NRL 0280-0350

Air-water chiller

Cooling capacity 56 ÷ 82,8 kW

- **Low noise levels in silenced versions**
- **High efficiency also at partial loads**
- **Compact dimensions**

DESCRIPTION

Air-cooled outdoor chiller designed to meet air conditioning needs in residential/commercial complexes or industrial applications.
The base, the structure and the panels are made of galvanized steel treated with polyester paint RAL 9003.

VERSIONS

E Silenced high efficiency
L Standard silenced

FEATURES

Operating field

Operation at full load up to 47 °C external air temperature. Unit can produce chilled water (up to -10°C of water produced in some versions).

Dual-circuit unit

The units according to the size are mono or dual-circuit, to ensure maximum efficiency both at full load and at partial load.

Electronic expansion valve

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

Integrated hydronic kit

Integrated hydronic kit containing the main hydraulic components; available with various configurations with one or two pumps, with high or low head and storage tank, to obtain a solution that allows you to save money and to facilitate installation.

CONTROL

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 supervising systems with MODBUS protocol. 1 accessory is provided for each unit control board.
AERBACP: Ethernet communication interface for Bacnet/IP, Modbus TCP/IP, SNMP protocols. 1 accessory is provided for each unit control board.
AERLINK: Aerlink is a WiFi gateway with an RS485 serial port that allows a wide range of Aermec products (heat pumps/chillers/system controllers) equipped with this interface to connect easily and securely to a Wi-Fi network. It works both as an access point (AP access point) and as a client (WiFi Station), it can be connected to a single generator or system centraliser, allowing anyone to easily integrate them into any network. Thanks to the AerApp and AerPlants apps, which can be used on Android and iOS platforms, the remote management of the air conditioning systems developed by Aermec becomes intuitive and simple.
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 control boards). 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.
MULTICHILLER-EVO: Control, switch-on and switch-off system of the single chillers where multiple units are installed in parallel (max. no. 9), 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.
PR4: Remote panel with LCD display and touch keyboard that allows carrying out the basic controls, the programming of time ranges and the signalling of the alarms of a single unit.

The accessory PR4 should only be combined with the RS485 communication interface when the serial port is occupied by another device.

DCPX: Device for condensation temperature control, with continuous speed modulation of fans by using a pressure transducer.
GP: Anti-intrusion grid.
VT: Anti-vibration supports.

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.

PRM1: It is a manual pressure switch electrically wired in series with the existing automatic high pressure switch on the compressor discharge pipe.

COMPATIBILITY WITH VMF SYSTEM

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

ACCESSORIES COMPATIBILITY

Accessories

Model	Ver	0280	0300	0330	0350
AER485P1	E	•	•	•	•
AERBACP	E	•	•	•	•
AERLINK	E	•	•	•	•
AERNET	E	•	•	•	•
MULTICHILLER-EVO	E	•	•	•	•
PGD1	E	•	•	•	•
SGD	E	•	•	•	•

Model	Ver	0280	0300	0330	0350
C-TOUCH	E	•	•	•	•

Remote panel

Model	Ver	0280	0300	0330	0350
PR4	E,L	•	•	•	•

The accessory PR4 should only be combined with the RS485 communication interface when the serial port is occupied by another device.

Condensation control temperature

Ver	0280	0300	0330	0350
Fans: M				
E	DCPX63	DCPX63	DCPX63	DCPX63

Antivibration

Ver	0280	0300	0330	0350
Integrated hydronic kit: 00, P1, P2, P3, P4				
E	VT17	VT17	VT17	VT17
Integrated hydronic kit: 01, 02, 03, 04, 05, 06, 07, 08, 09				
E	VT13	VT13	VT13	VT13

Anti-intrusion grid

Device for peak current reduction

Ver	0280	0300	0330	0350
Power supply: °				
E	DRE281 (1)	DRE301 (1)	DRE331 (1)	DRE351 (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
E	RIF50	RIF50	RIF50	RIF51

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

CONFIGURATOR

Field		Description
1,2,3		**NRL**
4,5,6,7		**Size** 0280, 0300, 0330, 0350
8		**Operating field**
	X	Electronic thermostatic expansion valve (1)
	Y	Low temperature mechanic thermostatic valve (2)
	°	Standard mechanic thermostatic valve (1)
9		**Model**
	C	Motocondensing unit
	°	Cooling only
10		**Heat recovery**
	D	With desuperheater (3)
	T	With total recovery
	°	Without heat recovery
11		**Version**
	E	Silenced high efficiency
	L	Standard silenced (4)
12		**Coils**
	R	Copper pipes-copper fins
	S	Copper pipes-Tinned copper fins
	V	Copper pieps-Coated aluminium fins
	°	Copper-aluminium
13		**Fans**
	J	Inverter (5)
	M	Oversized (6)
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 pump/s and storage tank with holes for heaters
05	Storage tank with holes for heaters and single low head pump (7)
06	Storage tank with holes for heaters and pump low head + stand-by pump (7)
07	Storage tank with holes for heaters and single high head pump (7)
08	Storage tank with holes for heaters and pump high head + stand-by pump (7)
	Double loop
09	Double loop
10	Double loop with supplementary electric heater
	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

(1) Water produced from 4 °C ÷ 18 °C
(2) Water produced from 4 °C ÷ -6 °C for °/L version; 4 °C ÷ -8 °C for E version; 4 °C ÷ -10 °C for A version
(3) For "YT" - "ZT" - "YD" and "ZD" recovery versions, contact the headquarters; Warning: on the recovery side, a minimum input temperature of 35°C must always be guaranteed on the heat exchanger. For more information about the unit operating range, refer to the Magellano selection program
(4) The size up 0280 ÷ 0350 are only available in the silenced versions "L/E" with inverer fans
(5) Standard for size 0280 ÷ 0350, without useful static pressure, option for other size with useful static pressure.
(6) Available only for size from 0280 to 0350
(7) Storage tanks with holes for supplementary heaters (not provided) are sent from the factory with plastic protection caps. Before loading the system, if the installation of one or all resistances is not expected, all plastic caps must be replaced with the special caps, commonly commercially available.

PERFORMANCE SPECIFICATIONS

NRL - L

Size		0280	0300	0330	0350
Cooling performance 12 °C / 7 °C (1)					
Cooling capacity	kW	52,8	62,8	67,8	80,7
Input power	kW	20,6	22,9	26,5	28,9
Cooling total input current	A	36,0	40,0	44,0	51,0
EER	W/W	2,56	2,74	2,56	2,79
Water flow rate system side	l/h	9106	10824	11683	13917
Pressure drop system side	kPa	51	46	54	55

(1) Data EN 14511:2022; Heat exchanger water (services side) 12°C / 7°C; outside air 35°C

NRL - E

Size		0280	0300	0330	0350
Cooling performance 12 °C / 7 °C (1)					
Cooling capacity	kW	56,8	64,8	73,8	82,8
Input power	kW	17,1	19,7	22,1	25,5
Cooling total input current	A	30,0	34,0	37,0	45,0
EER	W/W	3,33	3,29	3,34	3,24
Water flow rate system side	l/h	9793	11168	12714	14260
Pressure drop system side	kPa	43	39	35	44

(1) Data EN 14511:2022; Heat exchanger water (services side) 12°C / 7°C; outside air 35°C

ENERGY DATA

Size			0280	0300	0330	0350
Fans: J						
SEER - 12/7 (EN14825: 2018) (1)						
SEER	E	W/W	- (2)	- (2)	- (2)	- (2)
Seasonal efficiency	E	%	- (2)	- (2)	- (2)	- (2)
SEER - 23/18 (EN14825: 2018) (3)						
SEER	E	W/W	4,55	4,70	4,62	4,47
Seasonal efficiency	E	%	178,90	184,90	181,60	175,90
SEPR - (EN 14825: 2018) (3)						
SEPR	E	W/W	5,81	5,94	5,85	5,66

(1) Calculation performed with FIXED water flow rate and VARIABLE outlet temperature.
(2) Not covered by standard (EN14825: 2018 for comfort applications, 12°C / 7°C)
(3) Calculation performed with FIXED water flow rate.

Size			0280	0300	0330	0350
Fans: M						
SEER - 12/7 (EN14825: 2018) (1)						
SEER	E	W/W	- (2)	- (2)	- (2)	- (2)
Seasonal efficiency	E	%	- (2)	- (2)	- (2)	- (2)
SEER - 23/18 (EN14825: 2018) (3)						
SEER	E	W/W	4,55	4,70	4,62	4,47
Seasonal efficiency	E	%	178,90	184,90	181,60	175,90
SEPR - (EN 14825: 2018) (3)						
SEPR	E	W/W	5,81	5,94	5,85	5,66

(1) Calculation performed with FIXED water flow rate and VARIABLE outlet temperature.
(2) Not covered by standard (EN14825: 2018 for comfort applications, 12°C / 7°C)
(3) Calculation performed with FIXED water flow rate.

ELECTRIC DATA

Size			0280	0300	0330	0350
Electric data						
Maximum current (FLA)	E,L	A	46,0	53,0	58,0	63,0
Peak current (LRA)	E,L	A	155,0	184,0	190,0	200,0

GENERAL TECHNICAL DATA

Size			0280	0300	0330	0350
Compressor						
Type	E,L	type	Scroll	Scroll	Scroll	Scroll
Compressor regulation	E,L	Type	On-Off	On-Off	On-Off	On-Off
Number	E,L	no.	2	2	2	2
Circuits	E,L	no.	2	2	2	2
Refrigerant	E,L	type	R410A	R410A	R410A	R410A
Refrigerant load circuit 1 (1)	E	kg	6,6	8,6	8,5	8,4
	L	kg	5,5	6,6	6,6	7,0
Refrigerant load circuit 2 (1)	E	kg	6,6	8,6	8,5	8,4
	L	kg	5,5	6,6	6,6	7,0
Oil charge circuit 1	E,L	kg	3,3	3,3	3,3	3,6
Oil charge circuit 2	E,L	kg	3,3	3,3	3,3	3,6
System side heat exchanger						
Type	E,L	type	Brazed plate	Brazed plate	Brazed plate	Brazed plate
Number	E,L	no.	1	1	1	1
Minimum water flow rate	E	l/h	4900	5590	6365	7140
	L	l/h	4560	5420	5850	6965
Maximum water flow rate	E	l/h	16333	18633	21217	23800
	L	l/h	15200	18067	19500	23217
System side hydraulic connections						
Connections (in/out)	E,L	Type	Grooved joints	Grooved joints	Grooved joints	Grooved joints
Sizes (in/out)	E,L	Ø	2"1/2	2"1/2	2"1/2	2"1/2
Fan						
Type	E,L	type	Axial	Axial	Axial	Axial
Number	E	no.	6	6	8	8
	L	no.	4	4	4	6
Air flow rate	E	m^3/h	22000	22000	27000	27000
	L	m^3/h	14200	14200	14200	20200
Sound data calculated in cooling mode (2)						
Sound power level	E	dB(A)	74,0	74,0	75,0	76,0
	L	dB(A)	73,0	73,0	74,0	75,0
Sound pressure level (10 m)	E	dB(A)	42,3	42,2	43,2	44,2
	L	dB(A)	41,3	41,3	42,3	43,3

(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.
(2) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification. Sound pressure (cold functioning) measured in free field, 10m away from the unit external surface (in compliance with UNI EN ISO 3744).

Fans

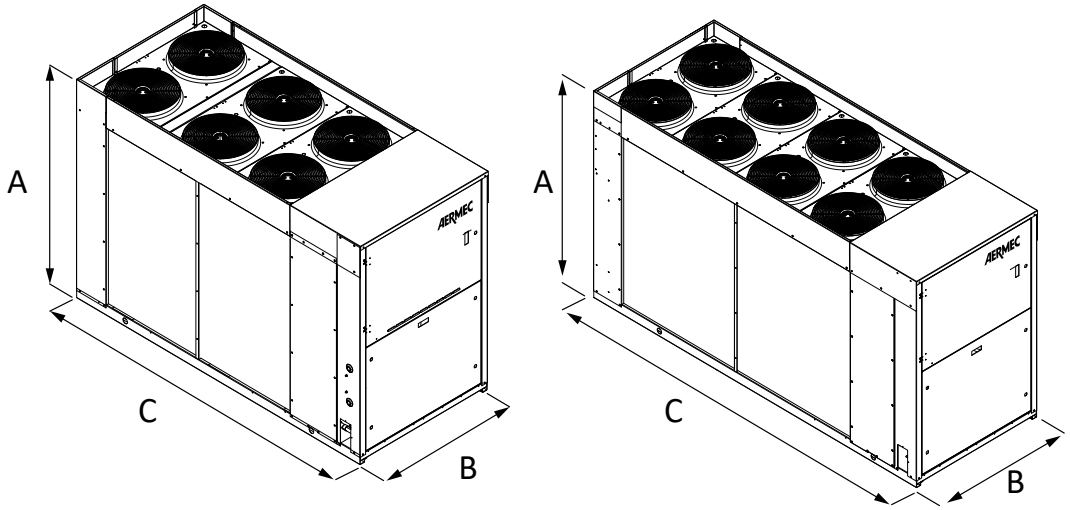
Size			0280	0300	0330	0350
Fan						
Type	E	type	Axial			
Number	E	no.	6	6	8	8

Size			0280	0300	0330	0350
Fans: M						
Increased fan						
Fan motor	E	type	Asynchronous with phase cut			
With static pressure						
Air flow rate	E	m^3/h	22000	22000	27000	27000
High static pressure	E	Pa	50	50	50	50
Sound power level	E	dB(A)	74,0	74,0	75,0	76,0

Size			0280	0300	0330	0350
Fans: J						
Inverter fan						
Fan motor	E	type			Inverter	
Air flow rate	E	m^3/h	22000	22000	27000	27000
High static pressure	E	Pa	80	80	80	80
Sound data calculated in cooling mode (1)						
Sound power level	E	dB(A)	74,0	74,0	75,0	76,0

(1) Sound power: calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification. Sound pressure measured in free field (in compliance with UNI EN ISO 3744).

DIMENSIONS



Dimensions and weights

Size			0280	0300	0330	0350
Dimensions and weights						
A	E,L	mm	1606	1606	1606	1606
B	E,L	mm	1100	1100	1100	1100
C	E	mm	2450	2950	2950	2950
	L	mm	2450	2450	2450	2450
Weights						
Without hydronic kit	E	kg	686	751	761	767
	L	kg	675	684	688	704

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