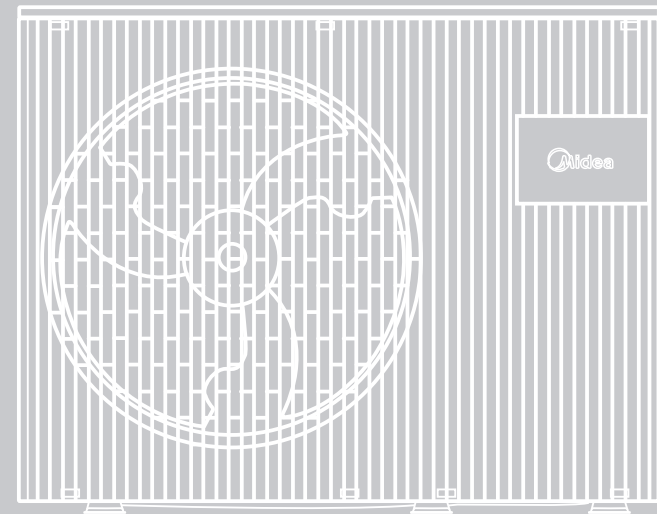


# TECHNICAL DATA MANUAL AND ENERGY EFFICIENCY

M-thermal Split Outdoor Unit



IMPORTANT NOTE:

Thank you very much for purchasing our product,  
Before using your unit , please read this manual carefully and keep it for future reference.



# Product fiche

Energy labelling regulation: (EU)811/2013

Ecodesign regulation: (EU)813/2013

| Heat pump combination heater                        |   | Outdoor             | MHA-V12WD2N8-E        | MHA-V14WD2N8-E        | MHA-V16WD2N8-E        | MHA-V12WD2RN8-E       | MHA-V14WD2RN8-E       | MHA-V16WD2RN8-E       |
|---|---|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|   |   | Indoor              | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| Indoor unit sound power(*)                          |   | dB                  | 44                    | 44                    | 44                    | 44                    | 44                    | 44                    |
| Outdoor unit sound power(*)                         |   | dB                  | 59                    | 60                    | 60                    | 59                    | 60                    | 60                    |
| Water heating                                       | Declared load profile                             | -                   | XL                    | XL                    | XL                    | XL                    | XL                    | XL                    |
|   | Energy efficiency class                           | -                   | A+                    | A+                    | A+                    | A+                    | A+                    | A+                    |
| Space heating                                       | Energy efficiency class at 55°C (High temp. app.) | -                   | A+++                  | A+++                  | A+++                  | A+++                  | A+++                  | A+++                  |
| Average climate                                     |   |                     |                       |                       |                       |                       |                       |                       |
| Water heating                                       | Water heating energy efficiency ( $\eta_{wh}$ )   | [%]                 | 136                   | 136                   | 136                   | 136                   | 136                   | 136                   |
|   | Annual electricity consumption (AEC)              | [kWh]               | 1 232                 | 1 232                 | 1 232                 | 1 232                 | 1 232                 | 1 232                 |
| Space heating                                       | $P_{rated}$ (declared heating capacity)@-10°C     | [kW]                | 12                    | 13.8                  | 15                    | 12                    | 13.8                  | 15                    |
|   | Seasonal space heating efficiency( $\eta_{sh}$ )  | [%]                 | 153.7                 | 152.2                 | 151.0                 | 153.7                 | 152.2                 | 151.0                 |
|   | Annual energy consumption                         | [kWh]               | 6 330                 | 7 350                 | 8 049                 | 6 330                 | 7 350                 | 8 049                 |
| Off-peak operation function integrated in heat pump |   | Y/N                 | Y                     | Y                     | Y                     | Y                     | Y                     | Y                     |
| Colder climate                                      |   |                     |                       |                       |                       |                       |                       |                       |
| Water heating                                       | Water heating energy efficiency ( $\eta_{wh}$ )   | [%]                 | 114                   | 114                   | 114                   | 114                   | 114                   | 114                   |
|   | Annual energy consumption                         | [kWh]               | 1 478                 | 1 478                 | 1 478                 | 1 478                 | 1 478                 | 1 478                 |
| Space heating                                       | $P_{rated}$ (declared heating capacity)@-22°C     | [kW]                | 11.00                 | 12.00                 | 13.00                 | 11.00                 | 12.00                 | 13.00                 |
|   | Seasonal space heating efficiency( $\eta_{sh}$ )  | [%]                 | 126.3                 | 128.0                 | 130.9                 | 126.3                 | 128.0                 | 130.9                 |
|   | Annual energy consumption                         | [kWh]               | 8 387                 | 9 034                 | 9 573                 | 8 387                 | 9 034                 | 9 573                 |
| Warmer climate                                      |   |                     |                       |                       |                       |                       |                       |                       |
| Water heating                                       | Water heating energy efficiency ( $\eta_{wh}$ )   | [%]                 | 153                   | 153                   | 153                   | 153                   | 153                   | 153                   |
|   | Annual energy consumption                         | [kWh]               | 1 043                 | 1 043                 | 1 043                 | 1 043                 | 1 043                 | 1 043                 |
| Space heating                                       | $P_{rated}$ (declared heating capacity)@2°C       | [kW]                | 13.10                 | 14.10                 | 14.10                 | 13.10                 | 14.10                 | 14.10                 |
|   | Seasonal space heating efficiency( $\eta_{sh}$ )  | [%]                 | 171.1                 | 171.4                 | 171.4                 | 171.1                 | 171.4                 | 171.4                 |
|   | Annual energy consumption                         | [kWh]               | 4 022                 | 4 321                 | 4 321                 | 4 022                 | 4 321                 | 4 321                 |
| Ecodesign technical data                            |   |                     |                       |                       |                       |                       |                       |                       |
| Product description                                 | Air-to-water heat pump                            | Y/N                 | Y                     | Y                     | Y                     | Y                     | Y                     | Y                     |
|   | Water-to-water heat pump                          | Y/N                 | N                     | N                     | N                     | N                     | N                     | N                     |
|   | Brine-to-water heat pump                          | Y/N                 | N                     | N                     | N                     | N                     | N                     | N                     |
|   | Low-temperature heat pump                         | Y/N                 | N                     | N                     | N                     | N                     | N                     | N                     |
|   | Equipped with a supplementary heater              | Y/N                 | Y                     | Y                     | Y                     | Y                     | Y                     | Y                     |
|   | Heat pump combination heater                      | Y/N                 | Y                     | Y                     | Y                     | Y                     | Y                     | Y                     |
| Air-to-water unit                                   | Rated airflow (outdoor)                           | [m <sup>3</sup> /h] | 4 780                 | 4 780                 | 4 780                 | 4 780                 | 4 780                 | 4 780                 |
| Brine/water-to-water heat pump                      | Rated brine/water flow (outdoor H/E)              | [m <sup>3</sup> /h] | -                     | -                     | -                     | -                     | -                     | --                    |

| Model           |                       | For medium - temperature application |                         |                          |                   |  |  |                   |  |  |                   |  |  |
|-----------------|-----------------------|--------------------------------------|-------------------------|--------------------------|-------------------|--|--|-------------------|--|--|-------------------|--|--|
| Outdoor unit    | Indoor unit           | Energy efficiency class              | Indoor unit sound power | Outdoor unit sound power | Average climate   |  |  | Colder climate    |  |  | Warmer climate    |  |  |
|                 |                       |                                      |                         |                          | Rated heat output | Seasonal space heating energy efficiency | For space heating, annual energy consumption | Rated heat output | Seasonal space heating energy efficiency | For space heating, annual energy consumption | Rated heat output | Seasonal space heating energy efficiency | For space heating, annual energy consumption |
|                 |                       |                                      |                         |                          | -                 | dB                                       | dB   | kW                | %  | kWh  | kW                | %  | kWh  |
| MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | A+++                                 | 43                      | 59                       | 12.0              | 153.7                                    | 6 330  | 11.0              | 126.3                                    | 8 387  | 13.1              | 171.1                                    | 4 022  |
| MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | A+++                                 | 43                      | 60                       | 13.8              | 152.2                                    | 7 350  | 12.0              | 128.0                                    | 9 034  | 14.1              | 171.4                                    | 4 321  |
| MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | A+++                                 | 43                      | 60                       | 15.0              | 151.0                                    | 8 049  | 13.0              | 130.9                                    | 9 573  | 14.1              | 171.4                                    | 4 321  |
| MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | A+++                                 | 43                      | 59                       | 12.0              | 153.7                                    | 6 330  | 11.0              | 126.3                                    | 8 387  | 13.1              | 171.1                                    | 4 022  |
| MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | A+++                                 | 43                      | 60                       | 13.8              | 152.2                                    | 7 350  | 12.0              | 128.0                                    | 9 034  | 14.1              | 171.4                                    | 4 321  |
| MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | A+++                                 | 43                      | 60                       | 15.0              | 151.0                                    | 8 049  | 13.0              | 130.9                                    | 9 573  | 14.1              | 171.4                                    | 4 321  |

| Model           |                       | For low - temperature application |                         |                          |                   |  |  |                   |  |  |                   |  |  |
|-----------------|-----------------------|-----------------------------------|-------------------------|--------------------------|-------------------|--|--|-------------------|--|--|-------------------|--|--|
| Outdoor unit    | Indoor unit           | Energy efficiency class           | Indoor unit sound power | Outdoor unit sound power | Average climate   |  |  | Colder climate    |  |  | Warmer climate    |  |  |
|                 |                       |                                   |                         |                          | Rated heat output | Seasonal space heating energy efficiency | For space heating, annual energy consumption | Rated heat output | Seasonal space heating energy efficiency | For space heating, annual energy consumption | Rated heat output | Seasonal space heating energy efficiency | For space heating, annual energy consumption |
|                 |                       |                                   |                         |                          | -                 | dB                                       | dB   | kW                | %  | kWh  | kW                | %  | kWh  |
| MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | A+++                              | 43                      | 59                       | 12.0              | 204.6                                    | 4 777  | 12.0              | 179.7                                    | 6 475  | 12.4              | 253.4                                    | 2 584  |
| MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | A+++                              | 43                      | 60                       | 13.8              | 199.4                                    | 5 633  | 14.0              | 179.4                                    | 7 570  | 13.2              | 257.4                                    | 2 709  |
| MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | A+++                              | 43                      | 60                       | 15.5              | 194.0                                    | 6 503  | 15.5              | 179.1                                    | 8 393  | 14.1              | 257.3                                    | 2 895  |
| MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | A+++                              | 43                      | 59                       | 12.0              | 204.6                                    | 4 777  | 12.0              | 179.7                                    | 6 475  | 12.4              | 253.4                                    | 2 584  |
| MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | A+++                              | 43                      | 60                       | 13.8              | 199.4                                    | 5 633  | 14.0              | 179.4                                    | 7 570  | 13.2              | 257.4                                    | 2 709  |
| MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | A+++                              | 43                      | 60                       | 15.5              | 194.0                                    | 6 503  | 15.5              | 179.1                                    | 8 393  | 14.1              | 257.3                                    | 2 895  |

# Product fiche 1

| Heat pump space heater   |   | Outdoor | MHA-V12WD2N8-E        | MHA-V14WD2N8-E        | MHA-V16WD2N8-E        |
|--|---|---------|-----------------------|-----------------------|-----------------------|
|  |   | Indoor  | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| Other  | Capacity control                            | -       | inverter              | inverter              | inverter              |
|  | Poff (Power consumption Off mode)           | [kW]    | 0.014                 | 0.014                 | 0.014                 |
|  | Pto (Power consumption Thermostat off mode) | [kW]    | 0.024                 | 0.024                 | 0.024                 |
|  | Psb (Power consumption Standby mode)        | [kW]    | 0.014                 | 0.014                 | 0.014                 |
|  | PCK (Power crankcase heater model)          | [kW]    | 0.000                 | 0.000                 | 0.000                 |
|  | Qelec (Daily electricity consumption)       | [kWh]   | /                     | /                     | /                     |
|  | Qfuel (Daily fuel consumption)              | [kWh]   | /                     | /                     | /                     |
| Part load conditions space heating average climate low temperature application |   |         |                       |                       |                       |
| (A) condition (-7°C)   | Pdh (declared heating capacity)             | [kW]    | 10.67                 | 12.22                 | 13.68                 |
|  | COPd (declared COP)                         | -       | 3.21                  | 3.08                  | 2.90                  |
|  | Cdh(degradation coefficient)                | -       | 0.99                  | 0.99                  | 1.00                  |
| (B) condition (2°C)  | Pdh (declared heating capacity)             | [kW]    | 6.61                  | 7.74                  | 8.60                  |
|  | COPd (declared COP)                         | -       | 5.07                  | 4.80                  | 4.67                  |
|  | Cdh(degradation coefficient)                | -       | 0.98                  | 0.99                  | 0.99                  |
| (C) condition (7°C)  | Pdh (declared heating capacity)             | [kW]    | 5.23                  | 5.27                  | 5.65                  |
|  | COPd (declared COP)                         | -       | 6.83                  | 7.12                  | 7.00                  |
|  | Cdh(degradation coefficient)                | -       | 0.97                  | 0.97                  | 0.97                  |
| (D) condition (12°C)   | Pdh (declared heating capacity)             | [kW]    | 5.98                  | 5.98                  | 6.00                  |
|  | COPd (declared COP)                         | -       | 8.68                  | 8.85                  | 8.91                  |
|  | Cdh(degradation coefficient)                | -       | 0.97                  | 0.96                  | 0.96                  |
| (E) Tol (temperature operating limit)  | Tol (temperature operating limit)           | [°C]    | -10                   | -10                   | -10                   |
|  | Pdh (declared heating capacity)             | [kW]    | 11.74                 | 13.50                 | 15.50                 |
|  | COPd (declared COP)                         | -       | 2.83                  | 2.62                  | 2.45                  |
|  | WTOL (Heating water Operation Limit)        | [°C]    | 65                    | 65                    | 65                    |

# Product fiche 1

| Heat pump space heater   |   | Outdoor | MHA-V12WD2RN8-E       | MHA-V14WD2RN8-E       | MHA-V16WD2RN8-E       |
|--|---|---------|-----------------------|-----------------------|-----------------------|
|  |   | Indoor  | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| Other  | Capacity control                            | -       | inverter              | inverter              | inverter              |
|  | Poff (Power consumption Off mode)           | [kW]    | 0.014                 | 0.014                 | 0.014                 |
|  | Pto (Power consumption Thermostat off mode) | [kW]    | 0.024                 | 0.024                 | 0.024                 |
|  | Psb (Power consumption Standby mode)        | [kW]    | 0.014                 | 0.014                 | 0.014                 |
|  | PCK (Power crankcase heater model)          | [kW]    | 0.000                 | 0.000                 | 0.000                 |
|  | Qelec (Daily electricity consumption)       | [kWh]   | /                     | /                     | /                     |
|  | Qfuel (Daily fuel consumption)              | [kWh]   | /                     | /                     | /                     |
| Part load conditions space heating average climate low temperature application |   |         |                       |                       |                       |
| (A) condition (-7°C)   | Pdh (declared heating capacity)             | [kW]    | 10.67                 | 12.22                 | 13.68                 |
|  | COPd (declared COP)                         | -       | 3.21                  | 3.07                  | 2.90                  |
|  | Cdh(degradation coefficient)                | -       | 0.99                  | 0.99                  | 1.00                  |
| (B) condition (2°C)  | Pdh (declared heating capacity)             | [kW]    | 6.61                  | 7.74                  | 8.60                  |
|  | COPd (declared COP)                         | -       | 5.07                  | 4.80                  | 4.67                  |
|  | Cdh(degradation coefficient)                | -       | 0.98                  | 0.99                  | 0.99                  |
| (C) condition (7°C)  | Pdh (declared heating capacity)             | [kW]    | 5.23                  | 5.27                  | 5.65                  |
|  | COPd (declared COP)                         | -       | 6.83                  | 7.12                  | 7.00                  |
|  | Cdh(degradation coefficient)                | -       | 0.97                  | 0.97                  | 0.97                  |
| (D) condition (12°C)   | Pdh (declared heating capacity)             | [kW]    | 5.98                  | 5.98                  | 6.00                  |
|  | COPd (declared COP)                         | -       | 8.68                  | 8.85                  | 8.91                  |
|  | Cdh(degradation coefficient)                | -       | 0.97                  | 0.96                  | 0.96                  |
| (E) Tol (temperature operating limit)  | Tol (temperature operating limit)           | [°C]    | -10                   | -10                   | -10                   |
|  | Pdh (declared heating capacity)             | [kW]    | 11.74                 | 13.50                 | 15.50                 |
|  | COPd (declared COP)                         | -       | 2.83                  | 2.62                  | 2.45                  |
|  | WTOL (Heating water Operation Limit)        | [°C]    | 65                    | 65                    | 65                    |

# Product fiche 2

| Heat pump space heater   |  | Outdoor | MHA-V12WD2N8-E        | MHA-V14WD2N8-E        | MHA-V16WD2N8-E        |
|--|--|---------|-----------------------|-----------------------|-----------------------|
|  |  | Indoor  | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| (F) Tbivalent temperature  | Tblv                                       | [°C]    | -7                    | -7                    | -7                    |
|  | Pdh (declared heating capacity)            | [kW]    | 10.67                 | 12.22                 | 13.68                 |
|  | COPd (declared COP)                        | -       | 3.21                  | 3.08                  | 2.90                  |
| Supplementary capacity at P_design   | Psup (@Tdesignh: -10°C)                    | [kW]    | 0.26                  | 0.30                  | 0.00                  |
| <b>Part load conditions space heating average climate medium temperature application</b> |  |         |                       |                       |                       |
| (A) condition (-7°C)   | Pdh (declared heating capacity)            | [kW]    | 10.86                 | 12.51                 | 13.62                 |
|  | COPd (declared COP)                        | -       | 2.46                  | 2.43                  | 2.35                  |
|  | Cdh(degradation coefficient)               | -       | 1.00                  | 1.00                  | 1.00                  |
| (B) condition (2°C)  | Pdh (declared heating capacity)            | [kW]    | 6.91                  | 7.69                  | 8.24                  |
|  | COPd (declared COP)                        | -       | 3.87                  | 3.71                  | 3.70                  |
|  | Cdh(degradation coefficient)               | -       | 0.99                  | 0.99                  | 0.99                  |
| (C) condition (7°C)  | Pdh (declared heating capacity)            | [kW]    | 4.90                  | 4.97                  | 5.23                  |
|  | COPd (declared COP)                        | -       | 4.97                  | 5.22                  | 5.24                  |
|  | Cdh(degradation coefficient)               | -       | 0.98                  | 0.98                  | 0.98                  |
| (D) condition (12°C)   | Pdh (declared heating capacity)            | [kW]    | 5.81                  | 5.83                  | 5.84                  |
|  | COPd (declared COP)                        | -       | 6.48                  | 6.60                  | 6.65                  |
|  | Cdh(degradation coefficient)               | -       | 0.97                  | 0.97                  | 0.97                  |
| (E) Tol (temperature operating limit)  | Tol (temperature operating limit)          | [°C]    | -10                   | -10                   | -10                   |
|  | Pdh (declared heating capacity)            | [kW]    | 12.00                 | 13.22                 | 13.22                 |
|  | COPd (declared COP)                        | -       | 1.93                  | 2.06                  | 2.06                  |
|  | WTOL (Heating water Operation Limit)       | [°C]    | 65                    | 65                    | 65                    |
| (F) Tbivalent temperature  | Tblv                                       | [°C]    | -7                    | -7                    | -7                    |
|  | Pdh (declared heating capacity)            | [kW]    | 10.86                 | 12.51                 | 13.62                 |
|  | COPd (declared COP)                        | -       | 2.46                  | 2.43                  | 2.35                  |
| Supplementary capacity at P_design   | Psup (@Tdesignh: -10°C)                    | [kW]    | 0.00                  | 0.58                  | 1.78                  |
| <b>Colder climate (Design temperature = -22°C)</b>                                       |  |         |                       |                       |                       |
| Space heating 35°C   | Prated (declared heating capacity) @ -22°C | [kW]    | 12.0                  | 14.0                  | 15.5                  |
|  | Seasonal space heating efficiency (ηs)     | [%]     | 179.7                 | 179.4                 | 179.1                 |
|  | Annual energy consumption                  | [kWh]   | 6 475                 | 7 570                 | 8 393                 |

# Product fiche 2

| Heat pump space heater  |  | Outdoor | MHA-V12WD2RN8-E       | MHA-V14WD2RN8-E       | MHA-V16WD2RN8-E       |
|---|--|---------|-----------------------|-----------------------|-----------------------|
|   |  | Indoor  | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| (F) Tivalent temperature  | Tblv                                       | [°C]    | -7                    | -7                    | -7                    |
|   | Pdh (declared heating capacity)            | [kW]    | 10.67                 | 12.22                 | 13.68                 |
|   | COPd (declared COP)                        | -       | 3.21                  | 3.07                  | 2.90                  |
| Supplementary capacity at P_design  | Psup (@Tdesignh: -10°C)                    | [kW]    | 0.26                  | 0.30                  | 0.00                  |
| Part load conditions space heating average climate medium temperature application |  |         |                       |                       |                       |
| (A) condition (-7°C)  | Pdh (declared heating capacity)            | [kW]    | 10.86                 | 12.51                 | 13.62                 |
|   | COPd (declared COP)                        | -       | 2.46                  | 2.43                  | 2.35                  |
|   | Cdh(degradation coefficient)               | -       | 1.00                  | 1.00                  | 1.00                  |
| (B) condition (2°C)   | Pdh (declared heating capacity)            | [kW]    | 6.91                  | 7.69                  | 8.24                  |
|   | COPd (declared COP)                        | -       | 3.87                  | 3.71                  | 3.70                  |
|   | Cdh(degradation coefficient)               | -       | 0.99                  | 0.99                  | 0.99                  |
| (C) condition (7°C)   | Pdh (declared heating capacity)            | [kW]    | 4.90                  | 4.97                  | 5.23                  |
|   | COPd (declared COP)                        | -       | 4.97                  | 5.22                  | 5.24                  |
|   | Cdh(degradation coefficient)               | -       | 0.98                  | 0.98                  | 0.98                  |
| (D) condition (12°C)  | Pdh (declared heating capacity)            | [kW]    | 5.81                  | 5.83                  | 5.84                  |
|   | COPd (declared COP)                        | -       | 6.48                  | 6.60                  | 6.65                  |
|   | Cdh(degradation coefficient)               | -       | 0.97                  | 0.97                  | 0.97                  |
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)          | [°C]    | -10                   | -10                   | -10                   |
|   | Pdh (declared heating capacity)            | [kW]    | 12.00                 | 13.22                 | 13.22                 |
|   | COPd (declared COP)                        | -       | 1.93                  | 2.06                  | 2.06                  |
|   | WTOL (Heating water Operation Limit)       | [°C]    | 65                    | 65                    | 65                    |
| (F) Tivalent temperature  | Tblv                                       | [°C]    | -7                    | -7                    | -7                    |
|   | Pdh (declared heating capacity)            | [kW]    | 10.86                 | 12.51                 | 13.62                 |
|   | COPd (declared COP)                        | -       | 2.46                  | 2.43                  | 2.35                  |
| Supplementary capacity at P_design  | Psup (@Tdesignh: -10°C)                    | [kW]    | 0.00                  | 0.58                  | 1.78                  |
| Colder climate (Design temperature = -22°C)                                       |  |         |                       |                       |                       |
| Space heating 35°C  | Prated (declared heating capacity) @ -22°C | [kW]    | 12.0                  | 14.0                  | 15.5                  |
|   | Seasonal space heating efficiency (ηs)     | [%]     | 179.7                 | 179.4                 | 179.1                 |
|   | Annual energy consumption                  | [kWh]   | 6 475                 | 7 570                 | 8 393                 |

# Product fiche 3

| Heat pump space heater   |  | Outdoor | MHA-V12WD2N8-E        | MHA-V14WD2N8-E        | MHA-V16WD2N8-E        |
|--|--|---------|-----------------------|-----------------------|-----------------------|
|  |  | Indoor  | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| Space heating 55°C   | Prated (declared heating capacity) @ -22°C | [kW]    | 11.0                  | 12.0                  | 13.0                  |
|  | Seasonal space heating efficiency (ηs)     | [%]     | 126.3                 | 128.0                 | 130.9                 |
|  | Annual energy consumption                  | [kWh]   | 8 387                 | 9 034                 | 9 573                 |
| Part load conditions space heating colder climate low temperature application    |  |         |                       |                       |                       |
| (A) condition (-7°C)   | Pdh (declared heating capacity)            | [kW]    | 7.40                  | 8.53                  | 9.46                  |
|  | COPd (declared COP)                        | -       | 3.88                  | 3.80                  | 3.78                  |
|  | Cdh(degradation coefficient)               | -       | 0.90                  | 0.90                  | 0.90                  |
| (B) condition (2°C)  | Pdh (declared heating capacity)            | [kW]    | 4.77                  | 5.32                  | 5.59                  |
|  | COPd (declared COP)                        | -       | 5.57                  | 5.61                  | 5.62                  |
|  | Cdh(degradation coefficient)               | -       | 0.90                  | 0.90                  | 0.90                  |
| (C) condition (7°C)  | Pdh (declared heating capacity)            | [kW]    | 5.49                  | 5.47                  | 5.46                  |
|  | COPd (declared COP)                        | -       | 7.02                  | 7.06                  | 7.12                  |
|  | Cdh(degradation coefficient)               | -       | 0.90                  | 0.90                  | 0.90                  |
| (D) condition (12°C)   | Pdh (declared heating capacity)            | [kW]    | 5.64                  | 5.62                  | 5.67                  |
|  | COPd (declared COP)                        | -       | 7.20                  | 7.22                  | 7.35                  |
|  | Cdh(degradation coefficient)               | -       | 0.90                  | 0.90                  | 0.90                  |
| (E) Tol (temperature operating limit)  | Tol (temperature operating limit)          | [°C]    | -22                   | -22                   | -22                   |
|  | Pdh (declared heating capacity)            | [kW]    | 10.76                 | 12.49                 | 13.64                 |
|  | COPd (declared COP)                        | -       | 2.23                  | 2.21                  | 2.12                  |
|  | WTOL (Heating water Operation Limit)       | [°C]    | 65                    | 65                    | 65                    |
| (F) Tbilv temperature  | Tbilv                                      | [°C]    | -15                   | -15                   | -15                   |
|  | Pdh (declared heating capacity)            | [kW]    | 9.92                  | 11.53                 | 12.61                 |
|  | COPd (declared COP)                        | -       | 2.85                  | 2.79                  | 2.74                  |
| Supplementary capacity at P_design   | Psup (@Tdesignh: -22°C)                    | [kW]    | 1.24                  | 1.51                  | 1.86                  |
| Part load conditions space heating colder climate medium temperature application |  |         |                       |                       |                       |
| (A) condition (-7°C)   | Pdh (declared heating capacity)            | [kW]    | 6.71                  | 7.34                  | 8.04                  |
|  | COPd (declared COP)                        | -       | 2.83                  | 2.91                  | 2.91                  |
|  | Cdh(degradation coefficient)               | -       | 0.99                  | 0.90                  | 0.90                  |

# Product fiche 3

| Heat pump space heater   |  | Outdoor | MHA-V12WD2RN8-E       | MHA-V14WD2RN8-E       | MHA-V16WD2RN8-E       |
|--|--|---------|-----------------------|-----------------------|-----------------------|
|  |  | Indoor  | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| Space heating 55°C   | Prated (declared heating capacity) @ -22°C | [kW]    | 11.0                  | 12.0                  | 13.0                  |
|  | Seasonal space heating efficiency (ηs)     | [%]     | 126.3                 | 128.0                 | 130.9                 |
|  | Annual energy consumption                  | [kWh]   | 8 387                 | 9 034                 | 9 573                 |
| Part load conditions space heating colder climate low temperature application    |  |         |                       |                       |                       |
| (A) condition (-7°C)   | Pdh (declared heating capacity)            | [kW]    | 7.40                  | 8.53                  | 9.46                  |
|  | COPd (declared COP)                        | -       | 3.88                  | 3.80                  | 3.78                  |
|  | Cdh(degradation coefficient)               | -       | 0.90                  | 0.90                  | 0.90                  |
| (B) condition (2°C)  | Pdh (declared heating capacity)            | [kW]    | 4.77                  | 5.32                  | 5.59                  |
|  | COPd (declared COP)                        | -       | 5.57                  | 5.61                  | 5.62                  |
|  | Cdh(degradation coefficient)               | -       | 0.90                  | 0.90                  | 0.90                  |
| (C) condition (7°C)  | Pdh (declared heating capacity)            | [kW]    | 5.49                  | 5.47                  | 5.46                  |
|  | COPd (declared COP)                        | -       | 7.02                  | 7.06                  | 7.12                  |
|  | Cdh(degradation coefficient)               | -       | 0.90                  | 0.90                  | 0.90                  |
| (D) condition (12°C)   | Pdh (declared heating capacity)            | [kW]    | 5.64                  | 5.62                  | 5.67                  |
|  | COPd (declared COP)                        | -       | 7.20                  | 7.22                  | 7.35                  |
|  | Cdh(degradation coefficient)               | -       | 0.90                  | 0.90                  | 0.90                  |
| (E) Tol (temperature operating limit)  | Tol (temperature operating limit)          | [°C]    | -22                   | -22                   | -22                   |
|  | Pdh (declared heating capacity)            | [kW]    | 10.76                 | 12.49                 | 13.64                 |
|  | COPd (declared COP)                        | -       | 2.23                  | 2.21                  | 2.12                  |
|  | WTOL (Heating water Operation Limit)       | [°C]    | 65                    | 65                    | 65                    |
| (F) Tbivalent temperature  | Tblv                                       | [°C]    | -15                   | -15                   | -15                   |
|  | Pdh (declared heating capacity)            | [kW]    | 9.92                  | 11.53                 | 12.61                 |
|  | COPd (declared COP)                        | -       | 2.85                  | 2.79                  | 2.74                  |
| Supplementary capacity at P_design   | Psup (@Tdesignh: -22°C)                    | [kW]    | 1.24                  | 1.51                  | 1.86                  |
| Part load conditions space heating colder climate medium temperature application |  |         |                       |                       |                       |
| (A) condition (-7°C)   | Pdh (declared heating capacity)            | [kW]    | 6.71                  | 7.34                  | 8.04                  |
|  | COPd (declared COP)                        | -       | 2.83                  | 2.91                  | 2.91                  |
|  | Cdh(degradation coefficient)               | -       | 0.99                  | 0.90                  | 0.90                  |

# Product fiche 4

| Heat pump space heater  |  | Outdoor | MHA-V12WD2N8-E        | MHA-V14WD2N8-E        | MHA-V16WD2N8-E        |
|---|--|---------|-----------------------|-----------------------|-----------------------|
|   |  | Indoor  | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| (B) condition (2°C)   | Pdh (declared heating capacity)          | [kW]    | 4.21                  | 4.53                  | 4.82                  |
|   | COPd (declared COP)                      | -       | 3.73                  | 3.87                  | 3.99                  |
|   | Cdh(degradation coefficient)             | -       | 0.98                  | 0.90                  | 0.90                  |
| (C) condition (7°C)   | Pdh (declared heating capacity)          | [kW]    | 5.03                  | 5.07                  | 5.09                  |
|   | COPd (declared COP)                      | -       | 5.03                  | 5.11                  | 5.18                  |
|   | Cdh(degradation coefficient)             | -       | 0.98                  | 0.90                  | 0.90                  |
| (D) condition (12°C)  | Pdh (declared heating capacity)          | [kW]    | 6.05                  | 6.07                  | 6.08                  |
|   | COPd (declared COP)                      | -       | 6.59                  | 6.66                  | 6.68                  |
|   | Cdh(degradation coefficient)             | -       | 0.97                  | 0.90                  | 0.90                  |
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)        | [°C]    | -22                   | -22                   | -22                   |
|   | Pdh (declared heating capacity)          | [kW]    | 8.48                  | 10.13                 | 11.12                 |
|   | COPd (declared COP)                      | -       | 1.28                  | 1.37                  | 1.43                  |
|   | WTOL (Heating water Operation Limit)     | [°C]    | 65                    | 65                    | 65                    |
| (F) Tbivalent temperature   | Tblv                                     | [°C]    | -15                   | -15                   | -15                   |
|   | Pdh (declared heating capacity)          | [kW]    | 9.11                  | 9.95                  | 10.80                 |
|   | COPd (declared COP)                      | -       | 1.98                  | 1.90                  | 1.98                  |
| Supplementary capacity at P_design  | Psup (@Tdesignh: -22°C)                  | [kW]    | 2.52                  | 1.87                  | 1.89                  |
| Warmer climate (Design temperature = 2°C)                                     |  |         |                       |                       |                       |
| Space heating 35°C  | Prated (declared heating capacity) @ 2°C | [kW]    | 12.4                  | 13.2                  | 14.1                  |
|   | Seasonal space heating efficiency (ηs)   | [%]     | 253.4                 | 257.4                 | 257.3                 |
|   | Annual energy consumption                | [kWh]   | 2 584                 | 2 709                 | 2 895                 |
| Space heating 55°C  | Prated (declared heating capacity) @ 2°C | [kW]    | 13.1                  | 14.1                  | 14.1                  |
|   | Seasonal space heating efficiency (ηs)   | [%]     | 171.1                 | 171.4                 | 171.4                 |
|   | Annual energy consumption                | [kWh]   | 4 022                 | 4 321                 | 4 321                 |
| Part load conditions space heating warmer climate low temperature application |  |         |                       |                       |                       |
| (B) condition (2°C)   | Pdh (declared heating capacity)          | [kW]    | 12.40                 | 13.20                 | 14.10                 |
|   | COPd (declared COP)                      | -       | 3.36                  | 3.34                  | 3.28                  |
|   | Cdh(degradation coefficient)             | -       | 0.99                  | 0.99                  | 0.99                  |
| (C) condition (7°C)   | Pdh (declared heating capacity)          | [kW]    | 7.82                  | 8.42                  | 8.91                  |
|   | COPd (declared COP)                      | -       | 5.75                  | 5.89                  | 5.81                  |
|   | Cdh(degradation coefficient)             | -       | 0.98                  | 0.98                  | 0.98                  |

# Product fiche 4

| Heat pump space heater  |  | Outdoor | MHA-V12WD2RN8-E       | MHA-V14WD2RN8-E       | MHA-V16WD2RN8-E       |
|---|--|---------|-----------------------|-----------------------|-----------------------|
|   |  | Indoor  | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| (B) condition (2°C)   | Pdh (declared heating capacity)          | [kW]    | 4.21                  | 4.53                  | 4.82                  |
|   | COPd (declared COP)                      | -       | 3.73                  | 3.87                  | 3.99                  |
|   | Cdh(degradation coefficient)             | -       | 0.98                  | 0.90                  | 0.90                  |
| (C) condition (7°C)   | Pdh (declared heating capacity)          | [kW]    | 5.03                  | 5.07                  | 5.09                  |
|   | COPd (declared COP)                      | -       | 5.03                  | 5.11                  | 5.18                  |
|   | Cdh(degradation coefficient)             | -       | 0.98                  | 0.90                  | 0.90                  |
| (D) condition (12°C)  | Pdh (declared heating capacity)          | [kW]    | 6.05                  | 6.07                  | 6.08                  |
|   | COPd (declared COP)                      | -       | 6.59                  | 6.66                  | 6.68                  |
|   | Cdh(degradation coefficient)             | -       | 0.97                  | 0.90                  | 0.90                  |
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)        | [°C]    | -22                   | -22                   | -22                   |
|   | Pdh (declared heating capacity)          | [kW]    | 8.48                  | 10.13                 | 11.12                 |
|   | COPd (declared COP)                      | -       | 1.28                  | 1.37                  | 1.43                  |
|   | WTOL (Heating water Operation Limit)     | [°C]    | 65                    | 65                    | 65                    |
| (F) Tbivalent temperature   | Tblv                                     | [°C]    | -15                   | -15                   | -15                   |
|   | Pdh (declared heating capacity)          | [kW]    | 9.11                  | 9.95                  | 10.80                 |
|   | COPd (declared COP)                      | -       | 1.98                  | 1.90                  | 1.98                  |
| Supplementary capacity at P_design  | Psup (@Tdesignh: -22°C)                  | [kW]    | 2.52                  | 1.87                  | 1.89                  |
| Warmer climate (Design temperature = 2°C)                                     |  |         |                       |                       |                       |
| Space heating 35°C  | Prated (declared heating capacity) @ 2°C | [kW]    | 12.4                  | 13.2                  | 14.1                  |
|   | Seasonal space heating efficiency (ηs)   | [%]     | 253.4                 | 257.4                 | 257.3                 |
|   | Annual energy consumption                | [kWh]   | 2 584                 | 2 709                 | 2 895                 |
| Space heating 55°C  | Prated (declared heating capacity) @ 2°C | [kW]    | 13.1                  | 14.1                  | 14.1                  |
|   | Seasonal space heating efficiency (ηs)   | [%]     | 171.1                 | 171.4                 | 171.4                 |
|   | Annual energy consumption                | [kWh]   | 4 022                 | 4 321                 | 4 321                 |
| Part load conditions space heating warmer climate low temperature application |  |         |                       |                       |                       |
| (B) condition (2°C)   | Pdh (declared heating capacity)          | [kW]    | 12.40                 | 13.20                 | 14.10                 |
|   | COPd (declared COP)                      | -       | 3.36                  | 3.34                  | 3.28                  |
|   | Cdh(degradation coefficient)             | -       | 0.99                  | 0.99                  | 0.99                  |
| (C) condition (7°C)   | Pdh (declared heating capacity)          | [kW]    | 7.82                  | 8.42                  | 8.91                  |
|   | COPd (declared COP)                      | -       | 5.75                  | 5.89                  | 5.81                  |
|   | Cdh(degradation coefficient)             | -       | 0.98                  | 0.98                  | 0.98                  |

# Product fiche 5

| Heat pump space heater  |                                      | Outdoor | MHA-V12WD2N8-E        | MHA-V14WD2N8-E        | MHA-V16WD2N8-E        |
|---|--------------------------------------|---------|-----------------------|-----------------------|-----------------------|
|   |                                      | Indoor  | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| (D) condition (12°C)  | Pdh (declared heating capacity)      | [kW]    | 5.62                  | 5.63                  | 5.64                  |
|   | COPd (declared COP)                  | -       | 7.98                  | 8.04                  | 8.14                  |
|   | Cdh(degradation coefficient)         | -       | 0.97                  | 0.97                  | 0.97                  |
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)    | [°C]    | 2                     | 2                     | 2                     |
|   | Pdh (declared heating capacity)      | [kW]    | 12.40                 | 13.20                 | 14.10                 |
|   | COPd (declared COP)                  | -       | 3.36                  | 3.34                  | 3.28                  |
|   | WTOL (Heating water Operation Limit) | [°C]    | 65                    | 65                    | 65                    |
| (F) Tbivalent temperature   | Tblv                                 | [°C]    | 2                     | 2                     | 2                     |
|   | Pdh (declared heating capacity)      | [kW]    | 12.40                 | 13.20                 | 14.10                 |
|   | COPd (declared COP)                  | -       | 3.36                  | 3.34                  | 3.28                  |
| Supplementary capacity at P_design  | Psup (@Tdesignh: 2°C)                | [kW]    | 0.00                  | 0.00                  | 0.00                  |
| <b>Part load conditions space heating warmer climate medium temperature application</b> |                                      |         |                       |                       |                       |
| (B) condition (2°C)   | Pdh (declared heating capacity)      | [kW]    | 13.10                 | 14.07                 | 14.07                 |
|   | COPd (declared COP)                  | -       | 2.35                  | 2.23                  | 2.23                  |
|   | Cdh(degradation coefficient)         | -       | 1.00                  | 1.00                  | 1.00                  |
| (C) condition (7°C)   | Pdh (declared heating capacity)      | [kW]    | 8.20                  | 8.91                  | 8.91                  |
|   | COPd (declared COP)                  | -       | 3.80                  | 3.79                  | 3.79                  |
|   | Cdh(degradation coefficient)         | -       | 0.99                  | 0.99                  | 0.99                  |
| (D) condition (12°C)  | Pdh (declared heating capacity)      | [kW]    | 5.12                  | 5.14                  | 5.14                  |
|   | COPd (declared COP)                  | -       | 5.48                  | 5.55                  | 5.55                  |
|   | Cdh(degradation coefficient)         | -       | 0.97                  | 0.97                  | 0.97                  |
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)    | [°C]    | 2                     | 2                     | 2                     |
|   | Pdh (declared heating capacity)      | [kW]    | 13.10                 | 14.07                 | 14.07                 |
|   | COPd (declared COP)                  | -       | 2.35                  | 2.23                  | 2.23                  |
|   | WTOL (Heating water Operation Limit) | [°C]    | 65                    | 65                    | 65                    |
| (F) Tbivalent temperature   | Tblv                                 | [°C]    | 2                     | 2                     | 2                     |
|   | Pdh (declared heating capacity)      | [kW]    | 13.10                 | 14.07                 | 14.07                 |
|   | COPd (declared COP)                  | -       | 2.35                  | 2.23                  | 2.23                  |
| Supplementary capacity at P_design  | Psup (@Tdesignh: 2°C)                | [kW]    | 0.00                  | 0.03                  | 0.03                  |

# Product fiche 5

| Heat pump space heater  |                                      | Outdoor | MHA-V12WD2RN8-E       | MHA-V14WD2RN8-E       | MHA-V16WD2RN8-E       |
|---|--------------------------------------|---------|-----------------------|-----------------------|-----------------------|
|   |                                      | Indoor  | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| (D) condition (12°C)  | Pdh (declared heating capacity)      | [kW]    | 5.62                  | 5.63                  | 5.64                  |
|   | COPd (declared COP)                  | -       | 7.98                  | 8.04                  | 8.14                  |
|   | Cdh(degradation coefficient)         | -       | 0.97                  | 0.97                  | 0.97                  |
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)    | [°C]    | 2                     | 2                     | 2                     |
|   | Pdh (declared heating capacity)      | [kW]    | 12.40                 | 13.20                 | 14.10                 |
|   | COPd (declared COP)                  | -       | 3.36                  | 3.34                  | 3.28                  |
| (F) Tivalent temperature  | WTOL (Heating water Operation Limit) | [°C]    | 65                    | 65                    | 65                    |
|   | Tblv                                 | [°C]    | 2                     | 2                     | 2                     |
|   | Pdh (declared heating capacity)      | [kW]    | 12.40                 | 13.20                 | 14.10                 |
| Supplementary capacity at P_design  | COPd (declared COP)                  | -       | 3.36                  | 3.34                  | 3.28                  |
|   | Psup (@Tdesignh: 2°C)                | [kW]    | 0.00                  | 0.00                  | 0.00                  |
| <b>Part load conditions space heating warmer climate medium temperature application</b> |                                      |         |                       |                       |                       |
| (B) condition (2°C)   | Pdh (declared heating capacity)      | [kW]    | 13.10                 | 14.07                 | 14.07                 |
|   | COPd (declared COP)                  | -       | 2.35                  | 2.23                  | 2.23                  |
|   | Cdh(degradation coefficient)         | -       | 1.00                  | 1.00                  | 1.00                  |
| (C) condition (7°C)   | Pdh (declared heating capacity)      | [kW]    | 8.20                  | 8.91                  | 8.91                  |
|   | COPd (declared COP)                  | -       | 3.80                  | 3.79                  | 3.79                  |
|   | Cdh(degradation coefficient)         | -       | 0.99                  | 0.99                  | 0.99                  |
| (D) condition (12°C)  | Pdh (declared heating capacity)      | [kW]    | 5.12                  | 5.14                  | 5.14                  |
|   | COPd (declared COP)                  | -       | 5.48                  | 5.55                  | 5.55                  |
|   | Cdh(degradation coefficient)         | -       | 0.97                  | 0.97                  | 0.97                  |
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)    | [°C]    | 2                     | 2                     | 2                     |
|   | Pdh (declared heating capacity)      | [kW]    | 13.10                 | 14.07                 | 14.07                 |
|   | COPd (declared COP)                  | -       | 2.35                  | 2.23                  | 2.23                  |
|   | WTOL (Heating water Operation Limit) | [°C]    | 65                    | 65                    | 65                    |
| (F) Tivalent temperature  | Tblv                                 | [°C]    | 2                     | 2                     | 2                     |
|   | Pdh (declared heating capacity)      | [kW]    | 13.10                 | 14.07                 | 14.07                 |
|   | COPd (declared COP)                  | -       | 2.35                  | 2.23                  | 2.23                  |
| Supplementary capacity at P_design  | Psup (@Tdesignh: 2°C)                | [kW]    | 0.00                  | 0.03                  | 0.03                  |

# Product fiche 7

| Heat pump space cooling   |  | Outdoor | MHA-V12WD2N8-E        | MHA-V14WD2N8-E        | MHA-V16WD2N8-E        |
|---|--|---------|-----------------------|-----------------------|-----------------------|
|   |  | Indoor  | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| Indoor unit sound power (*)   |  | dB      | 44                    | 44                    | 44                    |
| Outdoor unit sound power (*)  | Average climate low temperature application    | dB      | 59                    | 60                    | 60                    |
|   | Average climate medium temperature application | dB      | 59                    | 60                    | 60                    |
| Space cooling 7°C   | Prated (declared cooling capacity) @ 35°C      | [kW]    | 10.0                  | 10.0                  | 10.0                  |
|   | Seasonal space cooling efficiency ( $\eta_s$ ) | [%]     | 212.9                 | 212.9                 | 212.9                 |
|   | Annual energy consumption                      | [kWh]   | 1 112                 | 1 112                 | 1 112                 |
| Space cooling 18°C  | Prated (declared cooling capacity) @ 35°C      | [kW]    | 10.0                  | 10.0                  | 10.0                  |
|   | Seasonal space cooling efficiency ( $\eta_s$ ) | [%]     | 257.2                 | 257.2                 | 257.2                 |
|   | Annual energy consumption                      | [kWh]   | 922                   | 922                   | 922                   |
| Part load conditions space cooling: low temperature application@7°C |  |         |                       |                       |                       |
| (A) condition (35°C)  | Pdc (declared cooling capacity)                | [kW]    | 10.15                 | 10.15                 | 10.15                 |
|   | EERd (declared EER)                            | -       | 3.07                  | 3.07                  | 3.07                  |
|   | Cdc(degradation coefficient)                   | -       | 1.00                  | 1.00                  | 1.00                  |
| (B) condition (30°C)  | Pdc (declared cooling capacity)                | [kW]    | 7.38                  | 7.38                  | 7.38                  |
|   | EERd (declared EER)                            | -       | 4.41                  | 4.41                  | 4.41                  |
|   | Cdc(degradation coefficient)                   | -       | 1.00                  | 1.00                  | 1.00                  |
| (C) condition (25°C)  | Pdc (declared cooling capacity)                | [kW]    | 4.85                  | 4.85                  | 4.85                  |
|   | EERd (declared EER)                            | -       | 6.10                  | 6.10                  | 6.10                  |
|   | Cdc(degradation coefficient)                   | -       | 0.99                  | 0.99                  | 0.99                  |
| (D) condition (20°C)  | Pdc (declared cooling capacity)                | [kW]    | 4.91                  | 4.91                  | 4.91                  |
|   | EERd (declared EER)                            | -       | 7.71                  | 7.71                  | 7.71                  |
|   | Cdc(degradation coefficient)                   | -       | 0.99                  | 0.99                  | 0.99                  |

# Product fiche 7

| <b>Heat pump space cooling</b>   |  | Outdoor | MHA-V12WD2RN8-E       | MHA-V14WD2RN8-E       | MHA-V16WD2RN8-E       |
|--|--|---------|-----------------------|-----------------------|-----------------------|
|  |  | Indoor  | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| Indoor unit sound power (*)  |  | dB      | 44                    | 44                    | 44                    |
| Outdoor unit sound power (*)   | Average climate low temperature application    | dB      | 59                    | 60                    | 60                    |
|  | Average climate medium temperature application | dB      | 59                    | 60                    | 60                    |
| Space cooling 7°C  | Prated (declared cooling capacity) @ 35°C      | [kW]    | 10.0                  | 10.0                  | 10.0                  |
|  | Seasonal space cooling efficiency (ηs)         | [%]     | 212.9                 | 212.9                 | 212.9                 |
|  | Annual energy consumption                      | [kWh]   | 1 112                 | 1 112                 | 1 112                 |
| Space cooling 18°C   | Prated (declared cooling capacity) @ 35°C      | [kW]    | 10.0                  | 10.0                  | 10.0                  |
|  | Seasonal space cooling efficiency (ηs)         | [%]     | 257.2                 | 257.2                 | 257.2                 |
|  | Annual energy consumption                      | [kWh]   | 922                   | 922                   | 922                   |
| <b>Part load conditions space cooling: low temperature application@7°C</b> |  |         |                       |                       |                       |
| (A) condition (35°C)   | Pdc (declared cooling capacity)                | [kW]    | 10.15                 | 10.15                 | 10.15                 |
|  | EERd (declared EER)                            | -       | 3.07                  | 3.07                  | 3.07                  |
|  | Cdc(degradation coefficient)                   | -       | 1.00                  | 1.00                  | 1.00                  |
| (B) condition (30°C)   | Pdc (declared cooling capacity)                | [kW]    | 7.38                  | 7.38                  | 7.38                  |
|  | EERd (declared EER)                            | -       | 4.41                  | 4.41                  | 4.41                  |
|  | Cdc(degradation coefficient)                   | -       | 1.00                  | 1.00                  | 1.00                  |
| (C) condition (25°C)   | Pdc (declared cooling capacity)                | [kW]    | 4.85                  | 4.85                  | 4.85                  |
|  | EERd (declared EER)                            | -       | 6.10                  | 6.10                  | 6.10                  |
|  | Cdc(degradation coefficient)                   | -       | 0.99                  | 0.99                  | 0.99                  |
| (D) condition (20°C)   | Pdc (declared cooling capacity)                | [kW]    | 4.91                  | 4.91                  | 4.91                  |
|  | EERd (declared EER)                            | -       | 7.71                  | 7.71                  | 7.71                  |
|  | Cdc(degradation coefficient)                   | -       | 0.99                  | 0.99                  | 0.99                  |

# Product fiche 8

| Heat pump space cooling   |   | Outdoor             | MHA-V12WD2N8-E        | MHA-V14WD2N8-E        | MHA-V16WD2N8-E        |
|---|---|---------------------|-----------------------|-----------------------|-----------------------|
|   |   | Indoor              | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| Part load conditions space cooling: medium temperature application@18°C   |   |                     |                       |                       |                       |
| (A) condition (35°C)  | Pdc (declared cooling capacity)             | [kW]                | 10.22                 | 10.22                 | 10.22                 |
|   | EERd (declared EER)                         | -                   | 4.29                  | 4.29                  | 4.29                  |
|   | Cdc(degradation coefficient)                | -                   | 1.00                  | 1.00                  | 1.00                  |
| (B) condition (30°C)  | Pdc (declared cooling capacity)             | [kW]                | 7.67                  | 7.67                  | 7.67                  |
|   | EERd (declared EER)                         | -                   | 4.50                  | 4.50                  | 4.50                  |
|   | Cdc(degradation coefficient)                | -                   | 1.00                  | 1.00                  | 1.00                  |
| (C) condition (25°C)  | Pdc (declared cooling capacity)             | [kW]                | 5.88                  | 5.88                  | 5.88                  |
|   | EERd (declared EER)                         | -                   | 8.29                  | 8.29                  | 8.29                  |
|   | Cdc(degradation coefficient)                | -                   | 0.99                  | 0.99                  | 0.99                  |
| (D) condition (20°C)  | Pdc (declared cooling capacity)             | [kW]                | 5.93                  | 5.93                  | 5.93                  |
|   | EERd (declared EER)                         | -                   | 8.84                  | 8.84                  | 8.84                  |
|   | Cdc(degradation coefficient)                | -                   | 0.99                  | 0.99                  | 0.99                  |
| Air to water unit   | Rated airflow (outdoor)                     | [m <sup>3</sup> /h] | 3 900                 | 3 900                 | 3 900                 |
| Brine/water to water unit   | Rated water/brine flow (outdoor H/E)        |                     | /                     | /                     | /                     |
| Other   | Capacity control                            | -                   | inverter              | inverter              | inverter              |
|   | Poff (Power consumption Off mode)           | [kW]                | 0.014                 | 0.014                 | 0.014                 |
|   | Pto (Power consumption Thermostat off mode) | [kW]                | 0.008                 | 0.008                 | 0.008                 |
|   | Psb (Power consumption Standby mode)        | [kW]                | 0.014                 | 0.014                 | 0.014                 |
|   | PCK (Power crankcase heater model)          | [kW]                | 0.000                 | 0.000                 | 0.000                 |
|   | Qelec (Daily electricity consumption)       | [kWh]               | /                     | /                     | /                     |
|   | Qfuel (Daily fuel consumption)              | [kWh]               | /                     | /                     | /                     |
| <p>Note :</p> <p>Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.</p> <p>(*)Sound power measured according to the EN12102 under conditions of the EN14825.</p> <p>Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.</p> |   |                     |                       |                       |                       |

# Product fiche 8

| Heat pump space cooling   |   | Outdoor             | MHA-V12WD2RN8-E       | MHA-V14WD2RN8-E       | MHA-V16WD2RN8-E       |
|---|---|---------------------|-----------------------|-----------------------|-----------------------|
|   |   | Indoor              | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E | HBT-A160240CD***GN8-E |
| Part load conditions space cooling: medium temperature application@18°C   |   |                     |                       |                       |                       |
| (A) condition (35°C)  | Pdc (declared cooling capacity)             | [kW]                | 10.22                 | 10.22                 | 10.22                 |
|   | EERd (declared EER)                         | -                   | 4.29                  | 4.29                  | 4.29                  |
|   | Cdc(degradation coefficient)                | -                   | 1.00                  | 1.00                  | 1.00                  |
| (B) condition (30°C)  | Pdc (declared cooling capacity)             | [kW]                | 7.67                  | 7.67                  | 7.67                  |
|   | EERd (declared EER)                         | -                   | 4.50                  | 4.50                  | 4.50                  |
|   | Cdc(degradation coefficient)                | -                   | 1.00                  | 1.00                  | 1.00                  |
| (C) condition (25°C)  | Pdc (declared cooling capacity)             | [kW]                | 5.88                  | 5.88                  | 5.88                  |
|   | EERd (declared EER)                         | -                   | 8.29                  | 8.29                  | 8.29                  |
|   | Cdc(degradation coefficient)                | -                   | 0.99                  | 0.99                  | 0.99                  |
| (D) condition (20°C)  | Pdc (declared cooling capacity)             | [kW]                | 5.93                  | 5.93                  | 5.93                  |
|   | EERd (declared EER)                         | -                   | 8.84                  | 8.84                  | 8.84                  |
|   | Cdc(degradation coefficient)                | -                   | 0.99                  | 0.99                  | 0.99                  |
| Air to water unit   | Rated airflow (outdoor)                     | [m <sup>3</sup> /h] | 3 900                 | 3 900                 | 3 900                 |
| Brine/water to water unit   | Rated water/brine flow (outdoor H/E)        |                     | /                     | /                     | /                     |
| Other   | Capacity control                            | -                   | inverter              | inverter              | inverter              |
|   | Poff (Power consumption Off mode)           | [kW]                | 0.014                 | 0.014                 | 0.014                 |
|   | Pto (Power consumption Thermostat off mode) | [kW]                | 0.008                 | 0.008                 | 0.008                 |
|   | Psb (Power consumption Standby mode)        | [kW]                | 0.014                 | 0.014                 | 0.014                 |
|   | PCK (Power crankcase heater model)          | [kW]                | 0.000                 | 0.000                 | 0.000                 |
|   | Qelec (Daily electricity consumption)       | [kWh]               | /                     | /                     | /                     |
|   | Qfuel (Daily fuel consumption)              | [kWh]               | /                     | /                     | /                     |
| <p>Note :</p> <p>Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.</p> <p>(*)Sound power measured according to the EN12102 under conditions of the EN14825.</p> <p>Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.</p> |   |                     |                       |                       |                       |

| Condition(°C)  | Model           |                       | Capacity (kW) | Power input (kW) | EER/COP ( / ) |
|--|-----------------|-----------------------|---------------|------------------|---------------|
|  | Outdoor unit    | Indoor unit           |               |                  |               |
| Ambient Temperature : 35/24<br>Water temperature : 12/7  | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 10.0          | 3.322            | 3.01          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 10.0          | 3.322            | 3.01          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 10.0          | 3.322            | 3.01          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 10.0          | 3.322            | 3.01          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 10.0          | 3.322            | 3.01          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 10.0          | 3.322            | 3.01          |
|  | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 10.0          | 2.353            | 4.25          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 10.0          | 2.353            | 4.25          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 10.0          | 2.353            | 4.25          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 10.0          | 2.353            | 4.25          |
| Ambient Temperature : 35/24<br>Water temperature : 23/18 | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 2.401            | 5.04          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 2.893            | 4.84          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 3.362            | 4.61          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 2.401            | 5.04          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 2.893            | 4.84          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 15.5          | 3.362            | 4.61          |
|  | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 3.227            | 3.75          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 3.989            | 3.51          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 4.769            | 3.25          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 3.227            | 3.75          |
| Ambient Temperature : 2/1<br>Water temperature : 30/35   | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 4.930            | 2.84          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 5.784            | 2.68          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 17.0          | 6.652            | 2.51          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 4.930            | 2.84          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 15.5          | 5.784            | 2.68          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 17.0          | 6.652            | 2.51          |
|  | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 3.967            | 3.05          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 4.930            | 2.84          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 5.784            | 2.68          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 3.967            | 3.05          |
| Ambient Temperature : -7/-8<br>Water temperature : 30/35 | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 3.967            | 3.05          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 4.930            | 2.84          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 5.784            | 2.68          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 3.967            | 3.05          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 4.930            | 2.84          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 15.5          | 5.784            | 2.68          |
|  | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 4.821            | 2.51          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 5.714            | 2.45          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 6.652            | 2.33          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 4.821            | 2.51          |
| Ambient Temperature : -15/-<br>Water temperature : 30/35 | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 5.714            | 2.45          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 6.652            | 2.33          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 17.0          | 7.600            | 2.23          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 5.714            | 2.45          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 15.5          | 6.652            | 2.33          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 17.0          | 7.600            | 2.23          |
|  | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 6.652            | 2.33          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 7.600            | 2.23          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 8.571            | 2.15          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 6.652            | 2.33          |

| Condition(°C )   | Model           |                       | Capacity (kW) | Power input (kW) | EER/COP (/) |
|--|-----------------|-----------------------|---------------|------------------|-------------|
|  | Outdoor unit    | Indoor unit           |               |                  |             |
| Ambient Temperature : 7/6<br>Water temperature : 40/45   | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 3.176            | 3.81        |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 3.704            | 3.78        |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 4.201            | 3.69        |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 3.176            | 3.81        |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 3.704            | 3.78        |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 15.5          | 4.201            | 3.69        |
|  | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 10.9          | 3.471            | 3.14        |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 3.954            | 3.06        |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 4.828            | 2.90        |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 10.9          | 3.471            | 3.14        |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 3.954            | 3.06        |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 4.828            | 2.90        |
| Ambient Temperature : -7/-8<br>Water temperature : 40/45 | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 11.4          | 4.488            | 2.54        |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 11.9          | 4.704            | 2.53        |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 13.7          | 5.615            | 2.44        |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 11.4          | 4.488            | 2.54        |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 11.9          | 4.704            | 2.53        |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 13.7          | 5.615            | 2.44        |
|  | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 4.020            | 3.01        |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 4.667            | 3.00        |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 5.184            | 2.99        |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 4.020            | 3.01        |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 4.667            | 3.00        |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 15.5          | 5.184            | 2.99        |
| Ambient Temperature : 7/6<br>Water temperature : 47/55   | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 11.6          | 4.514            | 2.57        |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 12.3          | 4.824            | 2.55        |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 13.8          | 5.798            | 2.38        |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 11.6          | 4.514            | 2.57        |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 12.3          | 4.824            | 2.55        |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 13.8          | 5.798            | 2.38        |
|  | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 11.4          | 5.377            | 2.12        |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 11.9          | 5.613            | 2.12        |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 13.7          | 6.462            | 2.12        |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 11.4          | 5.377            | 2.12        |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 11.9          | 5.613            | 2.12        |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 13.7          | 6.462            | 2.12        |

Ambient Temperature : -7/-8  
Water temperature : 47/55

| Condition(°C )   | Model           |                       | Capacity (kW) | Power input (kW) | EER/COP ( / ) |
|--|-----------------|-----------------------|---------------|------------------|---------------|
|  | Outdoor unit    | Indoor unit           |               |                  |               |
| Ambient Temperature : 35/24<br>Water temperature : 12/7  | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 10.0          | 3.322            | 3.01          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 10.0          | 3.322            | 3.01          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 10.0          | 3.322            | 3.01          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 10.0          | 3.322            | 3.01          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 10.0          | 3.322            | 3.01          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 10.0          | 3.322            | 3.01          |
| Ambient Temperature : 35/24<br>Water temperature : 23/18 | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 10.0          | 2.353            | 4.25          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 10.0          | 2.353            | 4.25          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 10.0          | 2.353            | 4.25          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 10.0          | 2.353            | 4.25          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 10.0          | 2.353            | 4.25          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 10.0          | 2.353            | 4.25          |
| Ambient Temperature : 7/6<br>Water temperature : 30/35   | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 2.401            | 5.04          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 2.893            | 4.84          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 3.362            | 4.61          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 2.401            | 5.04          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 2.893            | 4.84          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 15.5          | 3.362            | 4.61          |
| Ambient Temperature : 2/1<br>Water temperature : 30/35   | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 3.227            | 3.75          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 3.989            | 3.51          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 4.769            | 3.25          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 3.227            | 3.75          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 3.989            | 3.51          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 15.5          | 4.769            | 3.25          |
| Ambient Temperature : -7/-8<br>Water temperature : 30/35 | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 3.967            | 3.05          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 4.930            | 2.84          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 5.784            | 2.68          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 3.967            | 3.05          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 4.930            | 2.84          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 15.5          | 5.784            | 2.68          |
| Ambient Temperature : -15/-<br>Water temperature : 30/35 | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 4.821            | 2.51          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 5.714            | 2.45          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 6.652            | 2.33          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 4.821            | 2.51          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 5.714            | 2.45          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 15.5          | 6.652            | 2.33          |

| Condition(°C )   | Model           |                       | Capacity (kW) | Power input (kW) | EER/COP ( / ) |
|--|-----------------|-----------------------|---------------|------------------|---------------|
|  | Outdoor unit    | Indoor unit           |               |                  |               |
| Ambient Temperature : 7/6<br>Water temperature : 40/45   | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 3.176            | 3.81          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 3.704            | 3.78          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 4.201            | 3.69          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 3.176            | 3.81          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 3.704            | 3.78          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 15.5          | 4.201            | 3.69          |
| Ambient Temperature : 2/1<br>Water temperature : 40/45   | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 10.9          | 3.471            | 3.14          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 3.954            | 3.06          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 4.828            | 2.90          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 10.9          | 3.471            | 3.14          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 3.954            | 3.06          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 4.828            | 2.90          |
| Ambient Temperature : -7/-8<br>Water temperature : 40/45 | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 11.4          | 4.488            | 2.54          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 11.9          | 4.704            | 2.53          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 13.7          | 5.615            | 2.44          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 11.4          | 4.488            | 2.54          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 11.9          | 4.704            | 2.53          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 13.7          | 5.615            | 2.44          |
| Ambient Temperature : 7/6<br>Water temperature : 47/55   | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 12.1          | 4.020            | 3.01          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 14.0          | 4.667            | 3.00          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 15.5          | 5.184            | 2.99          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 12.1          | 4.020            | 3.01          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 14.0          | 4.667            | 3.00          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 15.5          | 5.184            | 2.99          |
| Ambient Temperature : 2/1<br>Water temperature : 47/55   | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 11.6          | 4.514            | 2.57          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 12.3          | 4.824            | 2.55          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 13.8          | 5.798            | 2.38          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 11.6          | 4.514            | 2.57          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 12.3          | 4.824            | 2.55          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 13.8          | 5.798            | 2.38          |
| Ambient Temperature : -7/-8<br>Water temperature : 47/55 | MHA-V12WD2N8-E  | HBT-A160240CD***GN8-E | 11.4          | 5.377            | 2.12          |
|  | MHA-V14WD2N8-E  | HBT-A160240CD***GN8-E | 11.9          | 5.613            | 2.12          |
|  | MHA-V16WD2N8-E  | HBT-A160240CD***GN8-E | 13.7          | 6.462            | 2.12          |
|  | MHA-V12WD2RN8-E | HBT-A160240CD***GN8-E | 11.4          | 5.377            | 2.12          |
|  | MHA-V14WD2RN8-E | HBT-A160240CD***GN8-E | 11.9          | 5.613            | 2.12          |
|  | MHA-V16WD2RN8-E | HBT-A160240CD***GN8-E | 13.7          | 6.462            | 2.12          |

Indoor unit type explanation:

1.HBT-A160240CD\*\*\*GN8-E includes the following type:

HBT-A160240CD30GN8-B: 240 L tank with 3 kW back-up heater and 1-Phase Source.

HBT-A160240CDS60GN8-B: 240 L tank with 6 kW back-up heater and 3-Phase Source.

HBT-A160240CDS90GN8-B: 240 L tank with 9 kW back-up heater and 3-Phase Source.

Note:

Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

(\*)Sound power in heating mode, measured according to the EN 12102 under conditions of the EN 14825

This data is for comparison of Energy efficiencies according to Energy label directive 2010/30/EU, for correct selection of products for your application, contact your dealer.

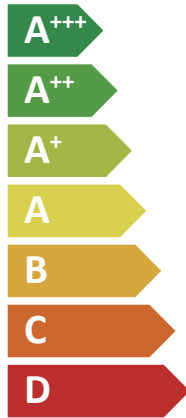
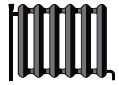
Depending on your application and the product selected an additional supplementary heater may have to be installed.



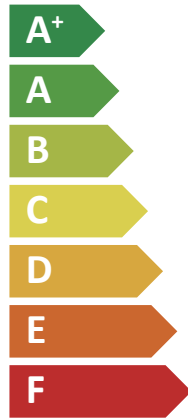
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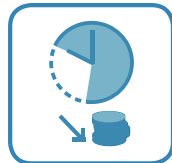
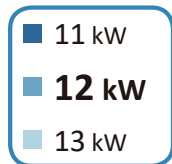
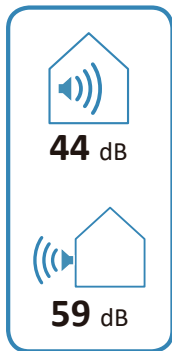
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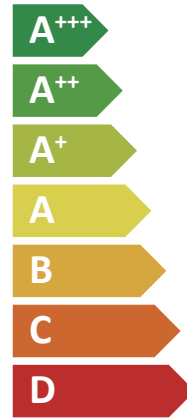
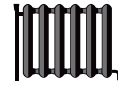
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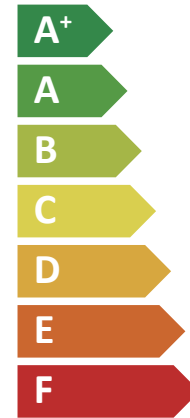
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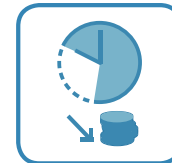
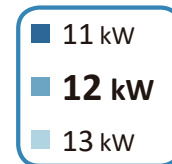
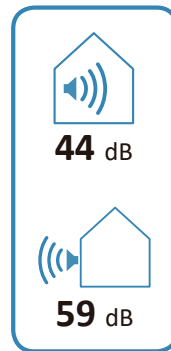
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HBT-A160240CDS60GN8-E



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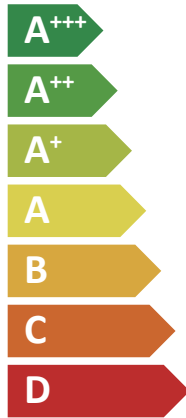
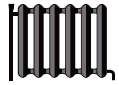
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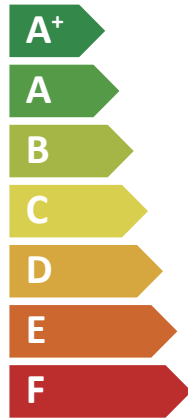
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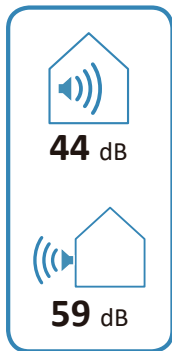
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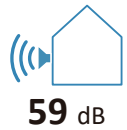
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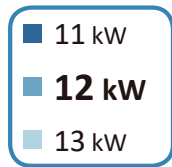
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44 dB



59 dB



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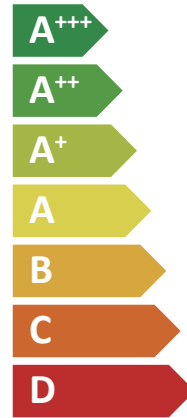
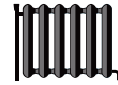
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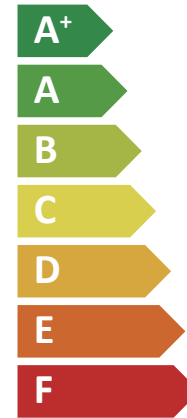
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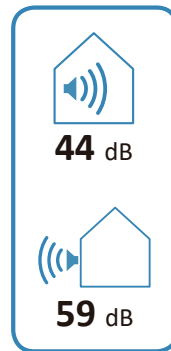
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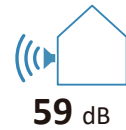
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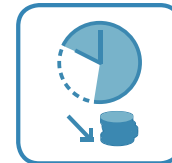
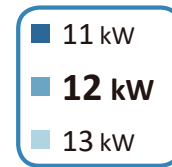
**A+**



44 dB



59 dB



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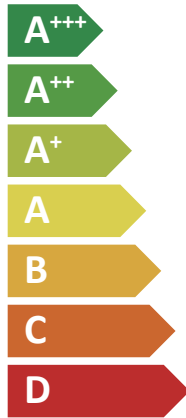
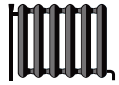
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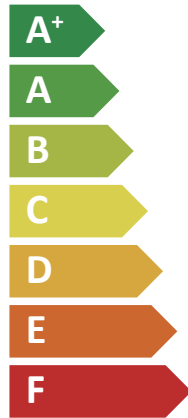
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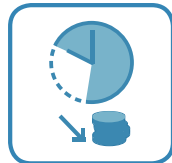
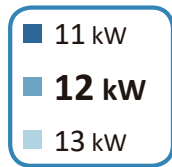
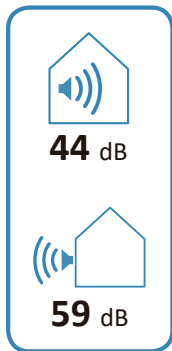
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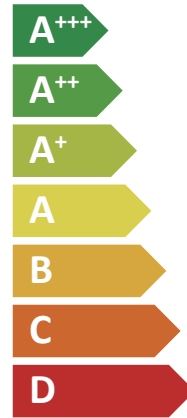
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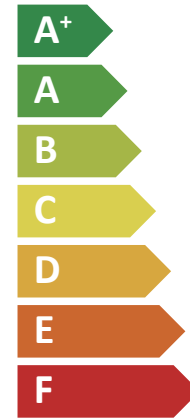
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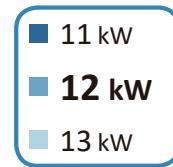
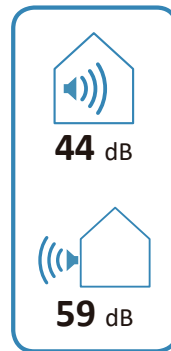
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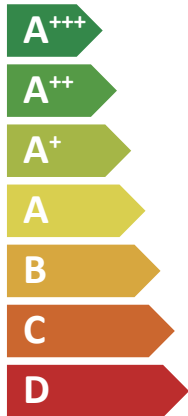
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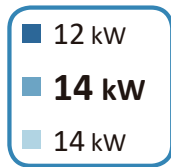
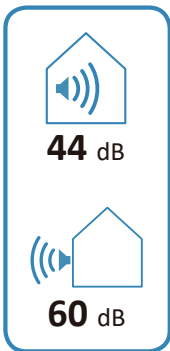
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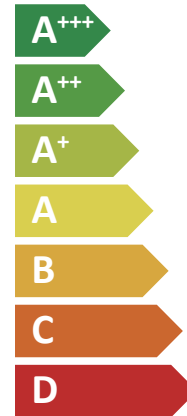
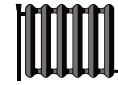
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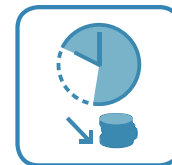
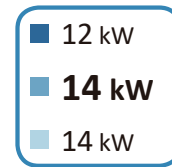
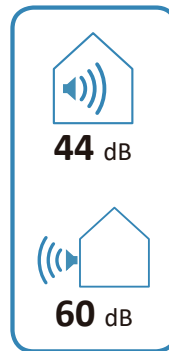
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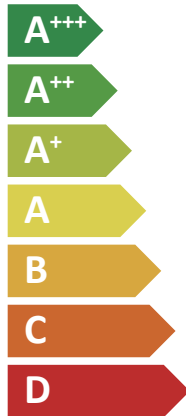
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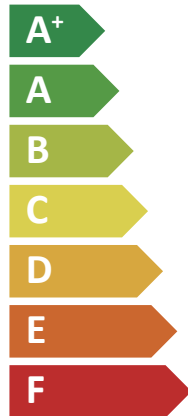
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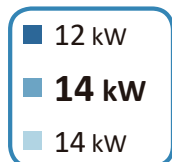
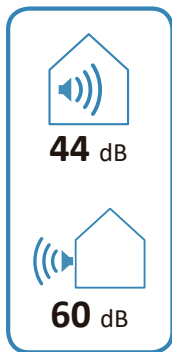
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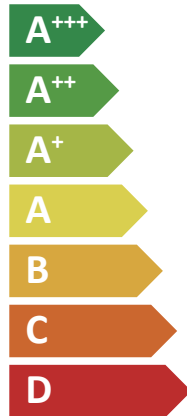
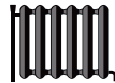
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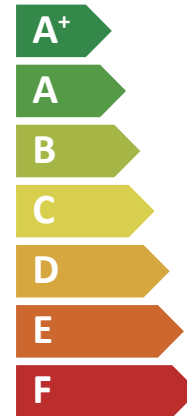
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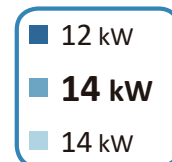
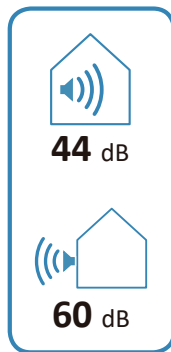
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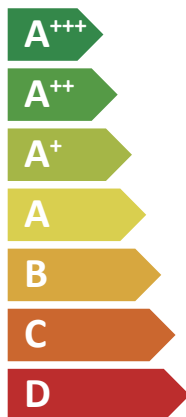
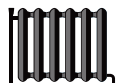
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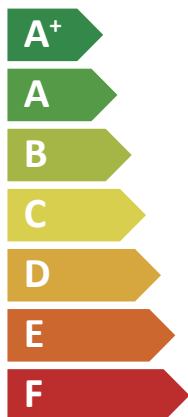
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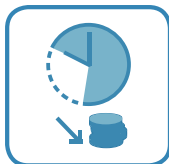
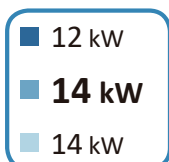
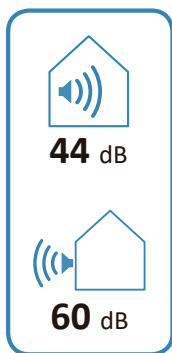
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HBT-A160240CDS60GN8-E



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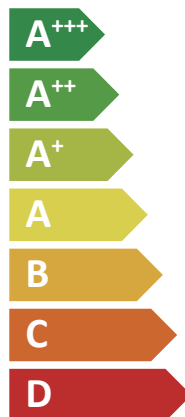
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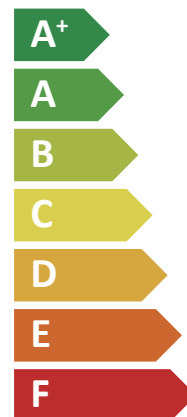
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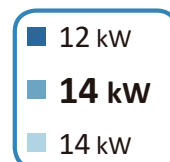
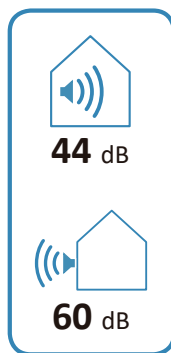
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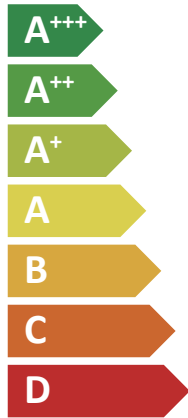
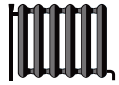
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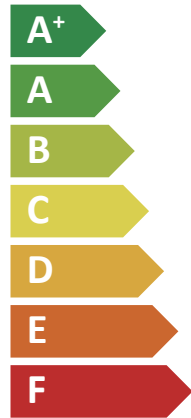
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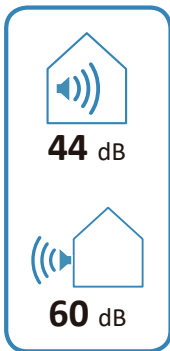
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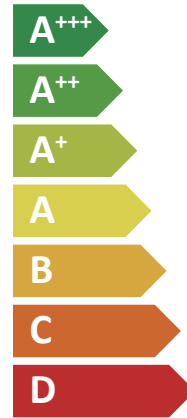
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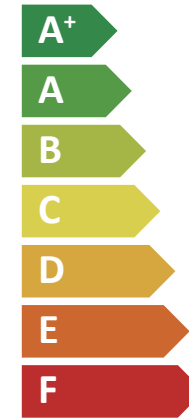
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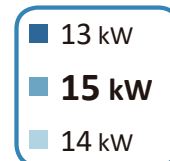
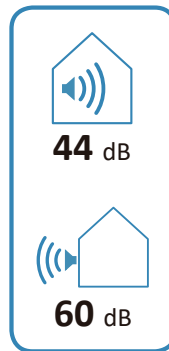
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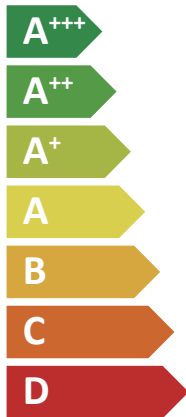
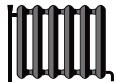
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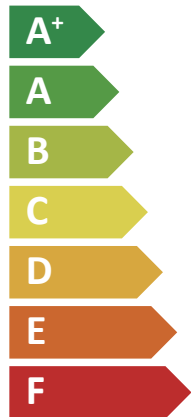
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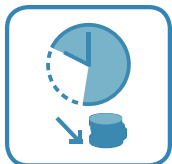
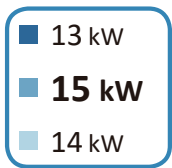
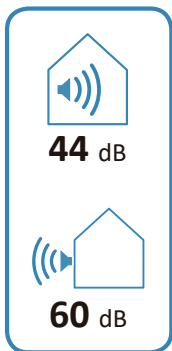
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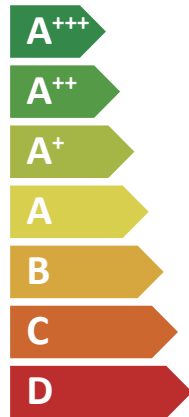
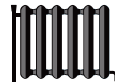
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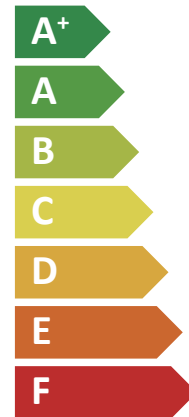
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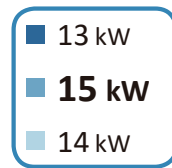
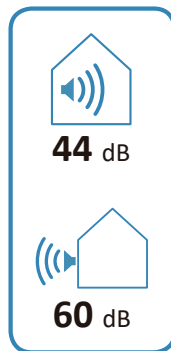
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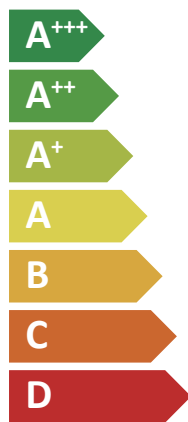
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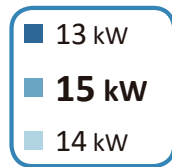
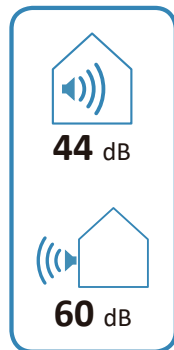
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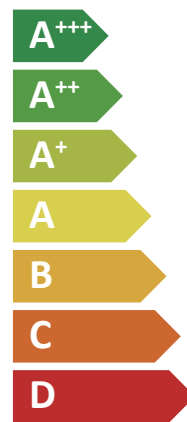
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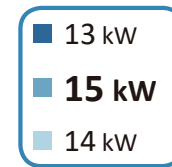
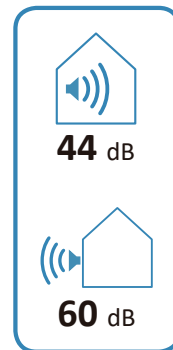
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