

# NYB F

## Air-water chiller with free-cooling

Cooling capacity 28.46 ton

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



### DESCRIPTION

NYB is made up of independent 31 ton modules that can be connected to each other up to a power of 276 ton. 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

### FEATURES

#### Operating field

Operation at full load up to 114.8 °F external air temperature. Unit can produce chilled water up to 39.2 °F.

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.

**Filtre à air pour la protection des batteries à micro-canal de série. Construit avec un châssis et septum composite en grille micro-maillles en aluminium , à perte de charge très faible.**

### Components

Unit is already equipped with a 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<sub>5</sub>

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.

**Pour la modalité Night Mode, le ventilateur inverser « J » est obligatoire.**

### ACCESSORIES

**AER485P1:** RS-485 interface for supervision systems with MODBUS protocol.

**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.

**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-6-9:** Accessory kit to remote the electric power supply input to the back

**KREC-7-8:** 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

### Accessories

Model	Ver	0500
AER485P1	A	•
GPNYB_BACK	A	•
GPNYB_SIDE	A	•
MULTICHILLER_EVO	A	•
PGD1	A	•

### DRE: electronic device for peak current reduction

Ver	0500
A	DRE (1)

(1) Contact the factory

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

### RIF: Power factor correction

Ver	0500
A	RIF (1)

(1) Contact the factory

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

Ver	0500
A	KREC-6-9, KREC-7-8

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	0500
A	KNYB

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

## CONFIGURATOR

Field	Description
1,2,3	NYB
4,5,6,7	Size 0500
8	Operating field (1)
°	Standard mechanic thermostatic valve
9	Model
F	Free-cooling
10	Heat recovery
°	Without heat recovery
D	With desuperheater (2)
11	Version
A	High efficiency
12	Coils
°	Aluminium microchannel
I	Copper-aluminium
O	Coated aluminium microchannel
R	Copper pipes-copper fins
S	Copper pipes-Tinned copper fins
13	Fans
J	Inverter (3)
M	Inverter surdimensionnés
14	Power supply
6	230V ~ 3 60Hz with magnet circuit breakers
7	460V ~ 3 60Hz with magnet circuit breakers
8	575V ~ 3 60Hz with magnet circuit breakers
9	208V ~ 3 60Hz with magnet circuit breakers
15,16	Integrated hydronic kit
00	Collecteurs hydrauliques standard 90 psi nominaux (PN6)

(1) Water produced up to +39.2 °F

(2) Pendant le fonctionnement à froid, il faut toujours garantir une température de l'eau non inférieure à 95 °F à l'entrée de l'échangeur, si l'on travaille avec de basses températures d'eau produite dans le circuit primaire.

(3) Ventilateurs J de série avec l'alimentation 208V 3 ~ 60 Hz

## PERFORMANCE SPECIFICATIONS

Size	0500		
Cooling performance chiller operation (1)			
Cooling capacity	A	ton	28.5
Input power	A	kW	33.8
Cooling total input current	A	A	56.0
EER	A	BTU/(Wh)	10.09
IPLV	A	BTU/(Wh)	13.72
Water flow rate system side	A	gpm	68.1
Pressure drop system side	A	ftH <sub>2</sub> O	7.36
Cooling performances with free-cooling (2)			
Cooling capacity	A	ton	18.9
Input power	A	kW	4.5
Free cooling total input current	A	A	7.5
EER	A	BTU/(Wh)	49.92
Water flow rate system side	A	gpm	68.1
Pressure drop system side	A	ftH <sub>2</sub> O	16.06

(1) System side water heat exchanger 53.6 °F / 44.6 °F; External air 95 °F; Chiller operation 100%; Free-cooling 0%

(2) System side water heat exchanger 53.6 °F / \* °C; External air 35.6 °F

## ELECTRIC DATA

	Version	Fans	Power supply		0500
Peak current (LRA)	A	J	6	A	429.00
	A	J	7	A	222.97
	A	J	8	A	166.98
	A	J	9	A	433.81
	A	M	6	A	438.40
	A	M	7	A	227.57
	A	M	8	A	170.66
	A	M	9	A	443.00
Minimum circuit amperage (MCA)	A	J	6	A	140.48
	A	J	7	A	69.11
	A	J	8	A	61.34
	A	J	9	A	145.29
	A	M	6	A	149.88
	A	M	7	A	73.71
	A	M	8	A	65.02
	A	M	9	A	155.00
Maximum overcurrent permitted by the protection device (MOP)	A	J	6	A	175.00
	A	J	7	A	90.00
	A	J/M	8	A	80.00
	A	J	9	A	200.00
	A	M	6/9	A	200.00
	A	M	7	A	100.00

## GENERAL TECHNICAL DATA

Size	0500		
Compressor			
Type	A	type	Scroll
Number	A	no.	2
Circuits	A	no.	2
Refrigerant	A	type	R410A
Refrigerant charge	A	lbs	31
System side heat exchanger			
Type	A	type	Brazed plate
Number	A	no.	1
Connections (in/out)	A	Type	Grooved joints
Sizes (in/out)	A	Ø	6"

## Ventilateurs J

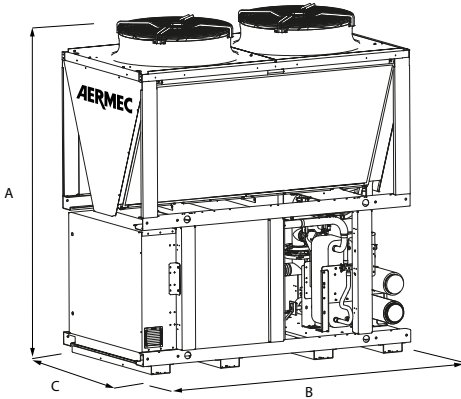
Size			0500
Fans: J			
Inverter fan			
Type	A	type	Axial
Fan motor	A	type	Inverter
Number	A	no.	2
Air flow rate	A	cfm	20,011

Sound data

Size			0500
Sound data calculated in cooling mode (1)			
Sound power level	A	dB(A)	88.4
Sound pressure level (10 m / 33 ft)	A	dB(A)	56.5

(1) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2. Sound pressure (cold functioning) measured in free field, 10 m / 33 ft away from the unit external surface (in compliance with UNI EN ISO 3744).

DIMENSIONS



Size			0500
Dimensions and weights			
A	A	in	96.5
B	A	in	86.6
C	A	in	46.9
Empty weight	A	lbs	2,672
Weight functioning	A	lbs	3,007