NRV 0550

Air-water chiller

Cooling capacity 108,3 kW

- **Easy and quick to install compact**
- **Reliability and modularity**
- **Microchannel coils**

DESCRIPTION

NRV is made up of independent 108kW modules that can be connected to each other up to a power of 970kW. Every single module is an outdoor chiller to produce chilled water.
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

Operation at full load up to 47°C external air temperature. Unit can produce chilled water up to 4 °C.
Maximum yield at full load but even partial load, thanks to the partialisation steps that increase as the number of connected modules increases this ensures continuous adaptation to the actual system requirements.

Modularity

It is possible to couple up to 9 chillers designed to reduce the overall unit dimensions to a minimum.
The combination of the various chillers allows all the strengths of the individual module to be maintained.
Modularity allows you to adapt installation to the actual development needs of the system. This way the cooling capacity can be increased over time simply and affordably.
Modularity is essential when component redundancy is required, as it allows for a safer system design and increased reliability.

Hot water production

In the configuration with desuperheater, it is also possible to produce free-hot water.

Microchannel coils

Microchannel heat exchanger that guarantees higher thermal exchange yield. Circuit that optimises the liquid distribution in the coil, which is arranged with V beam geometry with open angle.

Components

Unit is already equipped with a water filter, differential pressure switch and butterfly check valves, useful to cut off the hydraulic circuit for maintenance; for instance, to clean the filter.
In the event of variable flow rate, the motorised hydronic valves can intercept one or more modules to reduce the flow rate in low heat load conditions.

CONTROL PCO_5

Microprocessor control, with keyboard and LCD display, for easy access on the unit with a menu available in several languages.

- Adjustment includes complete management of the alarms and their log.
- 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.
- **Night mode:** only in the **non-silenced versions with the fan to be, inverter or phase-cut or with the DCPX accessory**, a silenced operation profile can be set, which is useful, for example, at night for greater acoustic comfort, but always ensures performance even at peak load hours.

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 plat-

forms, the remote management of the air conditioning systems developed by Aermec becomes intuitive and simple.
GPNYB_SIDE: kit with 2 anti-intrusion grids for the long side of the unit.
GPNY_BACK: kit with 1 anti-intrusion grid for the short side of the unit.
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.

FACTORY FITTED ACCESSORIES

DRE: Electronic device for peak current reduction.
KNYB: Pair of caps with grooved joints assembled on the unit manifold.
KREC: Accessory kit to remote the electric power supply input to the back
RIF: Power factor correction. Connected in parallel to the motor allowing about 10% reduction of input current.

COMPATIBILITY WITH VMF SYSTEM

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

ACCESSORIES COMPATIBILITY

Model	Ver	0550
AER485P1	A,E	•
AERBAC-ONE	A,E	•
AERBACP	A,E	•
AERLINK	A,E	•
GPNYB_SIDE	A,E	•
GPNY_BACK	A,E	•
MULTICHILLER-EVO	A,E	•
PGD1	A,E	•
SGD	A,E	•

Condensation control temperature

Ver	0550
Fans: M	
A	DCPXNRV0550
E	As standard

DRE: electronic device for peak current reduction

Ver	0550
A, E	DRE (1)

(1) Contact the factory
A grey background indicates the accessory must be assembled in the factory

KNYB: Pair of caps with grooved joints assembled on the unit manifold

Ver	0550
A, E	KNYB

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

KREC: kit to remote the electric power supply input to the back

Ver	0550
A, E	KREC

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

RIF: Power factor correction

Ver	0550
A, E	RIF (1)

(1) Contact the factory
A grey background indicates the accessory must be assembled in the factory

CONFIGURATOR

Field	Description
1,2,3	**NRV**
4,5,6,7	**Size** 0550
8	**Operating field**
X	Electronic thermostatic expansion valve
°	Standard mechanic thermostatic valve (1)
9	**Model**
°	Cooling only
10	**Heat recovery**
D	With desuperheater
°	Without heat recovery
11	**Version**
A	High efficiency
E	Silenced high efficiency
12	**Coils**
I	Copper-aluminium
O	Coated aluminium microchannel
R	Copper pipes-copper fins
None	None
V	Copper pieps-Coated aluminium fins
°	Aluminium microchannel
13	**Fans**
J	Inverter (2)
M	Oversized
14	**Power supply (3)**
°	400V 3 ~ 50Hz
15,16	**Integrated hydronic kit**
00	Without hydronic kit

(1) Water produced up to +4 °C
(2) With "J" fan is unnecessary DCPX accessory
(3) With magnet circuit breakers

PERFORMANCE SPECIFICATIONS

Size			0550
Fans: J, M			
Cooling performance 12 °C / 7 °C (1)			
Cooling capacity	A	kW	108,3
	E	kW	103,8
Input power	A	kW	34,8
	E	kW	36,2
Cooling total input current	A,E	A	62,00
EER	A	W/W	3,11
	E	W/W	2,86
Water flow rate system side	A	l/h	18.646
	E	l/h	17.862
Pressure drop system side	A	kPa	32
	E	kPa	30

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

ENERGY INDICES (REG. 2016/2281 EU)

Size			0550
Fans: J			
SEER - 12/7 (EN14825: 2018)			
SEER	A	W/W	4,51
	E	W/W	4,45
Seasonal efficiency	A	%	177,20
	E	%	174,80
Water Regulation (1)	A,E	type	FW/VO
SEPR - (EN 14825: 2018)			
SEPR	A,E	W/W	5,60
Water Regulation (1)	A,E	type	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			0550
Fans: M			
SEER - 12/7 (EN14825: 2018)			
SEER	A	W/W	4,39
	E	W/W	4,33
Seasonal efficiency	A	%	172,60
	E	%	170,30
Water Regulation (1)	A,E	type	FW/VO
SEPR - (EN 14825: 2018)			
SEPR	A,E	W/W	5,62
Water Regulation (1)	A,E	type	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			0550
Electric data			
Maximum current (FLA)	A,E	A	95,6
Peak current (LRA)	A,E	A	280,6

GENERAL TECHNICAL DATA

Refrigerant circuit

Size			0550
Fans: M			
Compressor			
Type	A,E	type	Scroll
Compressor regulation	A,E	Type	On/Off
Number	A,E	no.	2
Circuits	A,E	no.	1
Refrigerant	A,E	type	R410A
Total refrigerant charge (1)	A,E	kg	12,50
Potential global heating (GWP)	A,E		2088
Equivalent CO_2	A,E	tCO_2eq	26,10

(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.

System side heat exchanger

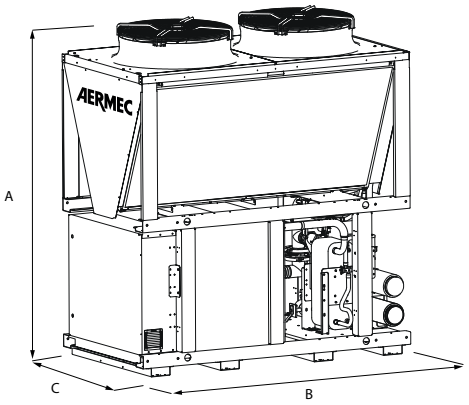
Size			0550
System side heat exchanger			
Type	A,E	type	Brazed plate
Number	A,E	no.	1
Connections (in/out)	A,E	Type	-
Sizes (in/out)	A,E	Ø	-

Sound data

Size			0550
Sound data calculated in cooling mode (1)			
Sound power level	A	dB(A)	85,0
	E	dB(A)	82,0
Sound pressure level in cooling mode (10 m)	A	dB(A)	53,0
	E	dB(A)	50,0

(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 (cold functioning) measured in free field, 10m away from the unit external surface (in compliance with UNI EN ISO 3744).

DIMENSIONS



Size			0550
Dimensions and weights			
A	A,E	mm	2.480
B	A,E	mm	2.200
C	A,E	mm	1.190
Empty weight	A,E	kg	1.105

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