

NRL 0280-0350

Air-water chiller

Cooling capacity 56 ÷ 82 kW



- Standard inverter fans
- Reduced noise levels
- High efficiency also at partial loads



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

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 control, with keyboard and LCD display, for easy access on the unit with 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.

AERBAC-ONE: Ethernet communication interface for Bacnet/IP and Modbus TCP/IP protocols, HTTPS protocol for web interface, encrypted communication protocols and access credential management in accordance with the latest standards. One accessory is provided for each unit control board.

AERBACP: Ethernet communication interface for Bacnet/IP and Modbus TCP/IP 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 remotely controls, manages and remotely monitors a chiller/heat pump using a PC, smartphone or table via a Cloud connection. AERNET acts as Master while each connected unit is configured as Slave up to a maximum of 6 control cards. The connection is made via cable and/or USB key. Wi-Fi connectivity is not available. It is also possible to save a log file with all the data from the connected units to your terminal with a simple click for possible post-analysis. With the purchase of the Router, the Customer benefits from a 24-month free period during which he can use the Aernet Service at no additional cost. At the end of this initial period, the Service may be renewed by subscribing to a 1, 2 or 3 year subscription. For further details on costs and renewal methods, please contact our office or consult the technical documentation available on our website. www.aermec.com.

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 signaling 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.

FACTORY FITTED ACCESSORIES

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.

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

Accessories

Model	Ver	0280	0300	0330	0350
AER485P1	E	*	*	*	*
AERBAC-ONE	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	*	*	*	*

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

Ver	0280	0300	0330	0350
E	GP3	GP4	GP4	GP4

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 (4)
E	Silenced high efficiency
12	Coils
R	Copper pipes-copper fins
V	Copper pipes-Coated aluminium fins
°	Copper-aluminium
13	Fans
J	Inverter (5)
M	Oversized (6)
14	Power supply
°	400V ~ 3N 50Hz with magnet circuit breakers
15,16	Integrated hydronic kit
	Without 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 ÷ 18 °C for version "E"; -10 °C for the others versions
(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 "E" with inverter fans
(5) Standard fans without useful static pressure.
(6) Fans with useful static pressure.
(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 - 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	30,00	34,00	37,00	45,00
EER	W/W	3,33	3,29	3,34	3,24
Water flow rate system side	l/h	9.793	11.168	12.714	14.260
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

NRL - C

Size	0280	0300	0330	0350	
Model: C					
Cooling performance 12 °C / 7 °C (1)					
Cooling capacity	kW	59,0	67,0	76,0	85,0
Input power	kW	17,0	19,6	22,0	25,3
Input current	A	35,0	39,0	43,0	49,0
EER	W/W	3,47	3,42	3,45	3,36

(1) Evaporating temperature 5 °C, External air 35 °C

ENERGY INDICES (REG. 2016/2281 EU)

Energy index data

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

(1) VW/VO - variable water flow rate/variable outlet temperature; FW/VO - fixed water flow rate/variable outlet temperature; VW/FO - variable water flow rate/fixed outlet temperature; FW/FO - fixed water flow rate/fixed outlet temperature.

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

(1) VW/VO - variable water flow rate/variable outlet temperature; FW/VO - fixed water flow rate/variable outlet temperature; VW/FO - variable water flow rate/fixed outlet temperature; FW/FO - fixed water flow rate/fixed outlet temperature.

ELECTRIC DATA

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

GENERAL TECHNICAL DATA

Refrigerant circuit

Size		0280	0300	0330	0350
Fans: J					
Compressor					
Type	type	Scroll	Scroll	Scroll	Scroll
Compressor regulation	Type	On-Off	On-Off	On-Off	On-Off
Number	no.	2	2	2	2
Circuits	no.	2	2	2	2
Refrigerant	type	R410A	R410A	R410A	R410A

Size		0280	0300	0330	0350
Fans: M					
Compressor					
Type	type	Scroll	Scroll	Scroll	Scroll
Compressor regulation	Type	On-Off	On-Off	On-Off	On-Off
Number	no.	2	2	2	2
Circuits	no.	2	2	2	2
Refrigerant	type	R410A	R410A	R410A	R410A

System side heat exchanger

Size		0280	0300	0330	0350
System side heat exchanger					
Type	type	Brazed plate	Brazed plate	Brazed plate	Brazed plate
Number	no.	1	1	1	1
System side hydraulic connections					
Connections (in/out)	Type	Grooved joints	Grooved joints	Grooved joints	Grooved joints
Sizes (in/out)	Ø	2" 1/2	2" 1/2	2" 1/2	2" 1/2

Fans

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

Size		0280	0300	0330	0350
Fans: M					
Increased fan					
Fan motor	type			Asynchronous with phase cut	
With static pressure					
Air flow rate	m ³ /h	22.000	22.000	27.000	27.000
High static pressure	Pa	50	50	50	50
Sound power level	dB(A)	74,0	74,0	75,0	76,0

Size		0280	0300	0330	0350
Fans: J					
Inverter fan					
Fan motor	type			Inverter	
Air flow rate	m ³ /h	22.000	22.000	27.000	27.000
High static pressure	Pa	80	80	80	80
Sound data calculated in cooling mode (1)					
Sound power level	dB(A)	74,0	74,0	75,0	76,0

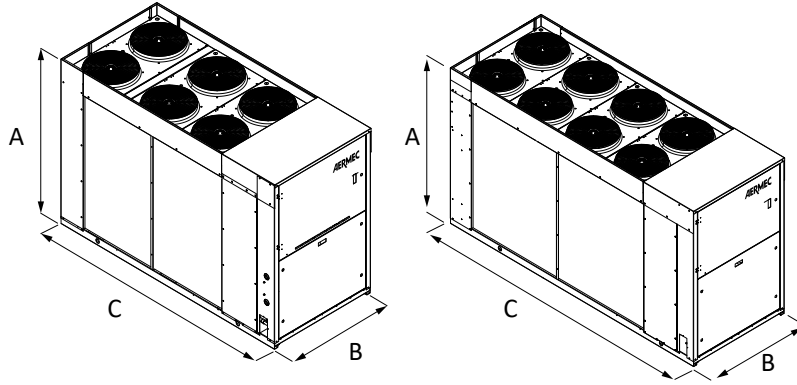
(1) Sound power: calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification. Sound pressure measured in free field (in compliance with UNI EN ISO 3744).

Sound data

Size		0280	0300	0330	0350
Fans: J, M					
Sound data calculated in cooling mode (1)					
Sound power level	dB(A)	74,0	74,0	75,0	76,0
Sound pressure level (10 m)	dB(A)	42,3	42,3	43,2	44,2

(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	mm	1.606	1.606	1.606	1.606
B	mm	1.100	1.100	1.100	1.100
C	mm	2.450	2.950	2.950	2.950
Dimensions and weights without hydronic kit					
Empty weight	kg	686	751	761	767

Aermec reserves the right to make any modifications deemed necessary. All data is subject to change without notice. Aermec does not assume responsibility or liability for errors or omissions.

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