OMNIA H REVERSIBLE HEAT PUMP FOR SPLIT INSTALLATION WITH DC INVERTER COMPRESSOR

> GENERAL CHARACTERISTICS:
- The OMNIA range of heat pumps meets the requirements of space heating, space cooling and the production of domestic hot water for small and medium-sized residential and commercial plants.
- It consists of an inverter external unit available of different capacities associated with a hydronic indoor unit proposed in two variants with or without 3kW electrical integration (two-stage 1.5 + 1.5), both equipped as standard with integrated three-way valve for the production of domestic hot water through an external boiler. (*)
- The system is very versatile and can work at outdoor air temperatures down to -20°C and produce hot water up to 60°C with the aid of electrical integration.
- Particularly suitable for use in radiant systems, fan coil units, radiators and for indirect production of domestic hot water (DHW) via an external boiler (not supplied).
- Split refrigerant circuit to avoid risks of freezing in particularly for rigid outdoor applications.
- The user interface consists of a digital remote controller (up to 50 m from the indoor unit) equipped with a large display and simple setting commands.

> EXTERNAL UNIT CHARACTERISTICS OMNIA H-UE:
- Reduced starting current thanks to inverter technology
- Compressor with twin rotary DC INVERTER motor positioned on rubber anti-vibration mounts and wrapped by a double layer of sound-absorbing material to reduce vibrations and noise
- The compressor is also equipped with crankcase oil heater
- Bi-flow electronic expansion valve
- 4-way valve
- Axial fans with DC brushless motor complete with safety protection grilles
- Y-shaped water filter supplied as standard (installed by the installer)
- Safety valve
- Water pressure gauge
- Automatic air vent
- Low consumption system circulator with DC brushless motor
- Brazed stainless steel water / gas plate heat exchanger
- Hydraulic unit with 3-way diverter valve for DHW production supplied as standard
- Available with 3 kW electrical integration (OMNIA H-UI) or without integration (OMNIA H-UI) (*)

> INTERNAL UNIT CHARACTERISTICS OMNIA H-UI:
- Finned coil consisting of copper pipes and aluminum fins - External air temperature probe already installed on the unit
- DHW tank
- Axial fans with DC brushless motor complete with safety protection grilles
- 4-way valve
- Bi-flow electronic expansion valve
- The compressor is also equipped with crankcase oil heater
- Compressor with twin rotary DC INVERTER motor positioned on rubber anti-vibration mounts and wrapped by a double layer of sound-absorbing material to reduce vibrations and noise
- Reduced starting current thanks to Inverter technology
- Water temperature sensor supplied as standard (installed by the installer)
- Water pressure gauge
- Automatic air vent
- Low consumption system circulator with DC brushless motor
- Brazed stainless steel water / gas plate heat exchanger
- Hydraulic unit with 3-way diverter valve for DHW production supplied as standard
- Available with 3 kW electrical integration (OMNIA H-UI) or without integration (OMNIA H-UI) (*)

> THE CONTROL SYSTEM
- The user interface consists of a wired remote controller (up to 50 m from the unit) which allows the management of:
  - HEATING AND COOLING SYSTEM, where the heat pump is the sole energy source. The unit, if activated in heat or cool mode, works by modulating the frequency of the compressor to maintain the temperature of the produced water to the setpoint value set by the controller. Through parameter you can use the remote controller (eg. For single-zone systems) as a room thermostat.
  - DOMESTIC HOT WATER PRODUCTION (DHW). The unit is activated in a heat mode to keep the temperature of a DHW tank (not supplied) to the setpoint value. It requires a 3-way diverter valve (not supplied) and a temperature sensor (T5 probe, L = 10m, provided) to be inserted into one well of the DHW tank.
  - ADDITIONAL SOURCES OF ENERGY (boiler or electrical heater). Depending on the parameters set, these sources can be activated in integration or replacement of the heat pump when the system is used for space heating or for DHW production. The controller also activate additional energy sources in case the heat pump is not working.
  - ELECTRIC HEATER OF THE DHW TANK. The controller can manage the activation of an electric heater inserted in the DHW tank as a heat integration to the heat pump, for disinfecting function, or as a source of energy reserve for DHW production in case the heat pump is not working.
  - FAST DHW. This function can be activated manually and it allows you to give priority to DHW production by activating all energy sources (heat pumps, electric heaters, boiler) available for DHW heating to bring in the shortest time possible the DHW tank to the setpoint required.
  - DISINFECT FUNCTION. You can set from the controller weekly cycles for disinfecting the water in the DHW tank. In order to successfully execute these cycles, the heat pump must be integrated with DHW electric heater or boiler.
  - SILENT MODE. If active it allows a reduction of the maximum frequency of the compressor and of the fan speed in order to reduce the noise emitted and the power absorbed by the unit. There are 2 levels of silencing. Through time programming, you can define for 2 daily time bands the desired silent level (eg. during the night).
  - ON / OFF. Using an external contact. The unit can be turned on and off (eg. thermostat / remote switch) via an external contact in this case the unit will operate in the mode set by the controller keyboard.
  - HEAT / COOL via external contacts. The unit can be activated in heat or cool mode via two external contacts (eg. thermostat that manages the heat and cool demand / remote switch).
  - ECO MODE. Possibility to define in heat mode a time band within which the heat pump works with a sliding setpoint defined by the chosen climatic curve. 8 climatic curves are available for low temperature systems (radiant floor) and 8 climatic curves for fan coil or radiator systems
  - WEEKLY SCHEDULING. It allows a scheduling of 6 time bands for each day of the week: for each time band it is possible to define the mode (COOL / HEAT / DHW) and the required setpoint.
  - Detailed alarms diagnostics with alarms history.
  - Display of all operating parameters.
**TECHNICAL DATA**

**GENERAL DATA**

<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>6</th>
<th>8</th>
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* SWL – Sound power levels, with reference to 1x10^-12 W.

The Total sound power level in dB(A) measured in compliance with ISO 9614 standards.

**TECHNICAL DATA**

**PERFORMANCES**

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**BASIC SYSTEM**

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<th>OMNIA H 04E</th>
<th>OMNIA H 06E</th>
<th>OMNIA H 08E</th>
<th>OMNIA H 10E</th>
<th>OMNIA H 12E</th>
<th>OMNIA H 16E</th>
<th>OMNIA H 12TE</th>
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**SYSTEM WITH ELECTRICAL INTEGRATION (3 KW)**

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<th>OMNIA H3 04E</th>
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**SYSTEM WITH ELECTRICAL INTEGRATION (6 KW)**

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<tr>
<th>OMNIA H6 12TE</th>
<th>OMNIA H6 16TE</th>
</tr>
</thead>
</table>

The values are referred to units without options and accessories.

Data declared according to EN 14511:

EER (Energy Efficiency Ratio) = ratio of the total cooling capacity to the effective power input of the unit

COP (Coefficient Of Performance) = ratio of the total heating capacity to the effective power input of the unit

A35W7 – source: air in 35°C d.b. / plant: water in 12°C out 7°C

A35W18 – source: air in 35°C d.b. / plant: water in 12°C out 7°C

A7W35 – source: air in 7°C d.b. 6°C w.b. / plant: water in 30°C out 35°C

The Total Sound Power in dB(A) the only binding acoustic specification.
**E.U. DIMENSIONS**

**mod. 4 - 6**
NET WEIGHT: 60 kg

**mod. 8**
NET WEIGHT: 76 kg

**mod. 10 - 12 - 16 - 12T - 16T**
NET WEIGHT (mod. 10-12-16): 99 kg
NET WEIGHT (mod. 12T-16T): 115 kg

**NOTE FOR DHW MODE:** leaving water temperature is the temperature of the water produced by the unit and not the DHW temperature available to the user; the DHW temperature is in fact a function of this parameter and of the coil surface of the DHW boiler.

**OPERATING LIMITS**

**HEATING MODE**

- Leaking water temperature °C
- Outside temperature °C

**DHW MODE**

- Leaking water temperature °C
- Outside temperature °C

**COOLING MODE**

- Leaking water temperature °C
- Outside temperature °C

**MINIMUM OPERATING AREA**

**INTERNAL UNIT**

**EXTERNAL UNIT**
INTERNAL UNIT DIMENSIONS

> LEGENDA
10  System delivery 3/4”
11  System return 3/4”
12  Filling connection 1/2”
14  Safety valve
27  Electrical booster
32  Circulating pump
36  Automatic air vent
56  Expansion tank
74  System filling faucet
95  Diverter valve
209  Hot water tank delivery 3/4”
210  Hot water tank return 3/4”
241  Automatic bypass (inside the pump unit)
L - G  Refrigerant gas connection
PDW  Water differential pressure switch
T1  Plant delivery water temperature probe (installed as standard into the unit)
TW_in  Plate exchanger inlet water temperature probe
TW_out  Plate exchanger outlet water temperature probe

HYDRAULIC SCHEME

INTERNAL UNIT WITH ELECTRICAL INTEGRATION (3 kW)