# HMI

## Reversible air/water heat pump

**Cooling capacity 3,0 ÷ 14,5 kW – Heating capacity 4,0 ÷ 15,5 kW**

- **R32 ecological refrigerant gas.**
- **Production of hot water up to 60 °C**
- **Production of hot domestic water with external temperatures from -25 °C to 45 °C**
- **Quick & easy installation**
- **Hermetically sealed equipment**


EUROVENT LCP

## DESCRIPTION

Reversible outdoor heat pump for air-conditioning systems where, in addition to cooling rooms, high-temperature hot water is required for heating or for the production of domestic hot water. **For the production of DHW it is mandatory to combine it with the Aermec compatible domestic hot water storage tank.**

HMI is designed to meet the needs of both the new constructions market and the renovation market, **replacing or working alongside conventional boilers**.

It can be combined with low-temperature emission systems such as floor heating or fan coils, and also with more traditional radiators, **and comes supplied with the main hydraulic components needed, thereby facilitating the final installation**.

## FEATURES

### Operating limits

Working at full load up to -25 °C outside air temperature in winter, and up to 48 °C in summer. Maximum temperature of water produced in heating mode 60 °C.

— Refrigerant circuit with economizer.
— Inverter rotary compressor.
— DC brushless axial flow fans designed for aerodynamic optimisation, reducing the noise level whilst at the same time increasing the efficiency and air flow rate.
— Fitted with a electrical anti-freeze heater (in unit base) to avoid the formation of ice and encourage the drainage of condensate during heating operation.
— Electronic expansion valve.

### Main hydraulic components

— Inverter pump.
— Plate heat exchanger.
— Expansion tank
— Safety valve.
— Flow switch.
— Water filter supplied **(mandatory installation)**.

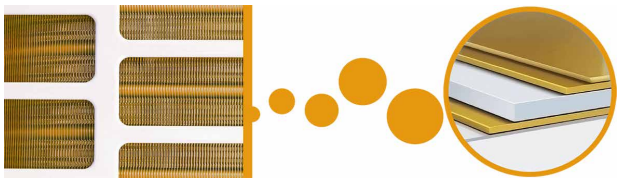
### Regulation

Adjustment via **a multi-language touch-screen control panel:**

— Management of a 3 way diverting valve (not supplied) for the production of domestic hot water.
— Management of a 2 way valve (not supplied) for shutting off part of the system.
— Weekly programming in time periods.
— **Auto-restart** function.
— Emergency operation (a supplementary heat source may be activated).
— **Quick hot water** function, for quickly heating domestic hot water.
— **Weather dependent mode** function for climate control.
— **Quiet** function for reduced noise operation (programmable with a timer).
— Condensation check
— When the anti-legionella cycle is activated (it's easily set via the control panel), the whole tank is heated once a week to a temperature (max. 70 °C) that weakens the bacteria responsible for the infection.

### Special golden fin coil

Unlike normal batteries, this special golden epoxy coating silicon free is able to protect the heat exchanger against rust and corrosion, in areas where the air has a high salt content.



## Smart APP Ewpe

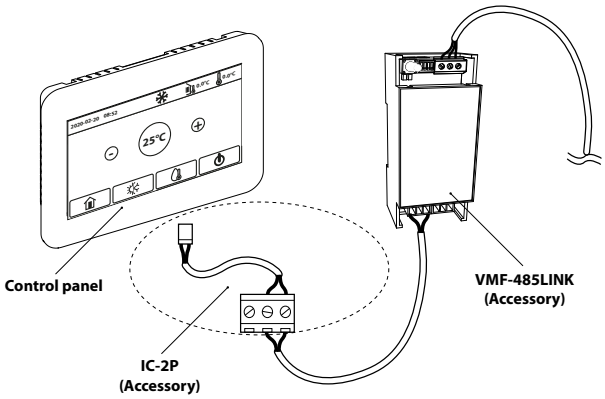
The system is equipped standard with the Wi-Fi module; using this module and the app for iOS and Android devices (available free on Apple Store and Google Play, the system can be directly controlled from a distance on your smartphone or tablet. Remote control is possible via Cloud, using a wireless router connected to the Internet.


## ACCESSORIES

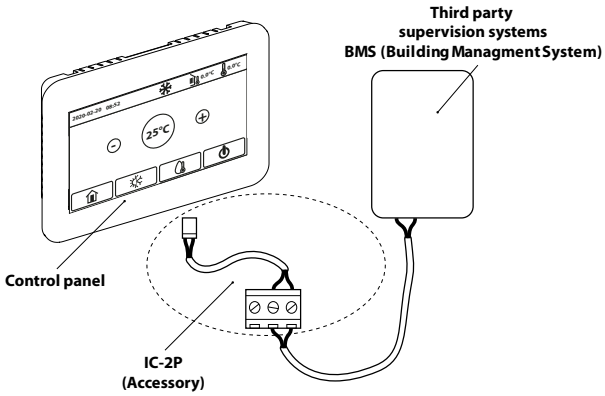
**HMICB15:** Connection cable for the control panel. Cable length 15m.
**IC-2P:** Connector for communication via Mod Bus or VMF -485LINK. Accessory compulsory if combined with VMF-485LINK, or for third party supervision systems.
**VMF-485LINK:** Expansion to interface the unit with the VMF communication protocol, making it possible to manage it from the VMF-E5 or VMF-E6 supervisors.
**VMF-E5:** Black recessed panel with backlit graphic LCD display and capacitive keyboard, it allows the centralised command/control of a complete hydronic system consisting of Fan coils: up to 64 fan coil zones consisting of 1 master + up to 5 slaves; Chiller/heat pump (accessory required for RS 485 interface), pumps: up to 12 configurable zone pumps; boiler: boiler hook-up management for hot water production; heat recovery units: up to 3 hook-ups per programmable recovery units based on time periods and/or by measuring air quality with the VMF-VOC accessory; domestic water module: complete management of the domestic hot water production through the control of: diverter valve/pump, integrated heating element, storage tank temperature sensor, anti-legionella circuit system. The panel is available in both white (VMF-E5B) and black (VMF-E5N).
**VMF-E6:** White flush-mounting panel with 4.3 inch colour touchscreen. For the centralised command/control of a complete hydronic/aeraulic system consisting of: fan coils (up to 64 fan coil zones formed of 1 master + max. 5 slaves), heat pumps ( up to 4), MZC accessories (up to 5) for the management of radiant panels (using a suitable number of VMF-REB accessories, up to 64 radiant panels associated with the fan coil zones and up to 32 radiant panels associated with the zones served by MZC), the complete management of DHW production, control of the RAS heater and/or the boiler, management of digital I/Os, control of heat recovery units and VOC probes (up to 4).
**LOGATW:** Diagnostic tool for air-water heat pumps.
**DHWT300S**: (220-240V~50Hz) DHW storage tank in enamelled steel. Single-phase power supply, tank capacity 300 litres with main and secondary coils and 3 kW back-up electric heater. Magnesium sacrificial anode. Indoor installation.

**For more information about VMF system, refer to the dedicated documentation.**

## Connection with VMF-485LINK




## Connection with third party supervision systems



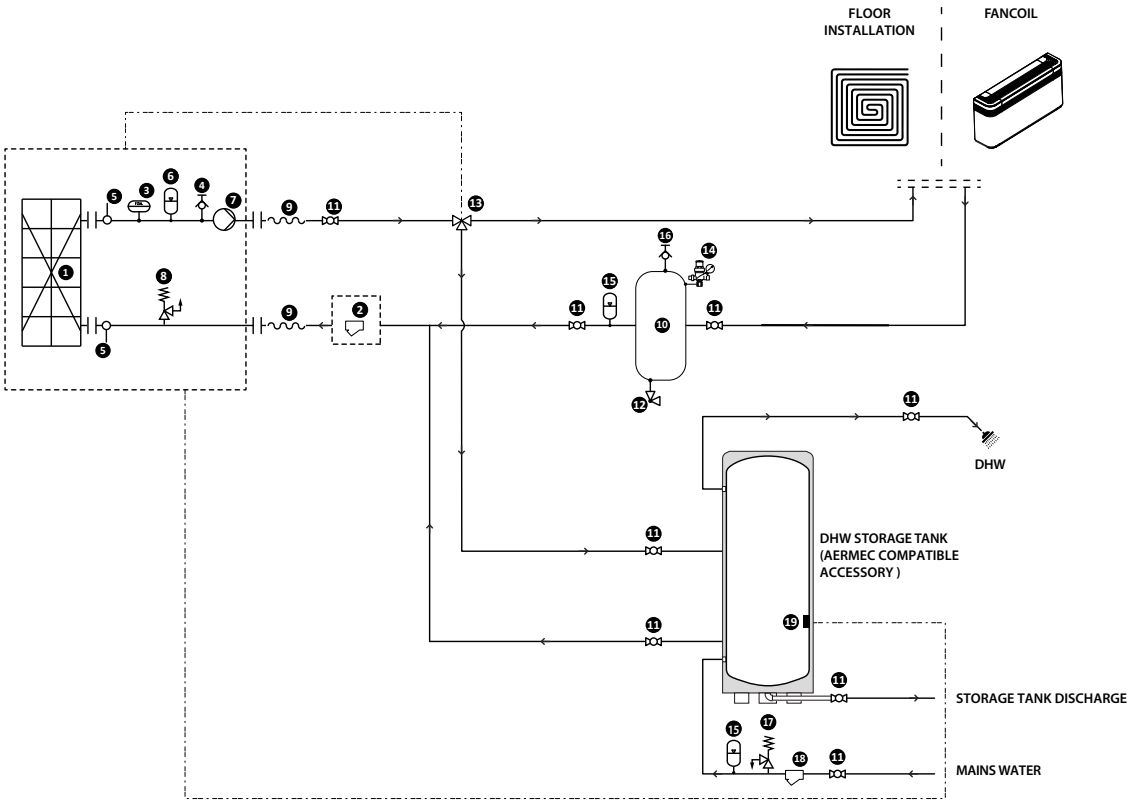

## Accessories compatibility

| Accessory | HMI060 | HMI080 | HMI100 | HMI100T | HMI120 | HMI120T | HMI140 | HMI140T | HMI160 | HMI160T |
|---|---|---|---|---|---|---|---|---|---|---|
| LOGATW | • | • | • | • | • | • | • | • | • | • |

| Accessory | HMI040 | HMI060 | HMI080 | HMI100 | HMI100T | HMI120 | HMI120T | HMI140 | HMI140T | HMI160 | HMI160T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HMICB15 | • | • | • | • | • | • | • | • | • | • | • |

| Accessory | HMI040 | HMI060 | HMI080 | HMI100 | HMI100T | HMI120 | HMI120T | HMI140 | HMI140T | HMI160 | HMI160T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IC-2P | • | • | • | • | • | • | • | • | • | • | • |
| VMF-485LINK | • | • | • | • | • | • | • | • | • | • | • |
| VMF-E5 | • | • | • | • | • | • | • | • | • | • | • |
| VMF-E6 | • | • | • | • | • | • | • | • | • | • | • |

## FLOOR SYSTEM + DHW




**COMPONENTS AS STANDARD**

1 Plate heat exchanger
2 Water filter (as standard)
3 Flow switch
4 Air drain valve
5 Water temperature sensor (IN/OUT)
6 Expansion vessel
7 Pump
8 Pressure relief valve

**HYDRAULIC COMPONENTS RECOMMENDED OUTSIDE THE UNIT (AT THE INSTALLER'S RESPONSIBILITY)**

9 Anti-vibration joints
10 System storage tank (recommended installation if the system water content is lower than that indicated in the technical manual).
11 Flow shut-off valves
12 Drain valve
13 3 way valve
14 Loading unit
15 Expansion vessel
16 Air drain valve
17 Pressure relief valve
18 Water filter
19 Water temperature probe DHW

**In case of a free-standing system, the bypass valve must be installed to ensure the circulation of a minimum amount of water to the system.**

## PERFORMANCE SPECIFICATIONS

### EUROVENT TECHNICAL DATA EN 14511:2022

| | | HMI040 | HMI060 | HMI080 | HMI100 | HMI100T | HMI120 |
|---|---|---|---|---|---|---|---|
| **Cooling performance 12 °C / 7 °C (1)** | | | | | | | |
| Cooling capacity | kW | 2,98 | 3,97 | 4,96 | 7,75 | 7,75 | 9,45 |
| Input power | kW | 0,94 | 1,29 | 1,61 | 2,48 | 2,64 | 3,20 |
| Input current | A | 4,7 | 6,4 | 7,9 | 12,0 | 4,6 | 15,0 |
| EER | W/W | 3,17 | 3,08 | 3,08 | 3,12 | 2,94 | 2,95 |
| Water flow rate | l/h | 504 | 673 | 842 | 1318 | 1318 | 1609 |
| Useful head | kPa | 74,0 | 74,0 | 74,0 | 69,0 | 69,0 | 64,0 |
| **Heating performance 40 °C / 45 °C (2)** | | | | | | | |
| Heating capacity | kW | 4,03 | 6,04 | 7,55 | 10,06 | 10,06 | 12,06 |
| Input power | kW | 1,00 | 1,58 | 2,00 | 2,70 | 2,70 | 3,48 |
| Input current | A | 5,1 | 7,8 | 9,7 | 13,0 | 4,7 | 17,0 |
| COP | W/W | 4,03 | 3,83 | 3,78 | 3,72 | 3,72 | 3,46 |
| Water flow rate | l/h | 710 | 1062 | 1326 | 1762 | 1762 | 2110 |
| Useful head | kPa | 74,0 | 73,0 | 71,0 | 60,0 | 60,0 | 50,0 |

| | | HMI120T | HMI140 | HMI140T | HMI160 | HMI160T |
|---|---|---|---|---|---|---|
| **Cooling performance 12 °C / 7 °C (1)** | | | | | | |
| Cooling capacity | kW | 9,45 | 11,94 | 11,94 | 12,95 | 12,95 |
| Input power | kW | 3,11 | 4,14 | 4,38 | 4,96 | 4,91 |
| Input current | A | 5,3 | 20,0 | 7,3 | 23,0 | 8,1 |
| EER | W/W | 3,04 | 2,88 | 2,73 | 2,61 | 2,64 |
| Water flow rate | l/h | 1609 | 2038 | 2038 | 2210 | 2210 |
| Useful head | kPa | 64,0 | 52,0 | 52,0 | 47,0 | 47,0 |
| **Heating performance 40 °C / 45 °C (2)** | | | | | | |
| Heating capacity | kW | 12,06 | 14,05 | 14,05 | 15,54 | 15,54 |
| Input power | kW | 3,48 | 4,18 | 4,18 | 4,70 | 4,70 |
| Input current | A | 5,9 | 20,0 | 6,9 | 22,0 | 7,7 |
| COP | W/W | 3,46 | 3,36 | 3,36 | 3,31 | 3,31 |
| Water flow rate | l/h | 2110 | 2456 | 2456 | 2714 | 2714 |
| Useful head | kPa | 50,0 | 39,0 | 39,0 | 29,0 | 29,0 |

(1) Data EN 14511:2022; Heat exchanger water (services side) 12°C / 7°C; outside air 35°C
(2) Data EN 14511:2022; System side water heat exchanger 40 °C / 45 °C; Outside air 7 °C d.b. / 6 °C w.b.

| | | HMI040 | HMI060 | HMI080 | HMI100 | HMI100T | HMI120 |
|---|---|---|---|---|---|---|---|
| **Cooling performance 23 °C / 18 °C (1)** | | | | | | | |
| Cooling capacity | kW | 3,77 | 5,76 | 6,75 | 8,75 | 8,75 | 10,94 |
| Input power | kW | 0,82 | 1,32 | 1,55 | 1,96 | 1,96 | 2,56 |
| Input current | A | 4,2 | 6,6 | 7,6 | 9,5 | 3,6 | 12,0 |
| EER | W/W | 4,60 | 4,36 | 4,36 | 4,46 | 4,46 | 4,27 |
| Water flow rate | l/h | 641 | 982 | 1152 | 1495 | 1495 | 1873 |
| Useful head | kPa | 74,0 | 74,0 | 73,0 | 66,0 | 66,0 | 57,0 |
| **Heating performance 30 °C / 35 °C (2)** | | | | | | | |
| Heating capacity | kW | 4,03 | 6,04 | 7,55 | 10,06 | 10,06 | 12,06 |
| Input power | kW | 0,79 | 1,20 | 1,63 | 2,17 | 2,17 | 2,64 |
| Input current | A | 4,1 | 6,0 | 8,0 | 11,0 | 3,9 | 13,0 |
| COP | W/W | 5,10 | 5,04 | 4,63 | 4,63 | 4,63 | 4,57 |
| Water flow rate | l/h | 708 | 1058 | 1321 | 1756 | 1756 | 2102 |
| Useful head | kPa | 74,0 | 73,0 | 71,0 | 60,0 | 60,0 | 50,0 |

| | | HMI120T | HMI140 | HMI140T | HMI160 | HMI160T |
|---|---|---|---|---|---|---|
| **Cooling performance 23 °C / 18 °C (1)** | | | | | | |
| Cooling capacity | kW | 10,94 | 12,44 | 12,44 | 14,45 | 14,45 |
| Input power | kW | 2,56 | 3,05 | 3,05 | 3,82 | 3,82 |
| Input current | A | 4,5 | 15,0 | 5,2 | 18,0 | 6,4 |
| EER | W/W | 4,27 | 4,08 | 4,08 | 3,78 | 3,78 |
| Water flow rate | l/h | 1873 | 2132 | 2132 | 2478 | 2478 |
| Useful head | kPa | 57,0 | 50,0 | 50,0 | 38,0 | 38,0 |
| **Heating performance 30 °C / 35 °C (2)** | | | | | | |
| Heating capacity | kW | 12,06 | 14,05 | 14,05 | 15,54 | 15,54 |
| Input power | kW | 2,64 | 3,22 | 3,22 | 3,60 | 3,60 |
| Input current | A | 4,6 | 15,0 | 5,5 | 17,0 | 6,1 |
| COP | W/W | 4,57 | 4,36 | 4,36 | 4,32 | 4,32 |
| Water flow rate | l/h | 2102 | 2447 | 2447 | 2704 | 2704 |
| Useful head | kPa | 50,0 | 39,0 | 39,0 | 30,0 | 30,0 |

(1) Data EN 14511:2022; System side water heat exchanger 23 °C/ 18 °C; External air 35 °C
(2) Data EN 14511:2022; System side water heat exchanger 30 °C / 35 °C; External air 7 °C d.b. / 6 °C w.b.

## GENERAL TECHNICAL DATA

| | | HMI040 | HMI060 | HMI080 | HMI100 | HMI100T | HMI120 |
|---|---|---|---|---|---|---|---|
| **Electric data** | | | | | | | |
| Rated current input (1) | A | 10,4 | 10,4 | 10,4 | 23,0 | 12,0 | 25,0 |
| **Compressor** | | | | | | | |
| Type | type | Rotary DC Inverter | | | | | |
| Number | no. | 1 | 1 | 1 | 1 | 1 | 1 |
| Circuits | no. | 1 | 1 | 1 | 1 | 1 | 1 |
| Refrigerant | type | R32 | | | | | |
| Potential global heating | | 675 $kgCO_2eq$ | | | | | |
| Total refrigerant charge (2) | kg | 0,90 | 0,90 | 0,90 | 2,20 | 2,20 | 2,20 |
| Oil | Type | FW68DA | | | | | |
| Total oil charge | kg | 0,5 | 0,5 | 0,5 | 1,1 | 1,1 | 1,1 |
| **System side heat exchanger** | | | | | | | |
| Type | type | Brazed plate | | | | | |
| Number | no. | 1 | 1 | 1 | 1 | 1 | 1 |
| Connections (in/out) | Type | Gas Maschio | | | | | |
| Size (in) | Ø | 1" | | | | | |
| Size (out) | Ø | 1" | | | | | |
| **Fan** | | | | | | | |
| Type | type | Axial | | | | | |
| Fan motor | type | Inverter | | | | | |
| Number | no. | 1 | 1 | 1 | 1 | 1 | 1 |
| Air flow rate | $m^3/h$ | 2600 | 2600 | 2600 | 4500 | 4500 | 4500 |
| **Sound data calculated in cooling mode (3)** | | | | | | | |
| Sound pressure level (1 m) | dB(A) | 51,0 | 52,0 | 53,0 | 56,0 | 56,0 | 56,0 |
| **Sound data calculated in heating mode (3)** | | | | | | | |
| Sound power level | dB(A) | 64,0 | 64,0 | 65,0 | 69,0 | 69,0 | 69,0 |
| Sound pressure level (1 m) | dB(A) | 50,0 | 50,0 | 51,0 | 54,0 | 54,0 | 54,0 |
| **Power supply** | | | | | | | |
| Power supply | | 220-240V ~ 50Hz | | | | 380-415V 3N ~ 50Hz | 220-240V ~ 50Hz |

| | | HMI120T | HMI140 | HMI140T | HMI160 | HMI160T |
|---|---|---|---|---|---|---|
| **Electric data** | | | | | | |
| Rated current input (1) | A | 12,0 | 29,0 | 12,0 | 29,0 | 12,0 |
| **Compressor** | | | | | | |
| Type | type | Rotary DC Inverter | | | | |
| Number | no. | 1 | 1 | 1 | 1 | 1 |
| Circuits | no. | 1 | 1 | 1 | 1 | 1 |
| Refrigerant | type | R32 | | | | |
| Potential global heating | | 675 $kgCO_2eq$ | | | | |
| Total refrigerant charge (2) | kg | 2,20 | 2,20 | 2,20 | 2,20 | 2,20 |
| Oil | Type | FW68DA | | | | |
| Total oil charge | kg | 1,1 | 1,1 | 1,1 | 1,1 | 1,1 |
| **System side heat exchanger** | | | | | | |
| Type | type | Brazed plate | | | | |
| Number | no. | 1 | 1 | 1 | 1 | 1 |
| Connections (in/out) | Type | Gas Maschio | | | | |
| Size (in) | Ø | 1" | | | | |
| Size (out) | Ø | 1" | | | | |
| **Fan** | | | | | | |
| Type | type | Axial | | | | |
| Fan motor | type | Inverter | | | | |
| Number | no. | 1 | 1 | 1 | 1 | 1 |
| Air flow rate | $m^3/h$ | 4500 | 4500 | 4500 | 4500 | 4500 |
| **Sound data calculated in cooling mode (3)** | | | | | | |
| Sound pressure level (1 m) | dB(A) | 56,0 | 57,0 | 57,0 | 59,0 | 59,0 |
| **Sound data calculated in heating mode (3)** | | | | | | |
| Sound power level | dB(A) | 69,0 | 70,0 | 70,0 | 72,0 | 72,0 |
| Sound pressure level (1 m) | dB(A) | 54,0 | 55,0 | 55,0 | 57,0 | 57,0 |
| **Power supply** | | | | | | |
| Power supply | | 380-415V 3N ~ 50Hz | 220-240V ~ 50Hz | 380-415V 3N ~ 50Hz | 220-240V ~ 50Hz | 380-415V 3N ~ 50Hz |

(1) The rated power input (rated current input) is the maximum input electrical power (maximum current input) from the system, in accordance with the Standards EN 60335-1 and EN 60335-2-40.
(2) The load indicated in the table is an estimated and preliminary value. The final value of the refrigerant load is indicated on the unit's technical label. For further information contact the office.
(3) Sound power: calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification. Sound pressure measured in free field (in compliance with UNI EN ISO 3744).

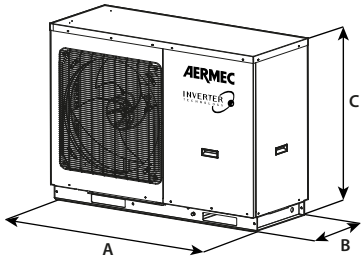
## ENERGY DATA

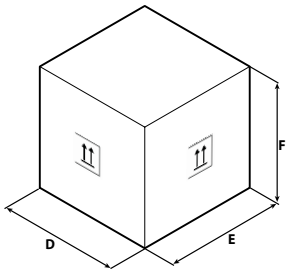
| | | HMI040 | HMI060 | HMI080 | HMI100 | HMI100T | HMI120 |
|---|---|---|---|---|---|---|---|
| **UE 811/2013 performance in average ambient conditions (average) - 35 °C - Pdesignh ≤ 70 kW (1)** | | | | | | | |
| Pdesignh | kW | 5 | 5 | 6 | 9 | 9 | 11 |
| ηsh | % | 185,00 | 185,00 | 183,00 | 176,00 | 176,00 | 175,00 |
| Efficiency energy class | | A+++ | A+++ | A+++ | A+++ | A+++ | A+++ |
| **UE 811/2013 performance in average ambient conditions (average) - 55 °C - Pdesignh ≤ 70 kW (2)** | | | | | | | |
| Pdesignh | kW | 6 | 6 | 7 | 8 | 8 | 10 |
| ηsh | % | 126,00 | 126,00 | 127,00 | 128,00 | 128,00 | 126,00 |
| Efficiency energy class | | A++ | A++ | A++ | A++ | A++ | A++ |

| | | HMI120T | HMI140 | HMI140T | HMI160 | HMI160T |
|---|---|---|---|---|---|---|
| **UE 811/2013 performance in average ambient conditions (average) - 35 °C - Pdesignh ≤ 70 kW (1)** | | | | | | |
| Pdesignh | kW | 11 | 11 | 11 | 13 | 13 |
| ηsh | % | 175,00 | 168,00 | 168,00 | 164,00 | 164,00 |
| Efficiency energy class | | A+++ | A++ | A++ | A++ | A++ |
| **UE 811/2013 performance in average ambient conditions (average) - 55 °C - Pdesignh ≤ 70 kW (2)** | | | | | | |
| Pdesignh | kW | 10 | 11 | 11 | 13 | 13 |
| ηsh | % | 126,00 | 125,00 | 125,00 | 125,00 | 125,00 |
| Efficiency energy class | | A++ | A++ | A++ | A++ | A++ |

(1) Efficiencies for low temperature applications (35 °C)
(2) Efficiencies for average temperature applications (55 °C)

## DIMENSIONS



Carton Box Example

| | | HMI040 | HMI060 | HMI080 | HMI100 | HMI100T | HMI120 |
|---|---|---|---|---|---|---|---|
| **Dimensions and weights** | | | | | | | |
| A | mm | 1150 | 1150 | 1150 | 1200 | 1200 | 1200 |
| B | mm | 345 | 345 | 345 | 460 | 460 | 460 |
| C | mm | 758 | 758 | 758 | 878 | 878 | 878 |
| D | mm | 1260 | 1260 | 1260 | 1295 | 1295 | 1295 |
| E | mm | 490 | 490 | 490 | 595 | 595 | 595 |
| F | mm | 900 | 900 | 900 | 1020 | 1020 | 1020 |
| Net weight | kg | 96,0 | 96,0 | 96,0 | 151,0 | 151,0 | 151,0 |
| Weight for transport | kg | 109,0 | 109,0 | 109,0 | 166,0 | 166,0 | 166,0 |

| | | HMI120T | HMI140 | HMI140T | HMI160 | HMI160T |
|---|---|---|---|---|---|---|
| **Dimensions and weights** | | | | | | |
| A | mm | 1200 | 1200 | 1200 | 1200 | 1200 |
| B | mm | 460 | 460 | 460 | 460 | 460 |
| C | mm | 878 | 878 | 878 | 878 | 878 |
| D | mm | 1295 | 1295 | 1295 | 1295 | 1295 |
| E | mm | 595 | 595 | 595 | 595 | 595 |
| F | mm | 1020 | 1020 | 1020 | 1020 | 1020 |
| Net weight | kg | 151,0 | 151,0 | 151,0 | 151,0 | 151,0 |
| Weight for transport | kg | 166,0 | 166,0 | 166,0 | 166,0 | 166,0 |



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