AERMEC

NEW

NRV

free cooling

R410A

Variable Multi Flow

VMF

Air/Water chillers for outdoor installation with free cooling
Scroll compressors, plate heat exchangers and axial fans
Cooling capacity from 108kW

- **MICRO–CHANNEL COIL**
- **EASY AND QUICK TO INSTALL COMPACT MODULE**
- **RELIABILITY AND MODULARITY**

Features

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 with high efficiency scroll compressors, axial fans, micro-channel coils, system side plate heat exchanger. In the units with desuperheater, there is also the possibility of producing hot water for free.
The base, the structure and the panels are made of galvanised steel treated with rustproof polyester paint.
With NRV, it is possible to couple up to 9 chillers designed to reduce the overall unit dimensions to a minimum. Modularity that 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.
These chillers are also equipped with a Free cooling coil and are used when the refrigerant load request persists even during the winter months, or when the outdoor air temperature is below the temperature of the return liquid from the system. In Free cooling functioning (mixed Free cooling and compressors, or Free cooling only), the fluid is cooled directly by the outdoor air, allowing even complete compressor switch-off with a significant energy saving.

Versions
NRV_FA High Efficiency
NRV_FE High Efficiency Silenced
Operating range: Work up to 46°C of outdoor air temperature at full load.

- NRV is made up of a cooling circuit.
  The careful selection of the components used, the particular configuration and the option of connecting several independent modules and manage them as if they were a single unit allows for maximum yield at full load but even partial loads, thanks to the partialisation steps that increase as the number of connected modules increases, ensuring continuous adaptation to the actual system requirements.
- The electrical panel in every unit and the management logic that allows each module to be operated in synergy with the others ensure continuity even if one or more of the modules freeze up.
  Modularity is essential when component redundancy is required, as it allows for a safer system design and increased reliability.
- **The modules are easy to install and connect to each other** from a hydraulic standpoint, **thanks to the connections with grooved joints.**
- The chiller module uses aluminium micro-channel coils, ensuring very high levels of efficiency. These coils allow less refrigerant to be used compared to traditional copper/aluminium coils.
- **NRV 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.
- Microprocessor adjustment, with keyboard and LCD display, for easy consultation and intervention on the unit via 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
- Thermoregulation takes place with the integral proportional logic, based on the water output temperature.
- **Night Mode:** it is possible to set a silenced functioning profile. Perfect for night functioning, since it guarantees greater acoustic comfort in the evenings, and a high efficiency in the time of greater load.

Accessories

- **AER485P1**: RS-485 interface for supervising systems with MODBUS protocol.
- **PGD1:** Allows you to control the chiller at a distance.
- **MULTICHILLER_PCO:** Control, switch-on and switch-off system of the individual chillers when multiple units are installed in parallel, always ensuring constant flow rate to the evaporators.
- **FB1:** Micro-channel coil protection air filter. Built with frame and a composite set in aluminium micro-stitched net with extremely low head losses.
- **GPNYB_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.

Accessories mounted in the factory;

- **DRE**: Plate peak current reduction electronic device.
- **REF**: Current power factor correction. Connected in parallel to the motor, it allows a reduction of the input current (approx. 10%).
- **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 (see documents)•

COMPATIBILITY with VMF SYSTEM
For further information on system, refer to specific documentation.

NRV	vers.	0550
AER485P1		•
PGD1		•
MULTICHILLER_PCO		•
FB1		•
GPNYB_BACK		•
GPNYB_SIDE	(1)	•

NRV	vers.	0550
Accessories mounted in the factory;		
DRE	*	•
REF	*	•
KNYB		
KREC		

* Contact the head office
(1) Kit made up of two grids

Choosing the unit

By appropriately combining the variety of options available, every model can be configured in order to meet all specific system requirements.

Field	Description
1,2,3	**NRV**
4,5,6.7	**Size**
	0550
8	**Scope of application**
	° Mechanical Thermostatic Valve (produced water up to +4?)
	X Electronic Thermostatic Valve
9	**Model**
	F Free cooling
10	**Heat recovery**
	° Without Heat Recovery
	D With Desuperheater:
11	**Version**
	A High Efficiency
	E Silenced High Efficiency
12	**Condensing Coils**
	° Aluminium micro-channel
	O Aluminium micro-channel with cataphoresis treatment
	R Copper - Copper
	S Copper - Thinned
	V Painted Aluminium Copper
13	**Fans**
	° Standard
	J Inverter
14	**Power supply**
	° 400V/3/50Hz with magnet circuit breakers
15-16	**Integrated hydronic kit**
	00 Without hydronic kit

Free Cooling Water Coils
Copper Aluminium
Copper Aluminium Painted
Copper - Copper
Copper - Thinned
Painted Aluminium Copper

Technical data

NRV - FA				0550
		V/ph/Hz		400V/3/50Hz
12°C / 7°C	Cooling capacity	(1)	kW	105.4
	Input power	(1)	kW	36.6
	EER	(1)		2.88
	Water flow rate	(1)	l/h	18104
	Head drops	(1)	kPa	31
15°C	Cooling capacity	(2)	kW	90.1
	Input power	(2)	kW	3.75
	EER	(2)		24.00
	Water flow rate	(2)	l/h	18104
	Head drops	(2)	kPa	73

NRV - FE				0550
		V/ph/Hz		400V/3/50Hz
12°C / 7°C	Cooling capacity	(1)	kW	99.9
	Input power	(1)	kW	38.2
	EER	(1)		2.61
	Water flow rate	(1)	l/h	17164
	Head drops	(1)	kPa	27
15°C	Cooling capacity	(2)	kW	75.0
	Input power	(2)	kW	2.63
	EER	(2)		28.6
	Water flow rate	(2)	l/h	17164
	Head drops	(2)	kPa	66

GENERAL DATA				0550
Electrical data				
Total input current (Chiller mode)			A	65
Total input current (Freecooling mode)		FA	A	8
		FE	A	4
Scroll Compressors				
Compressors / Circuit			n°/n°	2/1
Refrigerant gas			type	R410A
System side heat exchanger - Plates				
Heat exchanger			no.	1
Axial Fans				
Fans			no.	2
Air flow rate in cooling mode		FA	m³/h	28600
		FE	m³/h	22000
Sound data				
Sound power level	A		dB(A)	85
Sound pressure level			dB(A)	53
Sound power level	E		dB(A)	82
Sound pressure level			dB(A)	50

Data
(1) Evaporator water 12°C/7°C, Outdoor air 35°C; (2) Evaporator water 15°C; Outdoor air 2°C

Sound power Aermec determines sound power values in agreement with the Standard UNI EN ISO 9614-2, in compliance with what is requested by Eurovent certification.

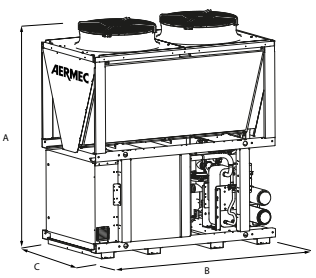
Sound pressure (cold functioning) Sound pressure measured in free field, 10 m away from the unit external surface (in compliance with UNI EN ISO 3744).

Note: For further information, refer to the selection program or to the technical documentation on www.aermec.com

Dimensions and weights

NRV			Vers.	0550
Height	(mm)	A	all	2480
Width	(mm)	B	all	2200
Depth	(mm)	C	all	1190
Weight*	(kg)		all	1389

* Weight of the Standard unit without acessoires



Aermec S.p.A.
Via Roma, 996 - 37040 Bevilacqua (VR) - Italy
Tel. +39 0442633111 - Fax +39 044293577
www.aermec.com

Code: SNRBFCUY.01 / 1609