

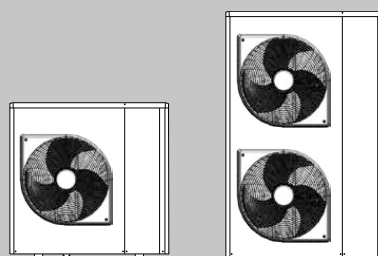
## Heat Pump



# NXHP 004-014

Monobloc air-water heat pumps

High efficiency inverter heat pump in R290



**RIELLO**  
Energy For Life

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## PRODUCT DESCRIPTION

NXHP is a high energy efficient residential hydronic heat pump for heating, cooling and possible production of domestic hot water for domestic use.

The unit is suitable for low to medium temperature applications, and up to high temperature applications.

The unit operates on natural refrigerant R290 ensuring not only low Global Warming Potential (GWP100=0,02) and CO<sub>2</sub> emission, but also powerful performance with high energy efficiency at all times.

NXHP is also equipped with new Blue-Fin exchange coils, a special hydrophilic and anti-corrosion treatment, which improves the flow of condensation on the fins thus reducing the risk of freezing on the coil.

NXHP is available in 8 different models with heating capacity from 4.0 to 13.8 kW.

- High water heating temperature up to +75°C, ensure more usable hot water and helps to avoid the need for direct electric immersion to sterilize the water protecting from legionella.
- HP Keymark certified performance.
- High COP and EER.
- Low noise operation.
- DC-Inverter technology with Twin-Rotary compressor which modulates the power necessary to perfectly match the real needed load.
- They can be connected to low-temperature radiators, underfloor radiant elements and fan coil type units.
- Easy and quick installation.
- Controller WUI is included which is able to manage completely heating/ cooling/ domestic hot water system.
- The controller WUI can manage up to 4 units in cascade system (1 primary & 3 secondaries).
- Anti-freeze program protects the entire system especially the hydraulic parts from damage in very cold ambient air temperature.
- Included gas separator kit to be installed externally in the leaving water pipe prevents any gas leaks inside the house

# HEAT PUMP

Heat pump air to water

## TECHNICAL DATA

### NXHP 004-014

| Model                                 |           | NXHP                |          |          |          |          |          |
|---------------------------------------|-----------|---------------------|----------|----------|----------|----------|----------|
|                                       |           | 004                 | 006      | 008      | 010      | 012      | 014      |
| <b>PERFORMANCE DATA IN HEATING</b>    |           |                     |          |          |          |          |          |
| Performance in heating (A7°C; W35°C)  |           |                     |          |          |          |          |          |
| Nominal capacity                      | kW        | 3,95                | 5,80     | 7,60     | 9,60     | 11,40    | 13,80    |
| Power consumption                     | kW        | 0,81                | 1,18     | 1,58     | 2,21     | 2,51     | 3,21     |
| COP                                   |           | 4,90                | 4,90     | 4,80     | 4,35     | 4,55     | 4,30     |
| SCOP (temperate zone)                 |           | 4,70                | 4,82     | 4,72     | 4,69     | 4,48     | 4,48     |
| Seasonal energy efficiency            | %         | 185                 | 190      | 185      | 185      | 176      | 176      |
| Energy class                          | D → A+++* | A+++                | A+++     | A+++     | A+++     | A+++     | A+++     |
| Performance in heating (A7°C; W45°C)  |           |                     |          |          |          |          |          |
| Nominal capacity                      | kW        | 3,85                | 5,50     | 7,80     | 9,50     | 10,80    | 13,60    |
| Power consumption                     | kW        | 1,05                | 1,51     | 2,08     | 2,68     | 2,96     | 4,00     |
| COP                                   |           | 3,65                | 3,65     | 3,75     | 3,55     | 3,65     | 3,40     |
| Performance in heating (A7°C; W55°C)  |           |                     |          |          |          |          |          |
| Nominal capacity                      | kW        | 3,75                | 5,25     | 7,55     | 9,40     | 10,95    | 13,25    |
| Power consumption                     | kW        | 1,27                | 1,78     | 2,40     | 3,19     | 3,53     | 4,57     |
| COP                                   |           | 2,95                | 2,95     | 3,15     | 2,95     | 3,10     | 2,90     |
| SCOP (Temperate zone)                 |           | 3,34                | 3,34     | 3,6      | 3,34     | 3,67     | 3,67     |
| Seasonal energy efficiency            | %         | 131                 | 131      | 141      | 131      | 144      | 144      |
| Energy class                          | D → A+++* | A++                 | A++      | A++      | A++      | A++      | A++      |
| <b>PERFORMANCE DATA IN COOLING</b>    |           |                     |          |          |          |          |          |
| Performance in cooling (A35°C; W7°C)  |           |                     |          |          |          |          |          |
| Nominal capacity                      | kW        | 3,35                | 4,60     | 6,50     | 7,40     | 9,70     | 10,70    |
| Power consumption                     | kW        | 1,06                | 1,46     | 2,13     | 2,55     | 3,18     | 3,63     |
| EER                                   |           | 3,15                | 3,15     | 3,05     | 2,90     | 3,05     | 2,95     |
| SEER                                  |           | 4,93                | 5,34     | 5,27     | 5,14     | 5,33     | 5,16     |
| Seasonal energy efficiency            | %         | 194                 | 211      | 208      | 203      | 210      | 203      |
| Performance in cooling (A35°C; W18°C) |           |                     |          |          |          |          |          |
| Nominal capacity                      | kW        | 4,00                | 6,15     | 8,00     | 8,90     | 12,00    | 14,50    |
| Power consumption                     | kW        | 0,96                | 1,58     | 2,00     | 2,41     | 2,79     | 3,92     |
| EER                                   |           | 4,15                | 3,90     | 4,00     | 3,70     | 4,30     | 3,70     |
| <b>ELECTRICAL CHARACTERISTICS</b>     |           |                     |          |          |          |          |          |
| Power supply                          | V/ph/Hz   | 230/1/50            | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 |
| Total maximum input power             | (1) kW    | 3,50                | 4,40     | 5,00     | 6,40     | 7,10     | 7,10     |
| Total maximum input current           | (2) A     | 15,10               | 19,20    | 21,60    | 27,90    | 30,80    | 30,80    |
| <b>COMPRESSOR</b>                     |           |                     |          |          |          |          |          |
| Compressor                            | Type      | Rotary              |          |          |          |          |          |
| Adjustment                            | Type      | Inverter modulating |          |          |          |          |          |
| Minimum capacity control              | %         | 40%                 | 32%      | 34%      | 27%      | 25%      | 21%      |
| Refrigerant                           | Type      | R290                | R290     | R290     | R290     | R290     | R290     |
| GWP100                                |           | 0,02                | 0,02     | 0,02     | 0,02     | 0,02     | 0,02     |
| Refrigerant charge                    | kg        | 0,39                | 0,58     | 0,76     | 0,76     | 1,07     | 1,07     |
| CO2 equivalent                        | t         | 0,000008            | 0,000012 | 0,000015 | 0,000015 | 0,000021 | 0,000021 |
| Number of circuits                    | n.        | 1                   | 1        | 1        | 1        | 1        | 1        |
| Hermetically sealed control box       | yes/no    | yes                 | yes      | yes      | yes      | yes      | yes      |
| <b>FAN</b>                            |           |                     |          |          |          |          |          |
| Fan                                   | Type      | Axial               |          |          |          |          |          |
| Quantity                              | n.        | 1                   | 1        | 1        | 1        | 2        | 2        |
| Maximum air flow rate                 | m³/h      | 2880                | 2880     | 2880     | 2880     | 6480     | 6480     |
| Residual head                         | KPa       | -                   | -        | -        | -        | -        | -        |

| Model                                       |  |           | NXHP                                           |           |           |           |       |       |
|---------------------------------------------|--|-----------|------------------------------------------------|-----------|-----------|-----------|-------|-------|
|                                             |  |           | 004                                            | 006       | 008       | 010       | 012   | 014   |
| HEAT EXCHANGER SOURCE SIDE                  |  |           |                                                |           |           |           |       |       |
| Heat exchanger source side                  |  | Type      | Pipes in copper. fins in hydrophilic aluminium |           |           |           |       |       |
| CIRCULATION PUMP                            |  |           |                                                |           |           |           |       |       |
| Circulation pump                            |  | Type/set  | Variable speed centrifuge                      |           |           |           |       |       |
| Nominal delivery                            |  | m3/h      | 0,68                                           | 1,00      | 1,31      | 1,66      | 1,97  | 2,38  |
| Useful head at nominal flow rate            |  | Kpa       | 83                                             | 82        | 70        | 57        | 100   | 82    |
| Maximum input power                         |  | W         | 75                                             | 75        | 75        | 75        | 140   | 140   |
| Minimum input power                         |  | W         | 2                                              | 2         | 2         | 2         | 3     | 3     |
| Safety valve calibration pressure           |  | bar       | 3                                              | 3         | 3         | 3         | 3     | 3     |
| Expansion tank volume                       |  | (3) l     | -                                              | -         | -         | -         | -     | -     |
| HEAT EXCHANGER (SYSTEM SIDE)                |  |           |                                                |           |           |           |       |       |
| Heat exchanger system side                  |  | Type      | Plate                                          |           |           |           |       |       |
| Water capacity                              |  | l         | 0,6                                            | 0,9       | 0,9       | 0,9       | 1,5   | 1,5   |
| SOUND DATA                                  |  |           |                                                |           |           |           |       |       |
| Sound output A7/W55                         |  | (4) dB(A) | 49                                             | 50        | 52        | 51        | 54    | 54    |
| Sound pressure at 5m / 1m conditions A7/W55 |  | (5) dB(A) | 23,5/37,5                                      | 24,5/38,5 | 25,5/39,5 | 25,5/39,5 | 28/42 | 28/42 |
| WEIGHT                                      |  |           |                                                |           |           |           |       |       |
| Net weight                                  |  | kg        | 78                                             | 84        | 91        | 93        | 126   | 126   |

Performance is in accordance with EN 14511 and EN 14825.

\* The range of energy efficiency class of this products category is between D and A+++

(1) Power input, compressors, and fans, at unit operating limits and nominal voltage (data on unit nameplate)

(2) Maximum operating current of the unit at maximum power consumption of the unit at nominal voltage (values on unit nameplate)

(3) Component not supplied with the product

(4) In dB ref=10-12 W, weighting (A). Sound emission values declared, in accordance with standard EN 12102-1 at ErP conditions (with an associated uncertainty of +/-2dB(A)). Measurement according to ISO 9614-1 and HP Keymark certification.

(5) In dB ref 20 µPa, weighting (A). Sound emission values declared, in accordance with standard EN 12102-1 at ErP conditions (with an associated uncertainty of +/-2dB(A)).

Values provided for information, calculated from the sound power level Lw(A)

# HEAT PUMP

Heat pump air to water

## NXHP 012T-014T

| Model                                 |           | NXHP                |          |
|---------------------------------------|-----------|---------------------|----------|
|                                       |           | 012T                | 014T     |
| <b>PERFORMANCE DATA IN HEATING</b>    |           |                     |          |
| Performance in heating (A7°C; W35°C)  |           |                     |          |
| Nominal capacity                      | kW        | 11,40               | 13,80    |
| Power consumption                     | kW        | 2,45                | 3,14     |
| COP                                   |           | 4,65                | 4,40     |
| SCOP (Temperate zone)                 |           | 4,48                | 4,48     |
| Seasonal energy efficiency            | %         | 176                 | 176      |
| Energy class                          | D → A+++* | A+++                | A+++     |
| Performance in heating (A7°C; W45°C)  |           |                     |          |
| Nominal capacity                      | kW        | 10,80               | 13,60    |
| Power consumption                     | kW        | 2,88                | 3,89     |
| COP                                   |           | 3,75                | 3,50     |
| Performance in heating (A7°C; W55°C)  |           |                     |          |
| Nominal capacity                      | kW        | 10,95               | 13,25    |
| Power consumption                     | kW        | 3,48                | 4,49     |
| COP                                   |           | 3,15                | 2,95     |
| SCOP (Temperate zone)                 |           | 3,67                | 3,67     |
| Seasonal energy efficiency            | %         | 144                 | 144      |
| Energy class                          | D → A+++* | A++                 | A++      |
| <b>PERFORMANCE DATA IN COOLING</b>    |           |                     |          |
| Performance in cooling (A35°C; W7°C)  |           |                     |          |
| Nominal capacity                      | kW        | 9,70                | 10,70    |
| Power consumption                     | kW        | 3,13                | 3,57     |
| EER                                   |           | 3,10                | 3,00     |
| SEER                                  |           | 5,33                | 5,16     |
| Seasonal energy efficiency            | %         | 210                 | 203      |
| Performance in cooling (A35°C; W18°C) |           |                     |          |
| Nominal capacity                      | kW        | 12,00               | 14,50    |
| Power consumption                     | kW        | 2,76                | 3,87     |
| EER                                   |           | 4,35                | 3,75     |
| <b>ELECTRICAL CHARACTERISTICS</b>     |           |                     |          |
| Power supply                          | V/ph/Hz   | 400/3/50            | 400/3/50 |
| Total maximum input power             | (1) kW    | 10,50               | 10,50    |
| Total maximum input current           | (2) A     | 16,10               | 16,10    |
| <b>COMPRESSOR</b>                     |           |                     |          |
| Compressor                            | Type      | Rotary              |          |
| Adjustment                            | Type      | Inverter modulating |          |
| Minimum capacity control              | %         | 25%                 | 21%      |
| Refrigerant                           | Type      | R290                | R290     |
| GWP100                                |           | 0,02                | 0,02     |
| Refrigerant charge                    | kg        | 1,07                | 1,07     |
| CO2 equivalent                        | t         | 0,000021            | 0,000021 |
| Number of circuits                    | n.        | 1                   | 1        |
| Hermetically sealed control box       | yes/no    | yes                 | yes      |
| <b>FAN</b>                            |           |                     |          |
| Fan                                   | Type      | Axial               |          |
| Quantity                              | n.        | 2                   | 2        |
| Maximum air flow rate                 | m³/h      | 6480                | 6480     |
| Residual head                         | kPa       | -                   | -        |

| Model                                       |     |          | NXHP                                           |       |
|---------------------------------------------|-----|----------|------------------------------------------------|-------|
|                                             |     |          | 012T                                           | 014T  |
| HEAT EXCHANGER SOURCE SIDE                  |     |          |                                                |       |
| HEAT EXCHANGER SOURCE SIDE                  |     | Type     | Pipes in copper. fins in hydrophilic aluminium |       |
| CIRCULATION PUMP                            |     |          |                                                |       |
| Circulation pump                            |     | Type/set | Variable speed centrifuge                      |       |
| Nominal delivery                            |     | m³/h     | 1,97                                           | 2,38  |
| Useful head at nominal flow rate            |     | kPa      | 100                                            | 82    |
| Maximum input power                         |     | W        | 140                                            | 140   |
| Minimum input power                         |     | W        | 3                                              | 3     |
| Safety valve calibration pressure           |     | bar      | 3                                              | 3     |
| Expansion tank volume                       | (3) | l        | -                                              | -     |
| HEAT EXCHANGER (SYSTEM SIDE)                |     |          |                                                |       |
| Heat exchanger system side                  |     | Type     | Plate                                          |       |
| Water capacity                              |     | l        | 1,5                                            | 1,5   |
| SOUND DATA                                  |     |          |                                                |       |
| Sound output A7/W55                         | (4) | dB(A)    | 54                                             | 54    |
| Sound pressure aT 5m / 1m conditions A7/W55 | (5) | dB(A)    | 28/42                                          | 28/42 |
| WEIGHT                                      |     |          |                                                |       |
| Net weight                                  |     | kg       | 128                                            | 128   |

Performance is in accordance with EN 14511 and EN 14825.

\* The range of energy efficiency class of this products category is between D and A+++

(1) Power input, compressors, and fans, at unit operating limits and nominal voltage (data on unit nameplate)

(2) Maximum operating current of the unit at maximum power consumption of the unit at nominal voltage (values on unit nameplate)

(3) Component not supplied with the product

(4) In dB ref=10-12 W, weighting (A). Sound emission values declared, in accordance with standard EN 12102-1 at ErP conditions (with an associated uncertainty of +/-2dB(A)). Measurement according to ISO 9614-1 and HP Keymark certification.

(5) In dB ref 20 µPa, weighting (A). Sound emission values declared, in accordance with standard EN 12102-1 at ErP conditions (with an associated uncertainty of +/-2dB(A)). Values provided for information, calculated from the sound power level Lw(A)

## HEAT PUMP

Heat pump air to water

### TECHNICAL DATA ERP

#### NXHP 004-014

| DESCRIPTION                                                    | NXHP      |      |      |      |      |       |       |
|----------------------------------------------------------------|-----------|------|------|------|------|-------|-------|
|                                                                | UM        | 004  | 006  | 008  | 010  | 012   | 014   |
| Temperate zone - Low temperature (30/35°C) EU reg. 811_2013    |           |      |      |      |      |       |       |
| Seasonal energy efficiency                                     | %         | 185  | 190  | 185  | 185  | 176   | 176   |
| SCOP                                                           |           | 4,70 | 4,82 | 4,72 | 4,69 | 4,48  | 4,48  |
| Prated                                                         | kW        | 3,80 | 4,88 | 6,97 | 6,43 | 10,19 | 10,19 |
| Annual energy consumption                                      | kWh/year  | 1666 | 2092 | 3057 | 2829 | 4696  | 4696  |
| Energy class                                                   | D → A+++* | A+++ | A+++ | A+++ | A+++ | A+++  | A+++  |
| Sound output                                                   | dB(A)     | 49   | 50   | 52   | 51   | 54    | 54    |
| Temperate zone - Medium temperature (47/55°C) Reg. UE 811_2013 |           |      |      |      |      |       |       |
| Seasonal energy efficiency                                     | %         | 131  | 131  | 141  | 131  | 144   | 144   |
| SCOP                                                           |           | 3,34 | 3,34 | 3,6  | 3,34 | 3,67  | 3,67  |
| Prated                                                         | kW        | 3,46 | 4,87 | 7,16 | 6,45 | 9,73  | 9,73  |
| Annual energy consumption                                      | kWh/year  | 2138 | 4110 | 3989 | 3989 | 5486  | 5486  |
| Energy class                                                   | D → A+++* | A++  | A++  | A++  | A++  | A++   | A++   |

The performance values comply with Standards: EN 14511 - EN 14825

\* The range of energy efficiency class of this products category is between D and A+++

| DESCRIPTION                                                    |           | NXHP  |       |
|----------------------------------------------------------------|-----------|-------|-------|
|                                                                |           | 012T  | 014T  |
| Temperate zone – Low temperature (30/35°C) EU reg. 811_2013    |           |       |       |
| Seasonal energy efficiency                                     | %         | 176   | 176   |
| SCoP                                                           |           | 4,48  | 4,48  |
| Prated                                                         | kW        | 10,19 | 10,19 |
| Annual energy consumption                                      | kWh/year  | 4696  | 4696  |
| Energy class                                                   | D → A++** | A+++  | A+++  |
| Sound output                                                   | dB(A)     | 54    | 54    |
| Temperate zone – Medium temperature (47/55°C) Reg. UE 811_2013 |           |       |       |
| Seasonal energy efficiency                                     | %         | 144   | 144   |
| SCoP                                                           |           | 3,67  | 3,67  |
| Prated                                                         | kW        | 9,73  | 9,73  |
| Annual energy consumption                                      | kWh/year  | 5486  | 5486  |
| Energy class                                                   | D → A++** | A++   | A++   |

The performance values comply with Standards: EN 14511 – EN 14825

\* The range of energy efficiency class of this products category is between D and A+++

## HEAT PUMP

Heat pump air to water

### PERFORMANCE VALUES IN ACCORDANCE WITH STANDARDS EN 14511 AND EN 14825

#### NXHP 004

|                               |                     |                     |                  |                  |                      |
|-------------------------------|---------------------|---------------------|------------------|------------------|----------------------|
| <b>HEATING</b>                |                     |                     |                  |                  |                      |
| Performance with full load    |                     |                     |                  |                  |                      |
| CH flow temperature           | 35°C                |                     | 45°C             |                  | 55°C                 |
| Outdoor temperature           | Nominal capacity    | COP                 | Nominal capacity | COP              | Nominal capacity COP |
| -7                            | 3,35                | 2,75                | 3,11             | 2,17             | 3,05 1,85            |
| 2                             | 3,75                | 3,70                | 3,49             | 2,91             | 3,55 2,40            |
| 7                             | 3,95                | 4,90                | 3,85             | 3,65             | 3,75 2,95            |
| 12                            | 4,09                | 5,47                | 3,98             | 4,09             | 3,78 3,14            |
| 15                            | 4,16                | 6,06                | 3,98             | 4,42             | 3,83 3,34            |
| 20                            | 4,27                | 7,06                | 3,98             | 4,98             | 3,90 3,68            |
| 35                            |                     |                     |                  |                  | 4,32 4,11            |
| Performance with partial load |                     |                     |                  |                  |                      |
| Tbival (-7°C)                 | A                   | B                   | C                | D                |                      |
| Outdoor temperature           | -7                  | 2                   | 7                | 12               |                      |
| PLR - Climate load factor     | 0,88                | 0,54                | 0,35             | 0,15             |                      |
| DC - Output with full load    | 3,35                | 3,75                | 3,95             | 4,09             |                      |
| COP with full load            | 2,75                | 3,70                | 4,90             | 5,47             |                      |
| COP with partial load         | 2,80                | 3,85                | 4,94             | 4,27             |                      |
| CR - Load factor              | 1,00                | 0,55                | 0,34             | 0,14             |                      |
| f COP - Corrective factor     | 1,00                | 1,04                | 1,01             | 0,78             |                      |
| <b>COOLING</b>                |                     |                     |                  |                  |                      |
|                               | Climate load factor | Outdoor temperature | EER              | Nominal capacity |                      |
| EER1                          | 100%                | 35                  | 3,15             | 3,35             |                      |
| EER2                          | 75%                 | 30                  | 4,30             | 2,47             |                      |
| EER3                          | 50%                 | 25                  | 6,09             | 1,59             |                      |
| EER4                          | 25%                 | 20                  | 7,98             | 1,71             |                      |

#### Heating

The performance values comply with Standards EN 14511 and EN 14825.

The performance values with a part load refer to a water delivery temperature of 35°C.

#### Cooling

The performance values comply with Standards EN 14825.

**NXHP 006**

|                               |                     |                     |                  |                  |                  |      |
|-------------------------------|---------------------|---------------------|------------------|------------------|------------------|------|
| HEATING                       |                     |                     |                  |                  |                  |      |
| Performance with full load    |                     |                     |                  |                  |                  |      |
| CH flow temperature           | 35°C                |                     | 45°C             |                  | 55°C             |      |
| Outdoor temperature           | Nominal capacity    | COP                 | Nominal capacity | COP              | Nominal capacity | COP  |
| -7                            | 4,15                | 2,71                | 4,02             | 2,49             | 4,00             | 1,90 |
| 2                             | 4,65                | 3,70                | 4,58             | 3,14             | 4,45             | 2,45 |
| 7                             | 5,80                | 4,90                | 5,50             | 3,65             | 5,25             | 2,95 |
| 12                            | 5,99                | 5,49                | 5,66             | 4,09             | 5,55             | 3,22 |
| 15                            | 6,12                | 6,10                | 5,83             | 4,49             | 5,78             | 3,46 |
| 20                            | 6,35                | 7,12                | 6,10             | 5,16             | 6,16             | 3,86 |
| 35                            |                     |                     |                  |                  | 6,46             | 4,45 |
| Performance with partial load |                     |                     |                  |                  |                  |      |
| Tbival (-7°C)                 | A                   | B                   | C                | D                |                  |      |
| Outdoor temperature           | -7                  | 2                   | 7                | 12               |                  |      |
| PLR - Climate load factor     | 0,88                | 0,54                | 0,35             | 0,15             |                  |      |
| DC - Output with full load    | 4,15                | 4,65                | 5,80             | 5,99             |                  |      |
| COP with full load            | 2,71                | 3,70                | 4,90             | 5,49             |                  |      |
| COP with partial load         | 2,71                | 3,96                | 5,13             | 4,36             |                  |      |
| CR - Load factor              | 1,00                | 0,57                | 0,29             | 0,12             |                  |      |
| f COP - Corrective factor     | 1,00                | 1,07                | 1,05             | 0,79             |                  |      |
|                               |                     |                     |                  |                  |                  |      |
| COOLING                       |                     |                     |                  |                  |                  |      |
|                               | Climate load factor | Outdoor temperature | EER              | Nominal capacity |                  |      |
| EER1                          | 100%                | 35                  | 3,15             | 4,60             |                  |      |
| EER2                          | 75%                 | 30                  | 4,60             | 3,39             |                  |      |
| EER3                          | 50%                 | 25                  | 6,43             | 2,18             |                  |      |
| EER4                          | 25%                 | 20                  | 8,17             | 2,05             |                  |      |

**Heating**

The performance values comply with Standards EN 14511 and EN 14825.

The performance values with a part load refer to a water delivery temperature of 35°C.

**Cooling**

The performance values comply with Standards EN 14825.

## HEAT PUMP

Heat pump air to water

### NXHP 008

|                               |                     |                     |                  |                  |                  |      |
|-------------------------------|---------------------|---------------------|------------------|------------------|------------------|------|
| HEATING                       |                     |                     |                  |                  |                  |      |
| Performance with full load    |                     |                     |                  |                  |                  |      |
| CH flow temperature           | 35°C                |                     | 45°C             |                  | 55°C             |      |
| Outdoor temperature           | Nominal capacity    | COP                 | Nominal capacity | COP              | Nominal capacity | COP  |
| -7                            | 5,85                | 2,71                | 5,58             | 2,53             | 5,45             | 1,93 |
| 2                             | 7,00                | 3,50                | 7,13             | 3,05             | 7,00             | 2,45 |
| 7                             | 7,60                | 4,80                | 7,80             | 3,75             | 7,55             | 3,15 |
| 12                            | 8,02                | 5,64                | 8,02             | 4,28             | 7,95             | 3,43 |
| 15                            | 8,23                | 6,30                | 8,17             | 4,74             | 8,09             | 3,73 |
| 20                            | 8,57                | 7,39                | 8,41             | 5,50             | 8,34             | 4,24 |
| 35                            |                     |                     |                  |                  | 8,84             | 4,43 |
| Performance with partial load |                     |                     |                  |                  |                  |      |
| Tbival (-7°C)                 | A                   | B                   | C                | D                |                  |      |
| Outdoor temperature           | -7                  | 2                   | 7                | 12               |                  |      |
| PLR - Climate load factor     | 0,88                | 0,54                | 0,35             | 0,15             |                  |      |
| DC - Output with full load    | 5,85                | 7,00                | 7,60             | 8,02             |                  |      |
| COP with full load            | 2,70                | 3,50                | 4,80             | 5,64             |                  |      |
| COP with partial load         | 2,64                | 4,05                | 4,56             | 4,31             |                  |      |
| CR - Load factor              | 1,00                | 0,54                | 0,32             | 0,13             |                  |      |
| f COP - Corrective factor     | 1,00                | 1,16                | 0,95             | 0,76             |                  |      |
|                               |                     |                     |                  |                  |                  |      |
| COOLING                       |                     |                     |                  |                  |                  |      |
|                               | Climate load factor | Outdoor temperature | EER              | Nominal capacity |                  |      |
| EER1                          | 100%                | 35                  | 3,05             | 6,50             |                  |      |
| EER2                          | 75%                 | 30                  | 4,49             | 4,79             |                  |      |
| EER3                          | 50%                 | 25                  | 6,36             | 3,08             |                  |      |
| EER4                          | 25%                 | 20                  | 7,33             | 2,95             |                  |      |

#### Heating

The performance values comply with Standards EN 14511 and EN 14825.

The performance values with a part load refer to a water delivery temperature of 35°C.

#### Cooling

The performance values comply with Standards EN 14825.

**NXHP 010**

|                               |                     |                     |                  |                  |                  |      |
|-------------------------------|---------------------|---------------------|------------------|------------------|------------------|------|
| HEATING                       |                     |                     |                  |                  |                  |      |
| Performance with full load    |                     |                     |                  |                  |                  |      |
| CH flow temperature           | 35°C                |                     | 45°C             |                  | 55°C             |      |
| Outdoor temperature           | Nominal capacity    | COP                 | Nominal capacity | COP              | Nominal capacity | COP  |
| -7                            | 5,85                | 2,71                | 5,58             | 2,53             | 5,45             | 1,93 |
| 2                             | 7,80                | 3,05                | 7,71             | 2,75             | 7,80             | 2,15 |
| 7                             | 9,60                | 4,35                | 9,50             | 3,55             | 9,40             | 2,95 |
| 12                            | 10,15               | 4,91                | 10,04            | 3,88             | 9,87             | 3,23 |
| 15                            | 10,23               | 5,45                | 10,12            | 4,24             | 10,03            | 3,48 |
| 20                            | 10,37               | 6,35                | 10,24            | 4,82             | 10,30            | 3,88 |
| 35                            |                     |                     |                  |                  | 10,73            | 3,97 |
| Performance with partial load |                     |                     |                  |                  |                  |      |
| Tbival (-7°C)                 | A                   | B                   | C                | D                |                  |      |
| Outdoor temperature           | -7                  | 2                   | 7                | 12               |                  |      |
| PLR - Climate load factor     | 0,88                | 0,54                | 0,35             | 0,15             |                  |      |
| DC - Output with full load    | 5,85                | 7,80                | 9,60             | 10,15            |                  |      |
| COP with full load            | 2,70                | 3,05                | 4,35             | 4,91             |                  |      |
| COP with partial load         | 2,62                | 3,97                | 4,82             | 4,21             |                  |      |
| CR - Load factor              | 1,00                | 0,45                | 0,23             | 0,10             |                  |      |
| f COP - Corrective factor     | 1,00                | 1,30                | 1,11             | 0,86             |                  |      |
|                               |                     |                     |                  |                  |                  |      |
| COOLING                       |                     |                     |                  |                  |                  |      |
|                               | Climate load factor | Outdoor temperature | EER              | Nominal capacity |                  |      |
| EER1                          | 100%                | 35                  | 2,90             | 7,40             |                  |      |
| EER2                          | 75%                 | 30                  | 4,23             | 5,45             |                  |      |
| EER3                          | 50%                 | 25                  | 6,10             | 3,51             |                  |      |
| EER4                          | 25%                 | 20                  | 7,54             | 3,02             |                  |      |

**Heating**

The performance values comply with Standards EN 14511 and EN 14825.

The performance values with a part load refer to a water delivery temperature of 35°C.

**Cooling**

The performance values comply with Standards EN 14825.

## HEAT PUMP

Heat pump air to water

### NXHP 012

|                               |                     |                     |                  |                  |                  |      |
|-------------------------------|---------------------|---------------------|------------------|------------------|------------------|------|
| HEATING                       |                     |                     |                  |                  |                  |      |
| Performance with full load    |                     |                     |                  |                  |                  |      |
| CH flow temperature           | 35°C                |                     | 45°C             |                  | 55°C             |      |
| Outdoor temperature           | Nominal capacity    | COP                 | Nominal capacity | COP              | Nominal capacity | COP  |
| -7                            | 8,10                | 2,71                | 7,86             | 2,56             | 7,70             | 2,02 |
| 2                             | 8,90                | 3,35                | 8,42             | 2,91             | 8,35             | 2,30 |
| 7                             | 11,40               | 4,55                | 10,80            | 3,65             | 10,95            | 3,10 |
| 12                            | 11,89               | 5,86                | 11,26            | 4,47             | 11,29            | 3,49 |
| 15                            | 12,02               | 6,86                | 11,55            | 5,03             | 11,60            | 3,84 |
| 20                            | 12,22               | 8,53                | 12,05            | 5,98             | 12,12            | 4,42 |
| 35                            |                     |                     |                  |                  | 13,20            | 4,60 |
| Performance with partial load |                     |                     |                  |                  |                  |      |
| Tbival (-7°C)                 | A                   | B                   | C                | D                |                  |      |
| Outdoor temperature           | -7                  | 2                   | 7                | 12               |                  |      |
| PLR - Climate load factor     | 0,88                | 0,54                | 0,35             | 0,15             |                  |      |
| DC - Output with full load    | 8,10                | 8,90                | 11,40            | 11,89            |                  |      |
| COP with full load            | 2,70                | 3,35                | 4,55             | 5,86             |                  |      |
| COP with partial load         | 2,71                | 3,86                | 4,22             | 3,93             |                  |      |
| CR - Load factor              | 1,00                | 0,62                | 0,31             | 0,13             |                  |      |
| f COP - Corrective factor     | 1,00                | 1,15                | 0,93             | 0,67             |                  |      |
|                               |                     |                     |                  |                  |                  |      |
| COOLING                       |                     |                     |                  |                  |                  |      |
|                               | Climate load factor | Outdoor temperature | EER              | Nominal capacity |                  |      |
| EER1                          | 100%                | 35                  | 3,05             | 9,70             |                  |      |
| EER2                          | 75%                 | 30                  | 4,49             | 7,15             |                  |      |
| EER3                          | 50%                 | 25                  | 5,96             | 4,59             |                  |      |
| EER4                          | 25%                 | 20                  | 8,31             | 3,60             |                  |      |

#### Heating

The performance values comply with Standards EN 14511 and EN 14825.

The performance values with a part load refer to a water delivery temperature of 35°C.

#### Cooling

The performance values comply with Standards EN 14825.

**NXHP 014**

|                               |                     |                     |                  |                  |                  |      |
|-------------------------------|---------------------|---------------------|------------------|------------------|------------------|------|
| HEATING                       |                     |                     |                  |                  |                  |      |
| Performance with full load    |                     |                     |                  |                  |                  |      |
| CH flow temperature           | 35°C                |                     | 45°C             |                  | 55°C             |      |
| Outdoor temperature           | Nominal capacity    | COP                 | Nominal capacity | COP              | Nominal capacity | COP  |
| -7                            | 8,10                | 2,75                | 7,86             | 2,37             | 7,70             | 2,06 |
| 2                             | 8,90                | 3,45                | 9,00             | 2,84             | 8,80             | 2,20 |
| 7                             | 13,80               | 4,30                | 13,60            | 3,40             | 13,25            | 2,90 |
| 12                            | 14,14               | 5,34                | 13,93            | 4,15             | 13,74            | 3,31 |
| 15                            | 14,17               | 6,25                | 13,96            | 4,68             | 13,87            | 3,64 |
| 20                            | 14,22               | 7,75                | 14,01            | 5,58             | 14,09            | 4,20 |
| 35                            |                     |                     |                  |                  | 15,15            | 4,50 |
| Performance with partial load |                     |                     |                  |                  |                  |      |
| Tbival (-7°C)                 | A                   | B                   | C                | D                |                  |      |
| Outdoor temperature           | -7                  | 2                   | 7                | 12               |                  |      |
| PLR - Climate load factor     | 0,88                | 0,54                | 0,35             | 0,15             |                  |      |
| DC - Output with full load    | 8,10                | 8,90                | 13,80            | 14,14            |                  |      |
| COP with full load            | 2,75                | 3,45                | 4,30             | 5,34             |                  |      |
| COP with partial load         | 2,58                | 3,86                | 4,22             | 3,93             |                  |      |
| CR - Load factor              | 1,00                | 0,62                | 0,26             | 0,11             |                  |      |
| f COP - Corrective factor     | 1,00                | 1,12                | 0,98             | 0,74             |                  |      |
|                               |                     |                     |                  |                  |                  |      |
| COOLING                       |                     |                     |                  |                  |                  |      |
|                               | Climate load factor | Outdoor temperature | EER              | Nominal capacity |                  |      |
| EER1                          | 100%                | 35                  | 2,95             | 10,70            |                  |      |
| EER2                          | 75%                 | 30                  | 4,07             | 7,88             |                  |      |
| EER3                          | 50%                 | 25                  | 5,91             | 5,07             |                  |      |
| EER4                          | 25%                 | 20                  | 8,04             | 3,63             |                  |      |

**Heating**

The performance values comply with Standards EN 14511 and EN 14825.

The performance values with a part load refer to a water delivery temperature of 35°C.

**Cooling**

The performance values comply with Standards EN 14825.

## HEAT PUMP

Heat pump air to water

### NXHP 012T

|                               |                     |                     |                  |                  |                  |      |
|-------------------------------|---------------------|---------------------|------------------|------------------|------------------|------|
| HEATING                       |                     |                     |                  |                  |                  |      |
| Performance with full load    |                     |                     |                  |                  |                  |      |
| CH flow temperature           | 35°C                |                     | 45°C             |                  | 55°C             |      |
| Outdoor temperature           | Nominal capacity    | COP                 | Nominal capacity | COP              | Nominal capacity | COP  |
| -7                            | 8,10                | 2,71                | 7,86             | 2,56             | 7,70             | 2,02 |
| 2                             | 9,40                | 3,20                | 8,42             | 2,92             | 8,35             | 2,35 |
| 7                             | 11,40               | 4,65                | 10,80            | 3,75             | 10,95            | 3,15 |
| 12                            | 11,89               | 5,98                | 11,26            | 4,55             | 11,29            | 3,56 |
| 15                            | 12,02               | 7,00                | 11,55            | 5,14             | 11,60            | 3,92 |
| 20                            | 12,22               | 8,70                | 12,05            | 6,10             | 12,12            | 4,51 |
| 35                            |                     |                     |                  |                  | 13,20            | 4,69 |
| Performance with partial load |                     |                     |                  |                  |                  |      |
| Tbival (-7°C)                 | A                   | B                   | C                | D                |                  |      |
| Outdoor temperature           | -7                  | 2                   | 7                | 12               |                  |      |
| PLR - Climate load factor     | 0,88                | 0,54                | 0,35             | 0,15             |                  |      |
| DC - Output with full load    | 8,10                | 9,40                | 11,40            | 11,89            |                  |      |
| COP with full load            | 2,70                | 3,20                | 4,65             | 5,98             |                  |      |
| COP with partial load         | 2,58                | 3,86                | 4,22             | 3,93             |                  |      |
| CR - Load factor              | 1,00                | 0,59                | 0,31             | 0,13             |                  |      |
| f COP - Corrective factor     | 1,00                | 1,20                | 0,91             | 0,66             |                  |      |
|                               |                     |                     |                  |                  |                  |      |
| COOLING                       |                     |                     |                  |                  |                  |      |
|                               | Climate load factor | Outdoor temperature | EER              | Nominal capacity |                  |      |
| EER1                          | 100%                | 35                  | 3,10             | 9,70             |                  |      |
| EER2                          | 75%                 | 30                  | 4,49             | 7,15             |                  |      |
| EER3                          | 50%                 | 25                  | 5,96             | 4,59             |                  |      |
| EER4                          | 25%                 | 20                  | 8,22             | 3,60             |                  |      |

#### Heating

The performance values comply with Standards EN 14511 and EN 14825.

The performance values with a part load refer to a water delivery temperature of 35°C.

#### Cooling

The performance values comply with Standards EN 14825.

**NXHP 014T**

| HEATING                       |                     |                     |                  |                  |                  |      |
|-------------------------------|---------------------|---------------------|------------------|------------------|------------------|------|
| Performance with full load    |                     |                     |                  |                  |                  |      |
| CH flow temperature           | 35°C                |                     | 45°C             |                  | 55°C             |      |
| Outdoor temperature           | Nominal capacity    | COP                 | Nominal capacity | COP              | Nominal capacity | COP  |
| -7                            | 8,10                | 2,75                | 7,86             | 2,37             | 7,70             | 2,06 |
| 2                             | 9,40                | 3,30                | 9,00             | 2,90             | 8,80             | 2,25 |
| 7                             | 13,80               | 4,40                | 13,60            | 3,50             | 13,25            | 2,95 |
| 12                            | 14,14               | 5,45                | 13,93            | 4,23             | 13,74            | 3,37 |
| 15                            | 14,17               | 6,37                | 13,96            | 4,78             | 13,87            | 3,71 |
| 20                            | 14,22               | 7,91                | 14,01            | 5,69             | 14,09            | 4,28 |
| 35                            |                     |                     |                  |                  | 15,15            | 4,59 |
| Performance with partial load |                     |                     |                  |                  |                  |      |
| Tbival (-7°C)                 | A                   | B                   | C                | D                |                  |      |
| Outdoor temperature           | -7                  | 2                   | 7                | 12               |                  |      |
| PLR - Climate load factor     | 0,88                | 0,54                | 0,35             | 0,15             |                  |      |
| DC - Output with full load    | 8,10                | 9,40                | 13,80            | 14,14            |                  |      |
| COP with full load            | 2,75                | 3,30                | 4,40             | 5,45             |                  |      |
| COP with partial load         | 2,58                | 3,86                | 4,22             | 3,93             |                  |      |
| CR - Load factor              | 1,00                | 0,59                | 0,26             | 0,11             |                  |      |
| f COP - Corrective factor     | 1,00                | 1,17                | 0,96             | 0,72             |                  |      |
|                               |                     |                     |                  |                  |                  |      |
| COOLING                       |                     |                     |                  |                  |                  |      |
|                               | Climate load factor | Outdoor temperature | EER              | Nominal capacity |                  |      |
| EER1                          | 100%                | 35                  | 3,00             | 10,70            |                  |      |
| EER2                          | 75%                 | 30                  | 4,07             | 7,88             |                  |      |
| EER3                          | 50%                 | 25                  | 5,91             | 5,07             |                  |      |
| EER4                          | 25%                 | 20                  | 7,96             | 3,63             |                  |      |

**Heating**

The performance values comply with Standards EN 14511 and EN 14825.

The performance values with a part load refer to a water delivery temperature of 35°C.

**Cooling**

The performance values comply with Standards EN 14825.

# HEAT PUMP

Heat pump air to water

## PERFORMANCE DATA – HEATING CAPACITIES IN ACCORDANCE WITH EN14511

OUTSIDE AIR DRY-BULB (WET-BULB) TEMPERATURE: -20(-21) / -15(-16) °C

| Outside air dry-bulb (wet-bulb) temperature (°C) |           |          |      |      |       |      |      |      |  |          |      |       |       |      |      |
|--------------------------------------------------|-----------|----------|------|------|-------|------|------|------|--|----------|------|-------|-------|------|------|
| NXHP<br>004-014                                  | LWT<br>°C | -20(-21) |      |      |       |      |      |      |  | -15(-16) |      |       |       |      |      |
|                                                  |           | Qh       |      |      | COP   |      |      | q    |  | Qh       |      |       | COP   |      |      |
|                                                  |           | kW       |      |      | kW/kW |      |      | l/s  |  | kW       |      |       | kW/kW |      |      |
|                                                  |           | Nom      | Min  | Max  | Nom   | Min  | Max  | Nom  |  | Nom      | Min  | Max   | Nom   | Min  | Max  |
| 004                                              | 35        | 2,86     | 1,29 | 2,86 | 1,61  | 1,54 | 1,61 | 0,14 |  | 2,47     | 1,70 | 3,64  | 2,14  | 2,16 | 2,01 |
| 006                                              |           | 3,34     | 1,60 | 3,34 | 2,08  | 2,03 | 2,08 | 0,16 |  | 3,61     | 2,04 | 5,94  | 2,47  | 2,44 | 2,22 |
| 008                                              |           | 4,15     | 2,34 | 4,15 | 2,25  | 2,17 | 2,25 | 0,20 |  | 5,10     | 2,98 | 6,26  | 2,54  | 2,56 | 2,39 |
| 010                                              |           | 4,15     | 2,34 | 4,15 | 2,25  | 2,17 | 2,25 | 0,20 |  | 5,10     | 2,98 | 6,26  | 2,54  | 2,56 | 2,39 |
| 012                                              |           | 6,46     | 3,11 | 6,87 | 2,36  | 2,31 | 2,33 | 0,31 |  | 7,46     | 3,68 | 10,68 | 2,58  | 2,59 | 2,20 |
| 012T                                             |           | 6,46     | 3,11 | 6,87 | 2,41  | 2,34 | 2,38 | 0,31 |  | 7,46     | 3,68 | 10,68 | 2,63  | 2,61 | 2,24 |
| 014                                              |           | 6,46     | 3,11 | 6,87 | 2,36  | 2,31 | 2,33 | 0,31 |  | 7,46     | 3,68 | 10,68 | 2,58  | 2,59 | 2,20 |
| 014T                                             |           | 6,46     | 3,11 | 6,87 | 2,41  | 2,34 | 2,38 | 0,31 |  | 7,46     | 3,68 | 10,68 | 2,63  | 2,61 | 2,24 |
| 004                                              | 45        | 2,47     | 1,21 | 2,47 | 1,36  | 1,24 | 1,36 | 0,12 |  | 3,59     | 1,59 | 3,59  | 1,76  | 1,66 | 1,76 |
| 006                                              |           | 3,30     | 1,47 | 3,30 | 1,78  | 1,58 | 1,78 | 0,16 |  | 4,00     | 1,87 | 5,76  | 1,95  | 1,90 | 1,87 |
| 008                                              |           | 3,95     | 2,25 | 3,95 | 1,94  | 1,80 | 1,94 | 0,19 |  | 4,89     | 2,83 | 5,97  | 2,18  | 2,08 | 2,10 |
| 010                                              |           | 3,95     | 2,25 | 3,95 | 1,94  | 1,80 | 1,94 | 0,19 |  | 4,89     | 2,83 | 5,97  | 2,18  | 2,08 | 2,10 |
| 012                                              |           | 6,17     | 2,91 | 6,56 | 2,07  | 1,88 | 2,06 | 0,30 |  | 7,15     | 3,45 | 10,31 | 2,25  | 2,10 | 2,05 |
| 012T                                             |           | 6,17     | 2,91 | 6,56 | 2,11  | 1,90 | 2,11 | 0,30 |  | 7,15     | 3,45 | 10,31 | 2,30  | 2,12 | 2,09 |
| 014                                              |           | 6,17     | 2,91 | 6,56 | 2,07  | 1,88 | 2,06 | 0,30 |  | 7,15     | 3,45 | 10,31 | 2,25  | 2,10 | 2,05 |
| 014T                                             |           | 6,17     | 2,91 | 6,56 | 2,11  | 1,90 | 2,11 | 0,30 |  | 7,15     | 3,45 | 10,31 | 2,30  | 2,12 | 2,09 |
| 004                                              | 55        | 2,12     | 1,12 | 2,12 | 1,05  | 0,99 | 1,05 | 0,07 |  | 2,98     | 1,51 | 2,98  | 1,47  | 1,30 | 1,47 |
| 006                                              |           | 2,77     | 1,40 | 2,77 | 1,53  | 1,28 | 1,53 | 0,12 |  | 3,45     | 1,81 | 4,62  | 1,76  | 1,56 | 1,70 |
| 008                                              |           | 3,27     | 2,20 | 3,27 | 1,65  | 1,51 | 1,65 | 0,12 |  | 4,75     | 2,75 | 4,81  | 1,89  | 1,73 | 1,88 |
| 010                                              |           | 3,27     | 2,20 | 3,27 | 1,65  | 1,51 | 1,65 | 0,12 |  | 4,75     | 2,75 | 4,81  | 1,89  | 1,73 | 1,88 |
| 012                                              |           | 6,38     | 2,75 | 6,38 | 1,87  | 1,52 | 1,87 | 0,19 |  | 6,98     | 3,29 | 9,19  | 2,01  | 1,71 | 1,99 |
| 012T                                             |           | 6,38     | 2,75 | 6,38 | 1,91  | 1,54 | 1,91 | 0,19 |  | 6,98     | 3,29 | 9,19  | 2,05  | 1,73 | 2,03 |
| 014                                              |           | 6,38     | 2,75 | 6,38 | 1,87  | 1,52 | 1,87 | 0,19 |  | 6,98     | 3,29 | 9,19  | 2,01  | 1,71 | 1,99 |
| 014T                                             |           | 6,38     | 2,75 | 6,38 | 1,91  | 1,54 | 1,91 | 0,19 |  | 6,98     | 3,29 | 9,19  | 2,05  | 1,73 | 2,03 |
| 004                                              | 65        |          |      |      |       |      |      |      |  | 2,16     | 1,37 | 2,16  | 1,11  | 1,02 | 1,11 |
| 006                                              |           |          |      |      |       |      |      |      |  | 2,38     | 1,71 | 2,38  | 1,43  | 1,28 | 1,43 |
| 008                                              |           |          |      |      |       |      |      |      |  | 2,94     | 2,57 | 2,94  | 1,49  | 1,41 | 1,49 |
| 010                                              |           |          |      |      |       |      |      |      |  | 2,94     | 2,57 | 2,94  | 1,49  | 1,41 | 1,49 |
| 012                                              |           |          |      |      |       |      |      |      |  | 3,14     | 3,14 | 3,14  | 1,39  | 1,39 | 1,39 |
| 012T                                             |           |          |      |      |       |      |      |      |  | 3,14     | 3,14 | 3,14  | 1,40  | 1,40 | 1,40 |
| 014                                              |           |          |      |      |       |      |      |      |  | 3,14     | 3,14 | 3,14  | 1,39  | 1,39 | 1,39 |
| 014T                                             |           |          |      |      |       |      |      |      |  | 3,14     | 3,14 | 3,14  | 1,40  | 1,40 | 1,40 |
| 004                                              | 75        |          |      |      |       |      |      |      |  |          |      |       |       |      |      |
| 006                                              |           |          |      |      |       |      |      |      |  |          |      |       |       |      |      |
| 008                                              |           |          |      |      |       |      |      |      |  |          |      |       |       |      |      |
| 010                                              |           |          |      |      |       |      |      |      |  |          |      |       |       |      |      |
| 012                                              |           |          |      |      |       |      |      |      |  |          |      |       |       |      |      |
| 012T                                             |           |          |      |      |       |      |      |      |  |          |      |       |       |      |      |
| 014                                              |           |          |      |      |       |      |      |      |  |          |      |       |       |      |      |
| 014T                                             |           |          |      |      |       |      |      |      |  |          |      |       |       |      |      |

### LEGEND

LWT Leaving water temperature (°C)  
 Qh Heating capacity (kW)  
 Nom Nominal  
 Min Minimum  
 Max Maximum  
 COP Coefficient of Performance (kW/kW)  
 q Condenser water flow rate (l/s)

### APPLICATION DATA

Standard units, refrigerant: R290  
 Condenser entering/leaving water temperature difference: according to NF414  
 Condenser fluid: water  
 Fouling factor: 0 m² K/W  
 Performances in accordance with EN 14511

**OUTSIDE AIR DRY-BULB (WET-BULB) TEMPERATURE: -10(-11) / -7(-8) °C**

| Outside air dry-bulb (wet-bulb) temperature (°C) |           |          |      |       |       |      |      |      |        |      |       |       |      |      |      |
|--------------------------------------------------|-----------|----------|------|-------|-------|------|------|------|--------|------|-------|-------|------|------|------|
| NXHP<br>004-014                                  | LWT<br>°C | -10(-11) |      |       |       |      |      |      | -7(-8) |      |       |       |      |      |      |
|                                                  |           | Qh       |      |       | COP   |      |      | q    | Qh     |      |       | COP   |      |      | q    |
|                                                  |           | kW       |      |       | kW/kW |      |      | l/s  | kW     |      |       | kW/kW |      |      | l/s  |
|                                                  |           | Nom      | Min  | Max   | Nom   | Min  | Max  | Nom  | Nom    | Min  | Max   | Nom   | Min  | Max  | Nom  |
| 004                                              | 35        | 3,08     | 2,08 | 4,18  | 2,55  | 2,72 | 2,03 | 0,15 | 3,35   | 1,28 | 4,18  | 2,75  | 2,75 | 2,22 | 0,17 |
| 006                                              |           | 4,38     | 2,49 | 5,86  | 2,74  | 2,87 | 2,09 | 0,21 | 4,15   | 1,57 | 6,00  | 2,71  | 2,86 | 2,32 | 0,23 |
| 008                                              |           | 5,27     | 3,68 | 8,10  | 2,36  | 3,01 | 1,96 | 0,29 | 5,85   | 2,36 | 8,41  | 2,71  | 2,90 | 2,16 | 0,32 |
| 010                                              |           | 5,27     | 3,68 | 8,30  | 2,36  | 3,01 | 1,92 | 0,29 | 5,85   | 2,36 | 8,87  | 2,71  | 2,90 | 2,05 | 0,32 |
| 012                                              |           | 7,43     | 4,31 | 10,45 | 2,47  | 2,94 | 2,10 | 0,40 | 8,10   | 2,56 | 9,96  | 2,71  | 2,59 | 2,40 | 0,44 |
| 012T                                             |           | 7,43     | 4,31 | 10,45 | 2,57  | 2,97 | 2,15 | 0,40 | 8,10   | 2,56 | 9,96  | 2,71  | 2,59 | 2,44 | 0,44 |
| 014                                              |           | 7,43     | 4,31 | 10,45 | 2,47  | 2,94 | 2,10 | 0,40 | 8,10   | 2,56 | 10,94 | 2,71  | 2,59 | 2,22 | 0,44 |
| 014T                                             |           | 7,43     | 4,31 | 10,45 | 2,57  | 2,97 | 2,15 | 0,40 | 8,10   | 2,56 | 10,94 | 2,75  | 2,59 | 2,27 | 0,44 |
| 004                                              | 45        | 2,83     | 1,96 | 4,18  | 2,04  | 2,13 | 1,73 | 0,14 | 3,11   | 1,16 | 4,18  | 2,17  | 2,05 | 1,84 | 0,15 |
| 006                                              |           | 4,23     | 2,31 | 5,75  | 2,35  | 2,23 | 2,13 | 0,20 | 4,02   | 1,38 | 6,00  | 2,49  | 2,09 | 2,27 | 0,22 |
| 008                                              |           | 5,10     | 3,46 | 7,60  | 2,25  | 2,40 | 1,96 | 0,28 | 5,58   | 2,20 | 7,85  | 2,53  | 2,21 | 2,16 | 0,30 |
| 010                                              |           | 5,10     | 3,46 | 7,95  | 2,25  | 2,40 | 1,91 | 0,28 | 5,58   | 2,20 | 8,58  | 2,53  | 2,21 | 2,04 | 0,30 |
| 012                                              |           | 7,30     | 4,05 | 10,19 | 2,42  | 2,37 | 2,16 | 0,39 | 7,86   | 2,34 | 9,72  | 2,56  | 2,02 | 2,37 | 0,42 |
| 012T                                             |           | 7,30     | 4,05 | 10,19 | 2,24  | 2,40 | 2,01 | 0,39 | 7,86   | 2,34 | 9,72  | 2,56  | 2,02 | 2,20 | 0,42 |
| 014                                              |           | 7,30     | 4,05 | 10,19 | 2,42  | 2,37 | 2,16 | 0,39 | 7,86   | 2,34 | 10,66 | 2,37  | 2,02 | 2,26 | 0,42 |
| 014T                                             |           | 7,30     | 4,05 | 10,19 | 2,24  | 2,40 | 2,01 | 0,39 | 7,86   | 2,34 | 10,66 | 2,37  | 2,02 | 2,10 | 0,42 |
| 004                                              | 55        | 2,70     | 1,88 | 4,18  | 1,65  | 1,65 | 1,50 | 0,08 | 3,05   | 1,06 | 4,18  | 1,85  | 1,51 | 1,60 | 0,09 |
| 006                                              |           | 4,00     | 2,24 | 5,54  | 1,78  | 1,82 | 1,64 | 0,12 | 4,00   | 1,28 | 5,94  | 1,90  | 1,63 | 1,70 | 0,14 |
| 008                                              |           | 4,98     | 3,34 | 6,68  | 1,74  | 1,96 | 1,64 | 0,17 | 5,45   | 2,09 | 7,46  | 1,93  | 1,72 | 1,79 | 0,18 |
| 010                                              |           | 4,98     | 3,34 | 7,17  | 1,74  | 1,96 | 1,60 | 0,17 | 5,45   | 2,09 | 8,21  | 1,93  | 1,72 | 1,72 | 0,18 |
| 012                                              |           | 7,26     | 3,87 | 10,04 | 1,88  | 1,93 | 1,82 | 0,24 | 7,70   | 2,17 | 9,50  | 2,02  | 1,57 | 1,94 | 0,26 |
| 012T                                             |           | 7,26     | 3,87 | 10,04 | 1,96  | 1,95 | 1,86 | 0,24 | 7,70   | 2,17 | 9,50  | 2,02  | 1,57 | 1,98 | 0,26 |
| 014                                              |           | 7,26     | 3,87 | 10,04 | 1,92  | 1,93 | 1,82 | 0,24 | 7,70   | 2,17 | 10,52 | 2,06  | 1,57 | 1,89 | 0,26 |
| 014T                                             |           | 7,26     | 3,87 | 10,04 | 1,96  | 1,95 | 1,86 | 0,24 | 7,70   | 2,17 | 10,52 | 2,06  | 1,57 | 1,93 | 0,26 |
| 004                                              | 65        | 4,26     | 1,76 | 4,26  | 1,52  | 1,27 | 1,52 | 0,10 | 2,87   | 1,99 | 4,10  | 1,58  | 1,41 | 1,58 | 0,10 |
| 006                                              |           | 4,60     | 2,14 | 4,95  | 1,64  | 1,52 | 1,61 | 0,12 | 3,76   | 2,38 | 4,68  | 1,54  | 1,64 | 1,54 | 0,13 |
| 008                                              |           | 5,28     | 3,14 | 5,66  | 1,74  | 1,59 | 1,73 | 0,13 | 5,12   | 3,55 | 5,12  | 1,67  | 1,73 | 1,67 | 0,14 |
| 010                                              |           | 5,28     | 3,14 | 5,66  | 1,74  | 1,59 | 1,73 | 0,13 | 5,12   | 3,55 | 5,12  | 1,67  | 1,73 | 1,67 | 0,14 |
| 012                                              |           | 6,74     | 3,67 | 6,74  | 1,81  | 1,54 | 1,81 | 0,17 | 7,61   | 4,01 | 8,51  | 1,76  | 1,64 | 1,74 | 0,21 |
| 012T                                             |           | 6,74     | 3,67 | 6,74  | 1,86  | 1,56 | 1,86 | 0,17 | 7,61   | 4,01 | 8,51  | 1,82  | 1,66 | 1,79 | 0,21 |
| 014                                              |           | 6,74     | 3,67 | 6,74  | 1,81  | 1,54 | 1,81 | 0,17 | 7,61   | 4,01 | 8,51  | 1,76  | 1,64 | 1,74 | 0,21 |
| 014T                                             |           | 6,74     | 3,67 | 6,74  | 1,86  | 1,56 | 1,86 | 0,17 | 7,61   | 4,01 | 8,51  | 1,82  | 1,66 | 1,79 | 0,21 |
| 004                                              | 75        |          |      |       |       |      |      |      | 2,26   | 1,64 | 2,26  | 1,05  | 1,03 | 1,05 | 0,07 |
| 006                                              |           |          |      |       |       |      |      |      | 2,52   | 2,23 | 2,52  | 1,35  | 1,42 | 1,35 | 0,12 |
| 008                                              |           |          |      |       |       |      |      |      | 3,00   | 3,00 | 3,00  | 1,33  | 1,33 | 1,33 | 0,12 |
| 010                                              |           |          |      |       |       |      |      |      | 3,00   | 3,00 | 3,00  | 1,33  | 1,33 | 1,33 | 0,12 |
| 012                                              |           |          |      |       |       |      |      |      | 3,79   | 3,79 | 3,79  | 1,30  | 1,30 | 1,30 | 0,17 |
| 012T                                             |           |          |      |       |       |      |      |      | 3,79   | 3,79 | 3,79  | 1,31  | 1,31 | 1,31 | 0,17 |
| 014                                              |           |          |      |       |       |      |      |      | 3,79   | 3,79 | 3,79  | 1,30  | 1,30 | 1,30 | 0,17 |
| 014T                                             |           |          |      |       |       |      |      |      | 3,79   | 3,79 | 3,79  | 1,31  | 1,31 | 1,31 | 0,17 |

**LEGEND**

LWT Leaving water temperature (°C)  
 Qh Heating capacity (kW)  
 Nom Nominal  
 Min Minimum  
 Max Maximum  
 COP Coefficient of Performance (kW/kW)  
 q Condenser water flow rate (l/s)

**APPLICATION DATA**

Standard units, refrigerant: R290  
 Condenser entering/leaving water temperature difference: according to NF414  
 Condenser fluid: water  
 Fouling factor: 0 m<sup>2</sup> K/W  
 Performances in accordance with EN 14511

# HEAT PUMP

Heat pump air to water

## OUTSIDE AIR DRY-BULB (WET-BULB) TEMPERATURE: 2(1) / 7(6) °C

| Outside air dry-bulb (wet-bulb) temperature (°C) |           |      |      |       |       |      |      |      |  |       |      |       |       |      |      |
|--------------------------------------------------|-----------|------|------|-------|-------|------|------|------|--|-------|------|-------|-------|------|------|
| NXHP<br>004-014                                  | LWT<br>°C | 2(1) |      |       |       |      |      |      |  | 7(6)  |      |       |       |      |      |
|                                                  |           | Qh   |      |       | COP   |      |      | q    |  | Qh    |      |       | COP   |      |      |
|                                                  |           | kW   |      |       | kW/kW |      |      | l/s  |  | kW    |      |       | kW/kW |      |      |
|                                                  |           | Nom  | Min  | Max   | Nom   | Min  | Max  | Nom  |  | Nom   | Min  | Max   | Nom   | Min  | Max  |
| 004                                              | 35        | 3,75 | 1,32 | 4,07  | 3,70  | 3,69 | 3,47 | 0,20 |  | 3,95  | 1,50 | 4,80  | 4,90  | 4,90 | 4,35 |
| 006                                              |           | 4,65 | 1,65 | 5,14  | 3,70  | 3,76 | 3,23 | 0,26 |  | 5,80  | 1,87 | 7,20  | 4,90  | 4,93 | 4,31 |
| 008                                              |           | 7,00 | 2,53 | 7,62  | 3,50  | 3,84 | 3,19 | 0,40 |  | 7,60  | 2,74 | 8,47  | 4,80  | 4,93 | 4,10 |
| 010                                              |           | 7,80 | 2,44 | 8,72  | 3,05  | 3,68 | 2,42 | 0,51 |  | 9,60  | 2,74 | 10,00 | 4,35  | 4,93 | 3,40 |
| 012                                              |           | 8,90 | 2,62 | 11,14 | 3,35  | 3,04 | 2,95 | 0,54 |  | 11,40 | 3,00 | 12,92 | 4,55  | 4,80 | 3,88 |
| 012T                                             |           | 8,90 | 2,62 | 11,14 | 3,45  | 3,04 | 3,01 | 0,54 |  | 11,40 | 3,00 | 12,92 | 4,65  | 4,80 | 3,96 |
| 014                                              |           | 9,40 | 2,63 | 11,93 | 3,20  | 3,04 | 2,58 | 0,59 |  | 13,80 | 3,00 | 14,82 | 4,30  | 4,80 | 3,42 |
| 014T                                             |           | 9,40 | 2,63 | 11,93 | 3,30  | 3,04 | 2,63 | 0,59 |  | 13,80 | 3,00 | 14,82 | 4,40  | 4,80 | 3,48 |
| 004                                              | 45        | 3,49 | 1,18 | 4,27  | 2,91  | 2,66 | 2,80 | 0,18 |  | 3,85  | 1,34 | 4,80  | 3,65  | 3,40 | 3,39 |
| 006                                              |           | 4,58 | 1,46 | 5,14  | 3,14  | 2,73 | 2,90 | 0,25 |  | 5,50  | 1,69 | 7,20  | 3,65  | 3,47 | 3,34 |
| 008                                              |           | 7,13 | 2,27 | 7,62  | 3,05  | 2,75 | 2,82 | 0,41 |  | 7,80  | 2,57 | 8,47  | 3,75  | 3,47 | 3,28 |
| 010                                              |           | 7,71 | 2,27 | 8,72  | 2,75  | 2,75 | 2,30 | 0,49 |  | 9,50  | 2,57 | 10,00 | 3,55  | 3,47 | 2,81 |
| 012                                              |           | 8,42 | 2,36 | 11,14 | 2,91  | 2,31 | 2,56 | 0,51 |  | 10,80 | 2,68 | 12,92 | 3,65  | 3,42 | 3,16 |
| 012T                                             |           | 8,42 | 2,36 | 11,14 | 2,92  | 2,31 | 2,58 | 0,51 |  | 10,80 | 2,68 | 12,92 | 3,75  | 3,42 | 3,20 |
| 014                                              |           | 9,00 | 2,36 | 11,70 | 2,84  | 2,30 | 2,49 | 0,56 |  | 13,60 | 2,68 | 14,82 | 3,40  | 3,42 | 2,88 |
| 014T                                             |           | 9,00 | 2,36 | 11,70 | 2,90  | 2,30 | 2,54 | 0,56 |  | 13,60 | 2,68 | 14,82 | 3,50  | 3,42 | 2,92 |
| 004                                              | 55        | 3,55 | 1,05 | 4,37  | 2,40  | 1,96 | 2,37 | 0,11 |  | 3,75  | 1,20 | 4,80  | 2,95  | 2,38 | 2,74 |
| 006                                              |           | 4,45 | 1,34 | 5,14  | 2,45  | 2,06 | 2,22 | 0,15 |  | 5,25  | 1,56 | 7,20  | 2,95  | 2,56 | 2,73 |
| 008                                              |           | 7,00 | 2,16 | 7,62  | 2,45  | 2,11 | 2,26 | 0,25 |  | 7,55  | 2,47 | 8,47  | 3,15  | 2,53 | 2,70 |
| 010                                              |           | 7,80 | 2,16 | 8,55  | 2,15  | 2,11 | 1,94 | 0,30 |  | 9,40  | 2,47 | 10,00 | 2,95  | 2,53 | 2,39 |
| 012                                              |           | 8,35 | 2,16 | 11,14 | 2,30  | 1,77 | 2,07 | 0,31 |  | 10,95 | 2,45 | 14,40 | 3,10  | 2,50 | 2,68 |
| 012T                                             |           | 8,35 | 2,16 | 11,14 | 2,35  | 1,77 | 2,27 | 0,31 |  | 10,95 | 2,45 | 14,40 | 3,15  | 2,50 | 2,74 |
| 014                                              |           | 8,80 | 2,16 | 11,40 | 2,20  | 1,77 | 1,99 | 0,34 |  | 13,25 | 2,45 | 14,66 | 2,90  | 2,50 | 2,50 |
| 014T                                             |           | 8,80 | 2,16 | 11,40 | 2,25  | 1,77 | 2,16 | 0,34 |  | 13,25 | 2,45 | 14,66 | 2,95  | 2,50 | 2,55 |
| 004                                              | 65        | 3,47 | 2,53 | 4,48  | 1,94  | 1,83 | 1,88 | 0,08 |  | 3,36  | 2,81 | 4,80  | 2,20  | 2,11 | 2,16 |
| 006                                              |           | 4,83 | 3,12 | 5,04  | 2,12  | 2,03 | 1,89 | 0,12 |  | 4,87  | 3,50 | 7,20  | 2,38  | 2,33 | 2,30 |
| 008                                              |           | 6,75 | 4,66 | 7,41  | 2,07  | 2,09 | 1,97 | 0,19 |  | 7,06  | 5,24 | 9,60  | 2,46  | 2,40 | 2,30 |
| 010                                              |           | 7,56 | 4,66 | 7,61  | 1,94  | 2,09 | 1,92 | 0,22 |  | 8,90  | 5,24 | 9,72  | 2,38  | 2,40 | 2,22 |
| 012                                              |           | 8,32 | 5,15 | 9,63  | 1,96  | 2,01 | 1,89 | 0,25 |  | 10,32 | 5,64 | 13,78 | 2,42  | 2,40 | 2,29 |
| 012T                                             |           | 8,32 | 5,15 | 9,63  | 2,10  | 2,03 | 2,05 | 0,25 |  | 10,32 | 5,64 | 13,78 | 2,49  | 2,42 | 2,36 |
| 014                                              |           | 8,56 | 5,15 | 9,36  | 1,98  | 2,01 | 1,93 | 0,26 |  | 12,61 | 5,64 | 13,78 | 2,35  | 2,40 | 2,29 |
| 014T                                             |           | 8,56 | 5,15 | 9,36  | 2,04  | 2,03 | 1,99 | 0,26 |  | 12,61 | 5,64 | 13,78 | 2,42  | 2,42 | 2,36 |
| 004                                              | 75        | 4,09 | 2,15 | 4,09  | 1,47  | 1,28 | 1,47 | 0,10 |  | 3,29  | 2,43 | 4,36  | 1,55  | 1,47 | 1,54 |
| 006                                              |           | 4,49 | 2,87 | 5,49  | 1,84  | 1,73 | 1,83 | 0,12 |  | 4,77  | 3,18 | 6,20  | 2,04  | 1,95 | 2,04 |
| 008                                              |           | 5,98 | 3,99 | 6,17  | 1,69  | 1,61 | 1,69 | 0,16 |  | 6,90  | 4,58 | 8,12  | 1,92  | 1,84 | 1,92 |
| 010                                              |           | 6,16 | 3,99 | 6,16  | 1,68  | 1,61 | 1,69 | 0,17 |  | 7,80  | 4,58 | 8,12  | 1,93  | 1,84 | 1,92 |
| 012                                              |           | 7,58 | 4,82 | 7,58  | 1,65  | 1,57 | 1,65 | 0,23 |  | 10,68 | 5,24 | 10,68 | 1,92  | 1,83 | 1,92 |
| 012T                                             |           | 7,58 | 4,82 | 7,58  | 1,70  | 1,58 | 1,70 | 0,23 |  | 10,68 | 5,24 | 10,68 | 1,97  | 1,84 | 1,97 |
| 014                                              |           | 7,58 | 4,82 | 7,58  | 1,65  | 1,57 | 1,65 | 0,23 |  | 10,68 | 5,24 | 10,68 | 1,92  | 1,83 | 1,92 |
| 014T                                             |           | 7,58 | 4,82 | 7,58  | 1,70  | 1,58 | 1,70 | 0,23 |  | 10,68 | 5,24 | 10,68 | 1,97  | 1,84 | 1,97 |

### LEGEND

LWT Leaving water temperature (°C)  
 Qh Heating capacity (kW)  
 Nom Nominal  
 Min Minimum  
 Max Maximum  
 COP Coefficient of Performance (kW/kW)  
 q Condenser water flow rate (l/s)

### APPLICATION DATA

Standard units, refrigerant: R290  
 Condenser entering/leaving water temperature difference: according to NF414  
 Condenser fluid: water  
 Fouling factor: 0 m² K/W  
 Performances in accordance with EN 14511

**OUTSIDE AIR DRY-BULB (WET-BULB) TEMPERATURE: 10(9) / 20(19) °C**

| Outside air dry-bulb (wet-bulb) temperature (°C) |           |       |      |       |       |      |      |      |        |      |       |       |      |      |      |
|--------------------------------------------------|-----------|-------|------|-------|-------|------|------|------|--------|------|-------|-------|------|------|------|
| NXHP<br>004-014                                  | LWT<br>°C | 10(9) |      |       |       |      |      |      | 20(19) |      |       |       |      |      |      |
|                                                  |           | Qh    |      |       | COP   |      |      | q    | Qh     |      |       | COP   |      |      | q    |
|                                                  |           | kW    |      |       | kW/kW |      |      | l/s  | kW     |      |       | kW/kW |      |      | l/s  |
|                                                  |           | Nom   | Min  | Max   | Nom   | Min  | Max  | Nom  | Nom    | Min  | Max   | Nom   | Min  | Max  | Nom  |
| 004                                              | 35        | 4,05  | 1,64 | 4,80  | 5,07  | 5,38 | 4,78 | 0,19 | 4,27   | 2,18 | 4,80  | 7,06  | 7,74 | 6,80 | 0,20 |
| 006                                              |           | 5,90  | 2,03 | 7,20  | 5,08  | 5,50 | 4,73 | 0,28 | 6,35   | 2,59 | 7,20  | 7,12  | 7,98 | 6,75 | 0,30 |
| 008                                              |           | 7,88  | 2,98 | 9,60  | 5,21  | 5,58 | 4,67 | 0,38 | 8,57   | 3,98 | 9,60  | 7,39  | 8,87 | 7,01 | 0,41 |
| 010                                              |           | 10,09 | 2,98 | 10,00 | 4,55  | 5,58 | 3,91 | 0,48 | 10,37  | 3,98 | 12,00 | 6,35  | 8,87 | 5,84 | 0,50 |
| 012                                              |           | 11,81 | 3,30 | 14,40 | 5,19  | 5,48 | 4,59 | 0,57 | 12,22  | 4,69 | 14,40 | 8,53  | 9,23 | 7,60 | 0,59 |
| 012T                                             |           | 11,81 | 3,30 | 14,40 | 5,30  | 5,48 | 4,68 | 0,57 | 12,22  | 4,69 | 14,40 | 8,70  | 9,23 | 7,75 | 0,59 |
| 014                                              |           | 14,11 | 3,30 | 16,80 | 4,74  | 5,48 | 4,06 | 0,68 | 14,22  | 4,69 | 16,80 | 7,75  | 9,23 | 6,63 | 0,68 |
| 014T                                             |           | 14,11 | 3,30 | 16,80 | 4,83  | 5,48 | 4,14 | 0,68 | 14,22  | 4,69 | 16,80 | 7,91  | 9,23 | 6,76 | 0,68 |
| 004                                              | 45        | 3,98  | 1,46 | 4,80  | 3,87  | 3,68 | 3,68 | 0,19 | 3,98   | 1,94 | 4,80  | 4,98  | 4,88 | 4,78 | 0,19 |
| 006                                              |           | 5,55  | 1,85 | 7,20  | 3,82  | 3,82 | 3,59 | 0,27 | 6,10   | 2,37 | 7,20  | 5,16  | 5,20 | 4,87 | 0,29 |
| 008                                              |           | 7,93  | 2,82 | 9,60  | 3,98  | 3,88 | 3,62 | 0,38 | 8,41   | 3,82 | 9,60  | 5,50  | 5,84 | 5,12 | 0,40 |
| 010                                              |           | 9,99  | 2,82 | 10,00 | 3,65  | 3,88 | 3,18 | 0,48 | 10,24  | 3,82 | 12,00 | 4,82  | 5,84 | 4,30 | 0,49 |
| 012                                              |           | 11,06 | 2,94 | 14,40 | 4,09  | 3,81 | 3,60 | 0,53 | 12,05  | 4,12 | 14,40 | 5,98  | 5,94 | 5,40 | 0,58 |
| 012T                                             |           | 11,06 | 2,94 | 14,40 | 4,17  | 3,81 | 3,67 | 0,53 | 12,05  | 4,12 | 14,40 | 6,10  | 5,94 | 5,51 | 0,58 |
| 014                                              |           | 13,91 | 2,94 | 16,80 | 3,79  | 3,81 | 3,28 | 0,65 | 14,01  | 4,12 | 16,80 | 5,58  | 5,94 | 4,81 | 0,67 |
| 014T                                             |           | 13,91 | 2,94 | 16,80 | 3,86  | 3,81 | 3,35 | 0,68 | 14,01  | 4,12 | 16,80 | 5,69  | 5,94 | 4,91 | 0,67 |
| 004                                              | 55        | 3,75  | 1,30 | 4,80  | 3,00  | 2,55 | 2,93 | 0,11 | 3,90   | 1,70 | 4,80  | 3,68  | 3,24 | 3,58 | 0,12 |
| 006                                              |           | 5,39  | 1,70 | 7,20  | 3,06  | 2,79 | 2,90 | 0,16 | 6,16   | 2,22 | 7,20  | 3,86  | 3,72 | 3,71 | 0,18 |
| 008                                              |           | 7,85  | 2,72 | 9,60  | 3,23  | 2,81 | 2,93 | 0,23 | 8,34   | 3,72 | 9,60  | 4,24  | 4,09 | 3,96 | 0,25 |
| 010                                              |           | 9,76  | 2,72 | 12,00 | 3,07  | 2,81 | 2,65 | 0,29 | 10,30  | 3,72 | 12,00 | 3,88  | 4,09 | 3,48 | 0,31 |
| 012                                              |           | 11,09 | 2,68 | 14,40 | 3,26  | 2,77 | 2,92 | 0,33 | 12,12  | 3,70 | 14,40 | 4,42  | 4,12 | 4,06 | 0,36 |
| 012T                                             |           | 11,09 | 2,68 | 14,40 | 3,33  | 2,77 | 2,98 | 0,34 | 12,12  | 3,70 | 14,40 | 4,51  | 4,12 | 4,14 | 0,36 |
| 014                                              |           | 13,65 | 2,68 | 16,80 | 3,08  | 2,77 | 2,76 | 0,41 | 14,09  | 3,70 | 16,80 | 4,20  | 4,12 | 3,74 | 0,42 |
| 014T                                             |           | 13,65 | 2,68 | 16,80 | 3,14  | 2,77 | 2,81 | 0,41 | 14,09  | 3,70 | 16,80 | 4,28  | 4,12 | 3,82 | 0,42 |
| 004                                              | 65        | 3,53  | 2,97 | 4,80  | 2,30  | 2,21 | 2,30 | 0,08 | 4,33   | 3,84 | 4,80  | 2,76  | 2,71 | 2,76 | 0,10 |
| 006                                              |           | 5,10  | 3,71 | 7,20  | 2,50  | 2,47 | 2,41 | 0,12 | 6,34   | 4,70 | 7,20  | 3,03  | 3,09 | 2,96 | 0,15 |
| 008                                              |           | 7,45  | 5,53 | 9,60  | 2,57  | 2,55 | 2,43 | 0,18 | 7,89   | 6,98 | 9,60  | 3,25  | 3,18 | 3,00 | 0,19 |
| 010                                              |           | 9,25  | 5,53 | 11,41 | 2,50  | 2,55 | 2,31 | 0,22 | 9,81   | 6,99 | 12,00 | 3,08  | 3,18 | 2,68 | 0,23 |
| 012                                              |           | 10,65 | 6,05 | 14,40 | 2,61  | 2,57 | 2,46 | 0,25 | 12,16  | 7,97 | 14,40 | 3,33  | 3,47 | 3,13 | 0,29 |
| 012T                                             |           | 10,65 | 6,05 | 14,40 | 2,69  | 2,60 | 2,53 | 0,25 | 12,16  | 7,97 | 14,40 | 3,39  | 3,51 | 3,22 | 0,29 |
| 014                                              |           | 13,24 | 6,05 | 14,64 | 2,54  | 2,57 | 2,48 | 0,32 | 13,76  | 7,97 | 16,80 | 3,23  | 3,47 | 2,92 | 0,33 |
| 014T                                             |           | 13,24 | 6,05 | 14,64 | 2,61  | 2,60 | 2,56 | 0,32 | 13,76  | 7,97 | 16,80 | 3,33  | 3,51 | 3,00 | 0,33 |
| 004                                              | 75        | 4,19  | 2,67 | 4,71  | 1,71  | 1,59 | 1,70 | 0,10 | 4,19   | 3,58 | 4,80  | 2,10  | 2,03 | 2,06 | 0,10 |
| 006                                              |           | 4,70  | 3,37 | 6,44  | 2,13  | 2,06 | 2,10 | 0,12 | 5,92   | 4,29 | 7,20  | 2,58  | 2,56 | 2,53 | 0,14 |
| 008                                              |           | 6,65  | 4,87 | 8,61  | 2,06  | 1,96 | 2,02 | 0,16 | 8,23   | 6,47 | 9,60  | 2,46  | 2,51 | 2,34 | 0,20 |
| 010                                              |           | 8,31  | 4,87 | 8,61  | 2,06  | 1,96 | 2,02 | 0,20 | 10,03  | 6,47 | 10,37 | 2,34  | 2,51 | 2,28 | 0,24 |
| 012                                              |           | 11,32 | 5,58 | 11,32 | 2,07  | 1,94 | 2,07 | 0,27 | 12,01  | 7,32 | 13,78 | 2,47  | 2,59 | 2,43 | 0,29 |
| 012T                                             |           | 11,32 | 5,58 | 11,32 | 2,13  | 1,96 | 2,13 | 0,24 | 12,01  | 7,32 | 13,78 | 2,55  | 2,61 | 2,50 | 0,29 |
| 014                                              |           | 11,32 | 5,58 | 11,32 | 2,07  | 1,94 | 2,07 | 0,27 | 13,79  | 7,31 | 13,78 | 2,43  | 2,59 | 2,43 | 0,33 |
| 014T                                             |           | 11,32 | 5,58 | 11,32 | 2,13  | 1,96 | 2,13 | 0,27 | 13,79  | 7,31 | 13,78 | 2,50  | 2,61 | 2,50 | 0,33 |

**LEGEND**

LWT Leaving water temperature (°C)  
 Qh Heating capacity (kW)  
 Nom Nominal  
 Min Minimum  
 Max Maximum  
 COP Coefficient of Performance (kW/kW)  
 q Condenser water flow rate (l/s)

**APPLICATION DATA**

Standard units, refrigerant: R290  
 Condenser entering/leaving water temperature difference: according to NF414  
 Condenser fluid: water  
 Fouling factor: 0 m² K/W  
 Performances in accordance with EN 14511

## HEAT PUMP

Heat pump air to water

### PERFORMANCE DATA – COOLING CAPACITIES IN ACCORDANCE WITH EN14511

OUTSIDE AIR TEMPERATURE: 10 / 15 / 25 °C

| Outside air Temperature, °C |        |       |      |       |       |       |       |      |       |      |       |       |       |       |      |       |      |       |      |       |      |      |
|-----------------------------|--------|-------|------|-------|-------|-------|-------|------|-------|------|-------|-------|-------|-------|------|-------|------|-------|------|-------|------|------|
| NXHP 004-014                | LWT °C | 10    |      |       |       |       |       |      |       |      | 15    |       |       |       |      |       | 25   |       |      |       |      |      |
|                             |        | Qc    |      |       | EER   |       |       | q    |       |      | Qc    |       |       | EER   |      |       | Qc   |       |      | EER   |      |      |
|                             |        | kW    |      |       | kW/kW |       |       | l/s  |       |      | kW    |       |       | kW/kW |      |       | kW   |       |      | kW/kW |      |      |
|                             |        | Nom   | Min  | Max   | Nom   | Min   | Max   | Nom  | Nom   | Min  | Max   | Nom   | Min   | Max   | Nom  | Nom   | Min  | Max   | Nom  | Min   | Max  | Nom  |
| 004                         | 5      | 3,84  | 2,15 | 4,80  | 7,13  | 9,37  | 5,76  | 0,18 | 3,69  | 1,32 | 4,80  | 6,39  | 7,87  | 4,92  | 0,18 | 3,34  | 1,14 | 4,63  | 4,19 | 4,59  | 3,09 | 0,16 |
| 006                         |        | 5,30  | 3,65 | 6,43  | 6,36  | 8,61  | 5,22  | 0,25 | 5,08  | 1,81 | 6,16  | 5,37  | 8,10  | 4,55  | 0,24 | 4,60  | 1,57 | 5,60  | 3,86 | 4,32  | 3,43 | 0,22 |
| 008                         |        | 5,56  | 3,95 | 5,56  | 6,26  | 8,00  | 6,26  | 0,26 | 5,43  | 2,53 | 5,43  | 5,51  | 7,03  | 5,51  | 0,26 | 5,03  | 2,31 | 5,03  | 4,18 | 4,53  | 4,18 | 0,24 |
| 010                         |        | 5,56  | 3,95 | 5,56  | 6,26  | 8,00  | 6,26  | 0,26 | 5,43  | 2,53 | 5,43  | 5,51  | 7,03  | 5,51  | 0,26 | 5,03  | 2,31 | 5,03  | 4,18 | 4,53  | 4,18 | 0,24 |
| 012                         |        | 8,77  | 4,67 | 8,77  | 6,41  | 9,69  | 6,41  | 0,42 | 8,62  | 3,06 | 8,62  | 5,66  | 7,90  | 5,66  | 0,41 | 8,23  | 2,75 | 8,23  | 4,25 | 4,00  | 4,25 | 0,39 |
| 012T                        |        | 8,77  | 4,67 | 8,77  | 6,47  | 9,69  | 6,54  | 0,42 | 8,62  | 3,06 | 8,62  | 5,72  | 7,90  | 5,77  | 0,41 | 8,23  | 2,75 | 8,23  | 4,29 | 4,00  | 4,29 | 0,39 |
| 014                         |        | 8,77  | 4,67 | 8,77  | 6,41  | 9,69  | 6,41  | 0,42 | 8,62  | 3,06 | 8,62  | 5,66  | 7,90  | 5,66  | 0,41 | 8,23  | 2,75 | 8,23  | 4,25 | 4,00  | 4,25 | 0,39 |
| 014T                        |        | 8,77  | 4,67 | 8,77  | 6,47  | 9,69  | 6,47  | 0,42 | 8,62  | 3,06 | 8,62  | 5,72  | 7,90  | 5,72  | 0,41 | 8,23  | 2,75 | 8,23  | 4,29 | 4,00  | 4,29 | 0,39 |
| 004                         | 7      | 4,09  | 2,34 | 4,80  | 7,62  | 10,57 | 6,41  | 0,19 | 3,93  | 1,44 | 4,80  | 6,84  | 9,08  | 5,42  | 0,19 | 3,57  | 1,25 | 4,80  | 4,45 | 5,17  | 3,19 | 0,17 |
| 006                         |        | 6,10  | 4,30 | 7,20  | 7,29  | 10,80 | 5,79  | 0,29 | 5,37  | 1,96 | 7,20  | 5,65  | 9,35  | 4,08  | 0,26 | 4,85  | 1,71 | 6,71  | 4,04 | 4,81  | 3,15 | 0,23 |
| 008                         |        | 6,51  | 4,19 | 7,16  | 6,07  | 8,60  | 5,50  | 0,31 | 6,81  | 2,71 | 8,80  | 4,66  | 7,67  | 3,39  | 0,32 | 6,85  | 2,49 | 8,42  | 4,13 | 4,96  | 3,27 | 0,33 |
| 010                         |        | 6,51  | 4,19 | 7,16  | 6,07  | 8,60  | 5,50  | 0,31 | 7,63  | 2,71 | 8,80  | 4,08  | 7,67  | 3,39  | 0,36 | 7,65  | 2,49 | 8,42  | 3,66 | 4,96  | 3,27 | 0,36 |
| 012                         |        | 10,68 | 4,99 | 13,12 | 5,98  | 10,54 | 4,61  | 0,51 | 10,58 | 4,86 | 12,98 | 5,35  | 8,48  | 4,13  | 0,50 | 10,23 | 2,99 | 12,71 | 4,07 | 4,41  | 3,36 | 0,49 |
| 012T                        |        | 10,68 | 4,99 | 13,12 | 6,04  | 10,54 | 4,70  | 0,51 | 10,58 | 4,86 | 12,98 | 5,41  | 8,48  | 4,21  | 0,50 | 10,23 | 2,99 | 12,71 | 4,11 | 4,41  | 3,43 | 0,49 |
| 014                         |        | 10,68 | 4,99 | 13,12 | 5,98  | 10,54 | 4,61  | 0,51 | 12,98 | 4,86 | 12,98 | 4,13  | 8,48  | 4,13  | 0,62 | 12,71 | 2,99 | 12,71 | 3,36 | 4,41  | 3,36 | 0,61 |
| 014T                        |        | 10,68 | 4,99 | 13,12 | 6,04  | 10,54 | 4,70  | 0,51 | 12,98 | 4,86 | 12,98 | 4,21  | 8,48  | 4,21  | 0,62 | 12,71 | 2,99 | 12,71 | 3,43 | 4,41  | 3,43 | 0,61 |
| 004                         | 10     | 4,32  | 2,68 | 4,80  | 8,13  | 12,99 | 7,05  | 0,21 | 4,16  | 1,63 | 4,80  | 7,27  | 11,44 | 5,93  | 0,20 | 3,80  | 1,43 | 4,80  | 4,71 | 6,14  | 3,41 | 0,18 |
| 006                         |        | 5,63  | 3,93 | 7,19  | 6,70  | 9,42  | 5,00  | 0,27 | 5,77  | 2,17 | 7,20  | 6,10  | 11,28 | 4,85  | 0,28 | 5,22  | 1,90 | 7,16  | 4,35 | 5,53  | 3,34 | 0,25 |
| 008                         |        | 7,76  | 4,59 | 8,80  | 5,87  | 9,75  | 5,20  | 0,37 | 7,77  | 4,22 | 8,80  | 5,48  | 7,56  | 4,95  | 0,37 | 7,43  | 2,81 | 8,80  | 4,34 | 5,72  | 3,53 | 0,35 |
| 010                         |        | 8,84  | 4,59 | 9,17  | 5,24  | 9,75  | 4,96  | 0,42 | 8,80  | 4,22 | 11,00 | 5,00  | 7,56  | 3,83  | 0,42 | 8,20  | 2,81 | 9,94  | 3,79 | 5,72  | 2,86 | 0,39 |
| 012                         |        | 11,76 | 5,51 | 13,20 | 6,47  | 12,52 | 5,52  | 0,56 | 11,68 | 5,40 | 13,20 | 5,76  | 9,75  | 5,20  | 0,56 | 11,36 | 3,35 | 13,20 | 4,34 | 4,92  | 3,77 | 0,54 |
| 012T                        |        | 11,76 | 5,51 | 13,20 | 6,53  | 12,52 | 5,63  | 0,56 | 11,68 | 5,40 | 13,20 | 5,82  | 9,75  | 5,31  | 0,56 | 11,36 | 3,35 | 13,20 | 4,39 | 4,92  | 3,85 | 0,54 |
| 014                         |        | 13,89 | 5,51 | 14,38 | 5,19  | 12,52 | 4,94  | 0,66 | 13,78 | 5,40 | 14,65 | 4,76  | 9,75  | 4,67  | 0,66 | 13,94 | 3,35 | 13,94 | 3,55 | 4,92  | 3,55 | 0,67 |
| 014T                        |        | 13,89 | 5,51 | 14,38 | 5,30  | 12,52 | 5,04  | 0,66 | 13,78 | 5,40 | 14,65 | 4,85  | 9,75  | 4,76  | 0,66 | 13,94 | 3,35 | 13,94 | 3,62 | 4,92  | 3,62 | 0,67 |
| 004                         | 15     | 4,07  | 3,00 | 4,80  | 10,81 | 16,21 | 9,26  | 0,19 | 4,15  | 2,90 | 4,80  | 8,82  | 12,24 | 7,60  | 0,20 | 4,17  | 2,64 | 4,80  | 5,10 | 6,92  | 4,40 | 0,20 |
| 006                         |        | 5,96  | 4,95 | 7,20  | 10,87 | 13,72 | 7,82  | 0,28 | 6,54  | 2,57 | 7,20  | 6,93  | 16,17 | 6,23  | 0,31 | 5,93  | 2,28 | 7,20  | 4,90 | 7,30  | 4,07 | 0,28 |
| 008                         |        | 8,11  | 5,32 | 8,80  | 7,79  | 11,92 | 7,24  | 0,39 | 8,04  | 5,15 | 8,80  | 6,96  | 9,68  | 6,45  | 0,38 | 8,29  | 3,41 | 8,80  | 4,67 | 7,40  | 4,37 | 0,40 |
| 010                         |        | 10,39 | 5,32 | 10,78 | 5,99  | 11,92 | 5,66  | 0,50 | 10,11 | 5,15 | 11,00 | 5,58  | 9,68  | 4,99  | 0,48 | 8,95  | 3,41 | 11,00 | 4,00 | 7,40  | 3,06 | 0,43 |
| 012                         |        | 11,99 | 6,48 | 13,20 | 8,24  | 16,52 | 7,61  | 0,57 | 12,10 | 8,31 | 13,20 | 7,50  | 10,34 | 6,86  | 0,58 | 12,08 | 4,05 | 13,20 | 5,30 | 6,36  | 4,85 | 0,58 |
| 012T                        |        | 11,99 | 6,48 | 13,20 | 8,32  | 16,52 | 7,76  | 0,57 | 12,10 | 8,31 | 13,20 | 7,57  | 10,34 | 7,00  | 0,58 | 12,08 | 4,05 | 13,20 | 5,35 | 6,36  | 4,95 | 0,58 |
| 014                         |        | 13,76 | 6,48 | 15,40 | 7,34  | 16,52 | 6,18  | 0,66 | 14,06 | 8,31 | 15,40 | 6,29  | 10,34 | 5,56  | 0,67 | 13,93 | 4,05 | 15,40 | 4,52 | 6,36  | 3,98 | 0,67 |
| 014T                        |        | 13,76 | 6,48 | 15,40 | 7,41  | 16,52 | 6,30  | 0,66 | 14,06 | 8,31 | 15,40 | 6,36  | 10,34 | 5,67  | 0,67 | 13,93 | 4,05 | 15,40 | 4,57 | 6,36  | 4,05 | 0,67 |
| 004                         | 18     | 4,17  | 3,28 | 4,80  | 12,54 | 18,95 | 11,13 | 0,20 | 4,18  | 3,16 | 4,80  | 10,18 | 14,42 | 8,98  | 0,20 | 4,13  | 2,89 | 4,80  | 5,67 | 7,82  | 4,98 | 0,20 |
| 006                         |        | 6,47  | 5,37 | 7,20  | 11,96 | 16,31 | 9,75  | 0,31 | 6,12  | 3,93 | 7,20  | 9,20  | 12,13 | 7,34  | 0,29 | 5,98  | 2,52 | 7,18  | 5,62 | 8,74  | 4,67 | 0,29 |
| 008                         |        | 8,23  | 5,65 | 8,80  | 9,22  | 13,12 | 8,69  | 0,39 | 8,02  | 5,68 | 8,80  | 8,33  | 11,07 | 7,67  | 0,38 | 8,15  | 3,76 | 8,80  | 5,48 | 8,42  | 5,05 | 0,39 |
| 010                         |        | 10,11 | 5,65 | 11,00 | 7,33  | 13,12 | 6,60  | 0,48 | 10,12 | 5,68 | 11,00 | 6,39  | 11,07 | 5,68  | 0,48 | 9,08  | 3,76 | 11,00 | 4,58 | 8,42  | 3,52 | 0,43 |
| 012                         |        | 12,29 | 7,10 | 13,20 | 10,09 | 19,25 | 9,39  | 0,59 | 11,96 | 9,17 | 13,20 | 9,09  | 11,60 | 8,09  | 0,57 | 12,14 | 4,52 | 13,20 | 6,03 | 7,53  | 5,56 | 0,58 |
| 012T                        |        | 12,29 | 7,10 | 13,20 | 10,19 | 19,25 | 9,58  | 0,59 | 11,96 | 9,17 | 13,20 | 9,18  | 11,60 | 8,26  | 0,57 | 12,14 | 4,52 | 13,20 | 6,09 | 7,53  | 5,67 | 0,58 |
| 014                         |        | 14,00 | 7,10 | 15,40 | 8,75  | 19,25 | 7,56  | 0,67 | 14,01 | 9,17 | 15,40 | 7,59  | 11,60 | 6,82  | 0,67 | 14,21 | 4,52 | 15,40 | 5,13 | 7,53  | 4,60 | 0,68 |
| 014T                        |        | 14,00 | 7,10 | 15,40 | 8,84  | 19,25 | 7,63  | 0,67 | 14,01 | 9,17 | 15,40 | 7,66  | 11,60 | 6,89  | 0,67 | 14,21 | 4,52 | 15,40 | 5,19 | 7,53  | 4,69 | 0,68 |

#### LEGEND

|     |                                 |
|-----|---------------------------------|
| LWT | Leaving water temperature (°C)  |
| Qc  | Cooling capacity (kW)           |
| Nom | Nominal                         |
| Min | Minimum                         |
| Max | Maximum                         |
| EER | Energy Efficiency Ratio (kW/kW) |
| q   | Condenser water flow rate (l/s) |

#### APPLICATION DATA

Standard units, refrigerant: R290  
Evaporator entering/leaving water temperature difference: 5 K  
Evaporator fluid: water  
Fouling factor: 0 m<sup>2</sup> K/W  
Performances in accordance with EN 14511

## OUTSIDE AIR TEMPERATURE: 35 / 45 °C

| NXHP 004-014 | LWT °C | Outside air Temperature, °C |      |       |       |      |      |      |       |      |       |       |      |      |      |
|--------------|--------|-----------------------------|------|-------|-------|------|------|------|-------|------|-------|-------|------|------|------|
|              |        | 35                          |      |       |       |      |      |      | 45    |      |       |       |      |      |      |
|              |        | Qc                          |      |       | EER   |      |      | q    | Qc    |      |       | EER   |      |      | q    |
|              |        | kW                          |      |       | kW/kW |      |      | l/s  | kW    |      |       | kW/kW |      |      | l/s  |
|              |        | Nom                         | Min  | Max   | Nom   | Min  | Max  | Nom  | Nom   | Min  | Max   | Nom   | Min  | Max  | Nom  |
| 004          | 5      | 2,91                        | 0,93 | 4,37  | 2,88  | 2,54 | 2,05 | 0,14 | 2,48  | 0,72 | 3,85  | 2,06  | 1,56 | 1,52 | 0,12 |
| 006          |        | 4,17                        | 1,33 | 5,04  | 2,89  | 2,59 | 2,58 | 0,20 | 3,66  | 1,09 | 4,32  | 2,15  | 1,77 | 1,84 | 0,17 |
| 008          |        | 5,71                        | 2,03 | 5,71  | 2,70  | 2,66 | 2,70 | 0,27 | 5,16  | 1,75 | 5,80  | 2,16  | 1,96 | 2,01 | 0,25 |
| 010          |        | 5,71                        | 2,03 | 5,71  | 2,70  | 2,66 | 2,70 | 0,27 | 5,79  | 1,75 | 5,79  | 2,00  | 1,96 | 2,00 | 0,28 |
| 012          |        | 8,79                        | 2,43 | 8,79  | 2,95  | 2,46 | 2,95 | 0,42 | 7,99  | 2,09 | 9,02  | 2,29  | 1,81 | 2,13 | 0,38 |
| 012T         |        | 8,79                        | 2,43 | 8,79  | 3,01  | 2,46 | 3,03 | 0,42 | 7,99  | 2,09 | 9,02  | 2,33  | 1,81 | 2,20 | 0,38 |
| 014          |        | 8,79                        | 2,43 | 8,79  | 2,95  | 2,46 | 2,95 | 0,42 | 9,02  | 2,09 | 9,02  | 2,13  | 1,81 | 2,13 | 0,43 |
| 014T         |        | 8,79                        | 2,43 | 8,79  | 3,01  | 2,46 | 3,01 | 0,42 | 9,02  | 2,09 | 9,02  | 2,17  | 1,81 | 2,18 | 0,43 |
| 004          | 7      | 3,35                        | 1,03 | 4,54  | 3,15  | 2,81 | 2,09 | 0,16 | 2,67  | 0,82 | 4,00  | 2,20  | 1,78 | 1,57 | 0,13 |
| 006          |        | 4,60                        | 1,45 | 5,24  | 3,15  | 2,85 | 2,66 | 0,22 | 3,84  | 1,20 | 4,53  | 2,23  | 1,95 | 1,91 | 0,18 |
| 008          |        | 6,50                        | 2,20 | 8,52  | 3,05  | 2,89 | 2,17 | 0,31 | 5,48  | 1,97 | 6,58  | 2,26  | 2,20 | 1,90 | 0,26 |
| 010          |        | 7,40                        | 2,20 | 8,52  | 2,90  | 2,89 | 2,17 | 0,35 | 6,02  | 1,97 | 6,31  | 2,06  | 2,20 | 1,74 | 0,29 |
| 012          |        | 9,70                        | 2,66 | 11,81 | 3,05  | 2,69 | 2,62 | 0,46 | 8,66  | 2,31 | 10,70 | 2,41  | 1,99 | 2,04 | 0,41 |
| 012T         |        | 9,70                        | 2,66 | 11,81 | 3,10  | 2,69 | 2,70 | 0,46 | 8,66  | 2,31 | 10,70 | 2,45  | 1,99 | 2,11 | 0,41 |
| 014          |        | 10,70                       | 2,66 | 11,81 | 2,95  | 2,69 | 2,62 | 0,51 | 10,70 | 2,31 | 10,70 | 2,04  | 1,99 | 2,04 | 0,51 |
| 014T         |        | 10,70                       | 2,66 | 11,81 | 3,00  | 2,69 | 2,70 | 0,51 | 10,70 | 2,31 | 10,70 | 2,11  | 1,99 | 2,11 | 0,51 |
| 004          | 10     | 3,34                        | 1,20 | 4,70  | 3,26  | 3,34 | 2,15 | 0,16 | 2,89  | 0,98 | 4,17  | 2,35  | 2,12 | 1,62 | 0,14 |
| 006          |        | 4,68                        | 1,62 | 6,35  | 3,19  | 3,23 | 2,50 | 0,22 | 4,10  | 1,35 | 5,55  | 2,33  | 2,20 | 1,87 | 0,20 |
| 008          |        | 6,59                        | 2,55 | 8,80  | 3,10  | 3,41 | 2,23 | 0,31 | 5,76  | 2,24 | 7,63  | 2,33  | 2,50 | 1,79 | 0,27 |
| 010          |        | 7,18                        | 2,55 | 8,89  | 2,78  | 3,41 | 2,19 | 0,34 | 6,42  | 2,24 | 7,89  | 2,15  | 2,50 | 1,70 | 0,31 |
| 012          |        | 10,51                       | 3,00 | 12,81 | 3,30  | 3,05 | 2,72 | 0,50 | 9,47  | 2,64 | 11,39 | 2,52  | 2,24 | 2,08 | 0,45 |
| 012T         |        | 10,51                       | 3,00 | 12,81 | 3,37  | 3,05 | 2,80 | 0,50 | 9,47  | 2,64 | 11,39 | 2,57  | 2,24 | 2,14 | 0,45 |
| 014          |        | 12,81                       | 3,00 | 12,81 | 2,72  | 3,05 | 2,72 | 0,61 | 11,39 | 2,64 | 11,39 | 2,08  | 2,24 | 2,08 | 0,54 |
| 014T         |        | 12,81                       | 3,00 | 12,81 | 2,80  | 3,05 | 2,80 | 0,61 | 11,39 | 2,64 | 11,39 | 2,14  | 2,24 | 2,14 | 0,54 |
| 004          | 15     | 3,72                        | 1,57 | 4,80  | 3,54  | 4,62 | 2,76 | 0,18 | 3,26  | 1,31 | 4,80  | 2,58  | 2,89 | 1,79 | 0,16 |
| 006          |        | 5,33                        | 1,97 | 7,09  | 3,57  | 4,07 | 2,69 | 0,25 | 4,68  | 1,67 | 6,25  | 2,60  | 2,74 | 2,03 | 0,22 |
| 008          |        | 7,38                        | 3,09 | 8,80  | 3,38  | 4,24 | 2,78 | 0,35 | 6,58  | 2,72 | 8,38  | 2,57  | 3,08 | 1,94 | 0,31 |
| 010          |        | 8,10                        | 3,09 | 9,88  | 3,03  | 4,24 | 2,32 | 0,39 | 7,19  | 2,72 | 8,69  | 2,31  | 3,08 | 1,78 | 0,34 |
| 012          |        | 12,07                       | 3,69 | 13,20 | 3,58  | 3,82 | 3,18 | 0,58 | 10,58 | 3,30 | 11,91 | 2,65  | 2,78 | 2,06 | 0,51 |
| 012T         |        | 12,07                       | 3,69 | 13,20 | 3,65  | 3,82 | 3,27 | 0,58 | 10,58 | 3,30 | 11,91 | 2,71  | 2,78 | 2,12 | 0,51 |
| 014          |        | 14,17                       | 3,69 | 14,17 | 2,83  | 3,82 | 2,83 | 0,68 | 11,91 | 3,30 | 11,91 | 2,06  | 2,78 | 2,06 | 0,57 |
| 014T         |        | 14,17                       | 3,69 | 14,17 | 2,92  | 3,82 | 2,92 | 0,68 | 11,91 | 3,30 | 11,91 | 2,12  | 2,78 | 2,12 | 0,57 |
| 004          | 18     | 4,00                        | 1,76 | 4,80  | 4,15  | 5,41 | 3,42 | 0,19 | 3,23  | 1,49 | 4,80  | 2,77  | 3,34 | 2,07 | 0,15 |
| 006          |        | 6,15                        | 2,19 | 7,20  | 3,90  | 4,68 | 3,09 | 0,29 | 5,63  | 1,87 | 6,66  | 2,53  | 3,11 | 2,11 | 0,27 |
| 008          |        | 8,00                        | 3,41 | 8,80  | 4,00  | 4,74 | 3,71 | 0,38 | 7,07  | 3,00 | 8,77  | 2,72  | 3,41 | 2,05 | 0,34 |
| 010          |        | 8,90                        | 3,41 | 10,50 | 3,70  | 4,74 | 2,40 | 0,42 | 7,29  | 3,00 | 9,12  | 2,60  | 3,41 | 1,82 | 0,35 |
| 012          |        | 12,00                       | 4,15 | 13,20 | 4,30  | 4,37 | 3,86 | 0,57 | 10,80 | 3,74 | 12,24 | 2,46  | 3,14 | 2,05 | 0,52 |
| 012T         |        | 12,00                       | 4,15 | 13,20 | 4,35  | 4,37 | 3,94 | 0,57 | 10,80 | 3,74 | 12,24 | 2,51  | 3,14 | 2,11 | 0,52 |
| 014          |        | 14,50                       | 4,15 | 15,30 | 3,70  | 4,37 | 3,01 | 0,69 | 11,26 | 3,74 | 12,24 | 2,05  | 3,14 | 2,05 | 0,59 |
| 014T         |        | 14,50                       | 4,15 | 15,30 | 3,75  | 4,37 | 3,10 | 0,69 | 12,24 | 3,74 | 12,24 | 2,11  | 3,14 | 2,11 | 0,59 |

## LEGEND

|     |                                 |
|-----|---------------------------------|
| LWT | Leaving water temperature (°C)  |
| Qc  | Cooling capacity (kW)           |
| Nom | Nominal                         |
| Min | Minimum                         |
| Max | Maximum                         |
| EER | Energy Efficiency Ratio (kW/kW) |
| q   | Condenser water flow rate (l/s) |

## APPLICATION DATA

Standard units, refrigerant: R290  
 Evaporator entering/leaving water temperature difference: 5 K  
 Evaporator fluid: water  
 Fouling factor: 0 m<sup>2</sup> K/W  
 Performances in accordance with EN 14511

## HEAT PUMP

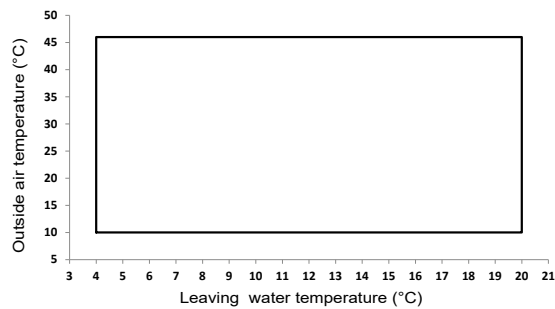
Heat pump air to water

### OPERATING RANGE

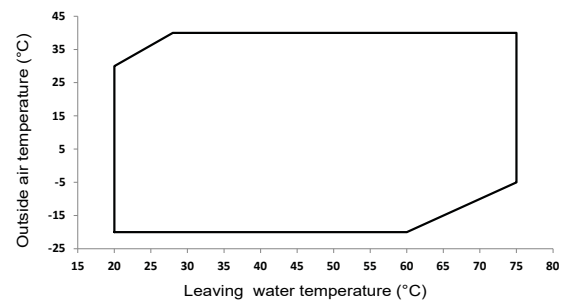
|                                            |    |         |         |
|--------------------------------------------|----|---------|---------|
| <b>Cooling Cycle</b>                       |    |         |         |
| Evaporator Water Temperature               | °C | Minimum | Maximum |
| Entering water temperature at start-up     |    | 6       | 30      |
| Leaving water temperature during operation |    | 4       | 20      |
| Condenser Air Temperature                  | °C | Minimum | Maximum |
| Standard unit                              |    | 10      | 46      |
| <b>Heating Cycle</b>                       |    |         |         |
| Condenser Water Temperature                | °C | Minimum | Maximum |
| Entering water temperature at start-up     |    | 15      | 65      |
| Leaving water temperature during operation |    | 20      | 75      |
| Evaporator Air Temperature                 | °C | Minimum | Maximum |
| Standard unit                              |    | -20 (1) | 40      |

(1) For operation at outdoor ambient temperature below 0°C (heating mode), the water freeze protection should be available and according to the water installation, the water loop can be protected against freeze by the installer, using an anti-freeze solution or trace heater.

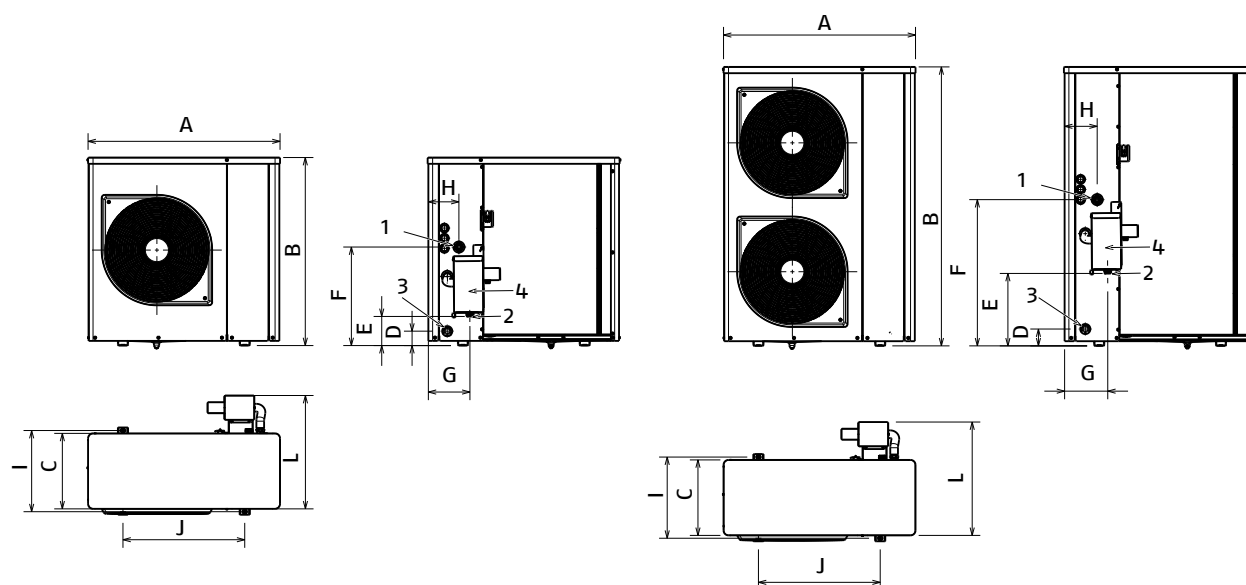
#### Cooling mode



#### Heating mode



## DIMENSIONS AND LOCATION OF HYDRAULIC CONNECTIONS



- 1 Water Inlet
- 2 Water Outlet
- 3 Draining water pipe
- 4 Gas separator - mandatory for safety purposes

| NXHP       |    | A   | B    | C   | D  | E   | F   | G   | H   | I   | J   | L   |
|------------|----|-----|------|-----|----|-----|-----|-----|-----|-----|-----|-----|
| 004        | mm | 946 | 927  | 372 | 71 | 143 | 485 | 201 | 150 | 400 | 600 | 560 |
| 006        | mm | 946 | 927  | 372 | 71 | 143 | 485 | 201 | 150 | 400 | 600 | 560 |
| 008        | mm | 946 | 927  | 372 | 71 | 143 | 485 | 201 | 150 | 400 | 600 | 560 |
| 010        | mm | 946 | 927  | 372 | 71 | 143 | 485 | 201 | 150 | 400 | 600 | 560 |
| 012 / 012T | mm | 946 | 1375 | 372 | 83 | 357 | 720 | 210 | 160 | 400 | 600 | 560 |
| 014 / 014T | mm | 946 | 1375 | 372 | 83 | 357 | 720 | 210 | 160 | 400 | 600 | 560 |

## PLACE OF INSTALLATION

This unit uses R290 refrigerant gas.

Do not attempt to replace this refrigerant with household propane.

The unit should be stored outdoors or in a controlled environment (R290 sensors and free from ignition sources area). Units should not be stacked.

The unit should be installed so that refrigerant does not accumulate or stagnate in case of leakage (R290 refrigerant gas is heavier than air).

The unit should also be kept one meter away from any openings (doors, windows, etc.)

Refrigerant accumulation in an enclosed space can displace oxygen and cause asphyxiation or explosion.

In the event of a leak, the mixture of refrigerant and air can generate a flammable atmosphere.

Any source of ignition, such as open flames, hot surfaces (higher than 370 °C), or any potentially arcing devices (sockets, electrical switches, static discharges, etc.) must be kept at least one meter away from the unit.

Before positioning the unit (accessing the various components/opening the panel/replacement of components...) it is necessary to schedule the various maintenance tasks to be performed.

## HEAT PUMP

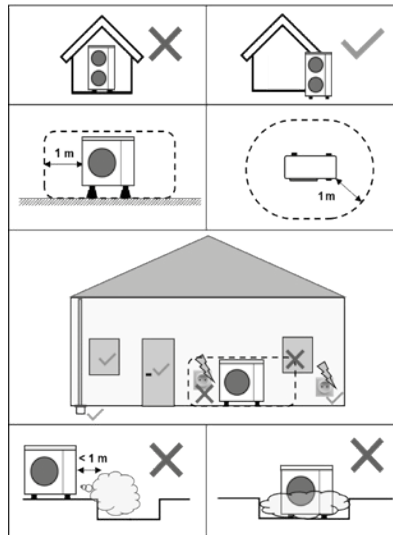
Heat pump air to water

### SERVICE SPACES TO ENSURE PROPER AIRFLOW

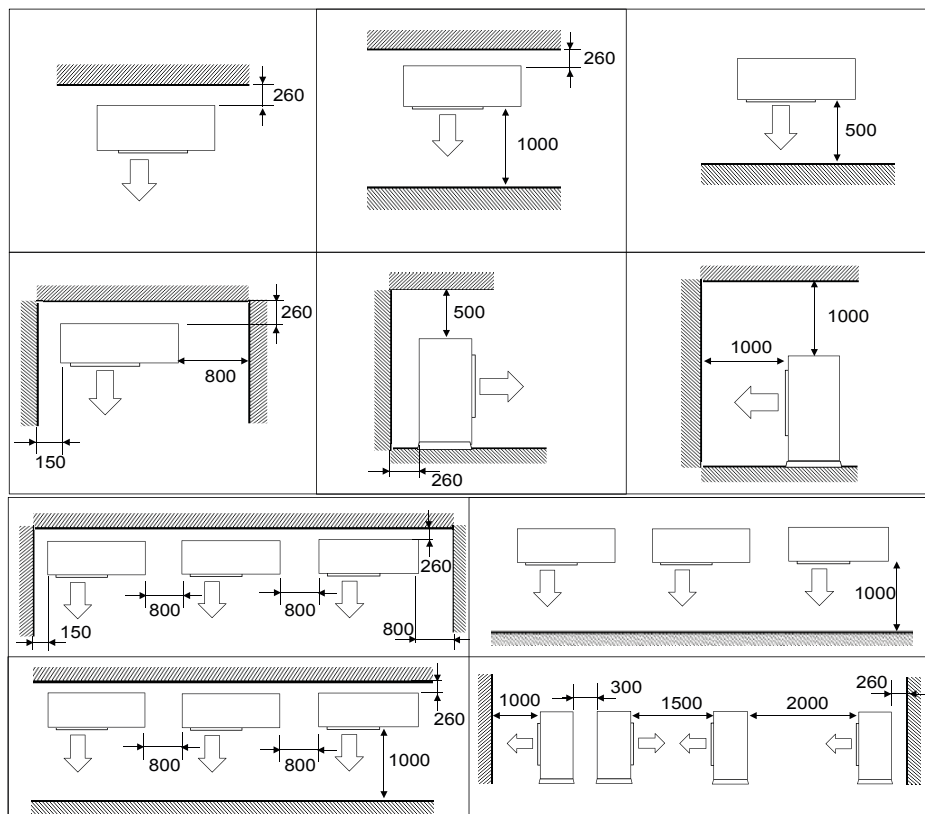
The unit shall be installed outdoor and shall be kept one meter away from any building opening (doors, windows...) and from any ignition sources (electrical sockets, switches, lights...).

Refer to the installation guide for more details.

The unit shall not be installed so that, in the event of a leak, the refrigerant may accumulate or stagnate (propane is heavier than air).



The following picture presents the minimal distances of the wall to ensure the correct air flow on air heat exchanger<sup>(1)</sup>.



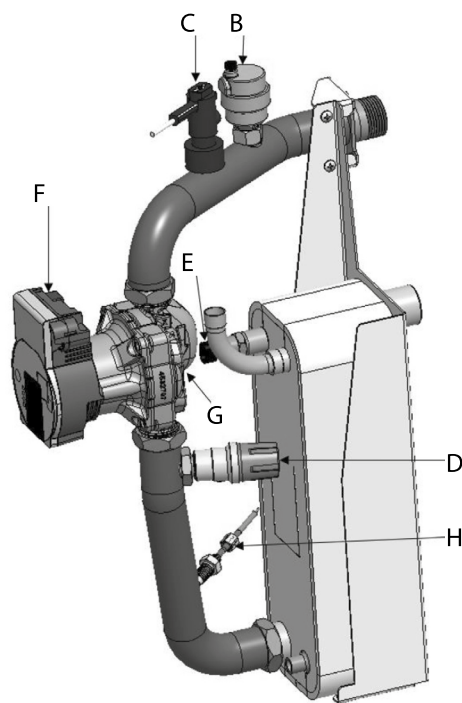
Notes:

Dimensions are given in mm

(1) Anticipate different maintenance actions before to place the unit (access of different parts / opening of panel/ part replacement...)

## HYDRAULIC MODULE

Hydraulic module equipped with variable speed single pump low available pressure.



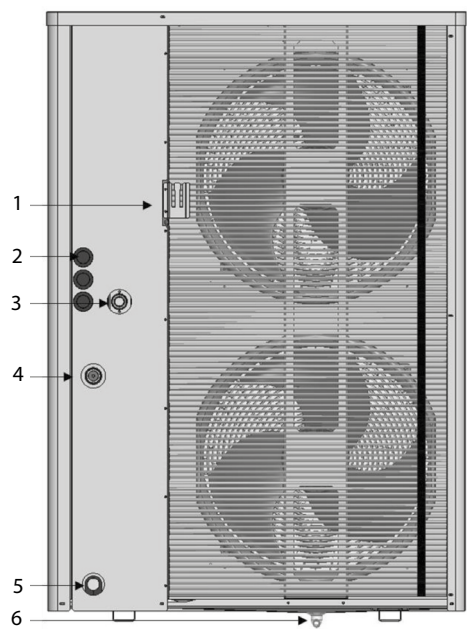
### Legend

- B - Automatic purge valve
- C - Flow switch
- D - Safety valve outlet
- E - Leaving water temperature probe
- F - Circulation pump
- G - Plug to unblock the seizing pump
- H - Entering water temperature probe

Minimum and maximum pressures necessary in the hydraulic circuit for correct operation of the units.

| Hydraulic circuit               | Minimum pressure at the suction of the pump<br>to avoid the cavitation phenomena | Maximum pressure at the suction of the pump<br>before the opening of the water relief valve |
|---------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Variable speed hydraulic module | 110 kPa (1,1 bar)                                                                | 300 kPa (3 bar)                                                                             |

HYDRAULIC CONNECTIONS



- Legend**
- 1 - Outside Air Temperature sensor
  - 2 - Customer electrical connection
  - 3 - Water inlet
  - 4 - Water outlet
  - 5 - Water drain pipe
  - 6 - Condensate draining pipe

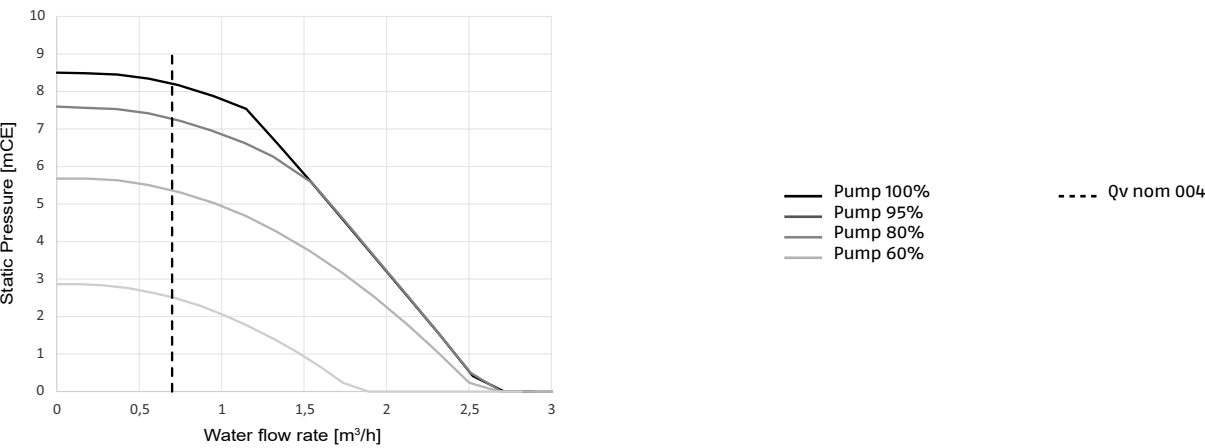
| Water connections |      |     |     |     |     |     |      |      |
|-------------------|------|-----|-----|-----|-----|-----|------|------|
| Model             | NXHP |     |     |     |     |     |      |      |
|                   | 004  | 006 | 008 | 010 | 012 | 014 | 012T | 014T |
| Diameter          | 1"   | 1"  | 1"  | 1"  | 1"  | 1"  | 1"   | 1"   |

AILABLE EXTERNAL STATIC PRESSURE

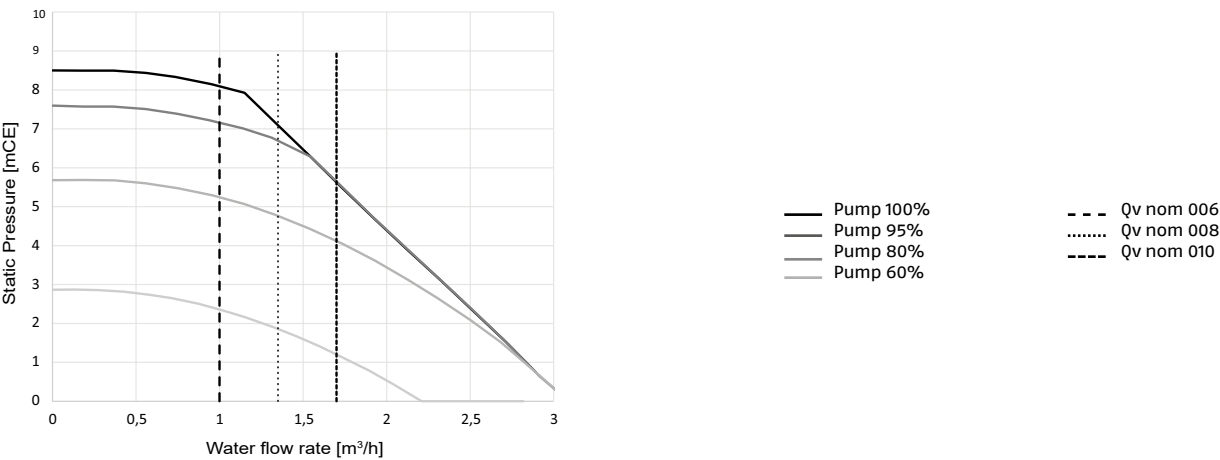
Data applicable for fresh water application (20°C). If glycol is used, the maximum water flow is reduced.

| Model                            | UM   | NXHP |      |      |      |      |      |      |      |
|----------------------------------|------|------|------|------|------|------|------|------|------|
|                                  |      | 004  | 006  | 008  | 010  | 012  | 014  | 012T | 014T |
| Nominal delivery                 | m3/h | 0,68 | 1,00 | 1,31 | 1,66 | 1,97 | 2,38 | 1,97 | 2,38 |
| Useful head at nominal flow rate | kPa  | 83   | 82   | 70   | 57   | 100  | 82   | 100  | 82   |

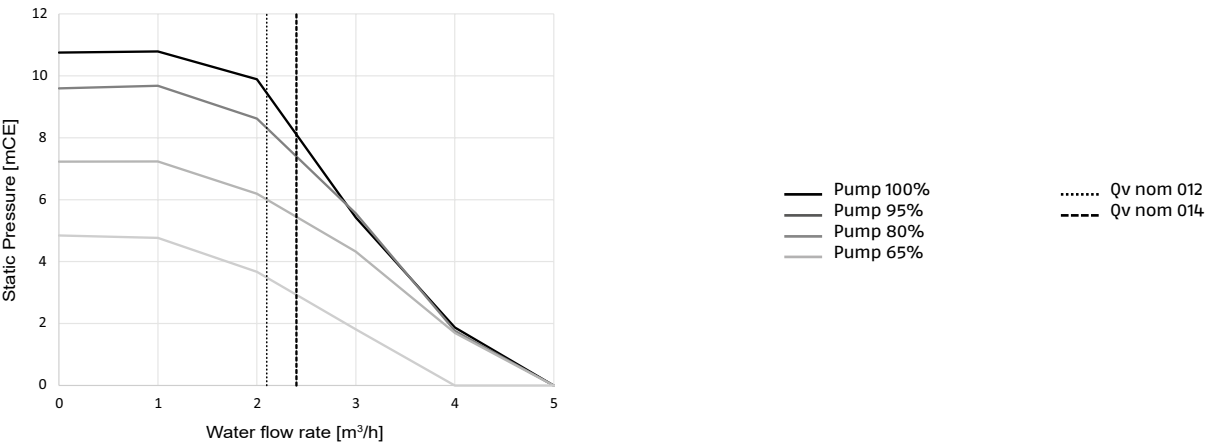
(1) External air temperature 7°C BS, 6°C BU; Inlet/Outlet Water 30/35°C.  
Available static pressure 4kW



Available static pressure 6 kW – 8 kW – 10 kW



Available static pressure 12 kW – 14 kW



## HEAT PUMP

Heat pump air to water

### QUALITY REQUIREMENTS OF SYSTEM FILLING WATER

At initial start-up, the specialised technician must test the reference values of the system water using special test kits. The quality of the water used must meet the requirements stated in the table below; otherwise, a treatment system must be installed.

| System water reference values |       |           |
|-------------------------------|-------|-----------|
| pH                            |       | 6,5 – 7,8 |
| Electrical conductivity       | µS/cm | 250 – 800 |
| Total hardness                | °F    | 5 – 15    |
| Total iron                    | ppm   | 0,2       |
| Manganese                     | ppm   | < 0,05    |
| Chlorides                     | ppm   | < 250     |
| Sulphur ions                  |       | none      |
| Ammonia ions                  |       | none      |

Well or groundwater not coming from the aqueduct should always be carefully analysed and if necessary conditioned with appropriate treatment systems.

If the initial water hardness exceeds the value indicated in the table, a water softening system must be used.

Excessive water softening (total hardness < 1.5 mmol/l) could lead to corrosion on contact with metal elements.

The conductivity value must also be kept within 600 µS/cm.

Check the chloride concentration at the outlet after regeneration of the resins.

It is strictly prohibited to introduce acids into the washing circuit.

It is strictly prohibited to constantly or frequently top up the system, as this can damage the heat exchanger of the appliance.

### WATER CONTENT AND WATER FLOW RATE SYSTEM

Heat pumps require systems that guarantee a constant fluid flow rate to the device, within minimum and maximum values and with sufficient volumes to avoid any imbalance in the cooling circuits and ensure the correct degree of comfort.

#### WATER CONTENT

A minimum volume of water in the system's primary circuit must be guaranteed for the appliance to operate correctly.

The minimum volume is necessary to prevent the risk of ice formation during defrosting operations or continuous modulation of the compressor frequency.

It also provides the following advantages:

- less appliance wear;
- increase in system efficiency;
- improved stability and temperature precision.

The water flow rate shall be maintained constant during operation and shall comply with

| Model                        | UM   | NXHP |      |      |      |      |      |      |      |
|------------------------------|------|------|------|------|------|------|------|------|------|
|                              |      | 004  | 006  | 008  | 010  | 012  | 014  | 012T | 014T |
| Minimum system water content | l    | 24   | 36   | 48   | 60   | 72   | 84   | 72   | 84   |
| Minimum water flow rate      | m³/h | 0,44 | 0,65 | 0,85 | 1,08 | 1,28 | 1,55 | 1,28 | 1,55 |

## ELECTRICAL CONNECTIONS

Please refer to the certified wiring drawings, supplied with the unit appliance shall be installed in accordance with national wiring regulations.

### POWER SUPPLY

The power supply must conform to the specification on heat pump nameplate. The supply voltage must be within the range specified in the electrical data table. For connections refer to the wiring diagrams and the certified dimensional drawings.

#### CAUTION:

As a standard protection, it is mandatory to install a disconnect switch to be able to disconnect the power supply of the unit.

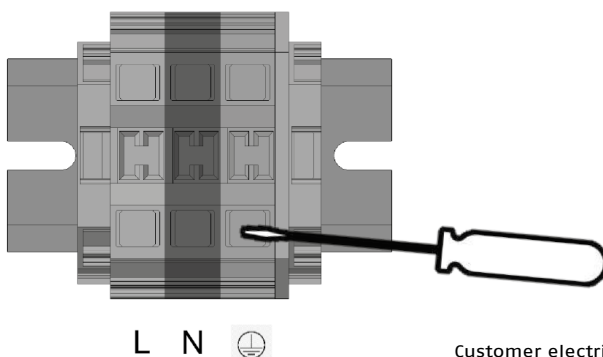
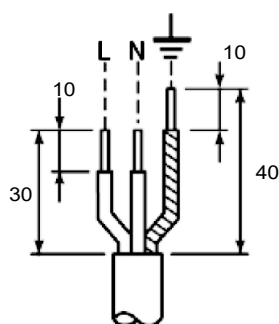
Make sure to respect the wiring order to avoid electrical shock.

The use of an ATEX disconnect switch is mandatory if it is installed at less than one meter of the unit. During the installation of the unit, only the side panel must be removed. The top panel shall not be removed at any time.

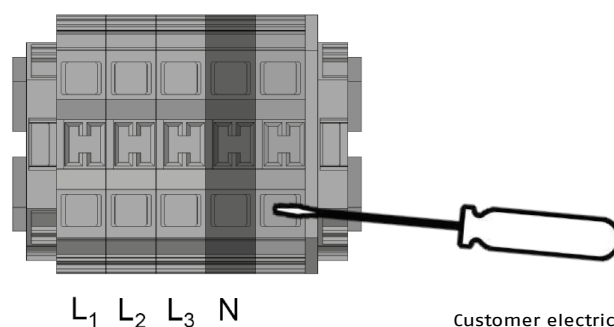
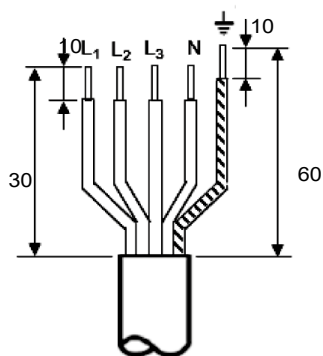
After the unit has been commissioned, the power supply must only be disconnected for quick maintenance operations (one day maximum). For longer maintenance operations or when the unit is taken out of service and stored (e.g. during the winter or if the unit does not need to generate cooling), water circuit and water heat exchanger must be drained.

This unit is equipped with electrically powered safety measures. To be effective, the unit must be electrically powered at all times after installation, other than when servicing.

Power supply connection diagram



Customer electrical connection - Single phase



Customer electrical connection - Three-phase

Note: Recommended screwdrivers for wiring  
 - 5 x 1 mm flat screwdriver (power terminal block)  
 - 2 x 0.5 mm flat screwdriver (control terminal block)

## HEAT PUMP

Heat pump air to water

### RECOMMENDED WIRE SECTIONS

Wire sizing is the responsibility of the installer, and depends on the characteristics and regulations applicable to each installation site. The following is only to be used as a guideline, and does not make Manufacturer in any way liable. After wire sizing has been completed, using the certified dimensional drawing, the installer must ensure easy connection and define any modifications necessary on site.

The connections provided as standard for the field-supplied power entry cables are designed for the number and type of wires, listed in the table below.

The calculations of favourable and unfavourable cases are performed by using the maximum current possible of each unit (see the tables of electrical data for the unit).

The calculation is based on PVC or XLPE insulated cables with copper core. A maximum ambient temperature of 46°C has been taken into consideration. The given wire length limits the voltage drop to < 5% (length L in metres – see table below).

#### IMPORTANT:

Before connection of the main power cables (L1 – L2 – L3 – N – PE or L1 – N – PE) on the terminal block, it is imperative to check the correct order of the 3 phases before proceeding to the connection and the good connection of the neutral wire (if the neutral conductor is not connected correctly, the unit can be damaged permanently).

## MINIMUM AND MAXIMUM WIRE SECTION (PER PHASE) FOR CONNECTION TO NXHP UNITS

Wire sizing is the responsibility of the installer, and depends on the characteristics and regulations applicable to each installation site. The following is only to be used as a guideline, and does not make Manufacturer in any way liable.

| NXHP                 | Max. connectable section(1)                                                                                                                                                                                                                                                     | Calculation favourable case:                                                     |                                  |            | Calculation unfavourable case:                                                                                                           |                                  |               |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------|
|                      |                                                                                                                                                                                                                                                                                 | - Suspended aerial lines (standardised routing No. 17)<br>- XLPE insulated cable |                                  |            | - Conductors in conduits or multi-conductor cables in closed conduit (standardised routing No. 41)<br>- PVC insulated cable, if possible |                                  |               |
|                      | Section                                                                                                                                                                                                                                                                         | Section(2)                                                                       | Max. length for voltage drop <5% | Cable type | Section(2)                                                                                                                               | Max. length for voltage drop <5% | Cable type(3) |
|                      | mm <sup>2</sup> (per phase)                                                                                                                                                                                                                                                     | mm <sup>2</sup> (per phase)                                                      | m                                | -          | mm <sup>2</sup> (per phase)                                                                                                              | m                                | -             |
| 004                  | 3G10 <sup>2</sup>                                                                                                                                                                                                                                                               | 3G2.5 <sup>2</sup>                                                               | 50                               | H07RNF     | 3G2.5 <sup>2</sup>                                                                                                                       | 50                               | H07RNF        |
| 006                  | 3G10 <sup>2</sup>                                                                                                                                                                                                                                                               | 3G2.5 <sup>2</sup>                                                               | 40                               | H07RNF     | 3G4 <sup>2</sup>                                                                                                                         | 60                               | H07RNF        |
| 008                  | 3G10 <sup>2</sup>                                                                                                                                                                                                                                                               | 3G4 <sup>2</sup>                                                                 | 50                               | H07RNF     | 3G4 <sup>2</sup>                                                                                                                         | 50                               | H07RNF        |
| 010                  | 3G10 <sup>2</sup>                                                                                                                                                                                                                                                               | 3G4 <sup>2</sup>                                                                 | 40                               | H07RNF     | 3G6 <sup>2</sup>                                                                                                                         | 60                               | H07RNF        |
| 012                  | 3G10 <sup>2</sup>                                                                                                                                                                                                                                                               | 3G4 <sup>2</sup>                                                                 | 40                               | H07RNF     | 3G6 <sup>2</sup>                                                                                                                         | 55                               | H07RNF        |
| 014                  | 3G10 <sup>2</sup>                                                                                                                                                                                                                                                               | 3G4 <sup>2</sup>                                                                 | 40                               | H07RNF     | 3G6 <sup>2</sup>                                                                                                                         | 55                               | H07RNF        |
| 012T                 | 5G4 <sup>2</sup>                                                                                                                                                                                                                                                                | 5G1.5 <sup>2</sup>                                                               | 50                               | H07RNF     | 5G4 <sup>2</sup>                                                                                                                         | 150                              | H07RNF        |
| 014T                 | 5G4 <sup>2</sup>                                                                                                                                                                                                                                                                | 5G1.5 <sup>2</sup>                                                               | 50                               | H07RNF     | 5G4 <sup>2</sup>                                                                                                                         | 150                              | H07RNF        |
| Accessory Remote WUI | Use cables H07RN-F 4x0,75 mm <sup>2</sup> up to 50m to connect the user interface WUI (not supplied with accessory)<br>CAUTION: Use the grey ferrite which is supplied in accessory to clamp around the WUI cable. Please clamp it directly after the customer's terminal block |                                                                                  |                                  |            |                                                                                                                                          |                                  |               |

### Notes:

(1) Connection capacities actually available for each machine, defined according to the connection terminal size, the control box access opening size and the available space inside the control box.

(2) Selection simulation result considering the hypothesis indicates.

(3) If the maximum calculated section is for an XLPE cable type, this means that a selection based on a PVC cable type can exceed the connection capacity actually available. Special attention must be given to the selection.

## RECOMMENDED CUSTOMER ELECTRICAL PROTECTION

Electrical protection is the responsibility of the installer, and depends on the characteristics and regulations applicable to each installation site. The following is only to be used as a guideline, and does not make manufacturer in any way liable.

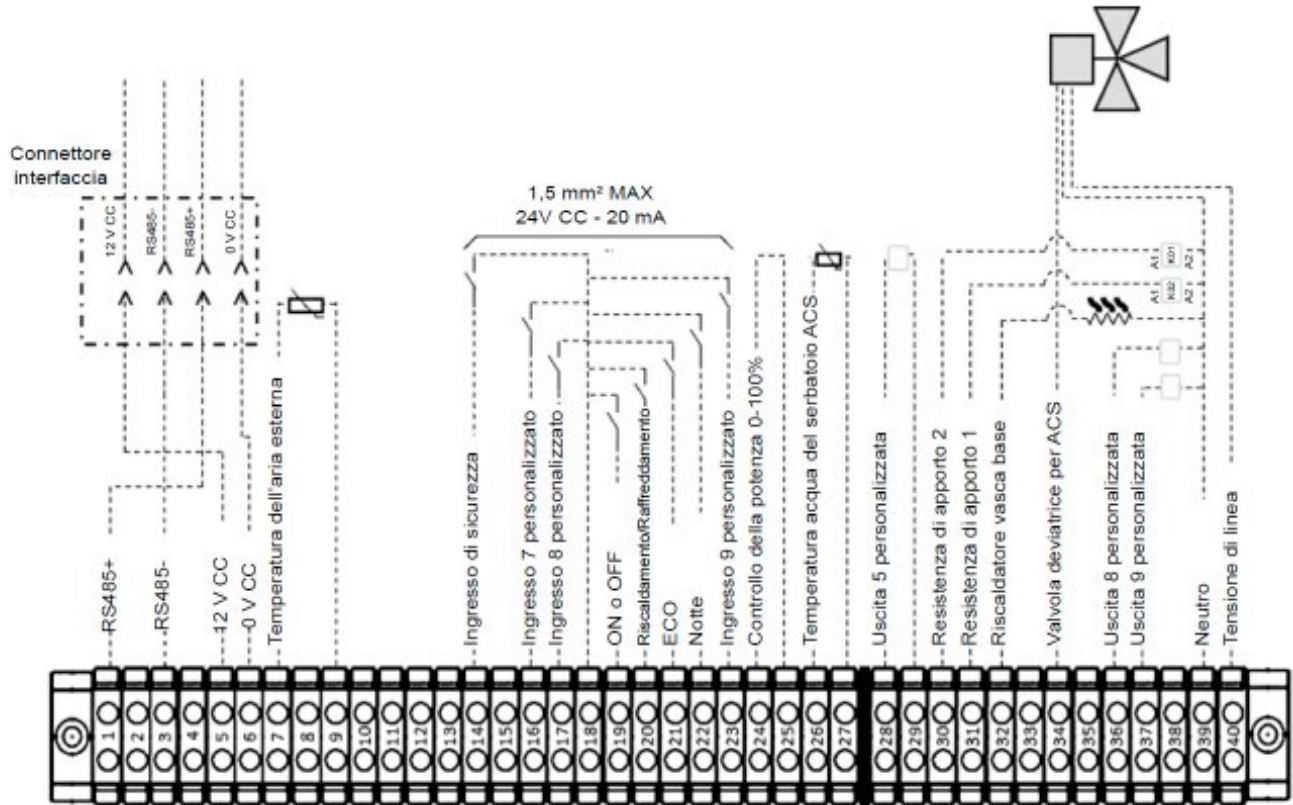
| NXHP            | 004 | 006 | 008 | 010 | 012 | 014 | 012T | 014T |
|-----------------|-----|-----|-----|-----|-----|-----|------|------|
| Circuit breaker |     |     |     |     |     |     |      |      |
| Type            |     | C   | C   | C   | C   | C   | C    | C    |
| Current         | A   | 16  | 20  | 25  | 32  | 32  | 20   | 20   |
| Fuses           |     |     |     |     |     |     |      |      |
| Type            |     | gG  | gG  | gG  | gG  | gG  | gG   | gG   |
| Current         | A   | 20  | 25  | 32  | 40  | 40  | 25   | 25   |

## HEAT PUMP

Heat pump air to water

### GENERAL CUSTOMER ELECTRICAL CONNECTION ON TERMINAL BLOCK

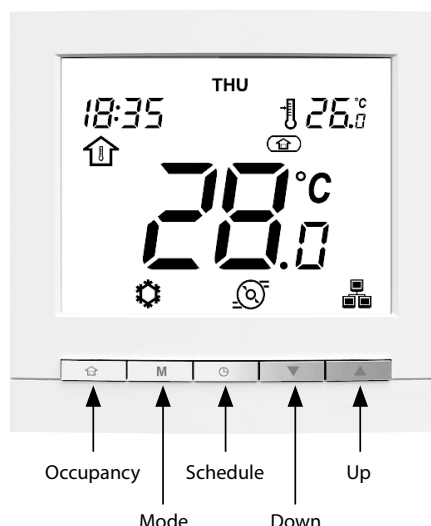
For details on electrical connections refer to the INSTALLER manual of the product.



## CONTROL PANEL

Your system is controlled by a Wall-Mounted User interface (WUI) that can be installed inside your home. This manual provides guidelines on how to use this interface effectively.

If you have any questions regarding the display and its configuration, please contact your installer for more information.



## KEY FEATURES

- Heating / Cooling: Depending on the unit, the system may operate in Heating or Cooling.
- Occupancy control allows you to easily set the system to operate in the following modes:

-  Home
-  Sleep
-  Away

- Easy temperature control: Depending on system configuration, room temperature or water temperature will be constantly displayed on the screen.



Room temperature icon indicates that system control is based on room temperature.



Water temperature icon means that the system is controlled according to water temperature.

- The setpoint which is the temperature to be achieved is displayed in the upper-right corner of the screen.
- Schedule control allows you to set the unit to operate with a set of predefined parameters (heating/cooling, occupancy, setpoint) in a specific period of time. You can always modify the schedule if necessary.
- Additional data display: In addition to the standard display, you may easily check other parameters, which provide information on the general status of the unit.
- Alarms are used to warn of potentially dangerous situations that may result in the failure of the unit.

TIP – To configure the advanced parameters of the unit, please contact professional technicians.

## HEAT PUMP

Heat pump air to water

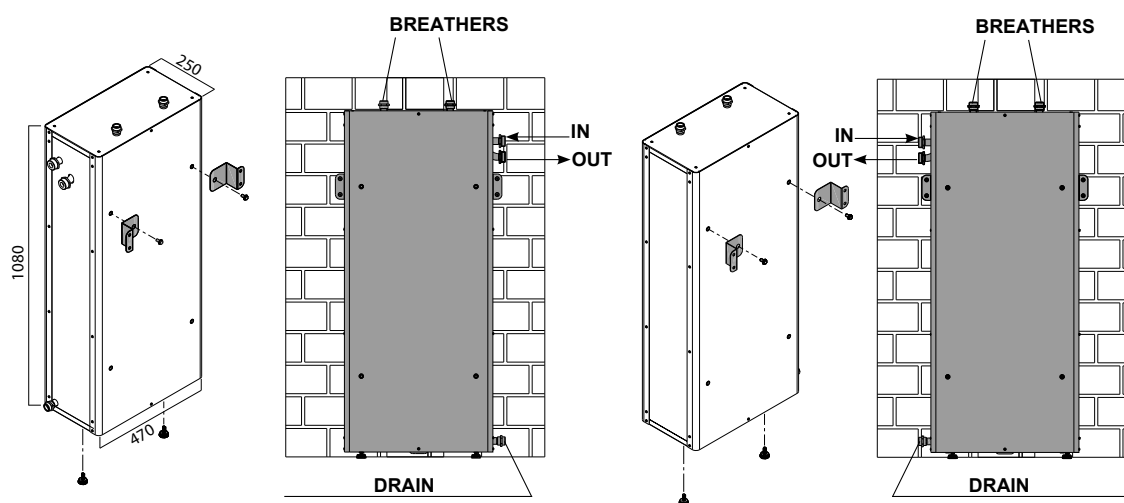
### MAIN ACCESSORIES

#### 50 L INERTIAL TANK

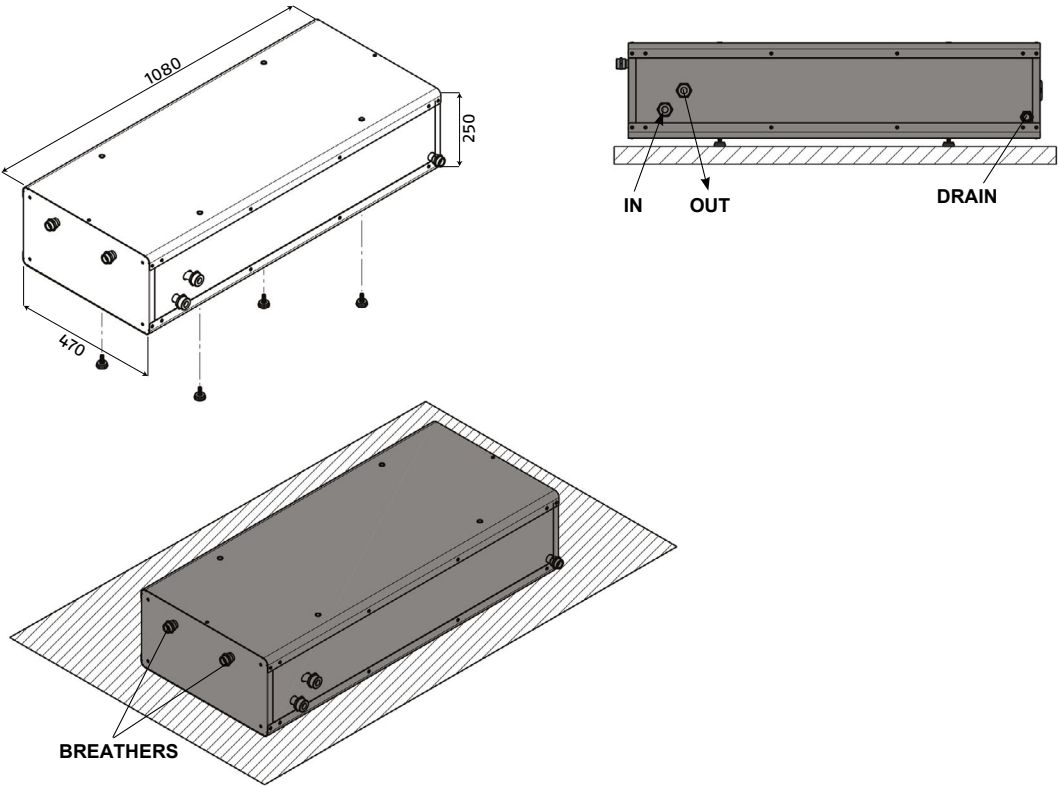
Insulated 50-litre inertia tank designed to minimise heat pump on/off cycles when the system is running at almost full capacity. The inertia tank ensures, if required, the minimum water content in the system that the heat pump needs, depending on the installed capacity. This ensures the machine runs efficiently and optimally even in part load conditions.

- For hot and cold applications;
- It can be installed vertically or horizontally, inside or outside the building;
- It can be installed horizontally under the heat pump, thus minimising any space availability issues;
- Filling and emptying caps;
- Fitted with rubber elements to dampen the vibration generated by the heat pump.

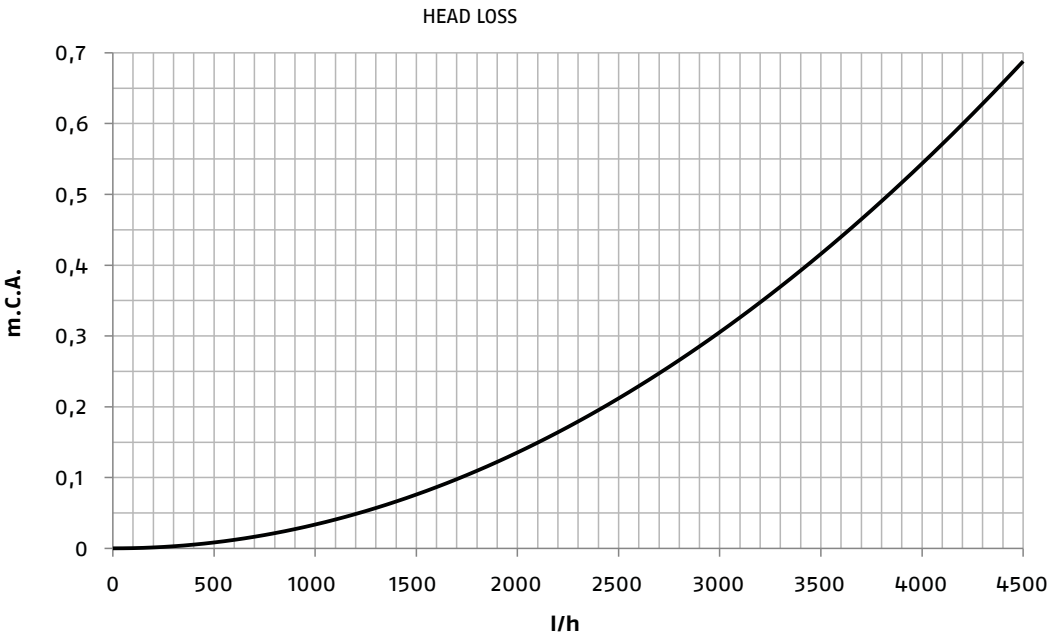
#### WALL INSTALLATION



FLOOR INSTALLATION



Specific tank conductivity 0.94 (W/K)



## HEAT PUMP

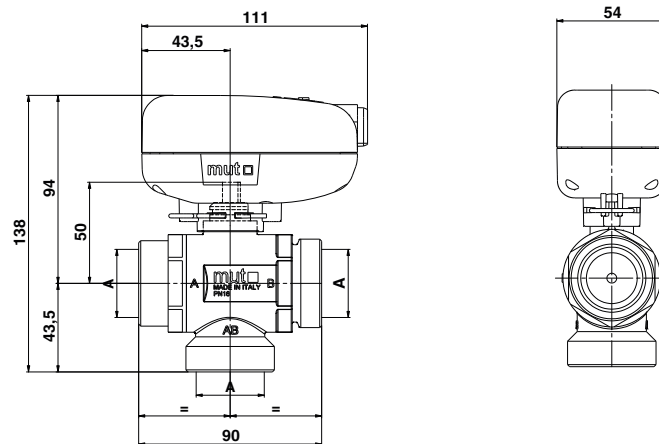
Heat pump air to water

### DIVERTER VALVE

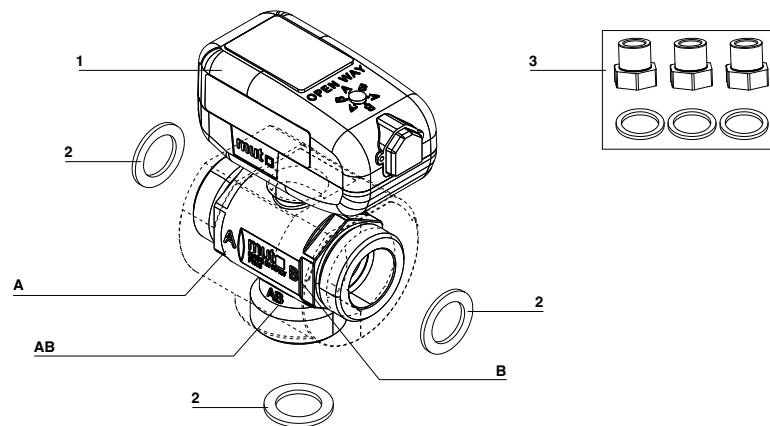
3-way motorised full bore ball diverter valve for automatic diversion of the heat-transfer fluid distributed in air conditioning or DHW distribution systems.

Common fluid way: AB fluid passes on way A or on way B. G1" or G1 1/4" fittings available (ISO 228-1). CW617N brass body. CW617N brass ball, chrome-plated. Ball hydraulic seal in PTFE (Teflon®) with O-Ring in EPDM Perox TIMO. O-Ring in EPDM Perox TIMO. Motor casing in PA66 GF25 – UL94-V0. Usage fluids water and glycol solutions; maximum glycol percentage 50%. Nominal pressure 16 bar.

PN16. Maximum operating differential pressure 6 bar. Outflow coefficient, Kvs: 15.5. Fluid operating temperature range 2 – 90 °C. Operating ambient temperature range 0 – 60 °C. Power supply 230 V (or 24 V); power input 7 W. Auxiliary micro contacts capacity 3 (1) A, 250 V. Protection rating IP 40. Insulation class: II – Ref. European standard EN 60730. Commutation time: 25 s.

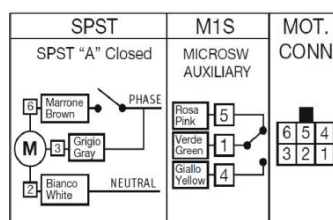


### DIVERTER VALVE ASSEMBLY



1. 3-way motorised ball diverter valve SPST 230 Vac-50/60 Hz - 1"1/4 M fitting
2. 1" flat gasket in Centellen
3. Unions for adapters 1" 1/4 F - 1" 1/4 F - 1" M and relative gaskets

### ELECTRICAL CONNECTIONS



To connect the electricity, see the terminal board of the indoor unit

### FUNCTIONAL CHARACTERISTICS

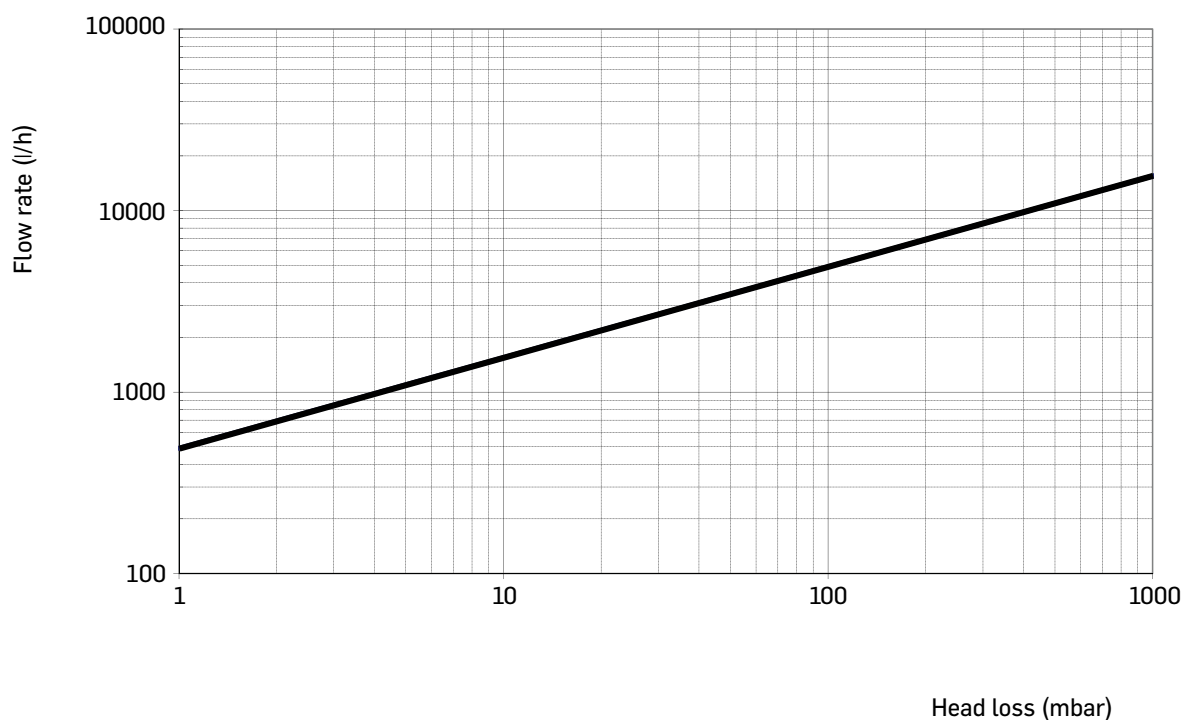
- AB way always open
- Type of valve operation: diverter (on/off)
- Nominal pressure: PN16
- Max. differential pressure: 6bar
- Flow rate coefficient Kvs in diversion: 90° ([m<sup>3</sup>/h] at ΔP= 1bar): Kvs=15.5
- Fittings: Threaded - ISO 228/1
- Full bore valve (DN25)
- Fluid temperature limits: 2 - 90 °C [max]
- Usage fluid: Water, glycol solutions [max 50%]
- Ambient temperature range: 0 - 60 °C
- Type of actuation: SPST = Single-pole external electr. comm. (with built-in relay)
- With 1 auxiliary micro as standard: 3(1)A - 250 Vac
- Insulation class: II Ref. European standard EN 60730
- Protection rating: IP 40 Ref. European standard IEC EN 60529
- Type of connector: Molex Mini-Fit JR 6 pole or compatible
- Cable length: 1000 mm
- Voltage: 230V or 24V
- Synchronous motor
- Electric power supply: 230V (±10%) - 50/60 Hz / 24V (±10%) - 50/60 Hz
- Power input: 7W(Max)
- Manoeuvre ON time: 25 s
- Manoeuvre OFF time: 25s

### MATERIALS

- Valve body: Brass
- Control shaft: Brass
- Ball: Brass
- Seal rings: PTFE (Teflon®)
- O-Rings: EPDM Perox (TIMO®)
- Servomotor casing: PA66GF30 (ISO 1874-PA 66, GHR, 14-100, GF30)

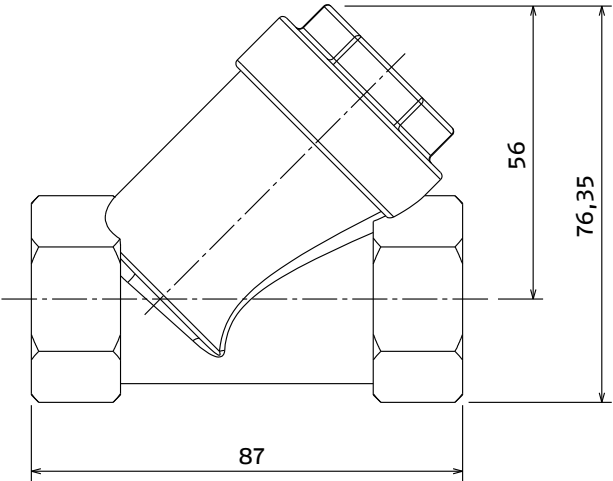
### LOAD LOSS GRAPH

Load losses do not vary substantially with the variation of the route travelled, nor with the variation of the direction of travel.

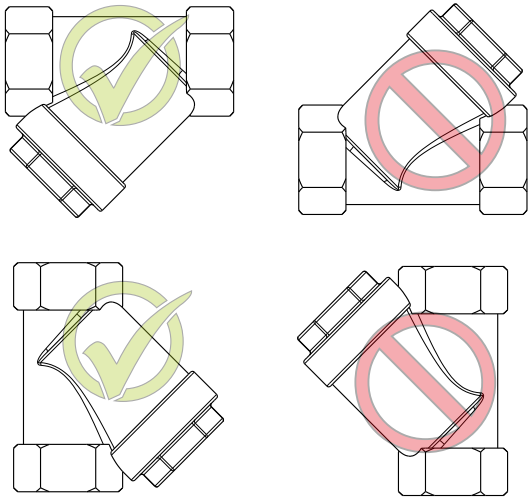


WATER FILTER Y 1"

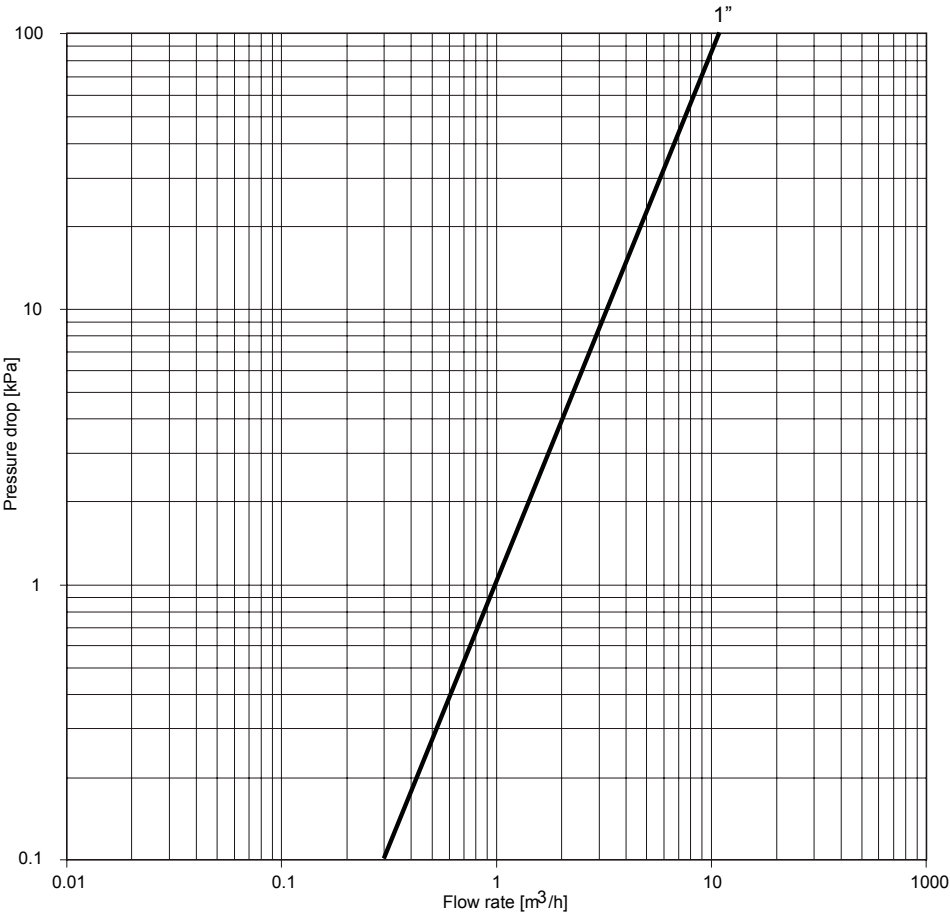
DIMENSIONS



Y WATER FILTER ASSEMBLY



HEAD LOSS



| MEASUREMENT | Kv |
|-------------|----|
| 1"          | 11 |

## SPECIFICATION DESCRIPTIONS

The low GWP natural gas R290 hydronic heat pumps NXHP are high-efficiency, ErP-compliant monobloc heat pumps (Class A+++ in the range of efficiency class from D up to A+++, SCOP up to 4.82).

Main features:

- inverter fans for silent operation
- compressor Twin Rotary with DC inverter technology and control via a PWM signal, wide modulation range with R290 gas
- gas/water plate heat exchanger
- self-modulating high-efficiency electronic circulator and electronic part with integrated advanced functions
- remote control panel, connected to the outdoor unit via ModBus (4 wires), which can also perform the function of an ambient probe with weekly time programmer

### COMPRESSOR

- Advanced technology ensuring optimum energy efficiency and characterised by high output levels in peak conditions and optimised efficiency at low and medium compressor speeds.
- The heat pump NXHP is equipped with IPDU (intelligent control unit) hybrid technology with an inverter, which combines two electronic control logics: pulse amplitude modulation (PAM) and pulse width modulation (PWM), to ensure optimised compressor operation under all operating conditions, minimise temperature fluctuations, and provide perfect comfort regulation, all while significantly reducing energy consumption.
- PAM: the modulation of the direct current pulse amplitude commands the compressor to work in maximum load conditions (start-up and peak load) so as to increase the voltage in the case of a fixed frequency. The compressor works at high speed to quickly reach the required temperature
- PWM: the modulation of the direct current pulse width commands the compressor to work in partial load conditions, adapting the frequency in the case of a fixed voltage. The compressor speed is precisely regulated and the system offers a high comfort level (no temperature fluctuations) in working conditions of outstanding efficiency.
- The compressor frequency increases constantly until it reaches the maximum level.
- This ensures that there are no intensity peaks during the start-up phase, and also means a secure connection to the single-phase current supply even for high-output systems.
- The two rotating blades of the compressor are dephased by 180°. Along with the DC brushless motor, fitted with a perfectly balanced shaft, they guarantee that noise and vibrations are kept at a minimum even at extremely low operating speeds.
- All twin rotary compressors with brushless DC inverter motor are equipped with casing assembly resistors as standard.
- The compressor has a double protective sound insulation shield to further reduce the noise levels.

### EXTERNAL COIL

- The new aluminium-copper coil features a blue hydrophilic coating, which allows water to move more easily (by gravity) towards the bottom of the heat exchanger.

In particular, this innovation means:

- the frosting time to be increased by reducing the accumulation of frost on the coil
- better defrosting by improving the flow of water over the fins.

### EXTERNAL FAN

- Variable speed fans (driven by a VFD variable frequency drive system) with patented, innovative impellers shaped for optimal air distribution combined with exceptionally low sound levels.

### ELECTRONIC EXPANSION VALVE

- The electronic expansion valve is a dual flow electronic expansion device whose job is to optimise the volume of the refrigerant fluid in the circuit and therefore the overheating issue, preventing the fluid from returning to the compressor. This device further boosts the high efficiency and reliability of the system as it enables to work even with very low condensation pressure values across the whole operating range.

### PLATE HEAT EXCHANGER

- Vertical plate heat exchanger made of AISI 316 stainless steel insulated with closed-cell anti-condensation coating ranging from 6 to 13 mm.

## HEAT PUMP

### Heat pump air to water

#### TOP PERFORMANCE

- NXHP extremely high level of energy efficiency in both heating and cooling mode, thereby guaranteeing significant energy savings. The large, high-efficiency coils, together with the optimised circuits, ensure results that meet the European ecodesign directive. Efficiency levels in partial load conditions (seasonal energy efficiency) are the highest in this industrial sector.

Comfort throughout the year: the ground-breaking technology employed for NXHP means boosted comfort levels for users in terms of both water temperature control and low noise operation. The required temperature is reached quickly and kept constant, without any fluctuations. NXHP optimised, personalised comfort levels both in winter and in summer.

- NXHP can work in cooling mode even with low outdoor temperatures (from 10 °C, and up to 46 °C). To ensure the maximum comfort for the user, the units work in heating mode with outdoor temperatures down to -20°C, whereas in summer they can produce hot water up to 75°C for DHW applications, with the outdoor temperature as high as 40°C.
- NXHP also with new FREE DEFROST technology. This advanced control logic allows energy to be extracted from the outside air, so that defrosting is energetically optimised without the need for any compressor intervention. In fact, defrosting via the FREE DEFROST system, unlike traditional defrosting, has practically no thermal impact on the water circuit.

#### RELIABILITY

- Each unit is subject to testing during all stages of production to ensure the tightness of the circuit, electrical compliance, and correct water and refrigerant fluid pressure. At the end of production, all operating parameters of the unit are thoroughly tested. Corrosion resistance test. Accelerated ageing tests on critical components and fully assembled units, with simulation of thousands of hours of continuous operation.

#### Burner equipment

The heat pumps NXHP are delivered fixed on a wooden pallet and protected by polystyrene packaging.

The following documents can be found inside the packaging:

- instruction booklet for the installer and for Technical Services
- instruction booklet for the user
- spare parts/warranty labels
- energy labels

Kit gas separator is delivered as separated box on the top of the heat pump packaging.

The heat pumps NXHP are compliant with:

- 2014/35/EU Low Voltage Directive
- 2014/30/EU Electromagnetic Compatibility Directive
- 2014/68/EU Pressure Equipment Directive
- 2009/125/CE Ecodesign Directive
- Ecodesign regulation (EU) No 813/2013
- Energy Labelling regulation (EU) No 811/2013
- 2011/65/EU Restriction of Hazardous Substances Directive (RoHS)
- REACH regulation (EC) No 1907/2006

This image shows a full page of a document template. It consists of approximately 30 evenly spaced horizontal dotted lines across the entire width of the page, providing a guide for handwriting or typing. There are no margins, text, or other markings present.



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