

## Subtipo M thermal A series semi mono 12 14 16 kW

|                            |                                                    |
|----------------------------|----------------------------------------------------|
| Poseedor del certificado   | GD Midea Heating & Ventilating Equipment Co., Ltd. |
| Adressa                    | Penglai Industry Road                              |
| Código postal              | 528311                                             |
| Ciudad                     | Beijiao, Shunde, Foshan                            |
| País                       | CN                                                 |
| Cuerpo de la certificación | BRE Global Limited                                 |
| Título subtitulo           | M thermal A series semi mono 12 14 16 kW           |
| Número de registro         | 041-K007-20                                        |
| Tipo de bomba de calor     | Aire exterior / agua                               |
| Refrigerante               | R32                                                |
| Cantidad de refrigerante   | 1.75 kg                                            |
| Fecha de certificación     | 22.08.2023                                         |
| Fundamentos de ensayo      | Heat Pump KEYMARK certification Scheme rules v12   |

Modelo MHP-V12WD2N8+HB-P160CG or HB-P160CD30G or HB-P160CDS60Gor HB-P160CDS90G

|                                          |                                                                         |
|------------------------------------------|-------------------------------------------------------------------------|
| Nombre del modelo                        | MHP-V12WD2N8+HB-P160CG or HB-P160CD30G or HB-P160CDS60Gor HB-P160CDS90G |
| Aplicación                               | Calefacción ( media temperatura )                                       |
| Unidades                                 | Interior, Exterior                                                      |
| zona climatica (para calefacción)        | Frío, Cálido, Clima cálido, Clima frío                                  |
| Reversibilidad                           | Sí                                                                      |
| aplicación para refrigeración (optional) | n/a                                                                     |
| Otras fuentes de calor                   | n/a                                                                     |

#### Datos generales

|                             |             |
|-----------------------------|-------------|
| Alimentación eléctrica      | 1x230V 50Hz |
| Producto fuera de selección | n/a         |

#### Aire exterior / agua

##### EN 14511-4 | Calefacción

|                                                    |          |
|----------------------------------------------------|----------|
| Starting and operating test                        | caducado |
| cortando la transferencia de calor de caudal medio | caducado |
| Fallo completo de alimentación eléctrica           | caducado |
| Test de desescarche                                | caducado |

##### EN 12102-1 | Clima medio

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 65 dB(A)         | 65 dB(A)          |

##### EN 14825 | Clima medio

|                | Baja temperatura | Media temperatura |
|----------------|------------------|-------------------|
| $\eta_s$       | 187 %            | 133 %             |
| Prated         | 11.80 kW         | 11.40 kW          |
| SCOP           | 4.75             | 3.39              |
| Tbiv           | -7 °C            | -7 °C             |
| TOL            | -10 °C           | -10 °C            |
| Pdh Tj = -7°C  | 10.48 kW         | 10.05 kW          |
| COP Tj = -7°C  | 2.84             | 1.97              |
| Cdh Tj = -7 °C | 0.900            | 0.900             |
| Pdh Tj = +2°C  | 6.60 kW          | 6.39 kW           |
| COP Tj = +2°C  | 4.59             | 3.37              |
| Cdh Tj = +2 °C | 0.900            | 0.900             |
| Pdh Tj = +7°C  | 4.38 kW          | 4.27 kW           |
| COP Tj = +7°C  | 6.52             | 4.49              |
| Cdh Tj = +7 °C | 0.900            | 0.900             |
| Pdh Tj = 12°C  | 3.71 kW          | 3.23 kW           |
| COP Tj = 12°C  | 8.38             | 5.94              |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| Cdh Tj = +12 °C                                      | 0.900        | 0.900        |
| Pdh Tj = Tbiv                                        | 10.48 kW     | 10.11 kW     |
| COP Tj = Tbiv                                        | 2.84         | 1.98         |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 10.59 kW     | 8.89 kW      |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  | 2.73         | 1.76         |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 0.900        | 0.900        |
| WTOL                                                 | 65 °C        | 65 °C        |
| Poff                                                 | 14 W         | 14 W         |
| PTO                                                  | 24 W         | 24 W         |
| PSB                                                  | 14 W         | 14 W         |
| PCK                                                  | 0 W          | 0 W          |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 1.25 kW      | 2.54 kW      |
| Consumo anual de energía QHE                         | 5155 kWh     | 6925 kWh     |

#### EN 12102-1 | Clima frío

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 65 dB(A)         | 65 dB(A)          |

#### EN 14825 | Clima frío

|                                                     | Baja temperatura | Media temperatura |
|-----------------------------------------------------|------------------|-------------------|
| $\eta_s$                                            | 158 %            | 115 %             |
| Prated                                              | 11.20 kW         | 10.10 kW          |
| SCOP                                                | 4.01             | 2.93              |
| Tbiv                                                | -15 °C           | -15 °C            |
| TOL                                                 | -22 °C           | -22 °C            |
| Pdh Tj = -7°C                                       | 6.93 kW          | 6.47 kW           |
| COP Tj = -7°C                                       | 3.42             | 2.58              |
| Cdh Tj = -7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +2°C                                       | 4.59 kW          | 3.95 kW           |
| COP Tj = +2°C                                       | 4.87             | 3.48              |
| Cdh Tj = +2 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +7°C                                       | 3.08 kW          | 2.70 kW           |
| COP Tj = +7°C                                       | 5.99             | 4.32              |
| Cdh Tj = +7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = 12°C                                       | 3.53 kW          | 3.28 kW           |
| COP Tj = 12°C                                       | 7.78             | 6.00              |
| Cdh Tj = +12 °C                                     | 0.900            | 0.900             |
| Pdh Tj = Tbiv                                       | 9.13 kW          | 8.20 kW           |
| COP Tj = Tbiv                                       | 2.55             | 1.79              |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 6.83 kW          | 3.94 kW           |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  | 1.93         | 1.09         |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 0.900        | 0.900        |
| WTOL                                                 | 65 °C        | 65 °C        |
| Poff                                                 | 14 W         | 14 W         |
| PTO                                                  | 24 W         | 24 W         |
| PSB                                                  | 14 W         | 14 W         |
| PCK                                                  | 0 W          | 0 W          |
| Pdh Tj = -15°C (if TOL                               | 9.13         | 8.20         |
| COP Tj = -15°C (if TOL                               | 2.55         | 1.79         |
| Cdh Tj = -15 °C                                      | 0.900        | 0.900        |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 4.39 kW      | 6.11 kW      |
| Consumo anual de energía QHE                         | 5872 kWh     | 8429 kWh     |

#### EN 12102-1 | Clima cálido

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 65 dB(A)         | 65 dB(A)          |

#### EN 14825 | Clima cálido

|                                                     | Baja temperatura | Media temperatura |
|-----------------------------------------------------|------------------|-------------------|
| $\eta_s$                                            | 253 %            | 171 %             |
| Prated                                              | 11.00 kW         | 12.30 kW          |
| SCOP                                                | 6.39             | 4.36              |
| Tbiv                                                | 7 °C             | 7 °C              |
| TOL                                                 | 2 °C             | 2 °C              |
| Pdh Tj = +2°C                                       | 10.99 kW         | 11.90 kW          |
| COP Tj = +2°C                                       | 3.56             | 2.28              |
| Cdh Tj = +2 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +7°C                                       | 7.06 kW          | 7.91 kW           |
| COP Tj = +7°C                                       | 5.81             | 3.80              |
| Cdh Tj = +7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = 12°C                                       | 3.50 kW          | 3.68 kW           |
| COP Tj = 12°C                                       | 7.84             | 5.59              |
| Cdh Tj = +12 °C                                     | 0.900            | 0.900             |
| Pdh Tj = Tbiv                                       | 7.06 kW          | 7.91 kW           |
| COP Tj = Tbiv                                       | 5.76             | 3.80              |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.99 kW         | 11.90 kW          |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.56             | 2.28              |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900            | 0.900             |
| WTOL                                                | 65 °C            | 65 °C             |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| Poff                                                 | 14 W         | 14 W         |
| PTO                                                  | 24 W         | 24 W         |
| PSB                                                  | 14 W         | 14 W         |
| PCK                                                  | 0 W          | 0 W          |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 0.01 kW      | 0.41 kW      |
| Consumo anual de energía QHE                         | 2291 kWh     | 3777 kWh     |

## Modelo MHP-V12WD2RN8 +HB-P160CG,HB-P160CD30G,HB-P160CDS60G,HB-P160CDS90G

|                                          |                                                                   |
|------------------------------------------|-------------------------------------------------------------------|
| Nombre del modelo                        | MHP-V12WD2RN8 +HB-P160CG,HB-P160CD30G,HB-P160CDS60G,HB-P160CDS90G |
| Aplicación                               | Calefacción ( media temperatura )                                 |
| Unidades                                 | Interior, Exterior                                                |
| zona climatica (para calefacción)        | Frío, Cálido, Clima cálido, Clima frío                            |
| Reversibilidad                           | Sí                                                                |
| aplicación para refrigeración (optional) | n/a                                                               |
| Otras fuentes de calor                   | n/a                                                               |

## Datos generales

|                             |             |
|-----------------------------|-------------|
| Alimentación eléctrica      | 3x230V 50Hz |
| Producto fuera de selección | n/a         |

## Aire exterior / agua

## EN 14511-4 | Calefacción

|                                                    |          |
|----------------------------------------------------|----------|
| Starting and operating test                        | caducado |
| cortando la transferencia de calor de caudal medio | caducado |
| Fallo completo de alimentación eléctrica           | caducado |
| Test de desescarche                                | caducado |

## EN 12102-1 | Clima medio

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 65 dB(A)         | 65 dB(A)          |

## EN 14825 | Clima medio

|                | Baja temperatura | Media temperatura |
|----------------|------------------|-------------------|
| $\eta_s$       | 187 %            | 133 %             |
| Prated         | 11.80 kW         | 11.40 kW          |
| SCOP           | 4.75             | 3.39              |
| Tbiv           | -7 °C            | -7 °C             |
| TOL            | -10 °C           | -10 °C            |
| Pdh Tj = -7°C  | 10.48 kW         | 10.05 kW          |
| COP Tj = -7°C  | 2.84             | 1.97              |
| Cdh Tj = -7 °C | 0.900            | 0.900             |
| Pdh Tj = +2°C  | 6.60 kW          | 6.39 kW           |
| COP Tj = +2°C  | 4.59             | 3.37              |
| Cdh Tj = +2 °C | 0.900            | 0.900             |
| Pdh Tj = +7°C  | 4.38 kW          | 4.27 kW           |
| COP Tj = +7°C  | 6.52             | 4.49              |
| Cdh Tj = +7 °C | 0.900            | 0.900             |
| Pdh Tj = 12°C  | 3.70 kW          | 3.23 kW           |
| COP Tj = 12°C  | 8.38             | 5.94              |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| Cdh Tj = +12 °C                                      | 0.900        | 0.900        |
| Pdh Tj = Tbiv                                        | 10.48 kW     | 10.11 kW     |
| COP Tj = Tbiv                                        | 2.84         | 1.98         |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 10.59 kW     | 8.89 kW      |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  | 2.73         | 1.76         |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 0.900        | 0.900        |
| WTOL                                                 | 65 °C        | 65 °C        |
| Poff                                                 | 20 W         | 20 W         |
| PTO                                                  | 30 W         | 30 W         |
| PSB                                                  | 20 W         | 20 W         |
| PCK                                                  | 0 W          | 0 W          |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 1.25 kW      | 2.54 kW      |
| Consumo anual de energía QHE                         | 5156 kWh     | 6927 kWh     |

#### EN 12102-1 | Clima frío

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 65 dB(A)         | 65 dB(A)          |

#### EN 14825 | Clima frío

|                                                     | Baja temperatura | Media temperatura |
|-----------------------------------------------------|------------------|-------------------|
| $\eta_s$                                            | 158 %            | 115 %             |
| Prated                                              | 11.20 kW         | 10.10 kW          |
| SCOP                                                | 4.01             | 2.93              |
| Tbiv                                                | -15 °C           | -15 °C            |
| TOL                                                 | -22 °C           | -22 °C            |
| Pdh Tj = -7°C                                       | 6.93 kW          | 6.50 kW           |
| COP Tj = -7°C                                       | 3.42             | 2.58              |
| Cdh Tj = -7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +2°C                                       | 4.59 kW          | 3.95 kW           |
| COP Tj = +2°C                                       | 4.87             | 3.48              |
| Cdh Tj = +2 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +7°C                                       | 3.08 kW          | 2.70 kW           |
| COP Tj = +7°C                                       | 5.99             | 4.32              |
| Cdh Tj = +7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = 12°C                                       | 3.53 kW          | 3.28 kW           |
| COP Tj = 12°C                                       | 7.78             | 6.00              |
| Cdh Tj = +12 °C                                     | 0.900            | 0.900             |
| Pdh Tj = Tbiv                                       | 9.13 kW          | 8.20 kW           |
| COP Tj = Tbiv                                       | 2.55             | 1.79              |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 6.83 kW          | 3.94 kW           |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  | 1.93         | 1.09         |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 0.900        | 0.900        |
| WTOL                                                 | 65 °C        | 65 °C        |
| Poff                                                 | 20 W         | 20 W         |
| PTO                                                  | 30 W         | 30 W         |
| PSB                                                  | 20 W         | 20 W         |
| PCK                                                  | 0 W          | 0 W          |
| Pdh Tj = -15°C (if TOL                               | 9.13         | 8.20         |
| COP Tj = -15°C (if TOL                               | 2.55         | 1.79         |
| Cdh Tj = -15 °C                                      | 0.900        | 0.900        |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 4.34 kW      | 6.11 kW      |
| Consumo anual de energía QHE                         | 6872 kWh     | 8430 kWh     |

#### EN 12102-1 | Clima cálido

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 65 dB(A)         | 65 dB(A)          |

#### EN 14825 | Clima cálido

|                                                     | Baja temperatura | Media temperatura |
|-----------------------------------------------------|------------------|-------------------|
| $\eta_s$                                            | 253 %            | 171 %             |
| Prated                                              | 11.00 kW         | 12.30 kW          |
| SCOP                                                | 6.35             | 4.35              |
| Tbiv                                                | 7 °C             | 7 °C              |
| TOL                                                 | 2 °C             | 2 °C              |
| Pdh Tj = +2°C                                       | 10.90 kW         | 11.90 kW          |
| COP Tj = +2°C                                       | 3.55             | 2.28              |
| Cdh Tj = +2 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +7°C                                       | 7.01 kW          | 7.91 kW           |
| COP Tj = +7°C                                       | 5.76             | 3.80              |
| Cdh Tj = +7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = 12°C                                       | 3.50 kW          | 3.68 kW           |
| COP Tj = 12°C                                       | 7.84             | 5.59              |
| Cdh Tj = +12 °C                                     | 0.900            | 0.900             |
| Pdh Tj = Tbiv                                       | 7.06 kW          | 7.91 kW           |
| COP Tj = Tbiv                                       | 5.76             | 3.80              |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.99 kW         | 11.90 kW          |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.56             | 2.28              |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900            | 0.900             |
| WTOL                                                | 65 °C            | 65 °C             |



|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| Poff                                                 | 20 W         | 20 W         |
| PTO                                                  | 30 W         | 30 W         |
| PSB                                                  | 20 W         | 20 W         |
| PCK                                                  | 0 W          | 0 W          |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 0.01 kW      | 0.41 kW      |
| Consumo anual de energía QHE                         | 2295 kWh     | 3781 kWh     |

## Modelo MHP-V14WD2N8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G.HB-P160CDS90G

|                                          |                                                                 |
|------------------------------------------|-----------------------------------------------------------------|
| Nombre del modelo                        | MHP-V14WD2N8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G.HB-P160CDS90G |
| Aplicación                               | Calefacción ( media temperatura )                               |
| Unidades                                 | Interior, Exterior                                              |
| zona climatica (para calefacción)        | Frío, Cálido, Clima cálido, Clima frío                          |
| Reversibilidad                           | Sí                                                              |
| aplicación para refrigeración (optional) | n/a                                                             |
| Otras fuentes de calor                   | n/a                                                             |

## Datos generales

|                             |             |
|-----------------------------|-------------|
| Alimentación eléctrica      | 1x230V 50Hz |
| Producto fuera de selección | n/a         |

## Aire exterior / agua

## EN 14511-4 | Calefacción

|                                                    |          |
|----------------------------------------------------|----------|
| Starting and operating test                        | caducado |
| cortando la transferencia de calor de caudal medio | caducado |
| Fallo completo de alimentación eléctrica           | caducado |
| Test de desescarche                                | caducado |

## EN 12102-1 | Clima medio

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 65 dB(A)         | 65 dB(A)          |

## EN 14825 | Clima medio

|                | Baja temperatura | Media temperatura |
|----------------|------------------|-------------------|
| $\eta_s$       | 184 %            | 133 %             |
| Prated         | 13.60 kW         | 11.90 kW          |
| SCOP           | 4.66             | 3.39              |
| Tbiv           | -7 °C            | -7 °C             |
| TOL            | -10 °C           | -10 °C            |
| Pdh Tj = -7°C  | 12.01 kW         | 10.49 kW          |
| COP Tj = -7°C  | 2.76             | 1.97              |
| Cdh Tj = -7 °C | 0.900            | 0.900             |
| Pdh Tj = +2°C  | 7.85 kW          | 6.73 kW           |
| COP Tj = +2°C  | 4.47             | 3.37              |
| Cdh Tj = +2 °C | 0.900            | 0.900             |
| Pdh Tj = +7°C  | 5.14 kW          | 4.54 kW           |
| COP Tj = +7°C  | 6.60             | 4.57              |
| Cdh Tj = +7 °C | 0.900            | 0.900             |
| Pdh Tj = 12°C  | 3.71 kW          | 3.25 kW           |
| COP Tj = 12°C  | 8.43             | 6.02              |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| Cdh Tj = +12 °C                                      | 0.900        | 0.900        |
| Pdh Tj = Tbiv                                        | 12.01 kW     | 10.49 kW     |
| COP Tj = Tbiv                                        | 2.76         | 1.97         |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 11.32 kW     | 8.98 kW      |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  | 2.56         | 1.72         |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 0.900        | 0.900        |
| WTOL                                                 | 65 °C        | 65 °C        |
| Poff                                                 | 14 W         | 14 W         |
| PTO                                                  | 24 W         | 24 W         |
| PSB                                                  | 14 W         | 14 W         |
| PCK                                                  | 0 W          | 0 W          |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 2.25 kW      | 2.94 kW      |
| Consumo anual de energía QHE                         | 6013 kWh     | 7204 kWh     |

#### EN 12102-1 | Clima frío

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 65 dB(A)         | 65 dB(A)          |

#### EN 14825 | Clima frío

|                                                     | Baja temperatura | Media temperatura |
|-----------------------------------------------------|------------------|-------------------|
| $\eta_s$                                            | 156 %            | 116 %             |
| Prated                                              | 12.50 kW         | 10.80 kW          |
| SCOP                                                | 4.00             | 2.97              |
| Tbiv                                                | -15 °C           | -15 °C            |
| TOL                                                 | -22 °C           | -22 °C            |
| Pdh Tj = -7°C                                       | 7.84 kW          | 6.73 kW           |
| COP Tj = -7°C                                       | 3.39             | 2.60              |
| Cdh Tj = -7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +2°C                                       | 4.97 kW          | 4.21 kW           |
| COP Tj = +2°C                                       | 4.84             | 3.56              |
| Cdh Tj = +2 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +7°C                                       | 3.09 kW          | 2.98 kW           |
| COP Tj = +7°C                                       | 6.00             | 4.60              |
| Cdh Tj = +7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = 12°C                                       | 3.53 kW          | 3.28 kW           |
| COP Tj = 12°C                                       | 7.74             | 6.15              |
| Cdh Tj = +12 °C                                     | 0.900            | 0.900             |
| Pdh Tj = Tbiv                                       | 10.16 kW         | 8.73 kW           |
| COP Tj = Tbiv                                       | 2.49             | 1.75              |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.39 kW          | 3.95 kW           |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  | 1.87         | 1.06         |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 0.900        | 0.900        |
| WTOL                                                 | 65 °C        | 65 °C        |
| Poff                                                 | 14 W         | 14 W         |
| PTO                                                  | 24 W         | 24 W         |
| PSB                                                  | 14 W         | 14 W         |
| PCK                                                  | 0 W          | 0 W          |
| Pdh Tj = -15°C (if TOL                               | 10.16        | 8.73         |
| COP Tj = -15°C (if TOL                               | 2.49         | 1.75         |
| Cdh Tj = -15 °C                                      | 0.900        | 0.900        |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 5.04 kW      | 6.85 kW      |
| Consumo anual de energía QHE                         | 7739 kWh     | 8952 kWh     |

#### EN 12102-1 | Clima cálido

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 65 dB(A)         | 65 dB(A)          |

#### EN 14825 | Clima cálido

|                                                     | Baja temperatura | Media temperatura |
|-----------------------------------------------------|------------------|-------------------|
| $\eta_s$                                            | 258 %            | 173 %             |
| Prated                                              | 12.00 kW         | 14.20 kW          |
| SCOP                                                | 6.51             | 4.39              |
| Tbiv                                                | 7 °C             | 7 °C              |
| TOL                                                 | 2 °C             | 2 °C              |
| Pdh Tj = +2°C                                       | 11.93 kW         | 12.87 kW          |
| COP Tj = +2°C                                       | 3.41             | 2.17              |
| Cdh Tj = +2 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +7°C                                       | 7.70 kW          | 9.11 kW           |
| COP Tj = +7°C                                       | 5.78             | 3.89              |
| Cdh Tj = +7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = 12°C                                       | 3.70 kW          | 4.01 kW           |
| COP Tj = 12°C                                       | 8.15             | 5.80              |
| Cdh Tj = +12 °C                                     | 0.900            | 0.900             |
| Pdh Tj = Tbiv                                       | 7.70 kW          | 9.11 kW           |
| COP Tj = Tbiv                                       | 5.78             | 3.89              |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 11.93 kW         | 12.87 kW          |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.41             | 2.17              |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900            | 0.900             |
| WTOL                                                | 65 °C            | 65 °C             |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| Poff                                                 | 14 W         | 14 W         |
| PTO                                                  | 24 W         | 24 W         |
| PSB                                                  | 14 W         | 14 W         |
| PCK                                                  | 0 W          | 0 W          |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 0.07 kW      | 1.30 kW      |
| Consumo anual de energía QHE                         | 2456 kWh     | 4310 kWh     |

## Modelo MHP-V14WD2RN8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G.HB-P160CDS90G

|                                          |                                                                  |
|------------------------------------------|------------------------------------------------------------------|
| Nombre del modelo                        | MHP-V14WD2RN8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G.HB-P160CDS90G |
| Aplicación                               | Calefacción ( media temperatura )                                |
| Unidades                                 | Interior, Exterior                                               |
| zona climatica (para calefacción)        | Frío, Cálido, Clima cálido, Clima frío                           |
| Reversibilidad                           | Sí                                                               |
| aplicación para refrigeración (optional) | n/a                                                              |
| Otras fuentes de calor                   | n/a                                                              |

## Datos generales

|                             |             |
|-----------------------------|-------------|
| Alimentación eléctrica      | 3x230V 50Hz |
| Producto fuera de selección | n/a         |

## Aire exterior / agua

## EN 14511-4 | Calefacción

|                                                    |          |
|----------------------------------------------------|----------|
| Starting and operating test                        | caducado |
| cortando la transferencia de calor de caudal medio | caducado |
| Fallo completo de alimentación eléctrica           | caducado |
| Test de desescarche                                | caducado |

## EN 12102-1 | Clima medio

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 65 dB(A)         | 65 dB(A)          |

## EN 14825 | Clima medio

|                | Baja temperatura | Media temperatura |
|----------------|------------------|-------------------|
| $\eta_s$       | 184 %            | 133 %             |
| Prated         | 13.60 kW         | 11.90 kW          |
| SCOP           | 4.66             | 3.39              |
| Tbiv           | -7 °C            | -7 °C             |
| TOL            | -10 °C           | -10 °C            |
| Pdh Tj = -7°C  | 12.01 kW         | 10.49 kW          |
| COP Tj = -7°C  | 2.76             | 1.97              |
| Cdh Tj = -7 °C | 0.900            | 0.900             |
| Pdh Tj = +2°C  | 7.85 kW          | 6.73 kW           |
| COP Tj = +2°C  | 4.47             | 3.37              |
| Cdh Tj = +2 °C | 0.900            | 0.900             |
| Pdh Tj = +7°C  | 5.14 kW          | 4.54 kW           |
| COP Tj = +7°C  | 6.60             | 4.57              |
| Cdh Tj = +7 °C | 0.900            | 0.900             |
| Pdh Tj = 12°C  | 3.71 kW          | 3.25 kW           |
| COP Tj = 12°C  | 8.43             | 6.02              |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| Cdh Tj = +12 °C                                      | 0.900        | 0.900        |
| Pdh Tj = Tbiv                                        | 12.01 kW     | 10.49 kW     |
| COP Tj = Tbiv                                        | 2.76         | 1.97         |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 11.32 kW     | 8.98 kW      |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  | 2.56         | 1.72         |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 0.900        | 0.900        |
| WTOL                                                 | 65 °C        | 65 °C        |
| Poff                                                 | 20 W         | 20 W         |
| PTO                                                  | 30 W         | 30 W         |
| PSB                                                  | 20 W         | 20 W         |
| PCK                                                  | 0 W          | 0 W          |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 2.25 kW      | 2.94 kW      |
| Consumo anual de energía QHE                         | 6014 kWh     | 7206 kWh     |

#### EN 12102-1 | Clima frío

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 65 dB(A)         | 65 dB(A)          |

#### EN 14825 | Clima frío

|                                                     | Baja temperatura | Media temperatura |
|-----------------------------------------------------|------------------|-------------------|
| $\eta_s$                                            | 156 %            | 116 %             |
| Prated                                              | 12.50 kW         | 10.80 kW          |
| SCOP                                                | 4.00             | 2.98              |
| Tbiv                                                | -15 °C           | -15 °C            |
| TOL                                                 | -22 °C           | -22 °C            |
| Pdh Tj = -7°C                                       | 7.84 kW          | 6.76 kW           |
| COP Tj = -7°C                                       | 3.39             | 2.61              |
| Cdh Tj = -7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +2°C                                       | 4.97 kW          | 4.21 kW           |
| COP Tj = +2°C                                       | 4.84             | 3.56              |
| Cdh Tj = +2 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +7°C                                       | 3.09 kW          | 2.98 kW           |
| COP Tj = +7°C                                       | 6.00             | 4.60              |
| Cdh Tj = +7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = 12°C                                       | 3.53 kW          | 3.28 kW           |
| COP Tj = 12°C                                       | 7.74             | 6.15              |
| Cdh Tj = +12 °C                                     | 0.900            | 0.900             |
| Pdh Tj = Tbiv                                       | 10.16 kW         | 8.73 kW           |
| COP Tj = Tbiv                                       | 2.49             | 1.75              |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.39 kW          | 3.95 kW           |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  | 1.87         | 1.06         |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 0.900        | 0.900        |
| WTOL                                                 | 65 °C        | 65 °C        |
| Poff                                                 | 20 W         | 20 W         |
| PTO                                                  | 30 W         | 30 W         |
| PSB                                                  | 20 W         | 20 W         |
| PCK                                                  | 0 W          | 0 W          |
| Pdh Tj = -15°C (if TOL                               | 10.16        | 8.73         |
| COP Tj = -15°C (if TOL                               | 2.49         | 1.75         |
| Cdh Tj = -15 °C                                      | 0.900        | 0.900        |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 5.04 kW      | 6.85 kW      |
| Consumo anual de energía QHE                         | 7739 kWh     | 8953 kWh     |

#### EN 12102-1 | Clima cálido

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 65 dB(A)         | 65 dB(A)          |

#### EN 14825 | Clima cálido

|                                                     | Baja temperatura | Media temperatura |
|-----------------------------------------------------|------------------|-------------------|
| $\eta_s$                                            | 257 %            | 173 %             |
| Prated                                              | 12.00 kW         | 14.20 kW          |
| SCOP                                                | 6.48             | 4.39              |
| Tbiv                                                | 7 °C             | 7 °C              |
| TOL                                                 | 2 °C             | 2 °C              |
| Pdh Tj = +2°C                                       | 11.90 kW         | 12.87 kW          |
| COP Tj = +2°C                                       | 3.40             | 2.17              |
| Cdh Tj = +2 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +7°C                                       | 7.65 kW          | 9.11 kW           |
| COP Tj = +7°C                                       | 5.74             | 3.89              |
| Cdh Tj = +7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = 12°C                                       | 3.70 kW          | 4.01 kW           |
| COP Tj = 12°C                                       | 8.15             | 5.80              |
| Cdh Tj = +12 °C                                     | 0.900            | 0.900             |
| Pdh Tj = Tbiv                                       | 7.70 kW          | 9.11 kW           |
| COP Tj = Tbiv                                       | 5.78             | 3.89              |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 11.93 kW         | 12.87 kW          |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.41             | 2.17              |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900            | 0.900             |
| WTOL                                                | 65 °C            | 65 °C             |



|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| Poff                                                 | 20 W         | 20 W         |
| PTO                                                  | 30 W         | 30 W         |
| PSB                                                  | 20 W         | 20 W         |
| PCK                                                  | 0 W          | 0 W          |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 0.07 kW      | 1.30 kW      |
| Consumo anual de energía QHE                         | 2461 kWh     | 4315 kWh     |

## Modelo MHP-V16WD2N8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G,HB-P160CDS90G

|                                          |                                                                 |
|------------------------------------------|-----------------------------------------------------------------|
| Nombre del modelo                        | MHP-V16WD2N8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G,HB-P160CDS90G |
| Aplicación                               | Calefacción ( media temperatura )                               |
| Unidades                                 | Interior, Exterior                                              |
| zona climatica (para calefacción)        | Frío, Cálido, Clima cálido, Clima frío                          |
| Reversibilidad                           | Sí                                                              |
| aplicación para refrigeración (optional) | n/a                                                             |
| Otras fuentes de calor                   | n/a                                                             |

## Datos generales

|                             |             |
|-----------------------------|-------------|
| Alimentación eléctrica      | 1x230V 50Hz |
| Producto fuera de selección | n/a         |

## Aire exterior / agua

## EN 14511-4 | Calefacción

|                                                    |          |
|----------------------------------------------------|----------|
| Starting and operating test                        | caducado |
| cortando la transferencia de calor de caudal medio | caducado |
| Fallo completo de alimentación eléctrica           | caducado |
| Test de desescarche                                | caducado |

## EN 12102-1 | Clima medio

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 68 dB(A)         | 68 dB(A)          |

## EN 14825 | Clima medio

|                | Baja temperatura | Media temperatura |
|----------------|------------------|-------------------|
| $\eta_s$       | 180 %            | 131 %             |
| Prated         | 15.10 kW         | 12.80 kW          |
| SCOP           | 4.57             | 3.35              |
| Tbiv           | -7 °C            | -7 °C             |
| TOL            | -10 °C           | -10 °C            |
| Pdh Tj = -7°C  | 13.32 kW         | 11.33 kW          |
| COP Tj = -7°C  | 2.69             | 1.96              |
| Cdh Tj = -7 °C | 0.900            | 0.900             |
| Pdh Tj = +2°C  | 8.47 kW          | 7.05 kW           |
| COP Tj = +2°C  | 4.36             | 3.28              |
| Cdh Tj = +2 °C | 0.900            | 0.900             |
| Pdh Tj = +7°C  | 5.64 kW          | 4.58 kW           |
| COP Tj = +7°C  | 6.49             | 4.52              |
| Cdh Tj = +7 °C | 0.900            | 0.900             |
| Pdh Tj = 12°C  | 3.74 kW          | 3.25 kW           |
| COP Tj = 12°C  | 8.42             | 5.96              |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| Cdh Tj = +12 °C                                      | 0.900        | 0.900        |
| Pdh Tj = Tbiv                                        | 13.32 kW     | 11.33 kW     |
| COP Tj = Tbiv                                        | 2.69         | 1.96         |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 12.37 kW     | 10.12 kW     |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  | 2.45         | 1.76         |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 0.900        | 0.900        |
| WTOL                                                 | 65 °C        | 65 °C        |
| Poff                                                 | 14 W         | 14 W         |
| PTO                                                  | 24 W         | 24 W         |
| PSB                                                  | 14 W         | 14 W         |
| PCK                                                  | 0 W          | 0 W          |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 2.68 kW      | 2.68 kW      |
| Consumo anual de energía QHE                         | 6807 kWh     | 7905 kWh     |

#### EN 12102-1 | Clima frío

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 68 dB(A)         | 68 dB(A)          |

#### EN 14825 | Clima frío

|                                                     | Baja temperatura | Media temperatura |
|-----------------------------------------------------|------------------|-------------------|
| $\eta_s$                                            | 156 %            | 119 %             |
| Prated                                              | 13.60 kW         | 11.50 kW          |
| SCOP                                                | 3.97             | 3.05              |
| Tbiv                                                | -15 °C           | -15 °C            |
| TOL                                                 | -22 °C           | -22 °C            |
| Pdh Tj = -7°C                                       | 8.19 kW          | 7.48 kW           |
| COP Tj = -7°C                                       | 3.32             | 2.59              |
| Cdh Tj = -7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +2°C                                       | 5.18 kW          | 4.31 kW           |
| COP Tj = +2°C                                       | 4.79             | 3.69              |
| Cdh Tj = +2 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +7°C                                       | 3.56 kW          | 2.89 kW           |
| COP Tj = +7°C                                       | 6.39             | 4.68              |
| Cdh Tj = +7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = 12°C                                       | 3.30 kW          | 3.38 kW           |
| COP Tj = 12°C                                       | 7.31             | 6.20              |
| Cdh Tj = +12 °C                                     | 0.900            | 0.900             |
| Pdh Tj = Tbiv                                       | 11.07 kW         | 9.40 kW           |
| COP Tj = Tbiv                                       | 2.40             | 1.82              |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.70 kW          | 4.96 kW           |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  | 1.93         | 1.17         |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 0.900        | 0.900        |
| WTOL                                                 | 65 °C        | 65 °C        |
| Poff                                                 | 14 W         | 14 W         |
| PTO                                                  | 24 W         | 24 W         |
| PSB                                                  | 14 W         | 14 W         |
| PCK                                                  | 0 W          | 0 W          |
| Pdh Tj = -15°C (if TOL                               | 11.07        | 9.40         |
| COP Tj = -15°C (if TOL                               | 2.40         | 1.82         |
| Cdh Tj = -15 °C                                      | 0.900        | 0.900        |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 4.84 kW      | 6.57 kW      |
| Consumo anual de energía QHE                         | 8429 kWh     | 9320 kWh     |

#### EN 12102-1 | Clima cálido

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 68 dB(A)         | 68 dB(A)          |

#### EN 14825 | Clima cálido

|                                                     | Baja temperatura | Media temperatura |
|-----------------------------------------------------|------------------|-------------------|
| $\eta_s$                                            | 242 %            | 174 %             |
| Prated                                              | 13.00 kW         | 14.20 kW          |
| SCOP                                                | 6.22             | 4.42              |
| Tbiv                                                | 7 °C             | 7 °C              |
| TOL                                                 | 2 °C             | 2 °C              |
| Pdh Tj = +2°C                                       | 12.99 kW         | 13.21 kW          |
| COP Tj = +2°C                                       | 3.32             | 2.26              |
| Cdh Tj = +2 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +7°C                                       | 8.33 kW          | 9.11 kW           |
| COP Tj = +7°C                                       | 5.31             | 3.89              |
| Cdh Tj = +7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = 12°C                                       | 3.82 kW          | 3.99 kW           |
| COP Tj = 12°C                                       | 8.02             | 5.76              |
| Cdh Tj = +12 °C                                     | 0.900            | 0.900             |
| Pdh Tj = Tbiv                                       | 8.33 kW          | 9.11 kW           |
| COP Tj = Tbiv                                       | 5.31             | 3.89              |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.99 kW         | 13.21 kW          |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.32             | 2.26              |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900            | 0.900             |
| WTOL                                                | 65 °C            | 65 °C             |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| Poff                                                 | 14 W         | 14 W         |
| PTO                                                  | 24 W         | 24 W         |
| PSB                                                  | 14 W         | 14 W         |
| PCK                                                  | 0 W          | 0 W          |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 0.01 kW      | 0.96 kW      |
| Consumo anual de energía QHE                         | 2780 kWh     | 4284 kWh     |

## Modelo MHP-V16WD2RN8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G,HB-P160CDS90G

|                                          |                                                                  |
|------------------------------------------|------------------------------------------------------------------|
| Nombre del modelo                        | MHP-V16WD2RN8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G,HB-P160CDS90G |
| Aplicación                               | Calefacción ( media temperatura )                                |
| Unidades                                 | Interior, Exterior                                               |
| zona climatica (para calefacción)        | Frío, Cálido, Clima cálido, Clima frío                           |
| Reversibilidad                           | Sí                                                               |
| aplicación para refrigeración (optional) | n/a                                                              |
| Otras fuentes de calor                   | n/a                                                              |

## Datos generales

|                             |             |
|-----------------------------|-------------|
| Alimentación eléctrica      | 3x230V 50Hz |
| Producto fuera de selección | n/a         |

## Aire exterior / agua

## EN 14511-4 | Calefacción

|                                                    |          |
|----------------------------------------------------|----------|
| Starting and operating test                        | caducado |
| cortando la transferencia de calor de caudal medio | caducado |
| Fallo completo de alimentación eléctrica           | caducado |
| Test de desescarche                                | caducado |

## EN 12102-1 | Clima medio

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 68 dB(A)         | 68 dB(A)          |

## EN 14825 | Clima medio

|                | Baja temperatura | Media temperatura |
|----------------|------------------|-------------------|
| $\eta_s$       | 180 %            | 131 %             |
| Prated         | 15.10 kW         | 12.80 kW          |
| SCOP           | 4.57             | 3.35              |
| Tbiv           | -7 °C            | -7 °C             |
| TOL            | -10 °C           | -10 °C            |
| Pdh Tj = -7°C  | 13.32 kW         | 11.33 kW          |
| COP Tj = -7°C  | 2.69             | 1.96              |
| Cdh Tj = -7 °C | 0.900            | 0.900             |
| Pdh Tj = +2°C  | 8.47 kW          | 7.05 kW           |
| COP Tj = +2°C  | 4.36             | 3.28              |
| Cdh Tj = +2 °C | 0.900            | 0.900             |
| Pdh Tj = +7°C  | 5.64 kW          | 4.58 kW           |
| COP Tj = +7°C  | 6.49             | 4.52              |
| Cdh Tj = +7 °C | 0.900            | 0.900             |
| Pdh Tj = 12°C  | 3.74 kW          | 3.25 kW           |
| COP Tj = 12°C  | 8.42             | 5.96              |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| Cdh Tj = +12 °C                                      | 0.900        | 0.900        |
| Pdh Tj = Tbiv                                        | 13.32 kW     | 11.33 kW     |
| COP Tj = Tbiv                                        | 2.69         | 1.96         |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 12.37 kW     | 10.12 kW     |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  | 2.45         | 1.76         |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 0.900        | 0.900        |
| WTOL                                                 | 65 °C        | 65 °C        |
| Poff                                                 | 20 W         | 20 W         |
| PTO                                                  | 30 W         | 30 W         |
| PSB                                                  | 20 W         | 20 W         |
| PCK                                                  | 0 W          | 0 W          |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 2.68 kW      | 2.68 kW      |
| Consumo anual de energía QHE                         | 6808 kWh     | 7906 kWh     |

#### EN 12102-1 | Clima frío

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 68 dB(A)         | 68 dB(A)          |

#### EN 14825 | Clima frío

|                                                     | Baja temperatura | Media temperatura |
|-----------------------------------------------------|------------------|-------------------|
| $\eta_s$                                            | 156 %            | 119 %             |
| Prated                                              | 13.60 kW         | 11.50 kW          |
| SCOP                                                | 3.97             | 3.05              |
| Tbiv                                                | -15 °C           | -15 °C            |
| TOL                                                 | -22 °C           | -22 °C            |
| Pdh Tj = -7°C                                       | 8.19 kW          | 7.51 kW           |
| COP Tj = -7°C                                       | 3.32             | 2.60              |
| Cdh Tj = -7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +2°C                                       | 5.18 kW          | 4.31 kW           |
| COP Tj = +2°C                                       | 4.79             | 3.69              |
| Cdh Tj = +2 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +7°C                                       | 3.56 kW          | 2.89 kW           |
| COP Tj = +7°C                                       | 6.39             | 4.68              |
| Cdh Tj = +7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = 12°C                                       | 3.30 kW          | 3.38 kW           |
| COP Tj = 12°C                                       | 7.31             | 6.20              |
| Cdh Tj = +12 °C                                     | 0.900            | 0.900             |
| Pdh Tj = Tbiv                                       | 11.07 kW         | 9.40 kW           |
| COP Tj = Tbiv                                       | 2.40             | 1.82              |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.70 kW          | 4.96 kW           |

|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  | 1.93         | 1.17         |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  | 0.900        | 0.900        |
| WTOL                                                 | 20 °C        | 20 °C        |
| Poff                                                 | 30 W         | 30 W         |
| PTO                                                  | 20 W         | 20 W         |
| PSB                                                  | 0 W          | 0 W          |
| PCK                                                  | 0 W          | 0 W          |
| Pdh Tj = -15°C (if TOL                               | 11.07        | 9.40         |
| COP Tj = -15°C (if TOL                               | 2.40         | 1.82         |
| Cdh Tj = -15 °C                                      | 0.900        | 0.900        |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 4.84 kW      | 6.57 kW      |
| Consumo anual de energía QHE                         | 8430 kWh     | 9321 kWh     |

#### EN 12102-1 | Clima cálido

|                                       | Baja temperatura | Media temperatura |
|---------------------------------------|------------------|-------------------|
| Potencia sonora de la unidad interior | 43 dB(A)         | 43 dB(A)          |
| Potencia sonora de la unidad exterior | 68 dB(A)         | 68 dB(A)          |

#### EN 14825 | Clima cálido

|                                                     | Baja temperatura | Media temperatura |
|-----------------------------------------------------|------------------|-------------------|
| $\eta_s$                                            | 246 %            | 174 %             |
| Prated                                              | 13.00 kW         | 14.20 kW          |
| SCOP                                                | 6.19             | 4.41              |
| Tbiv                                                | 7 °C             | 7 °C              |
| TOL                                                 | 2 °C             | 2 °C              |
| Pdh Tj = +2°C                                       | 12.90 kW         | 13.21 kW          |
| COP Tj = +2°C                                       | 3.32             | 2.26              |
| Cdh Tj = +2 °C                                      | 0.900            | 0.900             |
| Pdh Tj = +7°C                                       | 8.28 kW          | 9.11 kW           |
| COP Tj = +7°C                                       | 5.28             | 3.89              |
| Cdh Tj = +7 °C                                      | 0.900            | 0.900             |
| Pdh Tj = 12°C                                       | 3.82 kW          | 3.99 kW           |
| COP Tj = 12°C                                       | 8.02             | 5.76              |
| Cdh Tj = +12 °C                                     | 0.900            | 0.900             |
| Pdh Tj = Tbiv                                       | 8.33 kW          | 9.11 kW           |
| COP Tj = Tbiv                                       | 5.31             | 3.89              |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.99 kW         | 13.21 kW          |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.32             | 2.26              |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900            | 0.900             |
| WTOL                                                | 65 °C            | 65 °C             |



|                                                      |              |              |
|------------------------------------------------------|--------------|--------------|
| Poff                                                 | 20 W         | 20 W         |
| PTO                                                  | 30 W         | 30 W         |
| PSB                                                  | 20 W         | 20 W         |
| PCK                                                  | 0 W          | 0 W          |
| Calentador suplementario: tipo de energía de entrada | Electricidad | Electricidad |
| Calentador suplementario: PSUP                       | 0.01 kW      | 0.96 kW      |
| Consumo anual de energía QHE                         | 2784 kWh     | 4288 kWh     |