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 adjustment, with keyboard and LCD display,for easy access on the unit is 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: 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.
Night Mode is standard in the unit with J inverter fan and in the E silenced version.Either a DCPX or inverter fan is necessary for the high efficiency version.

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.
GPNY_BACK: kit with 1 anti-intrusion grid for the short side of the unit.
GPNYB_SIDE: kit with 2 anti-intrusion grids for the long side of the unit.

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.

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	•
AERBACP	A,E	•
AERLINK	A,E	•
GPNYB_SIDE	A,E	•
GPNY_BACK	A,E	•
MULTICHILLER_EVO	A,E	•
PGD1	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
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CONFIGURATOR

Field	Description
1,2,3	**NRV**
4,5,6,7	**Size** 0550
8	**Operating field**
°	Standard mechanic thermostatic valve (1)
X	Electronic thermostatic expansion valve
9	**Model**
°	Cooling only
10	**Heat recovery**
°	Without heat recovery
D	With desuperheater
11	**Version**
A	High efficiency
E	Silenced high efficiency
12	**Coils**
°	Aluminium microchannel
I	Copper-aluminium
O	Coated aluminium microchannel
R	Copper pipes-copper fins
S	Copper pipes-Tinned copper fins
V	Copper pieps-Coated aluminium fins
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	62,0
EER	A	W/W	3,11
	E	W/W	2,86
Water flow rate system side	A	l/h	18646
	E	l/h	17862
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) (1)			
SEER	A	W/W	4,51
	E	W/W	4,45
Seasonal efficiency	A	%	177,20
	E	%	174,80
SEPR - (EN 14825: 2018) (2)			
SEPR	A,E	W/W	5,60

(1) Calculation performed with FIXED water flow rate and VARIABLE outlet temperature.
(2) Calculation performed with FIXED water flow rate.

Size			0550
Fans: M			
SEER - 12/7 (EN14825: 2018) (1)			
SEER	A	W/W	4,39
	E	W/W	4,33
Seasonal efficiency	A	%	172,60
	E	%	170,30
SEPR - (EN 14825: 2018) (2)			
SEPR	A,E	W/W	5,62

(1) Calculation performed with FIXED water flow rate and VARIABLE outlet temperature.
(2) Calculation performed with FIXED water flow rate.

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

Size			0550
Compressor			
Type	A,E	type	Scroll
Number	A,E	no.	2
Circuits	A,E	no.	1
Refrigerant	A,E	type	R410A
System side heat exchanger			
Type	A,E	type	Brazed plate
Number	A,E	no.	1
System side hydraulic connections			
Connections (in/out)	A,E	Type	Grooved joints
Sizes (in/out)	A,E	Ø	6"

Fan

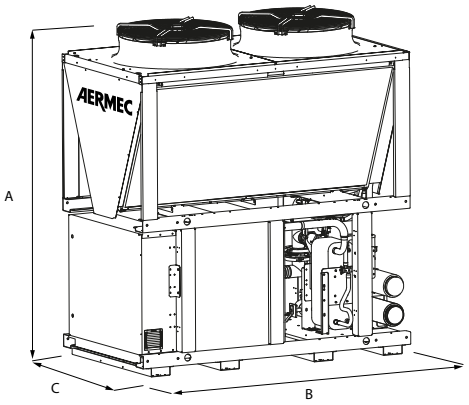
Size			0550
Fans: J			
Fan			
Type	A,E	type	axials
Fan motor	A,E	type	On-Off
Number	A,E	no.	2
Air flow rate	A	m^3/h	32000
	E	m^3/h	24000
High static pressure	A,E	Pa	0
Sound data calculated in cooling mode (1)			
Sound power level	A	dB(A)	85,0
	E	dB(A)	81,8

(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).

Size			0550
Fans: M			
Fan			
Type	A,E	type	axials
Fan motor	A,E	type	Asynchronous
Number	A,E	no.	2
Air flow rate	A	m^3/h	36000
	E	m^3/h	24000
High static pressure	A,E	Pa	0
Sound data calculated in cooling mode (1)			
Sound power level	A	dB(A)	86,9
	E	dB(A)	81,8

(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



Size			0550
Dimensions and weights			
A	A,E	mm	2480
B	A,E	mm	2200
C	A,E	mm	1190
Empty weight	A,E	kg	1105

Aermec S.p.A.
Via Roma, 996 - 37040 Bevilacqua (VR) - Italia
Tel. 0442633111 - Telefax 044293577
www.aermec.com