

NRL 0280-0350

Air-water chiller

Cooling capacity 56 ÷ 82 kW



- Low noise levels in silenced versions
- High efficiency also at partial loads
- Night mode
- Compact dimensions



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 adjustment, with keyboard and LCD display, for easy access on the unit is 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.
- **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 for standard versions is mandatory DCPX accessory (standard on all low noise versions) or "J" inverter fan

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.

AERNET: The device allows the control, the management and the remote monitoring of a Chiller with a PC, smartphone or tablet using Cloud connection. AERNET works as Master while every unit connected is configured as Slave (max. 6 unit); also, with a simple click is possible to save a log file with all the connected unit datas in the personal terminal for post analysis.

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.

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.

DCPX: Device for condensation temperature control, with continuous speed modulation of fans by using a pressure transducer.

GP: Anti-intrusion grid.

VT: Anti-vibration supports.

FACTORY FITTED ACCESSORIES

DRE: Electronic device for peak current reduction.

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 | . | . | . | . |
| AERBACP | E | . | . | . | . |
| AERLINK | E | . | . | . | . |
| AERNET | E | . | . | . | . |
| MULTICHILLER_EVO | E | . | . | . | . |
| PGD1 | E | . | . | . | . |
| SGD | E | . | . | . | . |
| Model | Ver | 0280 | 0300 | 0330 | 0350 |
| C-TOUCH | E | . | . | . | . |

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

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 |
| ° | Standard mechanic thermostatic valve (1) |
| X | Electronic thermostatic expansion valve (1) |
| Y | Low temperature mechanic thermostatic valve (2) |
| 9 | Model |
| ° | Cooling only |
| C | Motocondensing unit |
| 10 | Heat recovery |
| ° | Without heat recovery |
| D | With desuperheater (3) |
| T | With total recovery |
| 11 | Version (4) |
| E | Silenced high efficiency |
| 12 | Coils |
| ° | Copper-aluminium |
| R | Copper pipes-copper fins |
| S | Copper pipes-Tinned copper fins |
| V | Copper pipes-Coated aluminium fins |
| 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 for size 0280 ÷ 0350, without useful static pressure, option for other size with useful static pressure.
(6) Standard for size 0500, without useful static pressure, option for other size 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 | 30,0 | 34,0 | 37,0 | 45,0 |
| EER | W/W | 3,33 | 3,29 | 3,34 | 3,24 |
| Water flow rate system side | l/h | 9793 | 11168 | 12714 | 14260 |
| 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 | E kW | 59,0 | 67,0 | 76,0 | 85,0 |
| Input power | E kW | 17,0 | 19,6 | 22,0 | 25,3 |
| Input current | E A | 35,0 | 39,0 | 43,0 | 49,0 |
| EER | E 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 - 12/7 (EN14825: 2018) (1) | | | | | |
| SEER | E W/W | - (2) | - (2) | - (2) | - (2) |
| Seasonal efficiency | E % | - (2) | - (2) | - (2) | - (2) |
| SEER - 23/18 (EN14825: 2018) (3) | | | | | |
| SEER | E W/W | 4,55 | 4,70 | 4,62 | 4,47 |
| Seasonal efficiency | E % | 178,90 | 184,90 | 181,60 | 175,90 |
| SEPR - (EN 14825: 2018) (3) | | | | | |
| SEPR | E W/W | 5,81 | 5,94 | 5,85 | 5,66 |

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

(2) Not covered by standard (EN14825: 2018 for comfort applications, 12°C / 7°C)

(3) Calculation performed with FIXED water flow rate.

| Size | | | 0280 | 0300 | 0330 | 0350 |
|---|---|-----|--------|--------|--------|--------|
| Fans: M | | | | | | |
| SEER - 12/7 (EN14825: 2018) (1) | | | | | | |
| SEER | E | W/W | -(2) | -(2) | -(2) | -(2) |
| Seasonal efficiency | E | % | -(2) | -(2) | -(2) | -(2) |
| SEER - 23/18 (EN14825: 2018) (3) | | | | | | |
| SEER | E | W/W | 4,55 | 4,70 | 4,62 | 4,47 |
| Seasonal efficiency | E | % | 178,90 | 184,90 | 181,60 | 175,90 |
| SEPR - (EN 14825: 2018) (3) | | | | | | |
| SEPR | E | W/W | 5,81 | 5,94 | 5,85 | 5,66 |

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

(2) Not covered by standard (EN14825: 2018 for comfort applications, 12°C / 7°C)

(3) Calculation performed with FIXED water flow rate.

ELECTRIC DATA

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

GENERAL TECHNICAL DATA

General data

| Size | | | 0280 | 0300 | 0330 | 0350 |
|--|---|-------|----------------|------|------|------|
| Compressor | | | | | | |
| Type | E | type | Scroll | | | |
| Compressor regulation | E | Type | On-Off | | | |
| Number | E | no. | 2 | 2 | 2 | 2 |
| Circuits | E | no. | 2 | 2 | 2 | 2 |
| Refrigerant | E | type | R410A | | | |
| System side heat exchanger | | | | | | |
| Type | E | type | Braze plate | | | |
| Number | E | no. | 1 | 1 | 1 | 1 |
| System side hydraulic connections | | | | | | |
| Connections (in/out) | E | Type | Grooved joints | | | |
| Sizes (in/out) | E | Ø | 2" 1/2 | | | |
| Sound data calculated in cooling mode (1) | | | | | | |
| Sound power level | E | dB(A) | 74,0 | 74,0 | 75,0 | 76,0 |
| Sound pressure level (10 m) | E | dB(A) | 42,3 | 42,2 | 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 (cold functioning) measured in free field, 10m away from the unit external surface (in compliance with UNI EN ISO 3744).

Fans

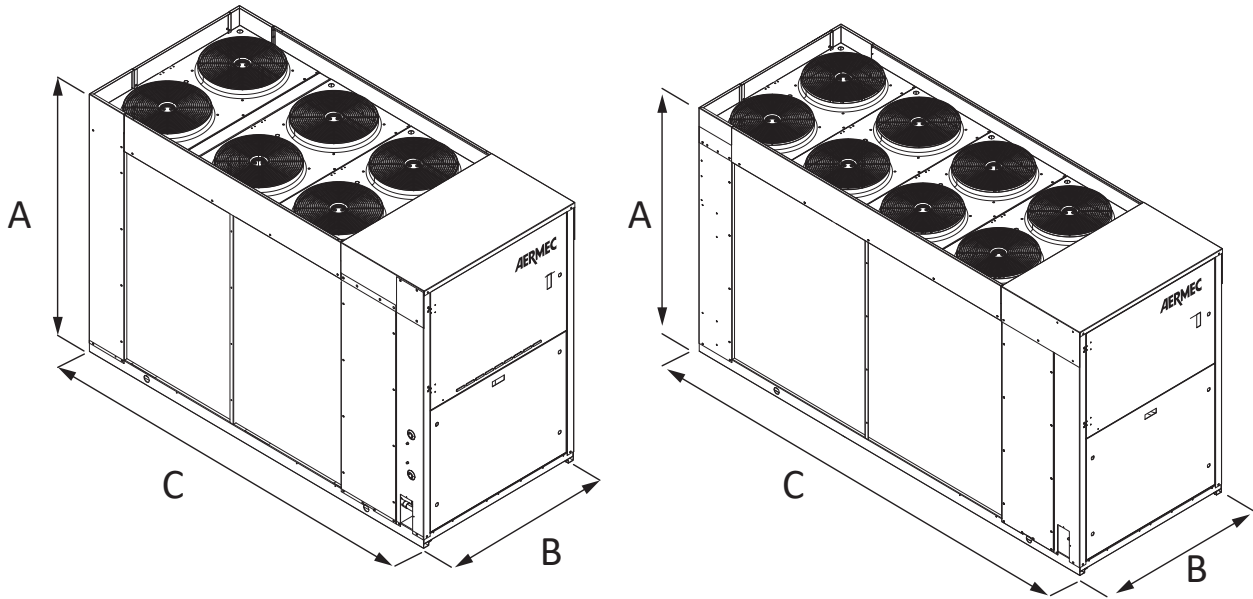
| Size | | | 0280 | 0300 | 0330 | 0350 |
|------------|---|------|-------|------|------|------|
| Fan | | | | | | |
| Type | E | type | Axial | | | |
| Number | E | no. | 6 | 6 | 8 | 8 |

| Size | | | 0280 | 0300 | 0330 | 0350 |
|--------------------------------|---|-------------------|-----------------------------|-------|-------|-------|
| Fans: M | | | | | | |
| Increased fan | | | | | | |
| Fan motor | E | type | Asynchronous with phase cut | | | |
| Without Static pressure | | | | | | |
| Air flow rate | E | m ³ /h | - | - | - | - |
| High static pressure | E | Pa | - | - | - | - |
| Sound power level | E | dB(A) | - | - | - | - |
| With static pressure | | | | | | |
| Air flow rate | E | m ³ /h | 22000 | 22000 | 27000 | 27000 |
| High static pressure | E | Pa | 50 | 50 | 50 | 50 |
| Sound power level | E | dB(A) | 74,0 | 74,0 | 75,0 | 76,0 |

| Size | | | 0280 | 0300 | 0330 | 0350 |
|--|---|-------------------|----------|-------|-------|-------|
| Fans: J | | | | | | |
| Inverter fan | | | | | | |
| Fan motor | E | type | Inverter | | | |
| Air flow rate | E | m ³ /h | 22000 | 22000 | 27000 | 27000 |
| High static pressure | E | Pa | 80 | 80 | 80 | 80 |
| Sound data calculated in cooling mode (1) | | | | | | |
| Sound power level | E | 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).

DIMENSIONS



Dimensions and weights

| Size | | | 0280 | 0300 | 0330 | 0350 |
|--|---|----|------|------|------|------|
| Dimensions and weights | | | | | | |
| A | E | mm | 1606 | 1606 | 1606 | 1606 |
| B | E | mm | 1100 | 1100 | 1100 | 1100 |
| C | E | mm | 2450 | 2950 | 2950 | 2950 |
| Dimensions and weights without hydronic kit | | | | | | |
| Empty weight | E | 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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