

NLC H 0280/1250 heat pump

Reversible Air/Water heat pump for indoor installation
Scroll compressors, plate exchangers and plug-fans EC inverter
Cooling capacity from 52 - 316kW
Heating capacity from 56 - 349kW

R410A



Aermec is participating in the EUROVENT Program : LCP. The involved products can be found in the website www.eurovent-certification.com

Variable Multi Flow

VMF



- HIGH EFFICIENCY ALSO AT PARTIAL LOADS
- COOLING CIRCUIT WITH CASING
- COMPLETE AIR FLOW VERSATILITY
- HIGH EFFICIENCY PLUG-FANS
- NIGHT MODE

Features

The NLC pumps are reversible heat pumps, designed and manufactured for the production of chilled / heated water in residential / commercial buildings.

The units are equipped with high efficiency scroll compressors, plug-fans, external copper coils with aluminium louvers, plate heat exchangers on the system side. In the units (with desuperheater), in the cooling mode, there is also the possibility of producing hot water for free. The base, the structure and the panels are made of galvanised steel treated with rustproof polyester paint.

Versions

NLC_HA High efficiency

NLC_HE Silenced high efficiency

Operating range: Work up to 44°C of outdoor air temperature at full load, depending on size and version. For further details refer to the selection software/technical documentation.

- The range includes units with two single circuit

compressors and units with four compressors divided into two independent circuits.

- The possibility of using the electronic thermostatic valve brings significant benefits, especially when the heat pump is working at partial loads to the benefit of the unit's energy efficiency.
- Electric resistance for the evaporator as standard.
- Condensate drip tray as standard.
- Possibility of integrated hydronic kit that encloses the main hydraulic components; it is available in different configurations with one or two pumps, with different static pressures available, with or without storage tank.
- The units are equipped with plug-fans and inverter motors coupled directly with the fan, with the electronic condensation control as standard, which adjusts the air flow according to the actual system requirements, with benefits in terms of consumption and noise reduction. In addition, compared to conventional centrifugal fans, they do not feature belt and

pulley transmission, resulting in easy flow adjustment, compactness, versatility, easy maintenance and no vibrations.

- Horizontal or vertical air flow.
- Microprocessor adjustment, with keyboard and LCD display, for easy consultation and intervention on the unit via a menu available in several languages. Adjustment includes complete management of the alarms and their log.
- The presence of a programmable timer allows setting time bands of operation and a possible second set-point.
- The temperature control takes place with the integral proportional logic, based on the water output temperature.
- Night Mode: it is possible to set a silenced operation profile. Perfect for night operation, since it guarantees greater acoustic comfort in the evenings, and a high efficiency in the time of greater load.

Accessories

- **AER485P1:** RS-485 interface for supervising systems with MODBUS protocol.
- **AERWEB300:** the AERWEB device allows the remote control of a chiller by means of a common PC through Ethernet connection, via a common browser; 4 models available:
 - AERWEB300-6:** Web server for monitoring and controlling maximum 6 RS485 network devices;
 - AERWEB300-18:** Web server for monitoring and controlling maximum 18 RS485 network devices;
 - AERWEB300-6G:** Web server for monitoring and controlling maximum 6 RS485 network devices with integrated GPRS modem;
 - AERWEB300-18G:** Web server for monitoring and

controlling maximum 18 RS485 network devices with integrated GPRS modem;

- **PGD1:** Allows you to control the chiller at a distance.
- **MULTICHILLER_PCO:** Control, switch-on and switch-off system of the single chillers where multiple units are installed in parallel, always ensuring constant flow rate to the evaporators.
- **AVX:** Spring anti-vibration mounts.
- **FLG:** Flanges for ducts.
- **FL:** Flow switch.
- **FILW:** Water filter **Attention, the flow switch and the water filter must be mounted; failure to do so will void the warranty.**

Accessories mounted in the factory;

- **DRE:** Plate peak current reduction electronic device.
- **RIFNLC:** Current power factor correction. Connected in parallel to the motor, it allows a reduction of the input current (approx. 10%).
- **KRB:** Resistance for condensate drip tray.
- **KRQ:** Anti-condensate electric board resistance.
- **KRA:** Storage tank antifreeze resistance.
- **COMPATIBILITY with the VMF SYSTEM**
For further information on system, refer to specific documentation.

Accessories compatibility

Mod. NLC_H	0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
AER485P1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AERWEB300	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PGD1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
MULTICHILLER_PCO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FILTROW	DN50	DN50	DN50	DN50	DN65	DN65	DN65	DN65	DN65	DN65	DN80	DN80	DN80	DN80	DN80
FLG	1	1	1	1	2	2	2	2	1 (x2)	1 + 2	2 (x2)	2 (x2)	2 (x2)	2 (x2)	2 (x2)
VT	00	17	17	17	17	-	-	-	-	-	-	-	-	-	-
	P1-P8	13	13	13	13	-	-	-	-	-	-	-	-	-	-
	01-08	11	11	11	11	-	-	-	-	-	-	-	-	-	-
AVX	00	-	-	-	410	410	410	410	410	416	418	418	420	420	420
	P1-P3	-	-	-	410	410	410	410	413	416	418	418	420	420	420
	P2-P4	-	-	-	411	411	411	411	414	416	418	418	420	420	420
	01-03	-	-	-	412	412	412	412	415	417	419	419	419	419	419
	02-04	-	-	-	412	412	412	412	415	417	419	419	419	419	419

Accessories mounted in the factory

DRE	275	275	300	350	552	602	652	675	350 (x2)	552 (x2)	552 (x2)	602 (x2)	652 (x2)	675 (x2)	1250
RIFNLC	1	1	2	3	1	1	1	4	3 (x2)	3 + 2	1 (x2)	1 (x2)	1 (x2)	4 (x2)	3 (x2)
KRB	21	21	21	21	22	22	22	22	23	24	25	25	25	25	25
KRQ	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
KRA	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2

x2 = Number to order

Choosing the unit

By appropriately combining the variety of options available, every model can be configured in order to meet all specific system requirements.

Field	Description
1,2,3	NLC
4,5,6,7	Sizes 0280-0300-0330-0350-0550-0600-0650-0675-0700-0750-0800-0900-1000-1100-1250
8	Scope of application <ul style="list-style-type: none"> ° Standard (water produced up to +4°C) X Electronic thermostatic valve (water produced up to +4 °C) (1)
9	Model H Heat Pump
10	Heat recovery <ul style="list-style-type: none"> ° Without heat recovery D With desuperheater (2)
11	Version <ul style="list-style-type: none"> A High efficiency E Silenced high efficiency
12	Coils <ul style="list-style-type: none"> ° Aluminium R Copper - Copper S Copper - Thinned V Painted aluminium
13	Fan J EC inverter
14	Power supply <ul style="list-style-type: none"> ° 400V/3/50Hz with magnet circuit breakers 1 220V/3/50Hz with magnet circuit breakers
15-16	Integrated hydronic kit (3) <ul style="list-style-type: none"> 00 Without hydronic kit 01 Storage tank and single low static pressure pump 02 Storage tank, single low static pressure pump and reserve pump 03 Storage tank and single high static pressure pump 04 Storage tank, single high static pressure pump and reserve pump 05 Storage tank and single low static pressure pump 06 Storage tank, single low static pressure inverter pump and reserve inverter pump 07 Storage tank and single high static pressure inverter pump 08 Storage tank, single high static pressure inverter pump and reserve inverter pump P1 Single low static pressure pump P2 Single low static pressure pump and reserve pump P3 Single high static pressure pump P4 Single high static pressure pump and reserve inverter pump P5 Single low static pressure inverter pump P6 Single low static pressure inverter pump and reserve inverter pump P7 Single high static pressure inverter pump P8 Single high static pressure inverter pump and reserve inverter pump

(1) Contact the head office for lower temperatures

(2) The desuperheater may only be used for the cooling mode

(3) The speed of the inverter pump must be set upon commissioning, according to the useful static pressure required; once it has been set, the pump will work at a constant flow rate

Technical data

NLC - HA		0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250		
		400V/3N/50Hz																
12°C / 7°C	Cooling capacity	(1)	kW	54,3	60,3	66,6	78,4	102,3	115,1	125,8	143,1	157,9	180,8	201,5	232,0	252,2	286,4	315,6
	Total input power	(1)	kW	20,4	22,9	24,8	29,0	38,4	44,0	47,5	55,2	58,1	67,1	75,8	88,3	94,7	110,2	128,8
	EER*	(1)		2,66	2,63	2,68	2,70	2,67	2,61	2,65	2,59	2,72	2,69	2,66	2,63	2,66	2,60	2,45
	EER			2,90	2,87	2,89	2,89	2,89	2,83	2,84	2,77	2,90	2,89	2,88	2,84	2,85	2,78	2,60
	ESEER	(1)		3,99	3,95	4,02	4,10	4,06	3,97	4,03	3,94	4,22	4,17	4,12	4,08	4,12	4,03	3,80
	Cooling Energy Class Eurovent	(1)		B	B	B	A	B	B	B	A	B	B	B	B	B	B	C
	Water flow rate	(1)	l/h	9378	10407	11493	13550	17657	19877	21725	24718	27243	31193	34790	40045	43528	49436	54496
40°C / 45°C	Pressure drop	(1)	kPa	21	25	23	30	24	29	35	35	26	25	34	34	36	38	44
	Heating capacity	(2)	kW	56,50	63,70	70,86	82,77	110,01	122,67	137,32	156,92	168,71	193,88	218,82	245,22	274,04	313,22	349,13
	Total input power	(2)	kW	19,49	22,31	24,36	28,26	37,62	42,19	47,03	54,34	56,59	65,97	74,74	84,17	92,59	106,56	119,46
	COP*	(2)		2,90	2,85	2,91	2,93	2,92	2,91	2,92	2,89	2,98	2,94	2,93	2,91	2,96	2,94	2,92
	COP			3,16	3,12	3,14	3,15	3,17	3,16	3,13	3,09	3,19	3,16	3,18	3,16	3,18	3,15	3,11
	Heating Energy Class Eurovent	(2)		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Water flow rate	(2)	l/h	9596	10814	12034	14050	18689	20833	23310	26639	28671	32954	37171	41666	46557	53208	59279
Pressure drop	(2)	kPa	22	27	25	32	27	32	40	41	29	28	38	37	41	43	52	
Performance under average climatic conditions (Average)																		
	Pdesignh	(3)		52	59	66	77	102	113	127	145	156	179	202	227	253	290	323
	SCOP	(3)		2,60	2,58	2,60	2,60	2,60	2,58	2,63	2,58	2,65	2,63	2,63	2,58	2,65	2,60	2,63
	ηs	(3)		101	100	101	101	101	100	102	100	103	102	102	100	103	101	102
	Efficiency Energy Class	(4)		A+	A+	A+	/	/	/	/	/	/	/	/	/	/	/	/
	Pdesignh	(5)		52	59	66	/	/	/	/	/	/	/	/	/	/	/	/
	SCOP	(5)		3,28	3,20	3,28	/	/	/	/	/	/	/	/	/	/	/	/
	ηs	(5)		128	125	128	/	/	/	/	/	/	/	/	/	/	/	/
	Efficiency Energy Class	(4)		A+	A+	A+	/	/	/	/	/	/	/	/	/	/	/	/
NLC - HE		0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250		
12°C / 7°C	Cooling capacity	(1)	kW	52,0	58,1	63,4	74,8	97,6	110,4	118,3	136,5	150,0	171,9	192,3	223,3	241,6	273,1	304,1
	Total input power	(1)	kW	20,7	23,3	25,8	29,8	40,6	46,6	49,6	57,1	59,4	67,9	80,5	91,1	98,0	113,6	129,2
	EER*	(1)		2,51	2,49	2,45	2,51	2,41	2,37	2,39	2,39	2,52	2,53	2,39	2,45	2,47	2,40	2,35
	EER			2,67	2,65	2,58	2,64	2,54	2,5	2,5	2,51	2,65	2,67	2,52	2,59	2,59	2,53	2,47
	ESEER	(1)		3,83	3,79	3,86	3,94	3,90	3,81	3,87	3,78	4,05	4,00	3,96	3,91	3,96	3,87	3,65
	Cooling Energy Class Eurovent	(1)		B	C	C	B	C	C	C	C	B	B	C	C	C	C	C
	Water flow rate	(1)	l/h	8977	10032	10946	12919	16848	19061	20424	23568	25875	29653	33199	38543	41708	47144	52532
40°C / 45°C	Pressure drop	(1)	kPa	20	24	20	27	20	25	29	30	24	25	33	35	38	42	53
	Heating capacity	(2)	kW	56,5	63,7	70,9	82,8	110,0	122,7	137,3	156,9	168,7	193,9	218,8	245,2	274,0	313,2	349,1
	Total input power	(2)	kW	19,5	22,3	24,4	28,3	37,6	42,2	47,0	54,3	56,6	66,0	74,7	84,2	92,6	106,6	119,5
	COP*	(2)		2,90	2,85	2,91	2,93	2,92	2,91	2,92	2,89	2,98	2,94	2,93	2,91	2,96	2,94	2,92
	COP			3,16	3,12	3,14	3,15	3,17	3,16	3,13	3,09	3,19	3,16	3,18	3,16	3,18	3,15	3,11
	Heating Energy Class Eurovent	(2)		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Water flow rate	(2)	l/h	9596	10814	12034	14050	18689	20833	23310	26639	28671	32954	37171	41666	46557	53208	59279
Pressure drop	(2)	kPa	22	27	25	32	27	32	40	41	29	28	38	37	41	43	52	
Performance under average climatic conditions (Average)																		
	Pdesignh	(3)		52	59	66	77	102	113	127	145	156	179	202	227	253	290	323
	SCOP	(3)		2,60	2,58	2,60	2,60	2,60	2,58	2,63	2,58	2,65	2,63	2,63	2,58	2,65	2,60	2,63
	ηs	(3)		101	100	101	101	101	100	102	100	103	102	102	100	103	101	102
	Efficiency Energy Class	(4)		A+	A+	A+	/	/	/	/	/	/	/	/	/	/	/	/
	Pdesignh	(5)		52	59	66	/	/	/	/	/	/	/	/	/	/	/	/
	SCOP	(5)		3,28	3,20	3,28	/	/	/	/	/	/	/	/	/	/	/	/
	ηs	(5)		128	125	128	/	/	/	/	/	/	/	/	/	/	/	/
	Efficiency Energy Class	(4)		A+	A+	A+	/	/	/	/	/	/	/	/	/	/	/	/

Date (14511:2013)

* The legislation 14511: 2013 from the previous 14511: 2011 provides a different contribution of the fan

(1) Water evaporator 12°C/7°C, External air 35°C

(2) Water condenser 40°C/45°C, External air 7°C b.s./6°C b.u.

(3) Efficiencies for average temperature Applications (55°C)

(5) Efficiencies for low temperature Applications (35°C)

(4) Efficiency Energy Class in according to regulation n°811/2013 Pdesignh ≤ 70kW

Technical data

			0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250	
Electrical data																		
Total input current (cooling)	HA	(6) A	36	41	45	56	68	77	81	96	112	121	136	155	162	192	219	
Total input current (heating)		(6) A	36	40	44	54	65	74	78	91	105	114	129	145	153	179	199	
Total input current (cooling)	HE	(6) A	36	40	45	55	69	77	83	95	111	121	139	153	166	191	218	
Total input current (heating)		(6) A	36	40	44	54	65	74	78	91	105	114	129	145	153	179	199	
Maximum current (FLA)		(6) A	52	56	62	71	103	111	119	132	143	167	206	222	238	264	290	
Starting current (LRA)		(6) A	128	130	133	215	273	273	281	358	287	356	376	384	400	490	516	
Compressor																		
Compressor / Circuit		n°	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2	
Refrigerant		Type	R410A															
Heat exchanger system side																		
Exchanger		Type/n°	Plate/1															
Plug-fan inverter EC																		
Fans		n°	2	2	2	2	4	4	4	4	4	6	8	8	8	8	8	
Air flow rate (cooling)	HA	m³/h	23000	26500	25000	27500	42000	47000	44000	50000	53000	64500	84000	94000	88400	102000	102000	
Fans		n°	2	2	2	2	4	4	4	4	4	6	8	8	8	8	8	
Air flow rate (cooling)	HE	m³/h	17000	19800	17200	20600	30000	35000	31400	38200	41000	48900	60000	70800	64000	77600	88000	
Nominal high static pressure	All	Pa	120															
Sound data chiller																		
Sound power level	HA	dB(A)	84	88	86	89	85	88	86	90	92	87	88	91	89	93	93	
Sound pressure level		dB(A)	52	56	55	57	53	56	55	58	60	55	56	59	57	60	60	
Sound power level	HE	dB(A)	77	81	78	82	79	81	79	83	85	79	82	84	82	86	86	
Sound pressure level		dB(A)	46	49	46	50	47	49	48	51	53	47	49	52	50	54	54	

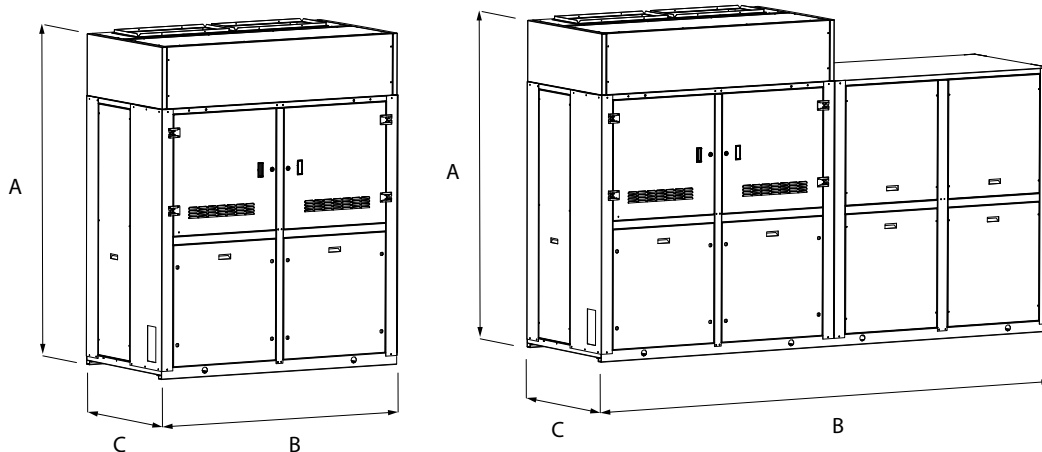
(6) Unit standar configuration without hydronic kit

Sound power Aermec determines sound power values on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification.

Sound pressure Sound pressure in free field, at 10 m distance from the external surface of the unit (in accordance with UNI EN ISO 3744).

Note: For more information, refer to the selection program or the technical documentation available on the website www.aermec.com

Dimensions



The drawings show some of the steelwork, there is more information available in the technical documentation

Mod. NLC_H	.		0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
Height	A	mm	2154	2154	2154	2154	2196	2196	2196	2196	2196	2196	2196	2196	2196	2196	2196
		00	mm	1750	1750	1750	1750	3150	3150	3150	3150	3500	4900	6300	6300	6300	6300
Width	B	P1÷P8	mm	2500	2500	2500	2500	3150	3150	3150	3150	4250	4900	6300	6300	6300	6300
		01÷08	mm	3400	3400	3400	3400	4150	4150	4150	4150	5250	5900	7300	7300	7300	7300
Depth	C	mm	950	950	950	950	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
Weight	(3)	HA/HE	kg	790	790	828	832	1452	1456	1492	1507	1586	2194	2768	2783	2863	2889

(3) Weight models without hydronic kit

Aermec reserves the right to make all the modifications deemed necessary for improving the product, including technical data.

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