new device designed especially for heat pump applications with incorporated logic for high and very high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. The controller provides temperature control for the heating and cooling systems in the air-conditioned rooms, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with “blackbox” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For systems made up of multiple units, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, in this way ensuring more efficient energy distribution and, at the same time, guaranteeing simultaneous water delivery to the different distribution systems. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production, and fundamental for managing the Legionella prevention cycles.
Supervision is available with different options, using proprietarydevices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
A dedicated wall-mounted keypad can be used for remote control of all the functions.

Refrigerant

R410A

Versions

B Basic

Configurations

- Basic function

Features

REFRIGERANT GAS R410A
The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

EXTENSIVE RANGE OF OPERATION
Production of high temperature hot water up to 65°C for space heating and hot water purposes.

OPTIMIZED FOR GEOTHERMAL SYSTEM
The special compressor used with liquid injection system guarantees hot water production up to 65°C and operating limit down to -5°C source side temperature.

INTEGRATED HYDRONIC MODULE
The units can be supplied with a hydronic kit on the user side and a hydronic kit on the source side. These kits include all the water circuit components so as to optimize installation space, times and costs.
In addition, a vast selection of pumps available, up to 13 different models, for both the user side and the source side, means the best solution can always be configured in terms of flow-rate, available pressure head and power consumption.

RENEWABLE ENERGY FOR COMMERCIAL INSTALLATIONS
Best solution in centralised residential systems such as apartment buildings, where the cost of renovation needs to be limited by keeping the same distribution system with radiators, while offering a source of renewable energy.

MODULAR CONFIGURATION
Modular configuration with capacity extension up to 400kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

Accessories

- Soft start
- User side and source side hydronic kit (n°13 single pumps and n°13 twin head-pumps available)
- Stackable units
- Water connections can be placed on the right-hand side, top or rear.
- Extra soundproof lining to reduce the noise emissions.
- Outside air temperature probe for plant water set point compensation.
- Three-way valve for domestic hot water
- Set-up for remote connectivity with ModBus/Echelon protocol cards

BW-HT			0071	0091	0101	0121	0131	0151
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(1)	kW	20,34	23,90	27,53	31,15	35,06	39,47
Total power input	(1)	kW	6,337	7,375	8,182	9,118	10,26	11,52
COP		kW/kW	3,202	3,243	3,362	3,410	3,408	3,435
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(1)(2)	kW	20,30	24,00	27,60	31,20	35,20	39,60
COP	(1)(2)	kW/kW	3,110	3,150	3,260	3,310	3,310	3,340
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(3)	kW	24,2	28,6	33,0	37,3	42,0	47,3
SCOP	(3)(9)		3,89	3,78	4,06	4,15	4,09	4,14
Performance ηs	(3)(10)	%	147	143	155	158	155	158
Seasonal efficiency class	(11)		A+	A+	A++	A++	A++	A++
PDesign	(4)	kW	22,4	26,2	30,2	34,3	38,6	43,4
SCOP	(4)(9)		2,99	3,00	3,13	3,19	3,19	3,21
Performance ηs	(4)(10)	%	112	112	117	120	119	120
Seasonal efficiency class	(12)		A+	A+	A+	A+	A+	A+
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(1)	l/s	0,982	1,154	1,329	1,504	1,692	1,905
Pressure drop	(1)	kPa	6,10	6,22	7,23	7,49	8,20	8,63
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(1)	l/s	1,282	1,513	1,768	2,012	2,265	2,553
Pressure drop	(1)	kPa	27,6	28,1	29,5	30,5	30,4	28,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	2,80	3,30	3,70	4,30	4,90	5,50
NOISE LEVEL								
Sound Pressure	(5)	dB(A)	51	52	53	54	55	55
Sound power level in heating	(6)(7)	dB(A)	66	67	68	69	70	70
SIZE AND WEIGHT								
A	(8)	mm	1200	1200	1200	1200	1200	1200
B	(8)	mm	600	600	600	600	600	600
H	(8)	mm	855	855	855	855	855	855
Operating weight	(8)	kg	235	245	250	255	265	275

Notes

1 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 0°C/-3°C (Gly 30%).
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in heating, indoors.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

BW-HT

0071 - 0302 20,34-79,10 kW

Heat pump only heating for geothermal system, high water temperature

BW-HT			0152	0182	0202	0252	0262	0302
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(1)	kW	40,73	47,92	55,16	62,45	70,20	79,10
Total power input	(1)	kW	12,66	14,73	16,34	18,25	20,49	23,00
COP		kW/kW	3,205	3,259	3,387	3,415	3,424	3,439
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(1)(2)	kW	40,80	48,00	55,40	62,70	70,40	79,30
COP	(1)(2)	kW/kW	3,120	3,180	3,300	3,330	3,340	3,350
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(3)	kW	48,4	57,2	66,0	74,7	84,3	94,6
SCOP	(3)(9)		4,28	4,22	4,49	4,58	4,53	4,57
Performance ηs	(3)(10)	%	163	161	172	175	173	175
Seasonal efficiency class	(11)		A++	A++	A++	A++	-	-
PDesign	(4)	kW	44,9	52,7	60,7	68,7	77,3	86,9
SCOP	(4)(9)		3,35	3,37	3,54	3,59	3,58	3,62
Performance ηs	(4)(10)	%	126	127	133	136	135	137
Seasonal efficiency class	(12)		A++	A++	A++	A++	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(1)	l/s	1,966	2,313	2,663	3,015	3,388	3,818
Pressure drop	(1)	kPa	9,19	10,7	15,5	15,4	16,1	16,0
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(1)	l/s	2,569	3,036	3,547	4,037	4,540	5,123
Pressure drop	(1)	kPa	28,9	24,5	28,1	28,3	29,6	29,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	5,70	5,90	6,60	7,80	8,80	10,3
NOISE LEVEL								
Sound Pressure	(5)	dB(A)	56	56	57	57	58	58
Sound power level in heating	(6)(7)	dB(A)	71	71	72	72	73	73
SIZE AND WEIGHT								
A	(8)	mm	1470	1470	1470	1470	1470	1470
B	(8)	mm	885	885	885	885	885	885
H	(8)	mm	900	900	900	900	900	900
Operating weight	(8)	kg	405	435	445	465	475	495

Notes

1 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 0°C/-3°C (Gly 30%).
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in heating, indoors.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

Dimensional drawing