

# NRGI 151H-602H

## Reversible air/water heat pump

Cooling capacity 28.9 ÷ 123.7 kW – Heating capacity 31.6 ÷ 133.9 kW

- High efficiency also at partial loads
- High modulation capacity
- Continuous modulation of the cooling capacity
- Compressors and fans with Inverter
- Low refrigerant charge
- Stable temperature control of the outlet water



### 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.

**These are outdoor units with streamlined scroll compressors used with R32 gas.**

Condensing coil with copper pipes and aluminium louvers, plate heat exchanger and **standard electronic expansion valve**.

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

Working at full load up to -15 °C outside air temperature in winter, and up to 49 °C in summer. Hot water production up to 60 °C

For more information refer to the selection program and to the dedicated documentation.

#### High efficiency

These are flexible and reliable units which adapt to the most diverse load conditions thanks to the precise design and **the use of steady speed compressors together with inverter-controlled variable speed compressors** guaranteeing a high energy efficiency level both at full and partial load.

#### Inverter compressor + On-Off

They can be configured with a single variable speed compressor or two in tandem configuration, one steady and one variable speed. This pair guarantees high efficiency both with partial and full loads.

**Sizes 151-281 have a single variable speed compressor. Sizes 302-602 have two compressors in tandem configuration.**

This solution gets the best value out of the particularities and advantages of each compressor, enhancing the efficiency of each load condition and allowing for

- High seasonal efficiency
- steady and precise modulation of the chilling demand

- The stability of the outlet water temperature.

#### Refrigerant HFC R32

The environmental impact of the units is reduced considerably owing to the last generation R32 refrigerant.

Combining a reduced refrigerant load with a low global warming potential (GWP), these units boast low equivalent CO<sub>2</sub> values.

- *The leak detector is supplied as per standard.*

#### New condensing Coils

**The whole range uses copper - aluminium condensation coils with reduced diameter rows**, allowing a lower quantity of gas to be used compared to traditional coils.

#### Electronic expansion valve

**Single-compressor units have a standard electronic expansion valve, while units with tandem compressors have two.**

The possibility to use electronic expansion valve, offers significant benefits, especially when the chiller is working with partial loads, increasing the energy seasonal efficiency of the unit.

#### Inverter fans

All of the units are equipped as per standard with high-efficiency inverter-controlled axial fans which provide:

- Steady air flow rate adjustment
- Low consumption and reduced sound level at partial loads
- Operation with low outdoor air temperatures
- Precise condensation control for an extended operating range.

#### Option integrated hydronic kit

An optional, integrated hydronic kit containing the main hydraulic components, to obtain a solution that allows you to save money and to facilitate installation.

**It is available in different configurations with storage tank or with fixed or variable pumps also inverter.**

- *VARIABLE FLOW RATE: Correctly adjust the speed of the inverter-controlled pumps according to the load demand of the system, in order to reduce power consumption.*

## CONTROL PCO<sup>5</sup>

Microprocessor control, with keyboard and LCD display, for easy access on the unit with 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.
- **Swing HP and LP controls:** available for all models. By continuously modulating the fans, they streamline operation of the unit at any work point both in cooling and heating mode. This results in enhanced energy efficiency of the unit at partial loads.
- **Night mode:** only in the **non-silenced** versions is it possible to set a silenced operating mode, which is useful for example at night for greater acoustic comfort but always guarantees performance even at peak load times.

## INTEGRATED SOLUTION

The **"integrated solution" concept has been implemented in the system architecture**, consisting in an integrated and streamlined control of compressors and electronic valves.

This solution allowed a variety of new features to be introduced, such as:

- **Low Superheat Control:** Progressive superheating reduction in conditions of stability. This allows to increase energy performance: both in modulation and in full load conditions;
- **DLT control:** Control of electronic valves at discharge temperature in certain operating conditions. This is demonstrated in an enhanced reliability of the control and a considerable expansion of the machine's operating range, especially in heating mode.

## ACCESSORIES

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

**AERBAC-ONE:** Ethernet communication interface for Bacnet/IP and Modbus TCP/IP protocols, HTTPS protocol for web interface, encrypted communication protocols and access credential management in accordance with the latest standards. One accessory is provided for each unit control board.

**AERBACP:** Ethernet communication interface for Bacnet/IP and Modbus TCP/IP protocols. 1 accessory is provided for each unit control board.

**AERNET:** The device remotely controls, manages and remotely monitors a chiller/heat pump using a PC, smartphone or tablet via a Cloud connection. AERNET acts as Master while each connected unit is configured as Slave up to a maximum of 6 control cards. The connection is made via cable and/or USB key. Wi-Fi connectivity is not available. It is also possible to save a log file with all the data from the connected units to your terminal with a simple click for possible post-analysis. With the purchase of the Router, the Customer benefits from a 24-month free period during which he can use the Aernet Service at no additional cost. At the end of this initial period, the Service may be renewed by subscribing to a 1, 2 or 3 year subscription. For further details on costs and renewal methods, please contact our office or consult the technical documentation available on our website. [www.aermec.com](http://www.aermec.com).

**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.*

**GP:** Anti-intrusion grid.

**VT:** Anti-vibration supports.

## FACTORY FITTED ACCESSORIES

**DRE:** Electronic device for peak current reduction.

**T6:** Double safety valve with exchange cock, both on the high and low pressure branches.

**RXBAS:** Electric heating element mounted on the perforated base near the battery.

## ACCESSORIES COMPATIBILITY

| Model            | Ver | 151 | 201 | 281 | 302 | 332 | 352 | 382 | 502 | 552 | 602 |
|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AER485P1         | A,E | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
| AERBAC-ONE       | A,E | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
| AERBACP          | A,E | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
| AERNET           | A,E | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
| MULTICHILLER-EVO | A,E | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
| PGD1             | A,E | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
| SGD              | A,E | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |

### Remote panel

| Model | Ver | 151 | 201 | 281 | 302 | 332 | 352 | 382 | 502 | 552 | 602 |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| PR4   | A,E | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |

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

### Antivibration

| Ver                                                                                                | 151  | 201  | 281  | 302  | 332  | 352  | 382  | 502  | 552  | 602  |
|----------------------------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| <b>Integrated hydronic kit: 00, I1, I2, I3, I4, P1, P2, P3, P4</b>                                 |      |      |      |      |      |      |      |      |      |      |
| A, E                                                                                               | VT17 | VT13 | VT13 | VT13 | VT13 | VT13 | VT11 | VT11 | VT11 | VT22 |
| <b>Integrated hydronic kit: 01, 02, 03, 04, 05, 06, 07, 08, 09, K1, K2, K3, K4, W1, W2, W3, W4</b> |      |      |      |      |      |      |      |      |      |      |
| A, E                                                                                               | VT13 | VT13 | VT13 | VT13 | VT13 | VT13 | VT11 | VT11 | VT11 | VT22 |

### Anti-intrusion grid

| Ver  | 151 | 201 | 281 | 302 | 332 | 352 | 382         | 502         | 552         | 602         |
|------|-----|-----|-----|-----|-----|-----|-------------|-------------|-------------|-------------|
| A, E | GP3 | GP4 | GP4 | GP4 | GP4 | GP4 | GP2 x 2 (1) | GP2 x 2 (1) | GP2 x 2 (1) | GP2 x 3 (1) |

(1) x \_ indicates the quantity to buy

### Device for peak current reduction

| Ver  | 151 | 201 | 281 | 302        | 332        | 352        | 382        | 502        | 552        | 602        |
|------|-----|-----|-----|------------|------------|------------|------------|------------|------------|------------|
| A, E | -   | -   | -   | DRENRG1302 | DRENRG1332 | DRENRG1352 | DRENRG1382 | DRENRG1502 | DRENRG1552 | DRENRG1602 |

The accessory cannot be fitted on the configurations indicated with -

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

### Double safety valves

| Ver  | 151    | 201    | 281    | 302    | 332    | 352    | 382    | 502    | 552    | 602    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| A, E | T6NRG1 | T6NRG1 | T6NRG1 | T6NRG1 | T6NRG1 | T6NRG1 | T6NRG1 | T6NRG1 | T6NRG1 | T6NRG1 |

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

## Heating electrical resistance

| Ver  | 151    | 201    | 281    | 302    | 332    | 352    | 382    | 502    | 552    | 602    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| A, E | RXBAS5 | RXBAS6 | RXBAS6 | RXBAS6 | RXBAS6 | RXBAS6 | RXBAS7 | RXBAS7 | RXBAS7 | RXBAS8 |

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

## CONFIGURATOR

| Field          | Description                                                     |
|----------------|-----------------------------------------------------------------|
| <b>1,2,3,4</b> | <b>NRGI</b>                                                     |
| <b>5,6,7</b>   | <b>Size</b><br>151, 201, 281, 302, 332, 352, 382, 502, 552, 602 |
| <b>8</b>       | <b>Operating field (1)</b>                                      |
| X              | Electronic thermostatic expansion valve                         |
| <b>9</b>       | <b>Model</b>                                                    |
| H              | Heat pump                                                       |
| <b>10</b>      | <b>Heat recovery</b>                                            |
| D              | With desuperheater (2)                                          |
| °              | Without heat recovery                                           |
| <b>11</b>      | <b>Version</b>                                                  |
| A              | High efficiency                                                 |
| E              | Silenced high efficiency                                        |
| <b>12</b>      | <b>Coils</b>                                                    |
| R              | Copper pipes-copper fins                                        |
| V              | Copper pieps-Coated aluminium fins                              |
| °              | Copper-aluminium                                                |
| <b>13</b>      | <b>Fans</b>                                                     |
| J              | Inverter                                                        |
| °              | Standard with phase cut                                         |
| <b>14</b>      | <b>Power supply</b>                                             |
| °              | 400V ~ 3N 50Hz with magnet circuit breakers                     |
| <b>15,16</b>   | <b>Integrated hydronic kit</b>                                  |
|                | <b>Without hydronic kit</b>                                     |
| 00             | Without hydronic kit                                            |
|                | <b>Kit with storage tank and pump/s</b>                         |
| 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                |
|                | <b>Kit with pump/s and storage tank with holes for heaters</b>  |

| Field | Description                                                                |
|-------|----------------------------------------------------------------------------|
| 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) |
|       | <b>Double loop</b>                                                         |
| 09    | Double loop                                                                |
|       | <b>Kit with pump/s</b>                                                     |
| P1    | Single pump low head                                                       |
| P2    | Pump low head + stand-by pump                                              |
| P3    | Single pump high head                                                      |
| P4    | Pump high head + stand-by pump                                             |
|       | <b>Kit with inverter pump/s to fixed speed</b>                             |
| I1    | Single low head pump + fixed speed inverter                                |
| I2    | Single low head pump with fixed speed inverter + stand-by pump             |
| I3    | Single high head pump + fixed speed inverter                               |
| I4    | Single high head pump with fixed speed inverter + stand-by pump            |
|       | <b>Kit with storage tank and inverter pump/s to fixed speed</b>            |
| K1    | Single low head pump + storage tank + fixed speed inverter                 |
| K2    | Storage tank and low head pump with fixed speed inverter + stand-by pump   |
| K3    | Single high head pump + storage tank + fixed speed inverter                |
| K4    | Storage tank and low head pump with fixed speed inverter + stand-by pump   |
|       | <b>Kit with storage tank and variable speed inverter pump/s</b>            |
| W1    | Single low head pump + Storage tank + variable speed inverter              |
| W2    | Double low head pump + Storage tank + variable speed inverter              |
| W3    | Single high head pump + Storage tank + variable speed inverter             |
| W4    | Double high head pump + Storage tank + variable speed inverter             |

(1) Water produced from -10 °C ÷ 20 °C. Double electronic thermostatic valve from size 302 to 602.

(2) The desuperheater must be intercepted in heating mode. In cooling mode, a water temperature no lower than 35°C must always be guaranteed on the heat exchanger inlet.

(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

### NRGI - HA

| Size                                         |     | 151   | 201   | 281    | 302    | 332    | 352    | 382    | 502    | 552    | 602    |
|----------------------------------------------|-----|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Fans: J, °</b>                            |     |       |       |        |        |        |        |        |        |        |        |
| <b>Cooling performance 12 °C / 7 °C (1)</b>  |     |       |       |        |        |        |        |        |        |        |        |
| Cooling capacity                             | kW  | 36,5  | 48,9  | 54,2   | 64,1   | 72,1   | 77,3   | 87,0   | 95,7   | 106,0  | 123,7  |
| Input power                                  | kW  | 12,1  | 15,6  | 18,1   | 21,5   | 23,9   | 26,3   | 28,4   | 32,3   | 36,1   | 39,1   |
| Cooling total input current                  | A   | 18,30 | 24,10 | 27,00  | 38,20  | 42,10  | 47,00  | 43,80  | 50,70  | 54,70  | 60,10  |
| EER                                          | W/W | 3,00  | 3,13  | 3,00   | 2,98   | 3,02   | 2,94   | 3,06   | 2,96   | 2,93   | 3,16   |
| Water flow rate system side                  | l/h | 6.280 | 8.416 | 9.328  | 11.028 | 12.414 | 13.315 | 14.969 | 16.471 | 18.246 | 21.290 |
| Pressure drop system side                    | kPa | 15    | 28    | 34     | 28     | 35     | 41     | 19     | 18     | 23     | 25     |
| <b>Heating performance 40 °C / 45 °C (2)</b> |     |       |       |        |        |        |        |        |        |        |        |
| Heating capacity                             | kW  | 39,6  | 53,4  | 59,0   | 69,9   | 78,1   | 84,1   | 94,7   | 104,8  | 115,7  | 133,9  |
| Input power                                  | kW  | 11,6  | 15,4  | 17,3   | 20,3   | 23,0   | 24,9   | 29,4   | 32,2   | 34,6   | 40,6   |
| Heating total input current                  | A   | 18,10 | 24,40 | 26,80  | 37,50  | 41,90  | 46,30  | 46,40  | 52,10  | 54,00  | 64,20  |
| COP                                          | W/W | 3,42  | 3,46  | 3,42   | 3,45   | 3,40   | 3,37   | 3,22   | 3,25   | 3,34   | 3,30   |
| Water flow rate system side                  | l/h | 6.869 | 9.260 | 10.228 | 12.113 | 13.544 | 14.563 | 16.431 | 18.188 | 20.074 | 23.220 |
| Pressure drop system side                    | kPa | 18    | 33    | 40     | 34     | 42     | 49     | 23     | 22     | 27     | 29     |

(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.

## NRGI - HE

| Size                                         |     | 151   | 201   | 281   | 302    | 332    | 352    | 382    | 502    | 552    | 602    |
|----------------------------------------------|-----|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| <b>Fans: J, °</b>                            |     |       |       |       |        |        |        |        |        |        |        |
| <b>Cooling performance 12 °C / 7 °C (1)</b>  |     |       |       |       |        |        |        |        |        |        |        |
| Cooling capacity                             | kW  | 28,9  | 37,0  | 42,6  | 56,7   | 64,9   | 70,1   | 78,8   | 84,0   | 94,0   | 111,3  |
| Input power                                  | kW  | 9,1   | 11,4  | 13,5  | 18,4   | 20,8   | 23,2   | 25,3   | 27,6   | 31,6   | 34,1   |
| Cooling total input current                  | A   | 13,50 | 17,40 | 19,90 | 32,70  | 36,50  | 41,30  | 39,50  | 44,40  | 48,50  | 53,30  |
| EER                                          | W/W | 3,17  | 3,25  | 3,15  | 3,07   | 3,12   | 3,03   | 3,12   | 3,04   | 2,97   | 3,26   |
| Water flow rate system side                  | l/h | 4.974 | 6.363 | 7.326 | 9.764  | 11.165 | 12.069 | 13.554 | 14.451 | 16.179 | 19.152 |
| Pressure drop system side                    | kPa | 10    | 16    | 21    | 22     | 29     | 33     | 16     | 14     | 18     | 20     |
| <b>Heating performance 40 °C / 45 °C (2)</b> |     |       |       |       |        |        |        |        |        |        |        |
| Heating capacity                             | kW  | 31,6  | 41,2  | 47,5  | 62,3   | 70,4   | 76,5   | 87,0   | 93,3   | 104,4  | 122,0  |
| Input power                                  | kW  | 9,1   | 11,8  | 13,6  | 18,0   | 20,3   | 22,2   | 27,0   | 28,5   | 31,2   | 36,8   |
| Heating total input current                  | A   | 14,70 | 19,80 | 22,10 | 34,60  | 38,30  | 42,70  | 43,20  | 47,20  | 49,60  | 59,30  |
| COP                                          | W/W | 3,49  | 3,49  | 3,49  | 3,47   | 3,47   | 3,44   | 3,23   | 3,27   | 3,35   | 3,32   |
| Water flow rate system side                  | l/h | 5.484 | 7.151 | 8.247 | 10.814 | 12.215 | 13.253 | 15.103 | 16.186 | 18.126 | 21.177 |
| Pressure drop system side                    | kPa | 12    | 20    | 26    | 27     | 34     | 40     | 20     | 18     | 22     | 24     |

(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.

## ENERGY DATA

| Size                                                                   |        | 151    | 201    | 281    | 302    | 332    | 352    | 382 | 502 | 552 | 602 |
|------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|-----|-----|-----|-----|
| <b>Fans: J</b>                                                         |        |        |        |        |        |        |        |     |     |     |     |
| <b>Performance in average ambient conditions (average) - 35 °C (1)</b> |        |        |        |        |        |        |        |     |     |     |     |
| Efficiency energy class                                                | A      | A++    | A++    | A++    | A++    | A++    | -      | -   | -   | -   | -   |
|                                                                        | E      | A++    | A++    | A++    | A++    | A++    | A++    | -   | -   | -   | -   |
| SCOP                                                                   | A W/W  | 4,25   | 4,33   | 4,25   | 4,40   | 4,29   | -      | -   | -   | -   | -   |
|                                                                        | E W/W  | 4,28   | 4,35   | 4,28   | 4,43   | 4,33   | 4,38   | -   | -   | -   | -   |
| ηsh                                                                    | A %    | 167,00 | 170,00 | 167,10 | 173,00 | 168,40 | -      | -   | -   | -   | -   |
|                                                                        | E %    | 168,00 | 171,00 | 168,00 | 174,00 | 170,00 | 172,00 | -   | -   | -   | -   |
| Water Regulation (2)                                                   | A type | FW/VO  | FW/VO  | FW/VO  | FW/VO  | FW/VO  | -      | -   | -   | -   | -   |
|                                                                        | E type | FW/VO  | FW/VO  | FW/VO  | FW/VO  | FW/VO  | FW/VO  | -   | -   | -   | -   |

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

(2) VW/VO - variable water flow rate/variable outlet temperature; FW/VO - fixed water flow rate/variable outlet temperature; VW/FO - variable water flow rate/fixed outlet temperature; FW/FO - fixed water flow rate/fixed outlet temperature.

| Size                                                                   |        | 151    | 201    | 281    | 302    | 332    | 352    | 382 | 502 | 552 | 602 |
|------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|-----|-----|-----|-----|
| <b>Fans: °</b>                                                         |        |        |        |        |        |        |        |     |     |     |     |
| <b>Performance in average ambient conditions (average) - 35 °C (1)</b> |        |        |        |        |        |        |        |     |     |     |     |
| Efficiency energy class                                                | A      | A++    | A++    | A++    | A++    | A++    | -      | -   | -   | -   | -   |
|                                                                        | E      | A++    | A++    | A++    | A++    | A++    | A++    | -   | -   | -   | -   |
| SCOP                                                                   | A W/W  | 4,10   | 4,20   | 4,13   | 4,28   | 4,15   | -      | -   | -   | -   | -   |
|                                                                        | E W/W  | 4,15   | 4,20   | 4,15   | 4,30   | 4,18   | 4,25   | -   | -   | -   | -   |
| ηsh                                                                    | A %    | 161,00 | 165,00 | 162,00 | 168,00 | 163,00 | -      | -   | -   | -   | -   |
|                                                                        | E %    | 163,00 | 165,00 | 163,00 | 169,00 | 164,00 | 167,00 | -   | -   | -   | -   |
| Water Regulation (2)                                                   | A type | FW/VO  | FW/VO  | FW/VO  | FW/VO  | FW/VO  | -      | -   | -   | -   | -   |
|                                                                        | E type | FW/VO  | FW/VO  | FW/VO  | FW/VO  | FW/VO  | FW/VO  | -   | -   | -   | -   |

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

(2) VW/VO - variable water flow rate/variable outlet temperature; FW/VO - fixed water flow rate/variable outlet temperature; VW/FO - variable water flow rate/fixed outlet temperature; FW/FO - fixed water flow rate/fixed outlet temperature.

| Size                               |          | 151    | 201    | 281    | 302    | 332    | 352    | 382    | 502    | 552    | 602    |
|------------------------------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Fans: J</b>                     |          |        |        |        |        |        |        |        |        |        |        |
| <b>SEER - 12/7 (EN14825: 2018)</b> |          |        |        |        |        |        |        |        |        |        |        |
| SEER                               | A W/W    | 4,67   | 4,96   | 4,89   | 4,62   | 4,74   | 4,68   | 4,79   | 4,84   | 4,90   | 5,09   |
|                                    | E W/W    | 4,71   | 5,00   | 4,93   | 4,66   | 4,80   | 4,70   | 4,80   | 4,90   | 4,94   | 5,13   |
| Seasonal efficiency                | A %      | 183,90 | 195,27 | 192,49 | 181,84 | 186,68 | 184,20 | 188,75 | 190,52 | 192,91 | 200,54 |
|                                    | E %      | 185,40 | 196,86 | 194,06 | 183,31 | 188,19 | 185,69 | 190,29 | 192,07 | 194,48 | 202,17 |
| Water Regulation (1)               | A,E type | FW/VO  |        |        |        |        |        |        |        |        |        |

(1) VW/VO - variable water flow rate/variable outlet temperature; FW/VO - fixed water flow rate/variable outlet temperature; VW/FO - variable water flow rate/fixed outlet temperature; FW/FO - fixed water flow rate/fixed outlet temperature.

| Size                               |          | 151    | 201    | 281    | 302    | 332    | 352    | 382    | 502    | 552    | 602    |
|------------------------------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Fans: °</b>                     |          |        |        |        |        |        |        |        |        |        |        |
| <b>SEER - 12/7 (EN14825: 2018)</b> |          |        |        |        |        |        |        |        |        |        |        |
| SEER                               | A W/W    | 4,49   | 4,76   | 4,69   | 4,44   | 4,60   | 4,50   | 4,60   | 4,60   | 4,70   | 4,88   |
|                                    | E W/W    | 4,52   | 4,80   | 4,73   | 4,47   | 4,60   | 4,50   | 4,60   | 4,70   | 4,74   | 4,92   |
| Seasonal efficiency                | A %      | 176,43 | 187,34 | 184,67 | 174,44 | 179,09 | 176,71 | 181,08 | 182,78 | 185,08 | 192,40 |
|                                    | E %      | 177,80 | 188,86 | 186,17 | 175,86 | 180,55 | 178,15 | 182,56 | 184,26 | 186,58 | 193,96 |
| Water Regulation (1)               | A,E type | FW/VO  |        |        |        |        |        |        |        |        |        |

(1) VW/VO - variable water flow rate/variable outlet temperature; FW/VO - fixed water flow rate/variable outlet temperature; VW/FO - variable water flow rate/fixed outlet temperature; FW/FO - fixed water flow rate/fixed outlet temperature.

## ELECTRIC DATA

| Size                  |     |   | 151  | 201  | 281  | 302   | 332   | 352   | 382   | 502   | 552   | 602   |
|-----------------------|-----|---|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| <b>Electric data</b>  |     |   |      |      |      |       |       |       |       |       |       |       |
| Maximum current (FLA) | A,E | A | 23,8 | 31,6 | 34,9 | 47,6  | 52,8  | 58,1  | 60,1  | 68,8  | 74,4  | 87,5  |
| Peak current (LRA)    | A   | A | 30,3 | 43,0 | 43,0 | 142,8 | 167,1 | 201,1 | 174,4 | 211,8 | 278,6 | 329,2 |
|                       | E   | A | 30,3 | 43,0 | 43,0 | 136,2 | 160,5 | 194,5 | 166,6 | 204,0 | 270,8 | 317,5 |

Data calculated without hydronic kit and accessories.

## GENERAL TECHNICAL DATA

### Refrigerant circuit

| Size                           |     |                     | 151      | 201      | 281      | 302  | 332  | 352  | 382   | 502   | 552   | 602   |
|--------------------------------|-----|---------------------|----------|----------|----------|------|------|------|-------|-------|-------|-------|
| <b>Fans: J, °</b>              |     |                     |          |          |          |      |      |      |       |       |       |       |
| <b>Compressor</b>              |     |                     |          |          |          |      |      |      |       |       |       |       |
| Type                           | A,E | type                | Scroll   |          |          |      |      |      |       |       |       |       |
| Compressor regulation          | A,E | Type                | Inverter | Inverter | Inverter | I+1  | I+1  | I+1  | I+1   | I+1   | I+1   | I+1   |
| Number                         | A,E | no.                 | 1        | 1        | 1        | 2    | 2    | 2    | 2     | 2     | 2     | 2     |
| Circuits                       | A,E | no.                 | 1        | 1        | 1        | 1    | 1    | 1    | 1     | 1     | 1     | 1     |
| Refrigerant                    | A,E | type                | R32      |          |          |      |      |      |       |       |       |       |
| Total refrigerant charge (1)   | A,E | kg                  | 6,30     | 6,80     | 6,90     | 8,70 | 9,20 | 9,20 | 11,00 | 11,00 | 13,80 | 18,50 |
| Potential global heating (GWP) | A,E |                     | 675      |          |          |      |      |      |       |       |       |       |
| Equivalent CO <sub>2</sub>     | A,E | tCO <sub>2</sub> eq | 4,25     | 4,59     | 4,66     | 5,87 | 6,21 | 6,21 | 7,43  | 7,43  | 9,32  | 12,49 |

(1) The load indicated in the table is an estimated and preliminary value. The final value of the refrigerant load is indicated on the unit's technical label. For further information contact the office.

### System side heat exchanger

| Size                              |     |      | 151            | 201    | 281    | 302    | 332    | 352    | 382    | 502    | 552    | 602    |
|-----------------------------------|-----|------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>System side heat exchanger</b> |     |      |                |        |        |        |        |        |        |        |        |        |
| Type                              | A,E | type | Braze plate    |        |        |        |        |        |        |        |        |        |
| Number                            | A,E | no.  | 1              | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      |
| Connections (in/out)              | A,E | Type | Grooved joints |        |        |        |        |        |        |        |        |        |
| Sizes (in/out)                    | A,E | Ø    | 1" 1/2         | 1" 1/2 | 1" 1/2 | 1" 1/2 | 1" 1/2 | 1" 1/2 | 2" 1/2 | 2" 1/2 | 2" 1/2 | 2" 1/2 |

## Fans

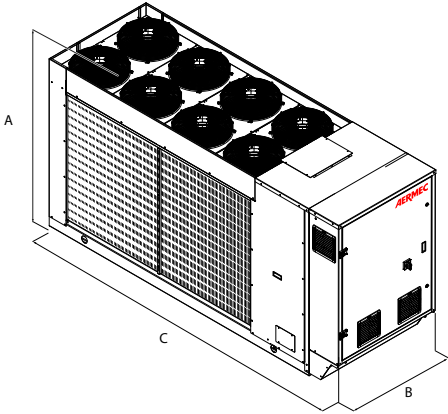
| Size           |     |                   | 151                         | 201    | 281    | 302    | 332    | 352    | 382    | 502    | 552    | 602    |
|----------------|-----|-------------------|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Fans: J</b> |     |                   |                             |        |        |        |        |        |        |        |        |        |
| <b>Fan</b>     |     |                   |                             |        |        |        |        |        |        |        |        |        |
| Type           | A,E | type              | Axial                       |        |        |        |        |        |        |        |        |        |
| Fan motor      | A,E | type              | Inverter                    |        |        |        |        |        |        |        |        |        |
| Number         | A,E | no.               | 4                           | 6      | 6      | 8      | 8      | 8      | 2      | 2      | 2      | 3      |
| Air flow rate  | A   | m <sup>3</sup> /h | 16.896                      | 24.887 | 24.891 | 31.613 | 29.660 | 29.659 | 36.859 | 36.859 | 36.859 | 55.733 |
|                | E   | m <sup>3</sup> /h | 14.667                      | 21.591 | 21.591 | 27.379 | 25.774 | 25.774 | 27.308 | 27.308 | 27.307 | 41.430 |
| <b>Fans: °</b> |     |                   |                             |        |        |        |        |        |        |        |        |        |
| <b>Fan</b>     |     |                   |                             |        |        |        |        |        |        |        |        |        |
| Type           | A,E | type              | Axial                       |        |        |        |        |        |        |        |        |        |
| Fan motor      | A,E | type              | Asynchronous with phase cut |        |        |        |        |        |        |        |        |        |
| Number         | A,E | no.               | 4                           | 6      | 6      | 8      | 8      | 8      | 2      | 2      | 2      | 3      |
| Air flow rate  | A   | m <sup>3</sup> /h | 16.896                      | 24.887 | 24.891 | 31.613 | 29.660 | 29.659 | 36.859 | 36.859 | 36.859 | 55.733 |
|                | E   | m <sup>3</sup> /h | 14.667                      | 21.591 | 21.591 | 27.379 | 25.774 | 25.774 | 27.308 | 27.308 | 27.307 | 41.430 |

## Sound data

| Size                                             |   |       | 151  | 201  | 281  | 302  | 332  | 352  | 382  | 502  | 552  | 602  |
|--------------------------------------------------|---|-------|------|------|------|------|------|------|------|------|------|------|
| <b>Sound data calculated in cooling mode (1)</b> |   |       |      |      |      |      |      |      |      |      |      |      |
| Sound power level                                | A | dB(A) | 81,8 | 84,6 | 86,0 | 82,2 | 85,0 | 85,1 | 85,4 | 86,5 | 87,8 | 88,1 |
|                                                  | E | dB(A) | 79,3 | 82,8 | 83,3 | 80,9 | 81,3 | 81,7 | 82,8 | 83,0 | 85,4 | 85,6 |

(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                        |     |    | 151   | 201   | 281   | 302   | 332   | 352   | 382   | 502   | 552   | 602   |
|-----------------------------|-----|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Dimensions and weights      |     |    |       |       |       |       |       |       |       |       |       |       |
| A                           | A,E | mm | 1.652 | 1.652 | 1.652 | 1.652 | 1.652 | 1.652 | 1.907 | 1.907 | 1.907 | 1.900 |
| B                           | A,E | mm | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 |
| C                           | A,E | mm | 2.873 | 3.372 | 3.372 | 3.372 | 3.372 | 3.372 | 3.623 | 3.623 | 3.623 | 4.373 |
| Size                        |     |    | 151   | 201   | 281   | 302   | 332   | 352   | 382   | 502   | 552   | 602   |
| Integrated hydronic kit: 00 |     |    |       |       |       |       |       |       |       |       |       |       |
| Weights                     |     |    |       |       |       |       |       |       |       |       |       |       |
| Weight empty + packaging    | A,E | kg | 856   | 929   | 929   | 1.019 | 1.063 | 1.064 | 1.131 | 1.137 | 1.159 | 1.365 |
| Weight functioning          | A,E | kg | 825   | 897   | 897   | 988   | 1.032 | 1.033 | 1.099 | 1.108 | 1.130 | 1.336 |

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