

**Chiller, air source for outdoor installation
159-327 kW**

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R41 DA, axial-flow fans, braze-welded plate-type heat exchanger, micro-channel full-aluminum air coils and thermostatic expansion valve. 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

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features**MAXIMUM COMPACTNESS**

This new range is available in the K version, that integrates the maximum compactness with a qualifying unit's efficiency. This allow to achieve a very high flexibility in the design process as well as during the on-site installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

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.

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.

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or 1win 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 preapated fins or Fin Guard Silver protective treatment.
- Copper-Copper heat exchanger coils
- Electronic expansion valve
- 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 / LN-K		0614P	0714P	0814P	0914P	1014P	1114P	1214P
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	289	319
EER	(1)(2) kW/kW	2,70	2,66	2,58	2,51	2,67	2,57	2,66
ESEER	(1)(2) kW/kW	3,94	4,19	4,16	4,19	4,05	4,06	4,16
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	289	319
SEER	(7)(8)	3,80	4,05	4,01	4,04	3,99	3,97	4,03
Performance ϵ_s	(7)(9) %	149	159	158	158	157	156	158
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	42,4	43,0	43,7	45,2	49,2	41,5	50,5
REFRIGERANT CIRCUIT								
Compressors nr.	No	4	4	4	4	4	4	4
No. Circuits	No	2	2	2	2	2	2	2
Refrigerant charge	kg	17,0	18,4	19,6	21,6	26,8	29,0	29,0
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	1550	1730	1740	1870	2300	2350	2370

Notes:

1 Plant (side) cooling exchanger water (in/out) 12 °C/? °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 [GWP₁₀₀ 2088] fluorinated greenhouse gases.

Certified data in EUROVENT

NX / SL-K		0614P	0714P	0814P	0914P	1014P	1114P	1214P
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	2,78	2,51	2,71	2,66	2,51	2,68	2,57
ESEER	(1)(2) kW/kW	4,13	4,21	4,19	4,20	4,09	4,15	4,07
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)	3,92	4,03	4,04	4,07	3,99	4,03	3,91
Performance ϵ_s	(7)(9) %	154	158	159	160	157	158	153
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	41,9	40,5	46,3	47,6	45,7	43,1	48,0
REFRIGERANT CIRCUIT								
Compressors nr.	Nb	4	4	4	4	4	4	4
No. Circuits	Nb	2	2	2	2	2	2	2
Refrigerant charge	kg	17,0	18,4	25,2	27,2	26,8	34,6	34,6
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	1550	1730	2030	2170	2300	2700	2730

Notes:

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