



ENERG

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MHC-V6W/D2N8-B2E30



55°C

35°C



A<sup>++</sup>

A<sup>+++</sup>



-- dB



58dB

4

6

5

kW

6

7

6

kW



2019

811/2013



| Model                 | For medium - temperature application |                  |                   |  |  |                   |  |  |                   |  |  |
|-----------------------|--------------------------------------|------------------|-------------------|--|--|-------------------|--|--|-------------------|--|--|
|                       | Energy efficiency class              | 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               | kW                | %  | kWh  | kW                | %  | kWh  | kW                | %  | kWh  |
| MHC-V4W/D2N8-B2       | A++                                  | 55               | 4.4               | 129.5                                    | 2744   | 3.4               | 102.1                                    | 3159   | 5.0               | 162.4                                    | 1621   |
| MHC-V4W/D2N8-B2E30    | A++                                  | 55               | 4.4               | 129.5                                    | 2744   | 3.4               | 102.1                                    | 3159   | 5.0               | 162.4                                    | 1621   |
| MHC-V6W/D2N8-B2       | A++                                  | 58               | 5.7               | 137.9                                    | 3345   | 4.3               | 111.1                                    | 3681   | 5.1               | 164.7                                    | 1640   |
| MHC-V6W/D2N8-B2E30    | A++                                  | 58               | 5.7               | 137.9                                    | 3345   | 4.3               | 111.1                                    | 3681   | 5.1               | 164.7                                    | 1640   |
| MHC-V8W/D2N8-B2       | A++                                  | 59               | 6.6               | 131.5                                    | 4056   | 5.8               | 112.0                                    | 4950   | 8.37              | 176.9                                    | 2485   |
| MHC-V8W/D2N8-B2E30    | A++                                  | 59               | 6.6               | 131.5                                    | 4056   | 5.8               | 112.0                                    | 4950   | 8.37              | 176.9                                    | 2485   |
| MHC-V8W/D2N8-B2ER90   | A++                                  | 59               | 6.6               | 131.5                                    | 4056   | 5.8               | 112.0                                    | 4950   | 8.37              | 176.9                                    | 2485   |
| MHC-V10W/D2N8-B2      | A++                                  | 60               | 7.7               | 136.6                                    | 4539   | 6.7               | 116.4                                    | 5540   | 8.6               | 180.3                                    | 2516   |
| MHC-V10W/D2N8-B2E30   | A++                                  | 60               | 7.7               | 136.6                                    | 4539   | 6.7               | 116.4                                    | 5540   | 8.6               | 180.3                                    | 2516   |
| MHC-V10W/D2N8-B2ER90  | A++                                  | 60               | 7.7               | 136.6                                    | 4539   | 6.7               | 116.4                                    | 5540   | 8.6               | 180.3                                    | 2516   |
| MHC-V12W/D2N8-B2      | A++                                  | 65               | 11.6              | 135.1                                    | 6927   | 10.3              | 117.8                                    | 8419   | 12.5              | 174.0                                    | 3776   |
| MHC-V12W/D2N8-B2E30   | A++                                  | 65               | 11.6              | 135.1                                    | 6927   | 10.3              | 117.8                                    | 8419   | 12.5              | 174.0                                    | 3776   |
| MHC-V12W/D2N8-B2ER90  | A++                                  | 65               | 11.6              | 135.1                                    | 6927   | 10.3              | 117.8                                    | 8419   | 12.5              | 174.0                                    | 3776   |
| MHC-V14W/D2N8-B2      | A++                                  | 65               | 12.1              | 135.6                                    | 7202   | 11.0              | 118.9                                    | 8866   | 14.17             | 174.9                                    | 4258   |
| MHC-V14W/D2N8-B2E30   | A++                                  | 65               | 12.1              | 135.6                                    | 7202   | 11.0              | 118.9                                    | 8866   | 14.17             | 174.9                                    | 4258   |
| MHC-V14W/D2N8-B2ER90  | A++                                  | 65               | 12.1              | 135.6                                    | 7202   | 11.0              | 118.9                                    | 8866   | 14.17             | 174.9                                    | 4258   |
| MHC-V16W/D2N8-B2      | A++                                  | 68               | 13.0              | 133.3                                    | 7895   | 11.8              | 121.8                                    | 9309   | 14.17             | 176.0                                    | 4231   |
| MHC-V16W/D2N8-B2E30   | A++                                  | 68               | 13.0              | 133.3                                    | 7895   | 11.8              | 121.8                                    | 9309   | 14.17             | 176.0                                    | 4231   |
| MHC-V16W/D2N8-B2ER90  | A++                                  | 68               | 13.0              | 133.3                                    | 7895   | 11.8              | 121.8                                    | 9309   | 14.17             | 176.0                                    | 4231   |
| MHC-V12W/D2RN8-B2     | A++                                  | 65               | 11.6              | 135.1                                    | 6928   | 10.3              | 117.7                                    | 8420   | 12.5              | 173.8                                    | 3780   |
| MHC-V12W/D2RN8-B2E30  | A++                                  | 65               | 11.6              | 135.1                                    | 6928   | 10.3              | 117.7                                    | 8420   | 12.5              | 173.8                                    | 3780   |
| MHC-V12W/D2RN8-B2ER90 | A++                                  | 65               | 11.6              | 135.1                                    | 6928   | 10.3              | 117.7                                    | 8420   | 12.5              | 173.8                                    | 3780   |
| MHC-V14W/D2RN8-B2     | A++                                  | 65               | 12.1              | 135.6                                    | 7203   | 11.0              | 118.9                                    | 8867   | 14.17             | 174.7                                    | 4262   |
| MHC-V14W/D2RN8-B2E30  | A++                                  | 65               | 12.1              | 135.6                                    | 7203   | 11.0              | 118.9                                    | 8867   | 14.17             | 174.7                                    | 4262   |
| MHC-V14W/D2RN8-B2ER90 | A++                                  | 65               | 12.1              | 135.6                                    | 7203   | 11.0              | 118.9                                    | 8867   | 14.17             | 174.7                                    | 4262   |
| MHC-V16W/D2RN8-B2     | A++                                  | 68               | 13.0              | 133.2                                    | 7896   | 11.8              | 121.8                                    | 9310   | 14.17             | 175.8                                    | 4236   |
| MHC-V16W/D2RN8-B2E30  | A++                                  | 68               | 13.0              | 133.2                                    | 7896   | 11.8              | 121.8                                    | 9310   | 14.17             | 175.8                                    | 4236   |
| MHC-V16W/D2RN8-B2ER90 | A++                                  | 68               | 13.0              | 133.2                                    | 7896   | 11.8              | 121.8                                    | 9310   | 14.17             | 175.8                                    | 4236   |

Unit type explanation:

- 1.MHC-V\*\*W/D2N8-B2, without back-up heater,
- 2.MHC-V\*\*W/D2RN8-B2E30, with 3kW back-up heater and 1-Phase Source
- 3.MHC-V\*\*W/D2RN8-B2ER90, with 9kW back-up heater and 3-Phase Source

| Model                 | For low - temperature application |                  |                   |  |  |                   |  |  |                   |  |  |
|-----------------------|-----------------------------------|------------------|-------------------|--|--|-------------------|--|--|-------------------|--|--|
|                       | Energy efficiency class           | 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               | kW                | %  | kWh  | kW                | %  | kWh  | kW                | %  | kWh  |
| MHC-V4W/D2N8-B2       | A+++                              | 55               | 5.5               | 191.0                                    | 2351   | 4.6               | 159.5                                    | 2769   | 5.5               | 255.4                                    | 1146   |
| MHC-V4W/D2N8-B2E30    | A+++                              | 55               | 5.5               | 191.0                                    | 2351   | 4.6               | 159.5                                    | 2769   | 5.5               | 255.4                                    | 1146   |
| MHC-V6W/D2N8-B2       | A+++                              | 58               | 6.8               | 195.0                                    | 2845   | 5.6               | 165.3                                    | 3300   | 6.1               | 259.8                                    | 1244   |
| MHC-V6W/D2N8-B2E30    | A+++                              | 58               | 6.8               | 195.0                                    | 2845   | 5.6               | 165.3                                    | 3300   | 6.1               | 259.8                                    | 1244   |
| MHC-V8W/D2N8-B2       | A+++                              | 59               | 8.1               | 205.6                                    | 3218   | 7.0               | 170.0                                    | 3976   | 8.1               | 276.6                                    | 1551   |
| MHC-V8W/D2N8-B2E30    | A+++                              | 59               | 8.1               | 205.6                                    | 3218   | 7.0               | 170.0                                    | 3976   | 8.1               | 276.6                                    | 1551   |
| MHC-V8W/D2N8-B2ER90   | A+++                              | 59               | 8.1               | 205.6                                    | 3218   | 7.0               | 170.0                                    | 3976   | 8.1               | 276.6                                    | 1551   |
| MHC-V10W/D2N8-B2      | A+++                              | 60               | 9.2               | 204.8                                    | 3644   | 7.7               | 169.8                                    | 4423   | 8.6               | 280.5                                    | 1617   |
| MHC-V10W/D2N8-B2E30   | A+++                              | 60               | 9.2               | 204.8                                    | 3644   | 7.7               | 169.8                                    | 4423   | 8.6               | 280.5                                    | 1617   |
| MHC-V10W/D2N8-B2ER90  | A+++                              | 60               | 9.2               | 204.8                                    | 3644   | 7.7               | 169.8                                    | 4423   | 8.6               | 280.5                                    | 1617   |
| MHC-V12W/D2N8-B2      | A+++                              | 65               | 12.0              | 189.4                                    | 5152   | 11.4              | 160.2                                    | 6870   | 11.1              | 256.1                                    | 2292   |
| MHC-V12W/D2N8-B2E30   | A+++                              | 65               | 12.0              | 189.4                                    | 5152   | 11.4              | 160.2                                    | 6870   | 11.1              | 256.1                                    | 2292   |
| MHC-V12W/D2N8-B2ER90  | A+++                              | 65               | 12.0              | 189.4                                    | 5152   | 11.4              | 160.2                                    | 6870   | 11.1              | 256.1                                    | 2292   |
| MHC-V14W/D2N8-B2      | A+++                              | 65               | 13.7              | 185.7                                    | 6012   | 12.6              | 159.6                                    | 7667   | 12.1              | 260.3                                    | 2457   |
| MHC-V14W/D2N8-B2E30   | A+++                              | 65               | 13.7              | 185.7                                    | 6012   | 12.6              | 159.6                                    | 7667   | 12.1              | 260.3                                    | 2457   |
| MHC-V14W/D2N8-B2ER90  | A+++                              | 65               | 13.7              | 185.7                                    | 6012   | 12.6              | 159.6                                    | 7667   | 12.1              | 260.3                                    | 2457   |
| MHC-V16W/D2N8-B2      | A+++                              | 68               | 15.2              | 181.7                                    | 6804   | 13.7              | 157.8                                    | 8431   | 13.1              | 248.5                                    | 2781   |
| MHC-V16W/D2N8-B2E30   | A+++                              | 68               | 15.2              | 181.7                                    | 6804   | 13.7              | 157.8                                    | 8431   | 13.1              | 248.5                                    | 2781   |
| MHC-V16W/D2N8-B2ER90  | A+++                              | 68               | 15.2              | 181.7                                    | 6804   | 13.7              | 157.8                                    | 8431   | 13.1              | 248.5                                    | 2781   |
| MHC-V12W/D2RN8-B2     | A+++                              | 65               | 12.0              | 189.3                                    | 5153   | 11.4              | 160.2                                    | 6871   | 11.1              | 255.6                                    | 2296   |
| MHC-V12W/D2RN8-B2E30  | A+++                              | 65               | 12.0              | 189.3                                    | 5153   | 11.4              | 160.2                                    | 6871   | 11.1              | 255.6                                    | 2296   |
| MHC-V12W/D2RN8-B2ER90 | A+++                              | 65               | 12.0              | 189.3                                    | 5153   | 11.4              | 160.2                                    | 6871   | 11.1              | 255.6                                    | 2296   |
| MHC-V14W/D2RN8-B2     | A+++                              | 65               | 13.7              | 185.6                                    | 6013   | 12.6              | 159.6                                    | 7667   | 12.1              | 259.8                                    | 2462   |
| MHC-V14W/D2RN8-B2E30  | A+++                              | 65               | 13.7              | 185.6                                    | 6013   | 12.6              | 159.6                                    | 7667   | 12.1              | 259.8                                    | 2462   |
| MHC-V14W/D2RN8-B2ER90 | A+++                              | 65               | 13.7              | 185.6                                    | 6013   | 12.6              | 159.6                                    | 7667   | 12.1              | 259.8                                    | 2462   |
| MHC-V16W/D2RN8-B2     | A+++                              | 68               | 15.2              | 181.6                                    | 6805   | 13.7              | 157.8                                    | 8431   | 13.1              | 248.1                                    | 2786   |
| MHC-V16W/D2RN8-B2E30  | A+++                              | 68               | 15.2              | 181.6                                    | 6805   | 13.7              | 157.8                                    | 8431   | 13.1              | 248.1                                    | 2786   |
| MHC-V16W/D2RN8-B2ER90 | A+++                              | 68               | 15.2              | 181.6                                    | 6805   | 13.7              | 157.8                                    | 8431   | 13.1              | 248.1                                    | 2786   |

Unit type explanation:

- 1.MHC-V\*\*W/D2N8-B2, without back-up heater,
- 2.MHC-V\*\*W/D2RN8-B2E30, with 3kW back-up heater and 1-Phase Source
- 3.MHC-V\*\*W/D2RN8-B2ER90, with 9kW back-up heater and 3-Phase Source

# Product fiche 1

| Heat pump space heating  |  | Model | MHC-V4W/D2N8-B2*** | MHC-V6W/D2N8-B2*** | MHC-V8W/D2N8-B2*** | MHC-V10W/D2N8-B2*** | MHC-V12W/D2N8-B2*** |
|--|--|-------|--------------------|--------------------|--------------------|---------------------|---------------------|
| Unit sound power (*)   | Average climate low temperature application      | [dB]  | 55.0               | 58.0               | 59.0               | 60.0                | 65.0                |
|  | Average climate medium temperature application   | [dB]  | 55.0               | 58.0               | 59.0               | 60.0                | 65.0                |
| Capacity of the back-up heater integrated in the unit                          | Psup back-up heater (optional)                   | [kW]  | 0/3                | 0/3                | 0/3/9              | 0/3/9               | 0/3/9               |
| Space heating  | Energy efficiency class 35°C (Low temp. app.)    | -     | A+++               | A+++               | A+++               | A+++                | A+++                |
| Space heating  | Energy efficiency class 55°C (Medium temp. app.) | -     | A++                | A++                | A++                | A++                 | A++                 |
| Average climate (Design temperature = -10°C)                                   |  |       |                    |                    |                    |                     |                     |
| Space heating 35°C   | Prated (declared heating capacity) @ -10°C       | [kW]  | 5.5                | 6.8                | 8.1                | 9.2                 | 12.0                |
|  | Seasonal space heating efficiency (ηs)           | [%]   | 191.0              | 195.0              | 205.6              | 204.8               | 189.4               |
|  | Annual energy consumption                        | [kWh] | 2,351              | 2,845              | 3,218              | 3,644               | 5,152               |
| Space heating 55°C   | Prated (declared heating capacity) @ -10°C       | [kW]  | 4.4                | 5.7                | 6.6                | 7.7                 | 11.6                |
|  | Seasonal space heating efficiency (ηs)           | [%]   | 129.5              | 137.9              | 131.5              | 136.6               | 135.1               |
|  | Annual energy consumption                        | [kWh] | 2,744              | 3,345              | 4,056              | 4,539               | 6,927               |
| Part load conditions space heating average climate low temperature application |  |       |                    |                    |                    |                     |                     |
| (A) condition (-7°C)   | Pdh (declared heating capacity)                  | [kW]  | 4.88               | 6.03               | 7.18               | 8.10                | 10.61               |
|  | COPd (declared COP)                              | -     | 3.19               | 3.09               | 3.35               | 3.23                | 2.88                |
|  | Cdh(degradation coefficient)                     | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (B) condition (2°C)  | Pdh (declared heating capacity)                  | [kW]  | 3.05               | 3.88               | 4.65               | 5.18                | 6.69                |
|  | COPd (declared COP)                              | -     | 4.78               | 4.85               | 5.09               | 5.01                | 4.65                |
|  | Cdh(degradation coefficient)                     | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (C) condition (7°C)  | Pdh (declared heating capacity)                  | [kW]  | 1.93               | 2.39               | 2.90               | 3.32                | 4.44                |
|  | COPd (declared COP)                              | -     | 6.13               | 6.63               | 6.82               | 7.08                | 6.62                |
|  | Cdh(degradation coefficient)                     | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (D) condition (12°C)   | Pdh (declared heating capacity)                  | [kW]  | 1.48               | 1.39               | 1.63               | 1.65                | 3.74                |
|  | COPd (declared COP)                              | -     | 8.05               | 7.93               | 8.35               | 8.58                | 8.47                |
|  | Cdh(degradation coefficient)                     | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |

# Product fiche 1

| Heat pump space heating  |  | Model | MHC-V14W/D2N8-B2*** | MHC-V16W/D2N8-B2*** | MHC-V12W/D2RN8-B2*** | MHC-V14W/D2RN8-B2*** | MHC-V16W/D2RN8-B2*** |
|--|--|-------|---------------------|---------------------|----------------------|----------------------|----------------------|
| Unit sound power (*)   | Average climate low temperature application      | [dB]  | 65.0                | 68.0                | 65.0                 | 65.0                 | 68.0                 |
|  | Average climate medium temperature application   | [dB]  | 65.0                | 68.0                | 65.0                 | 65.0                 | 68.0                 |
| Capacity of the back-up heater integrated in the unit                          | Psup back-up heater (optional)                   | [kW]  | 0/3/9               | 0/3/9               | 0/3/9                | 0/3/9                | 0/3/9                |
| Space heating  | Energy efficiency class 35°C (Low temp. app.)    | -     | A+++                | A+++                | A+++                 | A+++                 | A+++                 |
| Space heating  | Energy efficiency class 55°C (Medium temp. app.) | -     | A++                 | A++                 | A++                  | A++                  | A++                  |
| Average climate (Design temperature = -10°C)                                   |  |       |                     |                     |                      |                      |                      |
| Space heating 35°C   | Prated (declared heating capacity) @ -10°C       | [kW]  | 13.7                | 15.2                | 12.0                 | 13.7                 | 15.2                 |
|  | Seasonal space heating efficiency (ηs)           | [%]   | 185.7               | 181.7               | 189.3                | 185.6                | 181.6                |
|  | Annual energy consumption                        | [kWh] | 6,012               | 6,804               | 5,153                | 6,013                | 6,805                |
| Space heating 55°C   | Prated (declared heating capacity) @ -10°C       | [kW]  | 12.1                | 13.0                | 11.6                 | 12.1                 | 13.0                 |
|  | Seasonal space heating efficiency (ηs)           | [%]   | 135.6               | 133.3               | 135.1                | 135.6                | 133.2                |
|  | Annual energy consumption                        | [kWh] | 7,202               | 7,895               | 6,928                | 7,203                | 7,896                |
| Part load conditions space heating average climate low temperature application |  |       |                     |                     |                      |                      |                      |
| (A) condition (-7°C)   | Pdh (declared heating capacity)                  | [kW]  | 12.14               | 13.45               | 10.61                | 12.14                | 13.45                |
|  | COPd (declared COP)                              | -     | 2.79                | 2.72                | 2.88                 | 2.79                 | 2.72                 |
|  | Cdh(degradation coefficient)                     | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (B) condition (2°C)  | Pdh (declared heating capacity)                  | [kW]  | 7.94                | 8.56                | 6.69                 | 7.94                 | 8.56                 |
|  | COPd (declared COP)                              | -     | 4.52                | 4.41                | 4.65                 | 4.52                 | 4.41                 |
|  | Cdh(degradation coefficient)                     | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (C) condition (7°C)  | Pdh (declared heating capacity)                  | [kW]  | 5.20                | 5.70                | 4.44                 | 5.20                 | 5.70                 |
|  | COPd (declared COP)                              | -     | 6.68                | 6.56                | 6.62                 | 6.68                 | 6.56                 |
|  | Cdh(degradation coefficient)                     | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (D) condition (12°C)   | Pdh (declared heating capacity)                  | [kW]  | 3.75                | 3.78                | 3.74                 | 3.75                 | 3.78                 |
|  | COPd (declared COP)                              | -     | 8.52                | 8.51                | 8.47                 | 8.52                 | 8.51                 |
|  | Cdh(degradation coefficient)                     | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |

## Product fiche 2

| Heat pump space heating   |                                      | Model | MHC-V4W/D2N8-B2*** | MHC-V6W/D2N8-B2*** | MHC-V8W/D2N8-B2*** | MHC-V10W/D2N8-B2*** | MHC-V12W/D2N8-B2*** |
|---|--------------------------------------|-------|--------------------|--------------------|--------------------|---------------------|---------------------|
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)    | [°C]  | -10.00             | -10.00             | -10.00             | -10.00              | -10.00              |
|   | Pdh (declared heating capacity)      | [kW]  | 4.41               | 5.36               | 6.44               | 7.40                | 10.74               |
|   | COPd (declared COP)                  | -     | 2.86               | 2.76               | 3.04               | 2.96                | 2.77                |
|   | WTOL (Heating water Operation Limit) | [°C]  | 65.00              | 65.00              | 65.00              | 65.00               | 65.00               |
| (F) Tbivalent temperature   | Tbiv                                 | [°C]  | -7.00              | -7.00              | -7.00              | -7.00               | -7.00               |
|   | Pdh (declared heating capacity)      | [kW]  | 4.88               | 6.03               | 7.18               | 8.10                | 10.61               |
|   | COPd (declared COP)                  | -     | 3.19               | 3.09               | 3.35               | 3.23                | 2.88                |
| Supplementary capacity at P_design  | Psup (@Tdesignh: -10°C)              | [kW]  | 1.11               | 1.45               | 1.68               | 1.76                | 1.26                |
| Part load conditions space heating average climate medium temperature application |                                      |       |                    |                    |                    |                     |                     |
| (A) condition (-7°C)  | Pdh (declared heating capacity)      | [kW]  | 3.89               | 5.04               | 5.84               | 6.78                | 10.24               |
|   | COPd (declared COP)                  | -     | 2.17               | 2.17               | 2.16               | 2.24                | 2.01                |
|   | Cdh(degradation coefficient)         | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (B) condition (2°C)   | Pdh (declared heating capacity)      | [kW]  | 2.38               | 3.12               | 3.75               | 4.28                | 6.52                |
|   | COPd (declared COP)                  | -     | 3.30               | 3.51               | 3.30               | 3.42                | 3.44                |
|   | Cdh(degradation coefficient)         | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (C) condition (7°C)   | Pdh (declared heating capacity)      | [kW]  | 2.94               | 2.08               | 2.42               | 2.77                | 4.36                |
|   | COPd (declared COP)                  | -     | 4.41               | 4.54               | 4.34               | 4.52                | 4.59                |
|   | Cdh(degradation coefficient)         | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (D) condition (12°C)  | Pdh (declared heating capacity)      | [kW]  | 1.32               | 1.28               | 1.39               | 1.58                | 3.29                |
|   | COPd (declared COP)                  | -     | 5.66               | 5.59               | 5.33               | 5.68                | 6.05                |
|   | Cdh(degradation coefficient)         | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)    | [°C]  | -10.00             | -10.00             | -10.00             | -10.00              | -10.00              |
|   | Pdh (declared heating capacity)      | [kW]  | 3.42               | 4.52               | 4.90               | 5.38                | 9.10                |
|   | COPd (declared COP)                  | -     | 1.91               | 1.91               | 1.84               | 1.83                | 1.79                |
|   | WTOL (Heating water Operation Limit) | [°C]  | 65.00              | 65.00              | 65.00              | 65.00               | 65.00               |
| (F) Tbivalent temperature   | Tbiv                                 | [°C]  | -7.00              | -7.00              | -7.00              | -7.00               | -7.00               |
|   | Pdh (declared heating capacity)      | [kW]  | 3.89               | 5.04               | 5.84               | 6.78                | 10.24               |
|   | COPd (declared COP)                  | -     | 2.17               | 2.17               | 2.16               | 2.24                | 2.01                |

## Product fiche 2

| Heat pump space heating   |  | Model | MHC-V14W/D2N8-B2*** | MHC-V16W/D2N8-B2*** | MHC-V12W/D2RN8-B2*** | MHC-V14W/D2RN8-B2*** | MHC-V16W/D2RN8-B2*** |
|---|--|-------|---------------------|---------------------|----------------------|----------------------|----------------------|
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)                | [°C]  | -10.00              | -10.00              | -10.00               | -10.00               | -10.00               |
|   | P <sub>dh</sub> (declared heating capacity)      | [kW]  | 11.47               | 12.52               | 10.74                | 11.47                | 12.52                |
|   | COP <sub>d</sub> (declared COP)                  | -     | 2.59                | 2.48                | 2.77                 | 2.59                 | 2.48                 |
|   | WTOL (Heating water Operation Limit)             | [°C]  | 65.00               | 65.00               | 65.00                | 65.00                | 65.00                |
| (F) Tbivalent temperature   | T <sub>biv</sub>                                 | [°C]  | -7.00               | -7.00               | -7.00                | -7.00                | -7.00                |
|   | P <sub>dh</sub> (declared heating capacity)      | [kW]  | 12.14               | 13.45               | 10.61                | 12.14                | 13.45                |
|   | COP <sub>d</sub> (declared COP)                  | -     | 2.79                | 2.72                | 2.88                 | 2.79                 | 2.72                 |
| Supplementary capacity at P <sub>design</sub>                                     | P <sub>sup</sub> (@T <sub>designh</sub> : -10°C) | [kW]  | 2.23                | 2.68                | 1.26                 | 2.23                 | 2.68                 |
| Part load conditions space heating average climate medium temperature application |  |       |                     |                     |                      |                      |                      |
| (A) condition (-7°C)  | P <sub>dh</sub> (declared heating capacity)      | [kW]  | 10.68               | 11.52               | 10.24                | 10.68                | 11.52                |
|   | COP <sub>d</sub> (declared COP)                  | -     | 2.01                | 1.99                | 2.01                 | 2.01                 | 1.99                 |
|   | C <sub>dh</sub> (degradation coefficient)        | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (B) condition (2°C)   | P <sub>dh</sub> (declared heating capacity)      | [kW]  | 6.86                | 7.18                | 6.52                 | 6.86                 | 7.18                 |
|   | COP <sub>d</sub> (declared COP)                  | -     | 3.43                | 3.34                | 3.44                 | 3.43                 | 3.34                 |
|   | C <sub>dh</sub> (degradation coefficient)        | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (C) condition (7°C)   | P <sub>dh</sub> (declared heating capacity)      | [kW]  | 4.63                | 4.67                | 4.36                 | 4.63                 | 4.67                 |
|   | COP <sub>d</sub> (declared COP)                  | -     | 4.66                | 4.61                | 4.59                 | 4.66                 | 4.61                 |
|   | C <sub>dh</sub> (degradation coefficient)        | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (D) condition (12°C)  | P <sub>dh</sub> (declared heating capacity)      | [kW]  | 3.31                | 3.31                | 3.29                 | 3.31                 | 3.31                 |
|   | COP <sub>d</sub> (declared COP)                  | -     | 6.13                | 6.07                | 6.05                 | 6.13                 | 6.07                 |
|   | C <sub>dh</sub> (degradation coefficient)        | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)                | [°C]  | -10.00              | -10.00              | -10.00               | -10.00               | -10.00               |
|   | P <sub>dh</sub> (declared heating capacity)      | [kW]  | 9.19                | 10.33               | 9.10                 | 9.19                 | 10.33                |
|   | COP <sub>d</sub> (declared COP)                  | -     | 1.76                | 1.80                | 1.79                 | 1.76                 | 1.80                 |
|   | WTOL (Heating water Operation Limit)             | [°C]  | 65.00               | 65.00               | 65.00                | 65.00                | 65.00                |
| (F) Tbivalent temperature   | T <sub>biv</sub>                                 | [°C]  | -7.00               | -7.00               | -7.00                | -7.00                | -7.00                |
|   | P <sub>dh</sub> (declared heating capacity)      | [kW]  | 10.68               | 11.52               | 10.24                | 10.68                | 11.52                |
|   | COP <sub>d</sub> (declared COP)                  | -     | 2.01                | 1.99                | 2.01                 | 2.01                 | 1.99                 |
| Supplementary capacity at P <sub>design</sub>                                     | P <sub>sup</sub> (@T <sub>designh</sub> : -10°C) | [kW]  | 2.91                | 2.67                | 2.50                 | 2.91                 | 2.67                 |

## Product fiche 3

| Heat pump space heating   |  | Model | MHC-V4W/D2N8-B2*** | MHC-V6W/D2N8-B2*** | MHC-V8W/D2N8-B2*** | MHC-V10W/D2N8-B2*** | MHC-V12W/D2N8-B2*** |
|---|--|-------|--------------------|--------------------|--------------------|---------------------|---------------------|
| Supplementary capacity at P_design  | Psup (@Tdesignh: -10°C)                    | [kW]  | 0.98               | 1.18               | 1.69               | 2.28                | 2.50                |
| Colder climate (Design temperature = -22°C)                                   |  |       |                    |                    |                    |                     |                     |
| Space heating 35°C  | Prated (declared heating capacity) @ -22°C | [kW]  | 4.6                | 5.6                | 7.0                | 7.7                 | 11.4                |
|   | Seasonal space heating efficiency (ηs)     | [%]   | 159.5              | 165.3              | 170.0              | 169.8               | 160.2               |
|   | Annual energy consumption                  | [kWh] | 2,769              | 3,300              | 3,976              | 4,423               | 6,870               |
| Space heating 55°C  | Prated (declared heating capacity) @ -22°C | [kW]  | 3.4                | 4.3                | 5.8                | 6.7                 | 10.3                |
|   | Seasonal space heating efficiency (ηs)     | [%]   | 102.1              | 111.1              | 112.0              | 116.4               | 117.8               |
|   | Annual energy consumption                  | [kWh] | 3,159              | 3,681              | 4,950              | 5,540               | 8,419               |
| Part load conditions space heating colder climate low temperature application |  |       |                    |                    |                    |                     |                     |
| (A) condition (-7°C)  | Pdh (declared heating capacity)            | [kW]  | 2.75               | 3.42               | 4.46               | 4.83                | 7.05                |
|   | COPd (declared COP)                        | -     | 3.49               | 3.59               | 3.66               | 3.60                | 3.48                |
|   | Cdh(degradation coefficient)               | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (B) condition (2°C)   | Pdh (declared heating capacity)            | [kW]  | 1.77               | 2.06               | 2.69               | 2.94                | 4.67                |
|   | COPd (declared COP)                        | -     | 4.95               | 5.21               | 5.20               | 5.26                | 4.96                |
|   | Cdh(degradation coefficient)               | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (C) condition (7°C)   | Pdh (declared heating capacity)            | [kW]  | 1.17               | 1.46               | 1.65               | 1.92                | 3.14                |
|   | COPd (declared COP)                        | -     | 5.53               | 6.24               | 6.53               | 7.08                | 6.10                |
|   | Cdh(degradation coefficient)               | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (D) condition (12°C)  | Pdh (declared heating capacity)            | [kW]  | 1.43               | 1.44               | 1.65               | 1.65                | 3.57                |
|   | COPd (declared COP)                        | -     | 7.67               | 7.66               | 7.96               | 7.96                | 7.87                |
|   | Cdh(degradation coefficient)               | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)          | [°C]  | -22.00             | -22.00             | -22.00             | -22.00              | -22.00              |
|   | Pdh (declared heating capacity)            | [kW]  | 2.80               | 3.48               | 4.06               | 4.62                | 7.01                |
|   | COPd (declared COP)                        | -     | 1.97               | 1.96               | 1.95               | 1.97                | 1.98                |
|   | WTOL (Heating water Operation Limit)       | [°C]  | 65.00              | 65.00              | 65.00              | 65.00               | 65.00               |
| (F) Tbivalent temperature   | Tbiv                                       | [°C]  | -15.00             | -15.00             | -15.00             | -15.00              | -15.00              |
|   | Pdh (declared heating capacity)            | [kW]  | 3.72               | 4.59               | 5.69               | 6.32                | 9.28                |
|   | COPd (declared COP)                        | -     | 2.57               | 2.53               | 2.83               | 2.64                | 2.59                |
| Supplementary capacity at P_design  | Psup (@Tdesignh: -22°C)                    | [kW]  | 1.76               | 2.15               | 2.91               | 3.08                | 4.40                |



## Product fiche 3

| Heat pump space heating   |  | Model | MHC-V14W/D2N8-B2*** | MHC-V16W/D2N8-B2*** | MHC-V12W/D2RN8-B2*** | MHC-V14W/D2RN8-B2*** | MHC-V16W/D2RN8-B2*** |
|---|--|-------|---------------------|---------------------|----------------------|----------------------|----------------------|
| Colder climate (Design temperature = -22°C)                                   |  |       |                     |                     |                      |                      |                      |
| Space heating 35°C  | Prated (declared heating capacity) @ -22°C | [kW]  | 12.6                | 13.7                | 11.4                 | 12.6                 | 13.7                 |
|   | Seasonal space heating efficiency (ηs)     | [%]   | 159.6               | 157.8               | 160.2                | 159.6                | 157.8                |
|   | Annual energy consumption                  | [kWh] | 7,667               | 8,431               | 6,871                | 7,667                | 8,431                |
| Space heating 55°C  | Prated (declared heating capacity) @ -22°C | [kW]  | 11.0                | 11.8                | 10.3                 | 11.0                 | 11.8                 |
|   | Seasonal space heating efficiency (ηs)     | [%]   | 118.9               | 121.8               | 117.7                | 118.9                | 121.8                |
|   | Annual energy consumption                  | [kWh] | 8,866               | 9,309               | 8,420                | 8,867                | 9,310                |
| Part load conditions space heating colder climate low temperature application |  |       |                     |                     |                      |                      |                      |
| (A) condition (-7°C)  | Pdh (declared heating capacity)            | [kW]  | 7.96                | 8.31                | 7.05                 | 7.96                 | 8.31                 |
|   | COPd (declared COP)                        | -     | 3.44                | 3.37                | 3.48                 | 3.44                 | 3.37                 |
|   | Cdh(degradation coefficient)               | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (B) condition (2°C)   | Pdh (declared heating capacity)            | [kW]  | 5.05                | 5.26                | 4.67                 | 5.05                 | 5.26                 |
|   | COPd (declared COP)                        | -     | 4.92                | 4.86                | 4.96                 | 4.92                 | 4.86                 |
|   | Cdh(degradation coefficient)               | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (C) condition (7°C)   | Pdh (declared heating capacity)            | [kW]  | 3.15                | 3.62                | 3.14                 | 3.15                 | 3.62                 |
|   | COPd (declared COP)                        | -     | 6.11                | 6.49                | 6.10                 | 6.11                 | 6.49                 |
|   | Cdh(degradation coefficient)               | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (D) condition (12°C)  | Pdh (declared heating capacity)            | [kW]  | 3.57                | 3.34                | 3.57                 | 3.57                 | 3.34                 |
|   | COPd (declared COP)                        | -     | 7.82                | 7.40                | 7.87                 | 7.82                 | 7.40                 |
|   | Cdh(degradation coefficient)               | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (E) Tol (temperature operating limit)   | Tol (temperature operating limit)          | [°C]  | -22.00              | -22.00              | -22.00               | -22.00               | -22.00               |
|   | Pdh (declared heating capacity)            | [kW]  | 7.57                | 8.88                | 7.01                 | 7.57                 | 8.88                 |
|   | COPd (declared COP)                        | -     | 1.92                | 1.97                | 1.98                 | 1.92                 | 1.97                 |
|   | WTOL (Heating water Operation Limit)       | [°C]  | 65.00               | 65.00               | 65.00                | 65.00                | 65.00                |
| (F) Tbivalent temperature   | Tbiv                                       | [°C]  | -15.00              | -15.00              | -15.00               | -15.00               | -15.00               |
|   | Pdh (declared heating capacity)            | [kW]  | 10.31               | 11.22               | 9.28                 | 10.31                | 11.22                |
|   | COPd (declared COP)                        | -     | 2.53                | 2.43                | 2.59                 | 2.53                 | 2.43                 |
| Supplementary capacity at P_design  | Psup (@Tdesignh: -22°C)                    | [kW]  | 5.03                | 4.82                | 4.40                 | 5.03                 | 4.82                 |

## Product fiche 4

| Heat pump space heating  |  |       | Model  | MHC-V4W/D2N8-B2*** | MHC-V6W/D2N8-B2*** | MHC-V8W/D2N8-B2*** | MHC-V10W/D2N8-B2*** | MHC-V12W/D2N8-B2*** |
|--|--|-------|--------|--------------------|--------------------|--------------------|---------------------|---------------------|
| Part load conditions space heating colder climate medium temperature application |  |       |        |                    |                    |                    |                     |                     |
| (A) condition (-7°C)   | Pdh (declared heating capacity)          | [kW]  | 2.13   | 2.70               | 3.86               | 4.27               | 6.63                |                     |
|  | COPd (declared COP)                      | -     | 2.32   | 2.46               | 2.48               | 2.54               | 2.63                |                     |
|  | Cdh(degradation coefficient)             | -     | 0.90   | 0.90               | 0.90               | 0.90               | 0.90                |                     |
| (B) condition (2°C)  | Pdh (declared heating capacity)          | [kW]  | 1.28   | 1.60               | 2.21               | 2.57               | 4.06                |                     |
|  | COPd (declared COP)                      | -     | 2.99   | 3.36               | 3.35               | 3.51               | 3.60                |                     |
|  | Cdh(degradation coefficient)             | -     | 0.90   | 0.90               | 0.90               | 0.90               | 0.90                |                     |
| (C) condition (7°C)  | Pdh (declared heating capacity)          | [kW]  | 1.01   | 1.02               | 1.44               | 1.65               | 2.78                |                     |
|  | COPd (declared COP)                      | -     | 3.86   | 3.94               | 4.11               | 4.37               | 4.54                |                     |
|  | Cdh(degradation coefficient)             | -     | 0.90   | 0.90               | 0.90               | 0.90               | 0.90                |                     |
| (D) condition (12°C)   | Pdh (declared heating capacity)          | [kW]  | 1.36   | 1.37               | 1.46               | 1.47               | 3.33                |                     |
|  | COPd (declared COP)                      | -     | 6.28   | 6.35               | 5.92               | 5.96               | 6.25                |                     |
|  | Cdh(degradation coefficient)             | -     | 0.90   | 0.90               | 0.90               | 0.90               | 0.90                |                     |
| (E) Tol (temperature operating limit)  | Tol (temperature operating limit)        | [°C]  | -22.00 | -22.00             | -22.00             | -22.00             | -22.00              |                     |
|  | Pdh (declared heating capacity)          | [kW]  | 1.64   | 2.09               | 2.80               | 2.80               | 4.19                |                     |
|  | COPd (declared COP)                      | -     | 1.02   | 1.13               | 1.22               | 1.22               | 1.13                |                     |
|  | WTOL (Heating water Operation Limit)     | [°C]  | 65.00  | 65.00              | 65.00              | 65.00              | 65.00               |                     |
| (F) Tbivalent temperature  | Tbiv                                     | [°C]  | -15.00 | -15.00             | -15.00             | -15.00             | -15.00              |                     |
|  | Pdh (declared heating capacity)          | [kW]  | 2.74   | 3.47               | 4.71               | 5.47               | 8.41                |                     |
|  | COPd (declared COP)                      | -     | 1.74   | 1.86               | 1.90               | 2.00               | 1.84                |                     |
| Supplementary capacity at P_design   | Psup (@Tdesignh: -22°C)                  | [kW]  | 1.72   | 2.17               | 2.97               | 3.91               | 6.12                |                     |
| Warmer climate (Design temperature = 2°C)  |  |       |        |                    |                    |                    |                     |                     |
| Space heating 35°C   | Prated (declared heating capacity) @ 2°C | [kW]  | 5.5    | 6.1                | 8.1                | 8.6                | 11.1                |                     |
|  | Seasonal space heating efficiency (ηs)   | [%]   | 255.4  | 259.8              | 276.6              | 280.5              | 256.1               |                     |
|  | Annual energy consumption                | [kWh] | 1,146  | 1,244              | 1,551              | 1,617              | 2,292               |                     |
| Space heating 55°C   | Prated (declared heating capacity) @ 2°C | [kW]  | 5.0    | 5.1                | 8.37               | 8.6                | 12.5                |                     |
|  | Seasonal space heating efficiency (ηs)   | [%]   | 162.4  | 164.7              | 176.9              | 180.3              | 174.0               |                     |
|  | Annual energy consumption                | [kWh] | 1,621  | 1,640              | 2,485              | 2,516              | 3,776               |                     |

## Product fiche 4

| Heat pump space heating  |  | Model | MHC-V14W/D2N8-B2*** | MHC-V16W/D2N8-B2*** | MHC-V12W/D2RN8-B2*** | MHC-V14W/D2RN8-B2*** | MHC-V16W/D2RN8-B2*** |
|--|--|-------|---------------------|---------------------|----------------------|----------------------|----------------------|
| Part load conditions space heating colder climate medium temperature application |  |       |                     |                     |                      |                      |                      |
| (A) condition (-7°C)   | P <sub>dh</sub> (declared heating capacity)          | [kW]  | 6.89                | 7.64                | 6.63                 | 6.89                 | 7.64                 |
|  | COP <sub>d</sub> (declared COP)                      | -     | 2.66                | 2.65                | 2.63                 | 2.66                 | 2.65                 |
|  | C <sub>dh</sub> (degradation coefficient)            | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (B) condition (2°C)  | P <sub>dh</sub> (declared heating capacity)          | [kW]  | 4.32                | 4.42                | 4.06                 | 4.32                 | 4.42                 |
|  | COP <sub>d</sub> (declared COP)                      | -     | 3.66                | 3.79                | 3.60                 | 3.66                 | 3.79                 |
|  | C <sub>dh</sub> (degradation coefficient)            | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (C) condition (7°C)  | P <sub>dh</sub> (declared heating capacity)          | [kW]  | 3.06                | 2.97                | 2.78                 | 3.06                 | 2.97                 |
|  | COP <sub>d</sub> (declared COP)                      | -     | 4.72                | 4.81                | 4.54                 | 4.72                 | 4.81                 |
|  | C <sub>dh</sub> (degradation coefficient)            | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (D) condition (12°C)   | P <sub>dh</sub> (declared heating capacity)          | [kW]  | 3.33                | 3.43                | 3.33                 | 3.33                 | 3.43                 |
|  | COP <sub>d</sub> (declared COP)                      | -     | 6.25                | 6.29                | 6.25                 | 6.25                 | 6.29                 |
|  | C <sub>dh</sub> (degradation coefficient)            | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (E) Tol (temperature operating limit)  | T <sub>ol</sub> (temperature operating limit)        | [°C]  | -22.00              | -22.00              | -22.00               | -22.00               | -22.00               |
|  | P <sub>dh</sub> (declared heating capacity)          | [kW]  | 4.20                | 5.21                | 4.19                 | 4.20                 | 5.21                 |
|  | COP <sub>d</sub> (declared COP)                      | -     | 1.13                | 1.23                | 1.13                 | 1.13                 | 1.23                 |
|  | WTOL (Heating water Operation Limit)                 | [°C]  | 65.00               | 65.00               | 65.00                | 65.00                | 65.00                |
| (F) T <sub>bivalent</sub> temperature  | T <sub>biv</sub>                                     | [°C]  | -15.00              | -15.00              | -15.00               | -15.00               | -15.00               |
|  | P <sub>dh</sub> (declared heating capacity)          | [kW]  | 8.94                | 9.61                | 8.41                 | 8.94                 | 9.61                 |
|  | COP <sub>d</sub> (declared COP)                      | -     | 1.79                | 1.86                | 1.84                 | 1.79                 | 1.86                 |
| Supplementary capacity at P <sub>design</sub>                                    | P <sub>sup</sub> (@T <sub>designh</sub> : -22°C)     | [kW]  | 6.80                | 6.59                | 6.12                 | 6.80                 | 6.59                 |
| Warmer climate (Design temperature = 2°C)  |  |       |                     |                     |                      |                      |                      |
| Space heating 35°C   | P <sub>rated</sub> (declared heating capacity) @ 2°C | [kW]  | 12.1                | 13.1                | 11.1                 | 12.1                 | 13.1                 |
|  | Seasonal space heating efficiency (η <sub>s</sub> )  | [%]   | 260.3               | 248.5               | 255.6                | 259.8                | 248.1                |
|  | Annual energy consumption                            | [kWh] | 2,457               | 2,781               | 2,296                | 2,462                | 2,786                |
| Space heating 55°C   | P <sub>rated</sub> (declared heating capacity) @ 2°C | [kW]  | 14.17               | 14.17               | 12.5                 | 14.17                | 14.17                |
|  | Seasonal space heating efficiency (η <sub>s</sub> )  | [%]   | 174.9               | 176.0               | 173.8                | 174.9                | 175.8                |
|  | Annual energy consumption                            | [kWh] | 4,258               | 4,231               | 3,780                | 4,262                | 4,236                |

# Product fiche 5

| Heat pump space heating  |                                      | Model | MHC-V4W/D2N8-B2*** | MHC-V6W/D2N8-B2*** | MHC-V8W/D2N8-B2*** | MHC-V10W/D2N8-B2*** | MHC-V12W/D2N8-B2*** |
|--|--------------------------------------|-------|--------------------|--------------------|--------------------|---------------------|---------------------|
| Part load conditions space heating warmer climate low temperature application    |                                      |       |                    |                    |                    |                     |                     |
| (B) condition (2°C)  | Pdh (declared heating capacity)      | [kW]  | 5.34               | 5.93               | 7.56               | 8.44                | 11.10               |
|  | COPd (declared COP)                  | -     | 3.94               | 3.91               | 3.98               | 3.84                | 3.59                |
|  | Cdh(degradation coefficient)         | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (C) condition (7°C)  | Pdh (declared heating capacity)      | [kW]  | 3.56               | 3.93               | 5.22               | 5.52                | 7.14                |
|  | COPd (declared COP)                  | -     | 5.92               | 5.89               | 6.26               | 6.18                | 5.87                |
|  | Cdh(degradation coefficient)         | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (D) condition (12°C)   | Pdh (declared heating capacity)      | [kW]  | 1.63               | 1.79               | 2.62               | 2.62                | 3.55                |
|  | COPd (declared COP)                  | -     | 7.91               | 8.20               | 9.23               | 9.04                | 7.94                |
|  | Cdh(degradation coefficient)         | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (E) Tol (temperature operating limit)  | Tol (temperature operating limit)    | [°C]  | 2.00               | 2.00               | 2.00               | 2.00                | 2.00                |
|  | Pdh (declared heating capacity)      | [kW]  | 5.34               | 5.93               | 7.56               | 8.44                | 11.10               |
|  | COPd (declared COP)                  | -     | 3.94               | 3.91               | 3.98               | 3.84                | 3.59                |
|  | WTOL (Heating water Operation Limit) | [°C]  | 65.00              | 65.00              | 65.00              | 65.00               | 65.00               |
| (F) Tbivalent temperature  | Tbiv                                 | [°C]  | 7.00               | 7.00               | 7.00               | 7.00                | 7.00                |
|  | Pdh (declared heating capacity)      | [kW]  | 3.56               | 3.93               | 5.22               | 5.52                | 7.14                |
|  | COPd (declared COP)                  | -     | 5.92               | 5.89               | 6.26               | 6.18                | 5.87                |
| Supplementary capacity at P_design   | Psup (@Tdesignh: 2°C)                | [kW]  | 0.18               | 0.18               | 0.55               | 0.14                | 0.00                |
| Part load conditions space heating warmer climate medium temperature application |                                      |       |                    |                    |                    |                     |                     |
| (B) condition (2°C)  | Pdh (declared heating capacity)      | [kW]  | 4.83               | 5.02               | 7.55               | 8.06                | 12.07               |
|  | COPd (declared COP)                  | -     | 2.51               | 2.48               | 2.59               | 2.59                | 2.31                |
|  | Cdh(degradation coefficient)         | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (C) condition (7°C)  | Pdh (declared heating capacity)      | [kW]  | 3.22               | 3.31               | 5.38               | 5.54                | 8.04                |
|  | COPd (declared COP)                  | -     | 3.68               | 3.67               | 4.01               | 4.10                | 3.86                |
|  | Cdh(degradation coefficient)         | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (D) condition (12°C)   | Pdh (declared heating capacity)      | [kW]  | 1.47               | 1.60               | 2.31               | 2.53                | 3.75                |
|  | COPd (declared COP)                  | -     | 5.15               | 5.29               | 5.55               | 5.82                | 5.70                |
|  | Cdh(degradation coefficient)         | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |

# Product fiche 5

| Heat pump space heating  |  |      | Model | MHC-V14W/D2N8-B2*** | MHC-V16W/D2N8-B2*** | MHC-V12W/D2RN8-B2*** | MHC-V14W/D2RN8-B2*** | MHC-V16W/D2RN8-B2*** |
|--|--|------|-------|---------------------|---------------------|----------------------|----------------------|----------------------|
| Part load conditions space heating warmer climate low temperature application    |  |      |       |                     |                     |                      |                      |                      |
| (B) condition (2°C)  | P <sub>dh</sub> (declared heating capacity)    | [kW] | 12.04 | 13.10               | 11.10               | 12.04                | 13.10                |                      |
|  | COP <sub>d</sub> (declared COP)                | -    | 3.44  | 3.35                | 3.59                | 3.44                 | 3.35                 |                      |
|  | C <sub>dh</sub> (degradation coefficient)      | -    | 0.90  | 0.90                | 0.90                | 0.90                 | 0.90                 |                      |
| (C) condition (7°C)  | P <sub>dh</sub> (declared heating capacity)    | [kW] | 7.78  | 8.41                | 7.14                | 7.78                 | 8.41                 |                      |
|  | COP <sub>d</sub> (declared COP)                | -    | 5.84  | 5.36                | 5.87                | 5.84                 | 5.36                 |                      |
|  | C <sub>dh</sub> (degradation coefficient)      | -    | 0.90  | 0.90                | 0.90                | 0.90                 | 0.90                 |                      |
| (D) condition (12°C)   | P <sub>dh</sub> (declared heating capacity)    | [kW] | 3.75  | 3.87                | 3.55                | 3.75                 | 3.87                 |                      |
|  | COP <sub>d</sub> (declared COP)                | -    | 8.25  | 8.11                | 7.94                | 8.25                 | 8.11                 |                      |
|  | C <sub>dh</sub> (degradation coefficient)      | -    | 0.90  | 0.90                | 0.90                | 0.90                 | 0.90                 |                      |
| (E) Tol (temperature operating limit)  | Tol (temperature operating limit)              | [°C] | 2.00  | 2.00                | 2.00                | 2.00                 | 2.00                 |                      |
|  | P <sub>dh</sub> (declared heating capacity)    | [kW] | 12.04 | 13.10               | 11.10               | 12.04                | 13.10                |                      |
|  | COP <sub>d</sub> (declared COP)                | -    | 3.44  | 3.35                | 3.59                | 3.44                 | 3.35                 |                      |
|  | WTOL (Heating water Operation Limit)           | [°C] | 65.00 | 65.00               | 65.00               | 65.00                | 65.00                |                      |
| (F) T <sub>bivalent</sub> temperature  | T <sub>biv</sub>                               | [°C] | 7.00  | 7.00                | 7.00                | 7.00                 | 7.00                 |                      |
|  | P <sub>dh</sub> (declared heating capacity)    | [kW] | 7.78  | 8.41                | 7.14                | 7.78                 | 8.41                 |                      |
|  | COP <sub>d</sub> (declared COP)                | -    | 5.84  | 5.36                | 5.87                | 5.84                 | 5.36                 |                      |
| Supplementary capacity at P <sub>design</sub>                                    | P <sub>sup</sub> (@T <sub>designh</sub> : 2°C) | [kW] | 0.06  | 0.00                | 0.00                | 0.06                 | 0.00                 |                      |
| Part load conditions space heating warmer climate medium temperature application |  |      |       |                     |                     |                      |                      |                      |
| (B) condition (2°C)  | P <sub>dh</sub> (declared heating capacity)    | [kW] | 13.04 | 13.38               | 12.07               | 13.04                | 13.38                |                      |
|  | COP <sub>d</sub> (declared COP)                | -    | 2.20  | 2.29                | 2.31                | 2.20                 | 2.29                 |                      |
|  | C <sub>dh</sub> (degradation coefficient)      | -    | 0.90  | 0.90                | 0.90                | 0.90                 | 0.90                 |                      |
| (C) condition (7°C)  | P <sub>dh</sub> (declared heating capacity)    | [kW] | 9.11  | 9.11                | 8.04                | 9.11                 | 9.11                 |                      |
|  | COP <sub>d</sub> (declared COP)                | -    | 3.89  | 3.89                | 3.86                | 3.89                 | 3.89                 |                      |
|  | C <sub>dh</sub> (degradation coefficient)      | -    | 0.90  | 0.90                | 0.90                | 0.90                 | 0.90                 |                      |
| (D) condition (12°C)   | P <sub>dh</sub> (declared heating capacity)    | [kW] | 4.08  | 4.06                | 3.75                | 4.08                 | 4.06                 |                      |
|  | COP <sub>d</sub> (declared COP)                | -    | 5.90  | 5.86                | 5.70                | 5.90                 | 5.86                 |                      |
|  | C <sub>dh</sub> (degradation coefficient)      | -    | 0.90  | 0.90                | 0.90                | 0.90                 | 0.90                 |                      |

## Product fiche 6

| Heat pump space heating               |   | Model  | MHC-V4W/D2N8-B2*** | MHC-V6W/D2N8-B2*** | MHC-V8W/D2N8-B2*** | MHC-V10W/D2N8-B2*** | MHC-V12W/D2N8-B2*** |
|---------------------------------------|---|--------|--------------------|--------------------|--------------------|---------------------|---------------------|
| (E) Tol (temperature operating limit) | Tol (temperature operating limit)           | [°C]   | 2.00               | 2.00               | 2.00               | 2.00                | 2.00                |
|                                       | Pdh (declared heating capacity)             | [kW]   | 4.83               | 5.02               | 7.55               | 8.06                | 12.07               |
|                                       | COPd (declared COP)                         | -      | 2.51               | 2.48               | 2.59               | 2.59                | 2.31                |
|                                       | WTOL (Heating water Operation Limit)        | [°C]   | 65.00              | 65.00              | 65.00              | 65.00               | 65.00               |
| (F) Tbivalent temperature             | Tbiv  | [°C]   | 7.00               | 7.00               | 7.00               | 7.00                | 7.00                |
|                                       | Pdh (declared heating capacity)             | [kW]   | 3.22               | 3.31               | 5.38               | 5.54                | 8.04                |
|                                       | COPd (declared COP)                         | -      | 3.68               | 3.67               | 4.01               | 4.10                | 3.86                |
| Supplementary capacity at P_design    | Psup (@Tdesignh: 2°C)                       | [kW]   | 0.18               | 0.12               | 0.82               | 0.48                | 0.43                |
|                                       |   |        |                    |                    |                    |                     |                     |
| Product description                   | Air-to-water heat pump                      | Y/N    | Yes                | Yes                | Yes                | Yes                 | Yes                 |
|                                       | Water-to-water heat pump                    | Y/N    | No                 | No                 | No                 | No                  | No                  |
|                                       | Brine-to-water heat pump                    | Y/N    | No                 | No                 | No                 | No                  | No                  |
|                                       | Low-temperature heat pump                   | Y/N    | No                 | No                 | No                 | No                  | No                  |
|                                       | Equipped with a supplementary heater        | Y/N    | Yes                | Yes                | Yes                | Yes                 | Yes                 |
|                                       | Heat pump combination heater                | Y/N    | No                 | No                 | No                 | No                  | No                  |
| Air to water unit                     | Rated airflow                               | [m³/h] | 2770               | 2770               | 4030               | 4030                | 4060                |
| Brine/water to water unit             | Rated water/brine flow (outdoor H/E)        | -      | /                  | /                  | /                  | /                   | /                   |
| Other                                 | Capacity control                            | -      | Inverter           | Inverter           | Inverter           | Inverter            | Inverter            |
|                                       | Poff (Power consumption Off mode)           | [kW]   | 0.014              | 0.014              | 0.014              | 0.014               | 0.014               |
|                                       | Pto (Power consumption Thermostat off mode) | [kW]   | 0.024              | 0.024              | 0.024              | 0.024               | 0.024               |
|                                       | Psb (Power consumption Standby mode)        | [kW]   | 0.014              | 0.014              | 0.014              | 0.014               | 0.014               |
|                                       | PCK (Power crankcase heater model)          | [kW]   | 0.000              | 0.000              | 0.000              | 0.000               | 0.000               |
|                                       | Qelec (Daily electricity consumption)       | [kWh]  | /                  | /                  | /                  | /                   | /                   |
|                                       | Qfuel (Daily fuel consumption)              | [kWh]  | /                  | /                  | /                  | /                   | /                   |

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

Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.

## Product fiche 6

| Heat pump space heating                       |   | Model  | MHC-V14W/D2N8-B2*** | MHC-V16W/D2N8-B2*** | MHC-V12W/D2RN8-B2*** | MHC-V14W/D2RN8-B2*** | MHC-V16W/D2RN8-B2*** |
|---|---|--------|---------------------|---------------------|----------------------|----------------------|----------------------|
| (E) Tol (temperature operating limit)         | Tol (temperature operating limit)                       | [°C]   | 2.00                | 2.00                | 2.00                 | 2.00                 | 2.00                 |
|   | P <sub>dh</sub> (declared heating capacity)             | [kW]   | 13.04               | 13.38               | 12.07                | 13.04                | 13.38                |
|   | COP <sub>d</sub> (declared COP)                         | -      | 2.20                | 2.29                | 2.31                 | 2.20                 | 2.29                 |
|   | WTOL (Heating water Operation Limit)                    | [°C]   | 65.00               | 65.00               | 65.00                | 65.00                | 65.00                |
| (F) Tbivalent temperature                     | T <sub>biv</sub>  | [°C]   | 7.00                | 7.00                | 7.00                 | 7.00                 | 7.00                 |
|   | P <sub>dh</sub> (declared heating capacity)             | [kW]   | 9.11                | 9.11                | 8.04                 | 9.11                 | 9.11                 |
|   | COP <sub>d</sub> (declared COP)                         | -      | 3.89                | 3.89                | 3.86                 | 3.89                 | 3.89                 |
| Supplementary capacity at P <sub>design</sub> | P <sub>sup</sub> (@T <sub>designh</sub> : 2°C)          | [kW]   | 1.13                | 0.79                | 0.43                 | 1.13                 | 0.79                 |
|   |   |        |                     |                     |                      |                      |                      |
| Product description                           | Air-to-water heat pump                                  | Y/N    | Yes                 | Yes                 | Yes                  | Yes                  | Yes                  |
|   | Water-to-water heat pump                                | Y/N    | No                  | No                  | No                   | No                   | No                   |
|   | Brine-to-water heat pump                                | Y/N    | No                  | No                  | No                   | No                   | No                   |
|   | Low-temperature heat pump                               | Y/N    | No                  | No                  | No                   | No                   | No                   |
|   | Equipped with a supplementary heater                    | Y/N    | Yes                 | Yes                 | Yes                  | Yes                  | Yes                  |
|   | Heat pump combination heater                            | Y/N    | No                  | No                  | No                   | No                   | No                   |
| Air to water unit                             | Rated airflow   | [m³/h] | 4060                | 4650                | 4060                 | 4060                 | 4650                 |
| Brine/water to water unit                     | Rated water/brine flow (outdoor H/E)                    | -      | /                   | /                   | /                    | /                    | /                    |
| Other   | Capacity control  | -      | Inverter            | Inverter            | Inverter             | Inverter             | Inverter             |
|   | P <sub>off</sub> (Power consumption Off mode)           | [kW]   | 0.014               | 0.014               | 0.02                 | 0.02                 | 0.02                 |
|   | P <sub>to</sub> (Power consumption Thermostat off mode) | [kW]   | 0.024               | 0.024               | 0.030                | 0.030                | 0.030                |
|   | P <sub>sb</sub> (Power consumption Standby mode)        | [kW]   | 0.014               | 0.014               | 0.02                 | 0.02                 | 0.02                 |
|   | P <sub>CK</sub> (Power crankcase heater model)          | [kW]   | 0.000               | 0.000               | 0.000                | 0.000                | 0.000                |
|   | Q <sub>elec</sub> (Daily electricity consumption)       | [kWh]  | /                   | /                   | /                    | /                    | /                    |
|   | Q <sub>fuel</sub> (Daily fuel consumption)              | [kWh]  | /                   | /                   | /                    | /                    | /                    |

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

Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.

## Product fiche 7

| Heat pump space cooling   |  | Model | MHC-V4W/D2N8-B2*** | MHC-V6W/D2N8-B2*** | MHC-V8W/D2N8-B2*** | MHC-V10W/D2N8-B2*** | MHC-V12W/D2N8-B2*** |
|---|--|-------|--------------------|--------------------|--------------------|---------------------|---------------------|
| Unit sound power (*)  | Average climate low temperature application    | dB    | 56                 | 60                 | 60                 | 60                  | 65                  |
|   | Average climate medium temperature application | dB    | 56                 | 58                 | 60                 | 60                  | 64                  |
| Space cooling 7°C   | Prated (declared cooling capacity) @ 35°C      | [kW]  | 4.70               | 7.00               | 7.45               | 8.20                | 11.50               |
|   | Seasonal space cooling efficiency ( $\eta_s$ ) | [%]   | 196.2              | 209.5              | 229.9              | 234.9               | 194.1               |
|   | Annual energy consumption                      | [kWh] | 566                | 791                | 768                | 827                 | 1,400               |
| Space cooling 18°C  | Prated (declared cooling capacity) @ 35°C      | [kW]  | 4.50               | 6.50               | 8.30               | 9.90                | 12.00               |
|   | Seasonal space cooling efficiency ( $\eta_s$ ) | [%]   | 307.4              | 325.9              | 354.7              | 346.3               | 282.0               |
|   | Annual energy consumption                      | [kWh] | 348                | 474                | 557                | 680                 | 1,011               |
| Part load conditions space cooling: low temperature application @ 7°C |  |       |                    |                    |                    |                     |                     |
| (A) condition (35°C)  | Pdc (declared cooling capacity)                | [kW]  | 4.70               | 7.00               | 7.45               | 8.20                | 11.50               |
|   | EERd (declared EER)                            | -     | 3.45               | 3.00               | 3.35               | 3.25                | 2.75                |
|   | Cdc (degradation coefficient)                  | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (B) condition (30°C)  | Pdc (declared cooling capacity)                | [kW]  | 3.66               | 5.13               | 5.72               | 6.68                | 8.76                |
|   | EERd (declared EER)                            | -     | 4.76               | 4.00               | 4.71               | 4.47                | 3.93                |
|   | Cdc (degradation coefficient)                  | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (C) condition (25°C)  | Pdc (declared cooling capacity)                | [kW]  | 2.21               | 3.48               | 3.62               | 4.26                | 5.81                |
|   | EERd (declared EER)                            | -     | 5.72               | 6.45               | 6.65               | 7.02                | 5.73                |
|   | Cdc (degradation coefficient)                  | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (D) condition (20°C)  | Pdc (declared cooling capacity)                | [kW]  | 0.94               | 1.53               | 1.64               | 1.94                | 2.63                |
|   | EERd (declared EER)                            | -     | 5.72               | 7.73               | 8.55               | 9.54                | 6.75                |
|   | Cdc (degradation coefficient)                  | -     | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |

(\*) Sound power measured according to the EN12102 under conditions of the EN14825.



## Product fiche 7

| Heat pump space cooling   |  | Model | MHC-V14W/D2N8-B2*** | MHC-V16W/D2N8-B2*** | MHC-V12W/D2RN8-B2*** | MHC-V14W/D2RN8-B2*** | MHC-V16W/D2RN8-B2*** |
|---|--|-------|---------------------|---------------------|----------------------|----------------------|----------------------|
| Unit sound power (*)  | Average climate low temperature application    | dB    | 65                  | 69                  | 65                   | 65                   | 69                   |
|   | Average climate medium temperature application | dB    | 64                  | 69                  | 64                   | 64                   | 69                   |
| Space cooling 7°C   | Prated (declared cooling capacity) @ 35°C      | [kW]  | 12.40               | 14.00               | 11.50                | 12.40                | 14.00                |
|   | Seasonal space cooling efficiency ( $\eta_s$ ) | [%]   | 191.9               | 184.6               | 193.0                | 190.8                | 183.7                |
|   | Annual energy consumption                      | [kWh] | 1,527               | 1,791               | 1,408                | 1,535                | 1,799                |
| Space cooling 18°C  | Prated (declared cooling capacity) @ 35°C      | [kW]  | 13.50               | 14.20               | 12.00                | 13.50                | 14.20                |
|   | Seasonal space cooling efficiency ( $\eta_s$ ) | [%]   | 274.4               | 266.8               | 279.7                | 272.5                | 265.0                |
|   | Annual energy consumption                      | [kWh] | 1,168               | 1,263               | 1,019                | 1,176                | 1,271                |
| Part load conditions space cooling: low temperature application@7°C |  |       |                     |                     |                      |                      |                      |
| (A) condition (35°C)  | Pdc (declared cooling capacity)                | [kW]  | 12.40               | 14.00               | 11.50                | 12.40                | 14.00                |
|   | EERd (declared EER)                            | -     | 2.50                | 2.50                | 2.75                 | 2.50                 | 2.50                 |
|   | Cdc(degradation coefficient)                   | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (B) condition (30°C)  | Pdc (declared cooling capacity)                | [kW]  | 9.41                | 10.68               | 8.76                 | 9.41                 | 10.68                |
|   | EERd (declared EER)                            | -     | 3.85                | 3.63                | 3.93                 | 3.85                 | 3.63                 |
|   | Cdc(degradation coefficient)                   | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (C) condition (25°C)  | Pdc (declared cooling capacity)                | [kW]  | 6.16                | 6.76                | 5.81                 | 6.16                 | 6.76                 |
|   | EERd (declared EER)                            | -     | 5.80                | 5.27                | 5.73                 | 5.80                 | 5.27                 |
|   | Cdc(degradation coefficient)                   | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (D) condition (20°C)  | Pdc (declared cooling capacity)                | [kW]  | 2.63                | 3.41                | 2.63                 | 2.63                 | 3.41                 |
|   | EERd (declared EER)                            | -     | 6.74                | 7.29                | 6.75                 | 6.74                 | 7.29                 |
|   | Cdc(degradation coefficient)                   | -     | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |

(\*)Sound power measured according to the EN12102 under conditions of the EN14825.

## Product fiche 8

| Heat pump space cooling   |   | Model               | MHC-V4W/D2N8-B2*** | MHC-V6W/D2N8-B2*** | MHC-V8W/D2N8-B2*** | MHC-V10W/D2N8-B2*** | MHC-V12W/D2N8-B2*** |
|---|---|---------------------|--------------------|--------------------|--------------------|---------------------|---------------------|
| Part load conditions space cooling: medium temperature application@18°C |   |                     |                    |                    |                    |                     |                     |
| (A) condition (35°C)  | Pdc (declared cooling capacity)             | [kW]                | 4.50               | 6.50               | 8.30               | 9.90                | 12.00               |
|   | EERd (declared EER)                         | -                   | 5.50               | 4.80               | 5.05               | 4.55                | 3.95                |
|   | Cdc(degradation coefficient)                | -                   | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (B) condition (30°C)  | Pdc (declared cooling capacity)             | [kW]                | 3.44               | 4.84               | 6.47               | 7.71                | 9.21                |
|   | EERd (declared EER)                         | -                   | 7.23               | 7.16               | 7.02               | 6.45                | 5.50                |
|   | Cdc(degradation coefficient)                | -                   | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (C) condition (25°C)  | Pdc (declared cooling capacity)             | [kW]                | 2.19               | 3.26               | 4.31               | 5.03                | 5.74                |
|   | EERd (declared EER)                         | -                   | 8.94               | 9.64               | 10.67              | 10.36               | 8.66                |
|   | Cdc(degradation coefficient)                | -                   | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| (D) condition (20°C)  | Pdc (declared cooling capacity)             | [kW]                | 1.13               | 1.41               | 1.80               | 2.32                | 3.33                |
|   | EERd (declared EER)                         | -                   | 10.48              | 11.48              | 13.61              | 14.98               | 10.07               |
|   | Cdc(degradation coefficient)                | -                   | 0.90               | 0.90               | 0.90               | 0.90                | 0.90                |
| Air to water unit   | Rated airflow (outdoor)                     | [m <sup>3</sup> /h] | 2770               | 2770               | 4030               | 4030                | 4060                |
| Brine/water to water unit   | Rated water/brine flow (outdoor H/E)        | -                   | /                  | /                  | /                  | /                   | /                   |
| Other   | Capacity control                            | -                   | Inverter           | Inverter           | Inverter           | Inverter            | Inverter            |
|   | Poff (Power consumption Off mode)           | [kW]                | 0.014              | 0.014              | 0.014              | 0.014               | 0.014               |
|   | Pto (Power consumption Thermostat off mode) | [kW]                | 0.010              | 0.010              | 0.010              | 0.010               | 0.010               |
|   | Psb (Power consumption Standby mode)        | [kW]                | 0.014              | 0.014              | 0.014              | 0.014               | 0.014               |
|   | Pck (Power crankcase heater mode)           | [kW]                | 0.000              | 0.000              | 0.000              | 0.000               | 0.000               |
|   | Qelec (Daily electricity consumption)       | [kWh]               | /                  | /                  | /                  | /                   | /                   |
|   | Qfuel (Daily fuel consumption)              | [kWh]               | /                  | /                  | /                  | /                   | /                   |

## Product fiche 8

| Heat pump space cooling   |   | Model               | MHC-V14W/D2N8-B2*** | MHC-V16W/D2N8-B2*** | MHC-V12W/D2RN8-B2*** | MHC-V14W/D2RN8-B2*** | MHC-V16W/D2RN8-B2*** |
|---|---|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|
| Part load conditions space cooling: medium temperature application@18°C |   |                     |                     |                     |                      |                      |                      |
| (A) condition (35°C)  | Pdc (declared cooling capacity)             | [kW]                | 13.50               | 14.20               | 12.00                | 13.50                | 14.20                |
|   | EERd (declared EER)                         | -                   | 3.61                | 3.61                | 3.95                 | 3.61                 | 3.61                 |
|   | Cdc(degradation coefficient)                | -                   | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (B) condition (30°C)  | Pdc (declared cooling capacity)             | [kW]                | 10.20               | 11.42               | 9.21                 | 10.20                | 11.42                |
|   | EERd (declared EER)                         | -                   | 5.26                | 5.14                | 5.50                 | 5.26                 | 5.14                 |
|   | Cdc(degradation coefficient)                | -                   | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (C) condition (25°C)  | Pdc (declared cooling capacity)             | [kW]                | 6.57                | 7.27                | 5.74                 | 6.57                 | 7.27                 |
|   | EERd (declared EER)                         | -                   | 8.45                | 7.83                | 8.66                 | 8.45                 | 7.83                 |
|   | Cdc(degradation coefficient)                | -                   | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| (D) condition (20°C)  | Pdc (declared cooling capacity)             | [kW]                | 3.33                | 3.40                | 3.33                 | 3.33                 | 3.40                 |
|   | EERd (declared EER)                         | -                   | 10.07               | 10.35               | 10.07                | 10.07                | 10.35                |
|   | Cdc(degradation coefficient)                | -                   | 0.90                | 0.90                | 0.90                 | 0.90                 | 0.90                 |
| Air to water unit   | Rated airflow (outdoor)                     | [m <sup>3</sup> /h] | 4060                | 4650                | 4060                 | 4060                 | 4650                 |
| Brine/water to water unit   | Rated water/brine flow (outdoor H/E)        | -                   | /                   | /                   | /                    | /                    | /                    |
| Other   | Capacity control                            | -                   | Inverter            | Inverter            | Inverter             | Inverter             | Inverter             |
|   | Poff (Power consumption Off mode)           | [kW]                | 0.014               | 0.014               | 0.020                | 0.020                | 0.020                |
|   | Pto (Power consumption Thermostat off mode) | [kW]                | 0.010               | 0.010               | 0.010                | 0.010                | 0.010                |
|   | Psb (Power consumption Standby mode)        | [kW]                | 0.014               | 0.014               | 0.020                | 0.020                | 0.020                |
|   | Pck (Power crankcase heater mode)           | [kW]                | 0.000               | 0.000               | 0.000                | 0.000                | 0.000                |
|   | Qelec (Daily electricity consumption)       | [kWh]               | /                   | /                   | /                    | /                    | /                    |
|   | Qfuel (Daily fuel consumption)              | [kWh]               | /                   | /                   | /                    | /                    | /                    |

| Condition(°C)  | Model                | Capacity<br>(kW) | Power input<br>(kW) | EER/COP<br>(/) |
|--|----------------------|------------------|---------------------|----------------|
| Ambient Temperature: 35/24<br>Water temperature: 12/7  | MHC-V4W/D2N8-B2***   | 4.70             | 1.36                | 3.45           |
|  | MHC-V6W/D2N8-B2***   | 7.00             | 2.33                | 3.00           |
|  | MHC-V8W/D2N8-B2***   | 7.45             | 2.22                | 3.35           |
|  | MHC-V10W/D2N8-B2***  | 8.20             | 2.52                | 3.25           |
|  | MHC-V12W/D2N8-B2***  | 11.5             | 4.18                | 2.75           |
|  | MHC-V14W/D2N8-B2***  | 12.4             | 4.96                | 2.50           |
|  | MHC-V16W/D2N8-B2***  | 14.0             | 5.60                | 2.50           |
|  | MHC-V12W/D2RN8-B2*** | 11.5             | 4.18                | 2.75           |
|  | MHC-V14W/D2RN8-B2*** | 12.4             | 4.96                | 2.50           |
|  | MHC-V16W/D2RN8-B2*** | 14.0             | 5.60                | 2.50           |
| Ambient Temperature: 35/24<br>Water temperature: 23/18 | MHC-V4W/D2N8-B2***   | 4.50             | 0.82                | 5.50           |
|  | MHC-V6W/D2N8-B2***   | 6.50             | 1.35                | 4.80           |
|  | MHC-V8W/D2N8-B2***   | 8.30             | 1.64                | 5.05           |
|  | MHC-V10W/D2N8-B2***  | 9.90             | 2.18                | 4.55           |
|  | MHC-V12W/D2N8-B2***  | 12.00            | 3.04                | 3.95           |
|  | MHC-V14W/D2N8-B2***  | 13.50            | 3.74                | 3.61           |
|  | MHC-V16W/D2N8-B2***  | 14.20            | 3.94                | 3.61           |
|  | MHC-V12W/D2RN8-B2*** | 12.00            | 3.04                | 3.95           |
|  | MHC-V14W/D2RN8-B2*** | 13.50            | 3.74                | 3.61           |
|  | MHC-V16W/D2RN8-B2*** | 14.20            | 3.94                | 3.61           |
| Ambient Temperature: 7/6<br>Water temperature: 30/35   | MHC-V4W/D2N8-B2***   | 4.20             | 0.82                | 5.10           |
|  | MHC-V6W/D2N8-B2***   | 6.35             | 1.28                | 4.95           |
|  | MHC-V8W/D2N8-B2***   | 8.40             | 1.63                | 5.15           |
|  | MHC-V10W/D2N8-B2***  | 10.0             | 2.02                | 4.95           |
|  | MHC-V12W/D2N8-B2***  | 12.1             | 2.44                | 4.95           |
|  | MHC-V14W/D2N8-B2***  | 14.5             | 3.15                | 4.60           |
|  | MHC-V16W/D2N8-B2***  | 15.9             | 3.53                | 4.50           |
|  | MHC-V12W/D2RN8-B2*** | 12.1             | 2.44                | 4.95           |
|  | MHC-V14W/D2RN8-B2*** | 14.5             | 3.15                | 4.60           |
|  | MHC-V16W/D2RN8-B2*** | 15.9             | 3.53                | 4.50           |
| Ambient Temperature: 2/1<br>Water temperature: 30/35   | MHC-V4W/D2N8-B2***   | 4.40             | 1.10                | 4.00           |
|  | MHC-V6W/D2N8-B2***   | 5.50             | 1.41                | 3.90           |
|  | MHC-V8W/D2N8-B2***   | 7.10             | 1.73                | 4.10           |
|  | MHC-V10W/D2N8-B2***  | 8.20             | 2.05                | 4.00           |
|  | MHC-V12W/D2N8-B2***  | 9.2              | 2.36                | 3.90           |
|  | MHC-V14W/D2N8-B2***  | 11.0             | 3.06                | 3.60           |
|  | MHC-V16W/D2N8-B2***  | 13.0             | 3.77                | 3.45           |
|  | MHC-V12W/D2RN8-B2*** | 9.2              | 2.36                | 3.90           |
|  | MHC-V14W/D2RN8-B2*** | 11.0             | 3.06                | 3.60           |
|  | MHC-V16W/D2RN8-B2*** | 13.0             | 3.77                | 3.45           |

| Condition(°C)  | Model                | Capacity<br>(kW) | Power input<br>(kW) | EER/COP<br>(/) |
|--|----------------------|------------------|---------------------|----------------|
| Ambient Temperature: -7/-8<br>Water temperature: 30/35 | MHC-V4W/D2N8-B2***   | 4.70             | 1.52                | 3.10           |
|  | MHC-V6W/D2N8-B2***   | 6.00             | 2.00                | 3.00           |
|  | MHC-V8W/D2N8-B2***   | 7.00             | 2.19                | 3.20           |
|  | MHC-V10W/D2N8-B2***  | 8.00             | 2.62                | 3.05           |
|  | MHC-V12W/D2N8-B2***  | 10.00            | 3.33                | 3.00           |
|  | MHC-V14W/D2N8-B2***  | 12.00            | 4.21                | 2.85           |
|  | MHC-V16W/D2N8-B2***  | 13.10            | 4.85                | 2.70           |
|  | MHC-V12W/D2RN8-B2*** | 10.00            | 3.33                | 3.00           |
|  | MHC-V14W/D2RN8-B2*** | 12.00            | 4.21                | 2.85           |
|  | MHC-V16W/D2RN8-B2*** | 13.10            | 4.85                | 2.70           |
| Ambient Temperature: 7/6<br>Water temperature: 40/45   | MHC-V4W/D2N8-B2***   | 4.30             | 1.13                | 3.80           |
|  | MHC-V6W/D2N8-B2***   | 6.30             | 1.70                | 3.70           |
|  | MHC-V8W/D2N8-B2***   | 8.10             | 2.10                | 3.85           |
|  | MHC-V10W/D2N8-B2***  | 10.0             | 2.67                | 3.75           |
|  | MHC-V12W/D2N8-B2***  | 12.3             | 3.32                | 3.70           |
|  | MHC-V14W/D2N8-B2***  | 14.1             | 3.92                | 3.60           |
|  | MHC-V16W/D2N8-B2***  | 16.0             | 4.57                | 3.50           |
|  | MHC-V12W/D2RN8-B2*** | 12.3             | 3.32                | 3.70           |
|  | MHC-V14W/D2RN8-B2*** | 14.1             | 3.92                | 3.60           |
|  | MHC-V16W/D2RN8-B2*** | 16.0             | 4.57                | 3.50           |
| Ambient Temperature: 2/1<br>Water temperature: 40/45   | MHC-V4W/D2N8-B2***   | 5.10             | 1.70                | 3.00           |
|  | MHC-V6W/D2N8-B2***   | 5.80             | 1.93                | 3.00           |
|  | MHC-V8W/D2N8-B2***   | 7.40             | 2.28                | 3.25           |
|  | MHC-V10W/D2N8-B2***  | 7.85             | 2.45                | 3.20           |
|  | MHC-V12W/D2N8-B2***  | 10.60            | 3.53                | 3.00           |
|  | MHC-V14W/D2N8-B2***  | 11.50            | 4.04                | 2.85           |
|  | MHC-V16W/D2N8-B2***  | 12.70            | 4.46                | 2.85           |
|  | MHC-V12W/D2RN8-B2*** | 10.60            | 3.53                | 3.00           |
|  | MHC-V14W/D2RN8-B2*** | 11.50            | 4.04                | 2.85           |
|  | MHC-V16W/D2RN8-B2*** | 12.70            | 4.46                | 2.85           |
| Ambient Temperature: -7/-8<br>Water temperature: 40/45 | MHC-V4W/D2N8-B2***   | 4.30             | 1.83                | 2.35           |
|  | MHC-V6W/D2N8-B2***   | 5.40             | 2.25                | 2.40           |
|  | MHC-V8W/D2N8-B2***   | 6.60             | 2.59                | 2.55           |
|  | MHC-V10W/D2N8-B2***  | 7.35             | 2.88                | 2.55           |
|  | MHC-V12W/D2N8-B2***  | 10.20            | 4.25                | 2.40           |
|  | MHC-V14W/D2N8-B2***  | 11.70            | 4.98                | 2.35           |
|  | MHC-V16W/D2N8-B2***  | 12.80            | 5.69                | 2.25           |
|  | MHC-V12W/D2RN8-B2*** | 10.20            | 4.25                | 2.40           |
|  | MHC-V14W/D2RN8-B2*** | 11.70            | 4.98                | 2.35           |
|  | MHC-V16W/D2RN8-B2*** | 12.80            | 5.69                | 2.25           |

| Condition(°C)  | Model                | Capacity<br>(kW) | Power input<br>(kW) | EER/COP<br>(/) |
|--|----------------------|------------------|---------------------|----------------|
| Ambient Temperature: 7/6<br>Water temperature: 47/55   | MHC-V4W/D2N8-B2***   | 4.40             | 1.49                | 2.95           |
|  | MHC-V6W/D2N8-B2***   | 6.00             | 2.03                | 2.95           |
|  | MHC-V8W/D2N8-B2***   | 7.50             | 2.36                | 3.18           |
|  | MHC-V10W/D2N8-B2***  | 9.50             | 3.06                | 3.10           |
|  | MHC-V12W/D2N8-B2***  | 11.9             | 3.90                | 3.05           |
|  | MHC-V14W/D2N8-B2***  | 13.8             | 4.68                | 2.95           |
|  | MHC-V16W/D2N8-B2***  | 16.0             | 5.61                | 2.85           |
|  | MHC-V12W/D2RN8-B2*** | 11.9             | 3.90                | 3.05           |
|  | MHC-V14W/D2RN8-B2*** | 13.8             | 4.68                | 2.95           |
|  | MHC-V16W/D2RN8-B2*** | 16.0             | 5.61                | 2.85           |
| Ambient Temperature: 2/1<br>Water temperature: 47/55   | MHC-V4W/D2N8-B2***   | 5.10             | 2.08                | 2.45           |
|  | MHC-V6W/D2N8-B2***   | 5.65             | 2.31                | 2.45           |
|  | MHC-V8W/D2N8-B2***   | 7.10             | 2.73                | 2.60           |
|  | MHC-V10W/D2N8-B2***  | 8.10             | 3.16                | 2.56           |
|  | MHC-V12W/D2N8-B2***  | 11.30            | 4.52                | 2.50           |
|  | MHC-V14W/D2N8-B2***  | 12.40            | 5.06                | 2.45           |
|  | MHC-V16W/D2N8-B2***  | 13.30            | 5.54                | 2.40           |
|  | MHC-V12W/D2RN8-B2*** | 11.30            | 4.52                | 2.50           |
|  | MHC-V14W/D2RN8-B2*** | 12.40            | 5.06                | 2.45           |
|  | MHC-V16W/D2RN8-B2*** | 13.30            | 5.54                | 2.40           |
| Ambient Temperature: -7/-8<br>Water temperature: 47/55 | MHC-V4W/D2N8-B2***   | 4.00             | 2.05                | 1.95           |
|  | MHC-V6W/D2N8-B2***   | 5.15             | 2.58                | 2.00           |
|  | MHC-V8W/D2N8-B2***   | 6.15             | 3.00                | 2.05           |
|  | MHC-V10W/D2N8-B2***  | 6.85             | 3.43                | 2.00           |
|  | MHC-V12W/D2N8-B2***  | 9.80             | 4.78                | 2.05           |
|  | MHC-V14W/D2N8-B2***  | 11.00            | 5.37                | 2.05           |
|  | MHC-V16W/D2N8-B2***  | 12.50            | 6.25                | 2.00           |
|  | MHC-V12W/D2RN8-B2*** | 9.80             | 4.78                | 2.05           |
|  | MHC-V14W/D2RN8-B2*** | 11.00            | 5.37                | 2.05           |
|  | MHC-V16W/D2RN8-B2*** | 12.50            | 6.25                | 2.00           |

# ErP Information

|  |                                |   |  |
|--|--------------------------------|---|--|
| Fan Types                              | Axial fan                      |   |  |
| Directive (or Standard) for Regulation |                                | ErP Directive 2009/125/EC<br>COMMISSION REGULATION (EU) No 327/2011 |  |
| Model Name                             | WZDK170-38G-1+ ZL-580*190*15-3 | Rev.  |  |
| Prepare by                             |                                |   |  |

Specified Information of Fan:

| No.  | Information Item  | Comment   |
|------|---|---|
| 1    | $\eta_{\text{target}} =$  | 29.1%   |
| 2    | Overall efficiency ( $\eta_e$ ) =   | 33.1%   |
| 3    | Pass or not (Criteria: $\eta_e \geq \eta_{\text{target}}$ )   | Pass  |
| 4    | Measurement category (A-D)  | A   |
| 5    | Efficiency category (static or total)   | Static  |
| 6    | Efficiency grade at optimum energy efficiency point   | N =43.9   |
| 7    | VSD is integrated within the fan  | YES   |
| 8    | Year of Manufacture   | Ref. to the Unit Nameplate  |
| 9    | Manufacturer's name and place of manufacture  | Ref. to the Unit Nameplate  |
| 10.1 | Rated motor power input(s) (kW), at optimum energy efficiency   | 0.190kw   |
| 10.2 | Rated motor flow rate(s) at optimum energy efficiency   | 1.368m <sup>3</sup> /s  |
| 10.3 | Rated motor pressure(s) at optimum energy efficiency  | 40Pa  |
| 11   | Rotations per minute (R.P.M)at the optimum energy efficiency point  | 800r/min  |
| 12   | Specific ratio  | 1.001   |
| 13   | Information relevant for facilitating disassembly, recycling or disposal at end-of-life   | all materials can be recycled                                       |
| 14   | Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan                             | For installation, the clearance of 500 mm shall be kept from inlet  |
| 15   | Description of additional items used when determining the fan energy efficiency, such as ducts, that are not described in the measurement category and not supplied with the fan. | Measure<br>ment category A, fan is free inlet and outlet conditions |
| 16   | Motor manufacturer  | NIDEC<br>SHIBAURA (ZHE JIANG) CORP.                                 |

# ErP Information

|  |                                |   |  |
|--|--------------------------------|---|--|
| Fan Types                              | Axial fan                      |   |  |
| Directive (or Standard) for Regulation |                                | ErP Directive 2009/125/EC<br>COMMISSION REGULATION (EU) No 327/2011 |  |
| Model Name                             | WZDK170-38G-1+ ZL-580*190*15-3 | Rev.  |  |
| Prepare by                             |                                |   |  |

Specified Information of Fan:

| No.  | Information Item   | Comment  |
|------|--|--|
| 1    | $\eta_{\text{target}} =$   | 29.1%  |
| 2    | Overall efficiency ( $\eta_e$ ) =  | 33.7%  |
| 3    | Pass or not (Criteria: $\eta_e \geq \eta_{\text{target}}$ )  | Pass   |
| 4    | Measurement category (A-D)   | A  |
| 5    | Efficiency category (static or total)  | Static   |
| 6    | Efficiency grade at optimum energy efficiency point  | N =44.6  |
| 7    | VSD is integrated within the fan   | YES  |
| 8    | Year of Manufacture  | Ref. to the Unit Nameplate   |
| 9    | Manufacturer's name and place of manufacture   | Ref. to the Unit Nameplate   |
| 10.1 | Rated motor power input(s) (kW), at optimum energy efficiency  | 0.186kw  |
| 10.2 | Rated motor flow rate(s) at optimum energy efficiency  | 1.37m <sup>3</sup> /s  |
| 10.3 | Rated motor pressure(s) at optimum energy efficiency   | 40Pa   |
| 11   | Rotations per minute (R.P.M)at the optimum energy efficiency point   | 800r/min   |
| 12   | Specific ratio   | 1.001  |
| 13   | Information relevant for facilitating disassembly, recycling or disposal at end-of-life  | all materials can be recycled                                      |
| 14   | Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan                            | For installation, the clearance of 500 mm shall be kept from inlet |
| 15   | Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan. | Measurement category A, fan is free inlet and outlet conditions    |
| 16   | Motor manufacturer   | GUANGDONG WELLING MOTOR MANUFACTURING CO.,LTD.                     |



# ErP Information

|  |                                |   |  |
|--|--------------------------------|---|--|
| Fan Types                              | Axial fan                      |   |  |
| Directive (or Standard) for Regulation |                                | ErP Directive 2009/125/EC<br>COMMISSION REGULATION (EU) No 327/2011 |  |
| Model Name                             | WZDK170-38G-1+ ZL-580*190*15-3 | Rev.  |  |
| Prepare by                             |                                |   |  |

Specified Information of Fan:

| No.  | Information Item   | Comment  |
|------|--|--|
| 1    | $\eta_{\text{target}} =$   | 29.0%  |
| 2    | Overall efficiency ( $\eta_e$ ) =  | 34.6%  |
| 3    | Pass or not (Criteria: $\eta_e \geq \eta_{\text{target}}$ )  | Pass   |
| 4    | Measurement category (A-D)   | A  |
| 5    | Efficiency category (static or total)  | Static   |
| 6    | Efficiency grade at optimum energy efficiency point  | N =45.7  |
| 7    | VSD is integrated within the fan   | YES  |
| 8    | Year of Manufacture  | Ref. to the Unit Nameplate   |
| 9    | Manufacturer's name and place of manufacture   | Ref. to the Unit Nameplate   |
| 10.1 | Rated motor power input(s) (kW), at optimum energy efficiency  | 0.180kW  |
| 10.2 | Rated motor flow rate(s) at optimum energy efficiency  | 1.378m <sup>3</sup> /s   |
| 10.3 | Rated motor pressure(s) at optimum energy efficiency   | 40Pa   |
| 11   | Rotations per minute (R.P.M)at the optimum energy efficiency point   | 800r/min   |
| 12   | Specific ratio   | 1.001  |
| 13   | Information relevant for facilitating disassembly, recycling or disposal at end-of-life  | all materials can be recycled                                      |
| 14   | Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan                            | For installation, the clearance of 500 mm shall be kept from inlet |
| 15   | Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan. | Measurement category A, fan is free inlet and outlet conditions    |
| 16   | Motor manufacturer   | Panasonic Motor (HangZhou) CO.,LTD.                                |