HEAT PUMPS

NX-WN 0122 - 1204

Reversible heat pump, water source 37,5-396 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.

Version

- 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

Climaveneta has designed the NX-W units with a range of integral accessories in mind for operation with total water loss (well, water bed, etc.), 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.

Accessory

- 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

Controls

Electronic control W3000TE

The brand new W3000TE controller offers advanced functions and algorithms.
The keypad W3000 Compact, as standard equipment, features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language.
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.
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. Available time bands also for DHW production.
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.
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.

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	37,5	46,7	55,0	63,9	70,8	80,5	94,6	109
Total power input	(1)	kW	7,73	9,52	11,1	12,9	14,1	16,3	19,2	22,1
EER	(1)	kW/kW	4,85	4,91	4,95	4,95	5,02	4,94	4,93	4,92
ESEER	(1)	kW/kW	6,29	6,45	6,18	6,22	6,46	6,16	6,24	6,38
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	37,4	46,6	54,8	63,7	70,6	80,3	94,4	108
EER	(1)(2)	kW/kW	4,67	4,72	4,78	4,78	4,85	4,77	4,77	4,76
ESEER	(1)(2)	kW/kW	5,80	5,95	5,73	5,78	5,99	5,73	5,83	5,90
Cooling energy class			B	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	41,8	52,1	61,2	71,5	78,6	89,5	105	121
Total power input	(3)	kW	9,69	11,9	13,7	16,0	17,7	20,3	23,7	27,2
COP		kW/kW	4,31	4,38	4,47	4,47	4,44	4,41	4,44	4,44
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	41,9	52,3	61,4	71,7	78,8	89,8	106	121
COP	(3)(2)	kW/kW	4,16	4,22	4,31	4,32	4,29	4,27	4,30	4,31
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	1,79	2,23	2,63	3,06	3,39	3,85	4,52	5,20
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	2,02	2,52	2,95	3,45	3,79	4,32	5,09	5,83
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	2,15	2,68	3,15	3,66	4,05	4,61	5,42	6,23
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	2,61	3,26	3,85	4,50	4,93	5,62	6,62	7,59
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	5,00	5,50	6,10	8,60	10,0	11,6
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 EN14511-3:2013.
3 Plant (side) heating exchanger water (in/out) 10°C/7°C; Source (side) heat exchanger water (in/out) 40°C/45°C
4 Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]
5 Seasonal space heating energy efficiency class MEDIA TEMPERATURE in AVERAGE climate conditions [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 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]
12 Seasonal space heating energy index
13 Seasonal energy efficiency of the space cooling
14 Seasonal performance coefficient
15 Seasonal space heating energy efficiency
The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

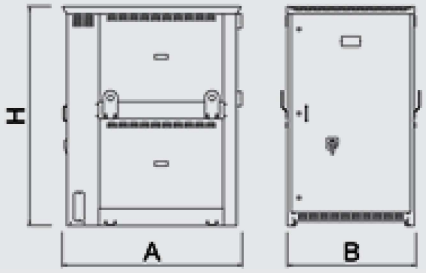
NX-WN			0402	0452	0502	0552	0602	0702	0802	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	123	138	154	177	200	225	252	187
Total power input	(1)	kW	24,9	28,2	31,5	35,9	40,4	46,2	52,1	39,2
EER	(1)	kW/kW	4,95	4,91	4,89	4,93	4,94	4,87	4,83	4,78
ESEER	(1)	kW/kW	6,13	6,23	6,08	6,22	6,18	6,27	5,99	6,35
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	123	138	154	176	199	224	251	187
EER	(1)(2)	kW/kW	4,79	4,76	4,74	4,78	4,79	4,70	4,66	4,66
ESEER	(1)(2)	kW/kW	5,77	5,81	5,71	5,81	5,79	5,79	5,55	5,91
Cooling energy class			B	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	137	154	172	197	222	251	281	208
Total power input	(3)	kW	30,7	34,7	38,8	44,1	49,6	56,4	63,2	47,9
COP		kW/kW	4,45	4,44	4,42	4,46	4,47	4,45	4,45	4,35
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	137	154	172	197	222	252	282	209
COP	(3)(2)	kW/kW	4,31	4,31	4,29	4,33	4,33	4,29	4,28	4,25
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	5,89	6,62	7,36	8,46	9,55	10,76	12,04	8,95
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	6,59	7,43	8,28	9,49	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	7,06	7,94	8,83	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	8,58	9,67	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	13,1	14,8	15,7	18,8	21,4	22,4	22,4	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 EN14511-3:2013.
3 Plant (side) heating exchanger water (in/out) 10°C/7°C; Source (side) heat exchanger water (in/out) 40°C/45°C
4 Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]
5 Seasonal space heating energy efficiency class MEDIA TEMPERATURE in AVERAGE climate conditions [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 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]
12 Seasonal space heating energy index
13 Seasonal energy efficiency of the space cooling
14 Seasonal performance coefficient
15 Seasonal space heating energy efficiency
The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

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	244	275	306	351	396
Total power input	(1)	kW	45,0	50,7	57,2	63,8	72,7	81,9
EER	(1)	kW/kW	4,79	4,81	4,80	4,79	4,83	4,84
ESEER	(1)	kW/kW	6,41	6,33	6,41	6,30	6,39	6,36
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	215	244	274	305	350	395
EER	(1)(2)	kW/kW	4,67	4,70	4,67	4,65	4,68	4,68
ESEER	(1)(2)	kW/kW	5,95	5,90	5,90	5,81	5,83	5,78
Cooling energy class			B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	239	270	305	340	390	439
Total power input	(3)	kW	55,0	62,0	70,1	78,0	88,8	99,9
COP		kW/kW	4,35	4,36	4,35	4,36	4,39	4,40
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	240	271	306	341	391	440
COP	(3)(2)	kW/kW	4,25	4,26	4,24	4,23	4,25	4,24
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	23,5	27,5	33,3	36,2	42,1	48,0
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 EN14511-3:2013.
3 Plant (side) heating exchanger water (in/out) 10°C/7°C; Source (side) heat exchanger water (in/out) 40°C/45°C
4 Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]
5 Seasonal space heating energy efficiency class MEDIA TEMPERATURE in AVERAGE climate conditions [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 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]
12 Seasonal space heating energy index
13 Seasonal energy efficiency of the space cooling
14 Seasonal performance coefficient
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

Size 0122-802



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