



NRL 0280H-0350H

Reversible air/water heat pump

Cooling capacity 51 ÷ 76 kW – Heating capacity 58 ÷ 86 kW

- High efficiency also at partial loads
- Compact dimensions
- Quick & easy installation

<image>

DESCRIPTION

Reversible outdoor heat pumps for the production of chilled/heated water designed to satisfy the needs of residential and commercial buildings, or for 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 **L** Standard silenced

FEATURES

Operating field

Working at full load up to -15° C outside air temperature in winter, and up to 46° C in summer. Hot water production up to 55° C (for more information see the technical documentation).

Dual-circuit unit

The units are 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.

Option 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.

 Floating HP control: the function can be activated with inverter fans or with DCPX which allows unit operation to be optimised at any operating point through continuous modulation of the fan speed. In addition, the use of inverter fans ensures an increase in energy efficiency at partial loads.

ACCESSORIES

AER485P1: RS-485 interface for supervising systems with MODBUS protocol. 1 accessory is provided for each unit control board.

AERBACP: Ethernet communication interface for Bacnet/IP, Modbus TCP/IP, SNMP 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 platforms, the remote management of the air conditioning systems developed by Aermec becomes intuitive and simple.

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 control boards). 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.

BMConverter: The BMConverter accessory consists of the FPC-N54 network device which allows units that communicate via the Modbus RTU protocol on RS485, to be controlled by a third-party BMS system via the BACNet TCP-IP protocol.

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.

PR4: Remote panel with LCD display and touch keyboard that allows carrying out the basic controls, the programming of time ranges and the signalling of the alarms of a single unit.

The accessory PR4 should only be combined with the RS485 communication interface when the serial port is occupied by another device.

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.

ACCESSORIES COMPATIBILITY

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.

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 COM | | | | | |
|---|---|------------------------------|-------------------------------------|------------|------------|
| Model | Ver | 0280 | 0300 | 0330 | 0350 |
| AER485P1 | E,L | • | • | • | • |
| AERBACP | E,L | • | • | • | • |
| AERLINK | E,L | • | • | • | • |
| AERNET | E,L | • | • | • | • |
| BMConverter | E,L | • | • | • | • |
| MULTICHILLER-EVO | E,L | • | • | • | • |
| PGD1 | E,L | • | • | • | • |
| SGD | E,L | • | • | • | |
| Model | Ver | 0280 | 0300 | 0330 | 0350 |
| C-TOUCH | E,L | • | • | • | • |
| Remote panel | | | | | |
| Model | Ver | 0280 | 0300 | 0330 | 0350 |
| PR4 | E,L | • | • | • | • |
| The accessory PR4 should only be co | ombined with the RS485 communication | n interface when the serial | port is occupied by another device. | | |
| Condensation control to | emperature | | | | |
| Ver | 0280 | | 0300 | 0330 | 0350 |
| Fans: M | | | | | |
| E, L | DCPX63 | | DCPX63 | DCPX63 | DCPX63 |
| Antivibration | | | | | |
| Ver | 0280 | | 0300 | 0330 | 0350 |
| Integrated hydronic kit: 00, P1, I | P2, P3, P4 | | | | |
| | VT17 | | VT17 | VT17 | VT17 |
| Integrated hydronic kit: 01, 02, 0 | 03, 04, 05, 06, 07, 08, 09 | | | | |
| E, L | VT13 | | VT13 | VT13 | VT13 |
| Anti-intrusion grid | | | | | |
| Ver | 0280 | | 0300 | 0330 | 0350 |
| E | GP3 | | GP4 | GP4 | GP4 |
| L | GP3 | | GP3 | GP3 | GP3 |
| Model | Ver | 0280 | 0300 | 0330 | 0350 |
| C-TOUCH | E,L | • | • | • | • |
| Device for peak current | reduction | | | | |
| Ver | 0280 | | 0300 | 0330 | 0350 |
| E, L | DRE281 (1) | | DRE301 (1) | DRE331 (1) | DRE351 (1) |
| (1) Only for supplies of 400V 3N ~ 5 A grey background indicates the acc | 50Hz and 400V 3 ~ 50Hz. x 2 or x 3 (if p ressory must be assembled in the factor | resent) indicates the quanti | ty to be ordered. | | |
| Power factor correction | 1 | | | | |
| Ver | 0280 | | 0300 | 0330 | 0350 |
| E I | BIESO | | BIE50 | RIE50 | RIF51 |

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

CONFIGURATOR

| Fiel | d | Description |
|------|-----|--|
| 1,2, | 3 | NRL |
| 4,5, | 6,7 | Size 0280, 0300, 0330, 0350 |
| 8 | | Operating field |
| | Х | Electronic thermostatic expansion valve |
| | 0 | Standard mechanic thermostatic valve |
| 9 | | Model |
| | Η | Heat pump |
| 10 | | Heat recovery |
| | D | With desuperheater (1) |
| | 0 | Without heat recovery |
| 11 | | Version |
| | Ε | Silenced high efficiency |
| | L | Standard silenced |
| 12 | | Coils |
| | R | Copper pipes-copper fins |
| | S | Copper pipes-Tinned copper fins |
| | ٧ | Copper pieps-Coated aluminium fins |
| | 0 | Copper-aluminium |
| 13 | | Fans |
| | J | Inverter (2) |
| | М | Oversized |
| 14 | | Power supply |
| | 0 | 400V ~ 3 50Hz with magnet circuit breakers |
| 15,1 | 16 | Integrated 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 (3) |
| 06 | Storage tank with holes for heaters and pump low head + stand-by pump (3) |
| 07 | Storage tank with holes for heaters and single high head pump (3) |
| 08 | Storage tank with holes for heaters and pump high head + stand-by pump (3) |
| | Double loop |
| 09 | Double loop |
| 10 | Double loop with holes for heaters |
| | 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) The des | uperheater must be intercepted in heating mode. In cooling mode, a water temperature no lowe |

(1) The designment must be intercepted in fleading mode, a water temperature in lower than 35° C must always be guaranteed on the heat exchanger inlet. (2) Standard for size 0280 \div 0350, without useful static pressure, option for other size with useful static

(2) Januar to be 2020 + 0530, without useful static pressure, option for other size with useful static pressure.
(3) 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

| | - | - | | - | - | - | 1 |
|----|---|---|---|----|---|---|---|
| | | | | | | | |
| NI | D | | ш | | | | |
| IN | п | L | п | ь. | | | |

| Size | | 0280 | 0300 | 0330 | 0350 |
|---------------------------------------|-----|-------|-------|-------|-------|
| Cooling performance 12 °C / 7 °C (1) | | | | | |
| Cooling capacity | kW | 50,8 | 60,8 | 65,9 | 72,8 |
| Input power | kW | 20,4 | 22,8 | 26,4 | 31,4 |
| Cooling total input current | А | 36,0 | 40,0 | 44,0 | 51,0 |
| EER | W/W | 2,49 | 2,67 | 2,49 | 2,32 |
| Water flow rate system side | l/h | 8762 | 10480 | 11340 | 12542 |
| Pressure drop system side | kPa | 47 | 43 | 29 | 45 |
| Heating performance 40 °C / 45 °C (2) | | | | | |
| Heating capacity | kW | 58,2 | 68,2 | 75,2 | 82,3 |
| Input power | kW | 19,0 | 21,7 | 24,6 | 28,3 |
| Heating total input current | Α | 33,0 | 38,0 | 41,0 | 50,0 |
| СОР | W/W | 3,06 | 3,14 | 3,05 | 2,91 |
| Water flow rate system side | l/h | 10080 | 11818 | 13035 | 14252 |
| Pressure drop system side | kPa | 61 | 54 | 36 | 56 |

(1) Data EN 14511:2022; Heat exchanger water (services side) 12°C / 7°C; outside air 35°C (2) Data EN 14511:2022; System side water heat exchanger 40 °C / 45 °C; Outside air 7 °C d.b. / 6 °C w.b.

NRL HE

| Size | | 0280 | 0300 | 0330 | 0350 |
|---------------------------------------|-----|-------|-------|-------|-------|
| Cooling performance 12 °C / 7 °C (1) | | | | | |
| Cooling capacity | kW | 52,9 | 61,9 | 68,8 | 76,8 |
| Input power | kW | 18,1 | 20,2 | 23,4 | 26,9 |
| Cooling total input current | A | 30,0 | 34,0 | 37,0 | 45,0 |
| EER | W/W | 2,93 | 3,06 | 2,94 | 2,86 |
| Water flow rate system side | l/h | 9106 | 10652 | 11855 | 13229 |
| Pressure drop system side | kPa | 27 | 27 | 51 | 29 |
| Heating performance 40 °C / 45 °C (2) | | | | | |
| Heating capacity | kW | 59,1 | 69,2 | 76,3 | 86,2 |
| Input power | kW | 17,5 | 20,6 | 23,1 | 26,1 |
| Heating total input current | A | 35,0 | 39,0 | 43,0 | 49,0 |
| СОР | W/W | 3,38 | 3,36 | 3,31 | 3,30 |
| Water flow rate system side | l/h | 10254 | 11992 | 13209 | 14947 |
| Pressure drop system side | kPa | 25 | 34 | 66 | 34 |

(1) Data EN 14511:2022; Heat exchanger water (services side) 12°C / 7°C; outside air 35°C
(2) Data EN 14511:2022; System side water heat exchanger 40 °C / 45 °C; Outside air 3° C d.b. / 6 °C w.b.

ELECTRIC DATA

| Size | | | 0280 | 0300 | 0330 | 0350 |
|------------------------|---|---|-------|-------|-------|-------|
| Electric data | | | | | | |
| Mauinauna aumant (ELA) | E | A | 46,0 | 53,0 | 58,0 | 63,0 |
| Maximum current (FLA) | L | Α | 46,0 | 53,0 | 53,0 | 63,0 |
| Deale surrent (LDA) | E | А | 155,0 | 184,0 | 190,0 | 200,0 |
| | L | A | 155,0 | 184,0 | 184,0 | 200,0 |

ENERGY DATA

| Size | | | 0280 | 0300 | 0330 | 0350 |
|--|--------------------|------------------------------|---------------|--------|--------|--------|
| Cooling capacity with low leaving wate | r temp (UE n° 2016 | /2281) | | | | |
| CEED | E | W/W | 3,74 | 3,71 | 3,80 | 3,71 |
| SEER | L | W/W | 2,96 | 3,19 | 3,01 | 3,28 |
| ης | E | % | 146,50 | 145,20 | 148,90 | 145,30 |
| ŋsc | L | % | 115,30 | 124,40 | 117,30 | 128,30 |
| UE 811/2013 performance in average a | mbient conditions | (average) - 35 °C - Pdesignl | h ≤ 70 kW (1) | | | |
| Efficiency energy class | E,L | | A+ | A+ | A+ | - |
| Pdesignh | E,L | kW | - | - | - | - |
| n-h | E | % | 138,00 | 137,00 | 137,00 | 135,00 |
| nsn | L | % | 125,00 | 128,00 | 125,00 | 125,00 |
| scop | E | W/W | 3,53 | 3,50 | 3,50 | 3,45 |
| SCOR | L | W/W | 3,20 | 3,28 | 3,20 | 3,20 |

(1) Efficiencies for low temperature applications (35 °C)

GENERAL TECHNICAL DATA

| Size | | | 0280 | 0300 | 0330 | 0350 | | |
|---------------------------------------|-----|-------|----------------|-------|-------|-------|--|--|
| Compressor | | | | | | | | |
| Туре | E,L | type | | Sc | roll | | | |
| Compressor regulation | E,L | Туре | | On | -Off | | | |
| Number | E,L | no. | 2 | 2 | 2 | 2 | | |
| Circuits | E,L | no. | 2 | 2 | 2 | 2 | | |
| Refrigerant | E,L | type | | R4 | 10A | | | |
| System side heat exchanger | | | | | | | | |
| Туре | E,L | type | Brazed plate | | | | | |
| Number | E,L | no. | 1 | 1 | 1 | 1 | | |
| System side hydraulic connections | | | | | | | | |
| Connections (in/out) | E,L | Туре | Grooved joints | | | | | |
| Sizes (in/out) | E,L | ø | | 2″ | 1/2 | | | |
| Fan | | | | | | | | |
| Туре | E,L | type | | ах | ials | | | |
| Number | E | no. | 6 | 8 | 8 | 8 | | |
| Nulliber | L | no. | 4 | 6 | 6 | 6 | | |
| Air flow roto | E | m³/h | 20000 | 26000 | 26000 | 26000 | | |
| All HOW Tale | L | m³/h | 14000 | 20000 | 20000 | 20000 | | |
| Sound data calculated in cooling mode | (1) | | | | | | | |
| Cound a output lough | E | dB(A) | 74,0 | 75,0 | 75,0 | 76,0 | | |
| Sound power level | L | dB(A) | 73,0 | 74,0 | 74,0 | 75,0 | | |
| Sound processo lovel (10 m) | E | dB(A) | 42,3 | 43,2 | 43,2 | 44,2 | | |
| Souriu pressure rever (10 m) | L | dB(A) | 41,3 | 42,3 | 42,3 | 43,3 | | |

(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 | | | 0280 | 0300 | 0330 | 0350 |
|------------------------|-----|----|------|------|------|------|
| Dimensions and weights | | | | | | |
| A | E,L | mm | 1606 | 1606 | 1606 | 1606 |
| В | E,L | mm | 1100 | 1100 | 1100 | 1100 |
| (| E | mm | - | 2950 | 2950 | 2950 |
| | L | mm | 2450 | 2450 | 2450 | 2450 |
| Weights | | | | | | |
| Without hydronic kit | E | kg | 730 | 795 | 805 | 811 |
| | L | kg | 713 | 724 | 731 | 740 |

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