

CHILLERS

NX 0614T - 1214T
**Chiller, air source for outdoor installation
159-352 kW**


Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, shell and tubes heat exchanger, micro-channel full-aluminum air coils and thermostatic or electronic expansion valve, according to the model. The range is composed by units equipped with four compressors in tandem configuration on two independent refrigeration circuits.

Version

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**CLASS A EFFICIENCY**

The full range is available with the Class A efficiency rating. Thanks to the generous sizing of the heat exchangers and an accurate control of the fan speed, the CA versions grant a premium level efficiency in every noise configuration.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

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-efficiency CA version, optional for the compact K versions.

WIDE OPERATING RANGE

Full load operation is ensured with outdoor air temperature up to 46°C, partial load operation is possible up to or even beyond 50°C. The unit can produce chilled water at negative temperature (down to -10°C of leaving water temperature). Dedicated accessories allow the unit operation down to -20°C of outdoor air temperature.

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.

Accessory

- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and aluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Copper-Copper heat exchanger coils
- Compressor power factor correction
- Soft start
- Compressor suction and discharge valves
- High and low pressure gauges
- DVVF and DVV2F devices for low air temperature operation
- Hydronic group with possible storage tank
- Anti-intrusion grills

Controls

Electronic control W3000TE

The W3000TE controller offers advanced functions and algorithms.

The Compact keypad 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.



NX / K		0614T	0714T	0814T	0914T	1014T	1114T	1214T
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	165	194	218	248	289	308
Total power input	(1)	kW	58,3	66,7	78,9	88,6	99,0	108
EER	(1)	kW/kW	2,83	2,91	2,76	2,80	2,92	2,85
ESEER	(1)	kW/kW	4,06	4,39	4,30	4,41	4,26	4,27
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	164	193	217	247	288	307
EER	(1)(2)	kW/kW	2,79	2,87	2,71	2,76	2,86	2,81
ESEER	(1)(2)	kW/kW	3,92	4,21	4,08	4,20	4,02	4,11
Cooling energy class		C	C	C	C	C	C	C
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	164	193	217	247	288	307
SEER	(7)(8)		3,81	4,11	3,95	4,10	3,97	4,05
Performance η_s	(7)(9)	%	150	161	155	161	156	159
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	7,87	9,28	10,41	11,87	13,83	14,75
Pressure drop	(1)	kPa	23,3	32,4	50,9	45,5	61,7	38,0
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	22,0	22,0	24,6	26,0	31,6	35,4
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	60	60	61	62	63	63
Sound power level in cooling	(4)(5)	dB(A)	92	92	93	94	95	95
SIZE AND WEIGHT								
A	(6)	mm	3160	3160	3160	3160	4335	4335
B	(6)	mm	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1650	1810	1820	1950	2340	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 EN14511-3:2013.								
3 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.								
4 Sound power on the basis of measurements made in compliance with ISO 9614.								
5 Sound power level in cooling, outdoors.								
6 Unit in standard configuration/execution, without optional accessories.								
7 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]								
8 Seasonal space heating energy index								
9 Seasonal energy efficiency of the space cooling								
The units highlighted in this publication contain HFC R410A [GWP ₁₀₀ 2088] fluorinated greenhouse gases.								
Certified data in EUROVENT								

NX / LN-K		0614T	0714T	0814T	0914T	1014T	1114T	1214T	
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	185	208	235	274	290	320
Total power input	(1)	kW	58,1	68,6	79,6	92,2	101	112	118
EER	(1)	kW/kW	2,75	2,70	2,62	2,55	2,71	2,60	2,70
ESEER	(1)	kW/kW	4,13	4,42	4,37	4,41	4,25	4,25	4,37
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	159	185	207	234	273	290	319
EER	(1)(2)	kW/kW	2,72	2,67	2,57	2,51	2,67	2,57	2,67
ESEER	(1)(2)	kW/kW	3,99	4,25	4,16	4,21	4,04	4,10	4,21
Cooling energy class		C	D	D	D	D	D	D	
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	159	185	207	234	273	290	319
SEER	(7)(8)		3,84	4,11	4,01	4,06	3,96	4,01	4,07
Performance η_s	(7)(9)	%	150	162	157	159	156	157	160
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,64	8,87	9,96	11,24	13,10	13,89	15,32
Pressure drop	(1)	kPa	21,9	29,6	46,5	40,7	55,4	33,7	41,0
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	22,0	22,0	24,6	26,0	31,6	35,4	35,4
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	54	54	55	56	57	57	58
Sound power level in cooling	(4)(5)	dB(A)	86	86	87	88	89	89	90
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	3160	3160	4335	4335	4335
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1700	1860	1870	1990	2380	2580	2600

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.

2 Values in compliance with EN14511-3:2013.

3 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.

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

5 Sound power level in cooling, outdoors.

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

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

8 Seasonal space heating energy index

9 Seasonal energy efficiency of the space cooling

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Certified data in EUROVENT

NX / SL-K		0614T	0714T	0814T	0914T	1014T	1114T	1214T	
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	159	180	214	241	264	296	312
Total power input	(1)	kW	56,3	70,7	77,8	89,3	104	109	120
EER	(1)	kW/kW	2,82	2,54	2,75	2,70	2,55	2,71	2,61
ESEER	(1)	kW/kW	4,34	4,41	4,40	4,41	4,28	4,34	4,26
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	158	179	213	240	263	295	311
EER	(1)(2)	kW/kW	2,79	2,52	2,71	2,66	2,51	2,68	2,58
ESEER	(1)(2)	kW/kW	4,18	4,24	4,19	4,20	4,07	4,17	4,10
Cooling energy class		C	D	C	D	D	D	D	
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	158	179	213	240	263	295	311
SEER	(7)(8)		4,00	4,08	4,04	4,08	3,97	4,06	3,94
Performance η_s	(7)(9)	%	157	160	158	160	156	159	155
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,60	8,60	10,25	11,54	12,63	14,16	14,93
Pressure drop	(1)	kPa	21,7	27,8	49,3	43,0	51,4	35,1	39,0
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	22,0	22,0	30,2	31,6	31,6	41,0	41,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	50	51	51	52	52	54	54
Sound power level in cooling	(4)(5)	dB(A)	82	83	83	84	84	86	86
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	4335	4335	4335	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1700	1860	2160	2290	2380	2930	2950

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.

2 Values in compliance with EN14511-3:2013.

3 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.

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

5 Sound power level in cooling, outdoors.

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

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NX / CA		0614T	0714T	0814T	0914T	1014T	1114T	1214T	
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	174	205	235	266	302	330	352
Total power input	(1)	kW	54,4	65,0	72,9	84,1	95,8	103	111
EER	(1)	kW/kW	3,20	3,16	3,23	3,17	3,15	3,21	3,17
ESEER	(1)	kW/kW	4,31	4,26	4,45	4,49	4,43	4,35	4,37
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	174	204	234	265	301	329	351
EER	(1)(2)	kW/kW	3,16	3,11	3,16	3,11	3,11	3,16	3,12
ESEER	(1)(2)	kW/kW	4,17	4,06	4,20	4,24	4,26	4,17	4,18
Cooling energy class		A	A	A	A	A	A	A	
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	174	204	234	265	301	329	351
SEER	(7)(8)		4,06	4,03	4,10	4,17	4,25	4,13	4,10
Performance η_s	(7)(9)	%	159	158	161	164	167	162	161
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,33	9,81	11,26	12,74	14,44	15,78	16,83
Pressure drop	(1)	kPa	26,1	36,2	59,5	52,4	36,5	43,6	49,6
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	22,0	27,6	30,2	31,6	35,4	41,0	41,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	61	62	63	63	64	65
Sound power level in cooling	(4)(5)	dB(A)	92	93	94	95	95	96	97
SIZE AND WEIGHT									
A	(6)	mm	3160	4335	4335	4335	4335	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1700	2150	2160	2290	2550	2930	2950

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.

2 Values in compliance with EN14511-3:2013.

3 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.

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

5 Sound power level in cooling, outdoors.

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

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

8 Seasonal space heating energy index

9 Seasonal energy efficiency of the space cooling

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NX / LN-CA		0614T	0714T	0814T	0914T	1014T	1114T	1214T	
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	168	198	227	262	295	318	344
Total power input	(1)	kW	52,8	61,6	70,5	82,8	93,2	99,6	109
EER	(1)	kW/kW	3,17	3,22	3,23	3,17	3,16	3,19	3,17
ESEER	(1)	kW/kW	4,56	4,61	4,70	4,71	4,55	4,63	4,70
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	167	198	226	261	294	317	343
EER	(1)(2)	kW/kW	3,13	3,17	3,16	3,11	3,12	3,15	3,12
ESEER	(1)(2)	kW/kW	4,40	4,40	4,44	4,47	4,39	4,43	4,48
Cooling energy class		A	A	A	A	A	A	A	
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	167	198	226	261	294	317	343
SEER	(7)(8)		4,23	4,31	4,31	4,36	4,37	4,39	4,37
Performance η_s	(7)(9)	%	166	170	169	171	172	172	172
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,01	9,49	10,87	12,53	14,08	15,21	16,47
Pressure drop	(1)	kPa	24,1	33,8	55,5	50,7	34,7	40,5	47,5
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	22,0	27,6	30,2	31,6	41,0	41,0	41,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	54	55	56	57	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	86	87	88	89	90	91	91
SIZE AND WEIGHT									
A	(6)	mm	3160	4335	4335	4335	5510	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1700	2150	2160	2290	2880	2900	2930

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.

2 Values in compliance with EN14511-3:2013.

3 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.

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

5 Sound power level in cooling, outdoors.

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

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NX / SL-CA		0614T	0714T	0814T	0914T	1014T	1114T	1214T	
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	167	195	224	259	292	317	344
Total power input	(1)	kW	52,3	61,0	69,9	82,0	92,6	99,6	109
EER	(1)	kW/kW	3,20	3,20	3,21	3,16	3,15	3,18	3,16
ESEER	(1)	kW/kW	4,69	4,70	4,68	4,72	4,72	4,68	4,70
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	167	194	223	258	291	316	342
EER	(1)(2)	kW/kW	3,16	3,15	3,14	3,11	3,11	3,13	3,11
ESEER	(1)(2)	kW/kW	4,52	4,49	4,42	4,47	4,55	4,49	4,47
Cooling energy class		A	A	A	A	A	A	A	
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	167	194	223	258	291	316	342
SEER	(7)(8)		4,33	4,37	4,28	4,35	4,50	4,42	4,35
Performance η_s	(7)(9)	%	170	172	168	171	177	174	171
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,00	9,32	10,72	12,40	13,95	15,14	16,43
Pressure drop	(1)	kPa	24,1	32,7	53,9	49,6	34,1	40,1	47,2
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	27,6	27,6	35,8	37,2	41,0	41,0	41,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	51	51	52	53	54	55	55
Sound power level in cooling	(4)(5)	dB(A)	83	83	84	85	86	87	87
SIZE AND WEIGHT									
A	(6)	mm	4335	4335	5510	5510	5510	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1980	2150	2490	2610	2880	2900	2930

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.

2 Values in compliance with EN14511-3:2013.

3 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.

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5 Sound power level in cooling, outdoors.

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