NLC 0280H-1250H

Reversible air/water heat pump

Cooling capacity 53 ÷ 322 kW – Heating capacity 55 ÷ 342 kW

- **High efficiency also at partial loads**
- **Complete air flow versatility**
- **EC fan Plug-fan with high performance**

DESCRIPTION

Reversible heat pumps for the production of chilled/heated water designed to satisfy the needs of residential and commercial buildings, or for industrial applications.
Indoor units with Scroll compressors, centrifugal fans and plate heat exchangers.
The base, the structure and the panels are made of galvanized steel treated with polyester paint RAL 9003.

VERSIONS

A High efficiency
E Silenced high efficiency

FEATURES

Operating field

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.

Units mono or dual-circuit

The range includes units with 2 compressors in single circuit and units with 4 compressors divided into two independent circuits.

Electronic expansion valve

The possibility to use electronic expansion valve, offers significant benefits, especially when the chiller is working with partial loads, increasing the energy efficiency of the unit.

EC fan plug-fan

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.

Version with Integrated hydronic kit

Integrated hydronic kit containing the main hydraulic components; available with various configurations to obtain a solution that allows you to save money and to facilitate installation.

CONTROL PCO_5

Microprocessor adjustment, with keyboard and LCD display,for easy access on the unit is a menu available in several languages.
— The presence of a programmable timer allows functioning time periods and a possible second set-point to be set.
— The temperature control takes place with the integral proportional logic, based on the water output temperature.

ACCESSORIES

AER485P1: RS-485 interface for supervision systems with MODBUS protocol.
AERBACP: Ethernet communication Interface for protocols Bacnet/IP, Modbus TCP/IP, SNMP
AERLINK: Wifi Gateway with an RS485 serial port that can be installed on all machines or on all controllers having an RS485 serial port themselves. The module is capable of simultaneously activating the AP WIFI (Access point) and WIFI Station functions, the latter making it possible to connect to the home or business LAN both with VMF-E5 and E6. To facilitate certain management and control operations of the unit, the AERAPP application is available both for Android and iOS systems.
AERNET: The device allows the control, the management and the remote monitoring of a Chiller with a PC, smartphone or tablet using Cloud connection. AERNET works as Master while every unit connected is configured as Slave (max. 6 unit); also, with a simple click is possible to save a log file with all the connected unit datas in the personal terminal for post analysis.
FL: Flow switch.
MULTICHILLER_EVO: 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.
PGD1: Allows you to control the unit at a distance.
SGD: Electronic expansion that enables connecting to the photovoltaic system and heat pumps to accumulate heat in the DHW tank or in the heating system during the photovoltaic production phase and release it at times when heating demand is highest.
AVX: Spring anti-vibration supports.
VT: Anti-vibration supports.
FLG: Flange for ducts.

FILW: Water filter

FACTORY FITTED ACCESSORIES

DRE: Electronic device for peak current reduction.
RIF: Power factor correction. Connected in parallel to the motor allowing about 10% reduction of input current.
KRB: Electric anti-freeze resistance kit for base.
KRQ: Electric heater for the control and electric power board.
KRA: Anti-freeze electric heater for the buffer tank.
C-TOUCH: 7", touch screen keyboard, which allows to navigate intuitively among the various screens, allowing to modify the operating parameters and graphically view the progress of some variables in real time.

COMPATIBILITY WITH VMF SYSTEM

For more information about VMF system, refer to the dedicated documentation.

ACCESSORIES COMPATIBILITY

Model	Ver	0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
AER485P1	A,E	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AERBACP	A,E	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AERLINK	A,E	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AERNET	A,E	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
FL	A,E	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
MULTICHILLER_EVO	A,E	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PGD1	A,E	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SGD	A,E	•	•	•	•											

Water filter

Ver	0280	0300	0330	0350	0550	0600	0650	0675
A,E	FILTRO W DN50 (1)	FILTRO W DN50 (1)	FILTRO W DN50 (1)	FILTRO W DN50 (1)	FILTRO W DN65 (1)	FILTRO W DN65 (1)	FILTRO W DN65 (1)	FILTRO W DN65 (1)

(1) Installation is mandatory, contrarily garantee becomes void.

Ver	0700	0750	0800	0900	1000	1100	1250
A,E	FILTRO W DN80 (1)	FILTRO W DN80 (1)	FILTRO W DN80 (1)	FILTRO W DN80 (1)	FILTRO W DN80 (1)	FILTRO W DN80 (1)	FILTRO W DN80 (1)

(1) Installation is mandatory, contrarily garantee becomes void.

Flange for ducts

Ver	0280	0300	0330	0350	0550	0600	0650	0675
A,E	FLG1	FLG1	FLG1	FLG1	FLG2 x 2 (1)	FLG2 x 2 (1)	FLG2 x 2 (1)	FLG2 x 2 (1)

(1) x... indicates the quantity to buy.

Ver	0700	0750	0800	0900	1000	1100	1250
A,E	FLG1 x 2 (1)	FLG1 + FLG2 x 2 (1)	FLG2 x 4 (1)	FLG2 x 4 (1)	FLG2 x 4 (1)	FLG2 x 4 (1)	FLG2 x 4 (1)

(1) x... indicates the quantity to buy.

Antivibration

Ver	0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
Integrated hydronic kit: 00															
A,E	VT17	VT17	VT17	VT17	-	-	-	-	-	-	-	-	-	-	-
Integrated hydronic kit: 01, 02, 03, 04, 05, 06, 07, 08															
A,E	VT11	VT11	VT11	VT11	-	-	-	-	-	-	-	-	-	-	-
Integrated hydronic kit: P1, P2, P3, P4, P5, P6, P7, P8															
A,E	VT13	VT13	VT13	VT13	-	-	-	-	-	-	-	-	-	-	-

The accessory cannot be fitted on the configurations indicated with -

Antivibration

Ver	0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
Integrated hydronic kit: 00															
A,E	-	-	-	-	AVX410	AVX410	AVX410	AVX410	AVX410	AVX416	AVX418	AVX418	AVX420	AVX420	AVX420
Integrated hydronic kit: 01, 02, 03, 04															
A,E	-	-	-	-	AVX412	AVX412	AVX412	AVX412	AVX415	AVX417	AVX419	AVX419	AVX419	AVX419	AVX419
Integrated hydronic kit: 05, 06, 07, 08															
A	-	-	-	-	AVX423	AVX412	AVX412	AVX412	AVX415	AVX417	AVX419	AVX419	AVX419	AVX419	AVX419
E	-	-	-	-	AVX412	AVX412	AVX412	AVX412	AVX415	AVX417	AVX419	AVX419	AVX419	AVX419	AVX419
Integrated hydronic kit: P1, P3, P5, P7															
A,E	-	-	-	-	AVX410	AVX410	AVX410	AVX410	AVX413	AVX416	AVX418	AVX418	AVX420	AVX420	AVX420
Integrated hydronic kit: P2, P4, P6, P8															
A,E	-	-	-	-	AVX411	AVX411	AVX411	AVX411	AVX414	AVX416	AVX418	AVX418	AVX420	AVX420	AVX420

The accessory cannot be fitted on the configurations indicated with -

DRE: Device for peak current reduction

Ver	0280	0300	0330	0350	0550	0600	0650	0675
A,E	DRE275 (1)	DRE275 (1)	DRE300 (1)	DRE350 (1)	DRE552 (1)	DRE602 (1)	DRE652 (1)	DRE675 (1)

(1) Only for supplies of 400V 3N ~ 50Hz and 400V 3 ~ 50Hz. x 2 or x 3 (if present) indicates the quantity to be ordered.
A grey background indicates the accessory must be assembled in the factory

Ver	0700	0750	0800	0900	1000	1100	1250
A,E	DRE350 x 2	DRE552 x 2	DRE552 x 2	DRE602 x 2	DRE652 x 2	DRE675 x 2	DRE1250 (1)

(1) Only for supplies of 400V 3N ~ 50Hz and 400V 3 ~ 50Hz. x 2 or x 3 (if present) indicates the quantity to be ordered.
A grey background indicates the accessory must be assembled in the factory

Power factor correction

Ver	0280	0300	0330	0350	0550	0600	0650	0675
A,E	RIFNLC1	RIFNLC1	RIFNLC2	RIFNLC3	RIFNLC1	RIFNLC1	RIFNLC1	RIFNLC4

A grey background indicates the accessory must be assembled in the factory

Ver	0700	0750	0800	0900	1000	1100	1250
A,E	RIFNLC3 x 2 (1)	RIFNLC3 + RIFNLC2 (1)	RIFNLC1 x 2 (1)	RIFNLC1 x 2 (1)	RIFNLC1 x 2 (1)	RIFNLC4 x 2 (1)	RIFNLC3 x 2 (1)

(1) x... indicates the quantity to buy.
A grey background indicates the accessory must be assembled in the factory

Anti-condensate electric board resistance

Ver	0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
A,E	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ

A grey background indicates the accessory must be assembled in the factory

Anti-freeze electric heater for the storage tank

Ver	0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
A,E	KRA1	KRA1	KRA1	KRA1	KRA2	KRA2	KRA2	KRA2	KRA2	KRA2	KRA2	KRA2	KRA2	KRA2	KRA2

A grey background indicates the accessory must be assembled in the factory

CONFIGURATOR

Field		Description
1,2,3		**NLC**
4,5,6,7		**Size** 0280, 0300, 0330, 0350, 0550, 0600, 0650, 0675, 0700, 0750, 0800, 0900, 1000, 1100, 1250
8		**Operating field (1)**
	°	Standard mechanic thermostatic valve
	X	Electronic thermostatic expansion valve
9		**Model**
	H	Heat pump
10		**Heat recovery**
	°	Without heat recovery
	D	With desuperheater (2)
11		**Version**
	A	High efficiency
	E	Silenced high efficiency
12		**Coils**
	°	Copper-aluminium
	R	Copper pipes-copper fins
	S	Copper pipes-Tinned copper fins
	V	Copper pieps-Coated aluminium fins
13		**Fans**
	J	Inverter
14		**Power supply**
	°	400V ~ 3 50Hz with magnet circuit breakers
15,16		**Integrated hydronic kit**

Field	Description
00	Without hydronic kit
	Kit with storage tank and pump/s
01	Storage tank with low head pump
02	Storage tank with low head pump + stand-by pump
03	Storage tank with high head pump
04	Storage tank with high head pump + stand-by pump
	Kit with storage tank and inverter pump/s
05	Storage tank with low-head inverter pump
06	Storage tank with low head inverter pump + stand-by pump
07	Storage tank with high head inverter pump
08	Storage tank with high head inverter pump + stand-by pump
	Kit with pump/s
P1	Single pump low head
P2	Pump low head + stand-by pump
P3	Single pump high head
P4	Pump high head + stand-by pump
	Kit with pump/s, with inverter speed
P5	Single low head pump + fixed speed inverter (3)
P6	Single low head pump with fixed speed inverter + stand-by pump (3)
P7	Single high head pump + fixed speed inverter (3)
P8	Single high head pump with fixed speed inverter + stand-by pump (3)

(1) Water produced from 4 °C ÷ 18 °C
(2) The desuperheater must be intercepted in heating mode. In cooling mode, a water temperature no lower than 35°C must always be guaranteed on the heat exchanger inlet.
(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.

PERFORMANCE SPECIFICATIONS

NLC - HA / HE

Size			0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
Fans: J																	
Cooling performance 12 °C / 7 °C (1)																	
Cooling capacity	A	kW	54,4	60,4	66,7	78,6	102,5	115,3	126,0	143,4	158,1	181,1	202,0	232,5	252,7	287,1	316,5
	E	kW	52,1	58,2	63,5	75,0	97,8	110,6	118,5	136,8	150,2	172,1	192,7	223,8	242,2	273,7	305,0
Input power	A	kW	20,0	22,5	24,4	28,6	37,7	43,4	46,9	54,6	57,4	66,3	74,7	87,1	93,6	108,9	127,4
	E	kW	20,4	23,0	25,5	29,4	40,1	46,0	49,1	56,5	58,8	67,2	79,8	90,2	97,1	112,6	128,0
Cooling total input current	A	A	36,0	41,0	45,0	56,0	68,0	77,0	81,0	96,0	112,0	121,0	136,0	155,0	162,0	192,0	219,0
	E	A	36,0	40,0	45,0	55,0	69,0	77,0	83,0	95,0	111,0	121,0	139,0	153,0	166,0	191,0	218,0
EER	A	W/W	2,72	2,69	2,73	2,75	2,72	2,66	2,69	2,63	2,75	2,73	2,70	2,67	2,70	2,64	2,48
	E	W/W	2,55	2,53	2,49	2,55	2,44	2,40	2,41	2,42	2,55	2,56	2,42	2,48	2,49	2,43	2,38
Water flow rate system side	A	l/h	9368	10396	11480	13535	17638	19855	21700	24691	27213	31158	34751	40001	43480	49382	54436
	E	l/h	8967	10021	10934	12905	16829	19040	20401	23542	25847	29620	33162	38500	41662	47091	52474
Pressure drop system side	A	kPa	21	25	23	30	24	29	35	35	26	25	34	34	36	38	44
	E	kPa	20	24	20	27	20	25	29	30	24	25	33	35	38	42	53
Heating performance 40 °C / 45 °C (2)																	
Heating capacity	A,E	kW	56,4	63,5	70,7	82,6	109,8	122,4	137,1	156,5	168,5	193,6	218,3	244,7	273,4	312,4	348,1
Input power	A,E	kW	19,1	21,9	24,0	27,8	37,0	41,5	46,4	53,7	55,9	65,1	73,6	82,9	91,5	105,2	118,1
Heating total input current	A,E	A	36,0	40,0	44,0	54,0	65,0	74,0	78,0	91,0	105,0	114,0	129,0	145,0	153,0	179,0	199,0
COP	A,E	W/W	2,95	2,90	2,95	2,97	2,97	2,95	2,95	2,91	3,01	2,97	2,97	2,95	2,99	2,97	2,95
Water flow rate system side	A,E	l/h	9781	11023	12266	14321	19050	21235	23760	27154	29225	33591	37889	42470	47456	54236	60425
Pressure drop system side	A,E	kPa	22	27	25	32	27	32	40	41	29	28	38	37	41	43	52

(1) Data EN 14511:2022; Heat exchanger water (services side) 12°C / 7°C; outside air 35°C
(2) Data EN 14511:2022; System side water heat exchanger 40 °C / 45 °C; Outside air 7 °C d.b. / 6 °C w.b.

ENERGY DATA

Size			0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
Fans: J																	
Cooling capacity with low leaving water temp (UE n° 2016/2281)																	
SEER	A	W/W	4,48	4,50	4,52	4,71	4,89	4,74	4,65	4,52	4,38	4,33	4,51	4,47	4,36	4,29	4,08
	E	W/W	4,16	4,16	4,08	4,50	4,29	4,23	4,29	4,22	4,20	4,14	3,98	4,21	4,13	3,99	3,86
ηsc	A	%	176,10	177,10	177,80	185,20	192,50	186,40	183,10	177,70	172,20	170,30	177,50	175,80	171,40	168,70	160,00
	E	%	163,20	163,50	160,30	177,10	168,50	166,00	168,40	165,90	165,00	162,60	156,20	165,30	162,20	156,40	151,40
UE 811/2013 performance in average ambient conditions (average) - 35 °C - Pdesignh ≤ 70 kW (1)																	
SCOP	A,E	W/W	3,28	3,20	3,28	-	-	-	-	-	-	-	-	-	-	-	-
ηsh	A,E	%	128	125	128	-	-	-	-	-	-	-	-	-	-	-	-
Efficiency energy class	A,E		A+	A+	A+	-	-	-	-	-	-	-	-	-	-	-	-

(1) Efficiencies for low temperature applications (35 °C)

ELECTRIC DATA

Size			0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
Electric data																	
Maximum current (FLA)	A,E	A	52,2	55,6	62,0	71,4	103,0	110,9	118,8	131,8	142,8	167,1	206,0	221,8	237,6	263,6	289,6
Peak current (LRA)	A,E	A	127,9	129,6	132,8	215,4	272,9	272,9	280,8	357,8	286,8	355,6	375,9	383,8	399,6	489,6	515,6

GENERAL TECHNICAL DATA

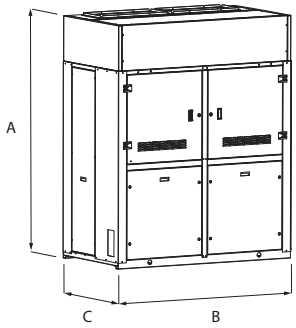
Size			0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
Fans: J																	
Compressor																	
Type	A,E	type	Scroll														
Compressor regulation	A,E	Type	On-Off														
Number	A,E	no.	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4
Circuits	A,E	no.	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2
Refrigerant	A,E	type	R410A														
Refrigerant charge (1)	A,E	kg	9,2	9,5	11,0	11,0	18,5	20,0	25,0	25,0	23,0	32,0	42,0	42,0	50,0	50,0	50,0
System side heat exchanger																	
Type	A,E	type	Brazed plate														
Number	A,E	no.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hydraulic connections																	
Connections (in/out)	A,E	Type	Grooved joints														
Sizes (in/out)	A,E	Ø	2"	2"	2"	2"	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	3"	3"	3"	3"	3"
Fan																	
Type	A,E	type	Plug-fun														
Fan motor	A,E	type	EC Inverter motors														
Number	A,E	no.	2	2	2	2	4	4	4	4	4	6	8	8	8	8	8
Machine exhaust																	
Sound power level	A	dB(A)	84,1	87,9	86,3	88,9	85,2	87,9	86,4	89,5	91,9	86,7	88,2	90,9	89,4	92,5	92,5
	E	dB(A)	77,3	80,5	77,6	81,5	78,5	81,3	79,4	83,2	84,5	79,4	81,5	84,3	82,4	86,2	86,2

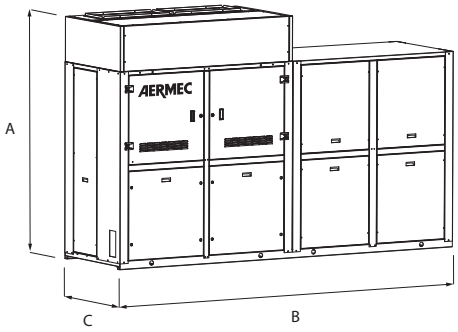
(1) The load indicated in the table is an estimated and preliminary value. The final value of the refrigerant load is indicated on the unit's technical label. For further information contact the office.

Size			0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
Intake plus machine body																	
Sound power level	A	dB(A)	78,9	81,7	80,6	83,1	83,9	85,1	84,4	85,7	85,3	86,0	87,2	88,2	87,2	88,9	89,3
	E	dB(A)	75,1	78,0	76,0	79,7	82,3	82,8	82,3	84,1	82,7	85,3	85,3	85,8	85,3	87,1	88,2

(1) The load indicated in the table is an estimated and preliminary value. The final value of the refrigerant load is indicated on the unit's technical label. For further information contact the office.

DIMENSIONS





Size			0280	0300	0330	0350	0550	0600	0650	0675	0700	0750	0800	0900	1000	1100	1250
Dimensions and weights																	
A	A,E	mm	2154	2154	2154	2154	2196	2196	2196	2196	2196	2196	2196	2196	2196	2196	2196
B	A,E	mm	1750	1750	1750	1750	3150	3150	3150	3150	3500	4900	6300	6300	6300	6300	6300
C	A,E	mm	950	950	950	950	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
Empty weight	A,E	kg	790	790	828	832	1452	1456	1492	1507	1586	2194	2768	2783	2863	2889	2903
Dimensions and weights with pump/s																	
A	A,E	mm	2154	2154	2154	2154	2196	2196	2196	2196	2196	2196	2196	2196	2196	2196	2196
B	A,E	mm	2500	2500	2500	2500	3150	3150	3150	3150	4250	4900	6300	6300	6300	6300	6300
C	A,E	mm	950	950	950	950	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
Dimensions and weights with storage tank and pump/s																	
A	A,E	mm	2154	2154	2154	2154	2196	2196	2196	2196	2196	2196	2196	2196	2196	2196	2196
B	A,E	mm	3400	3400	3400	3400	4150	4150	4150	4150	5250	5900	7300	7300	7300	7300	7300
C	A,E	mm	950	950	950	950	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100

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