

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 twostage (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 particular for rigid outdoor applications.
- The user interface consists of a digital remote controller (wired max 50m 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
- Finned coil consisting of copper pipes and aluminum fins - External air temperature probe already installed on the unit - DHW tank water temperature sensor supplied as standard (installed by the installer)

> INTERNAL UNIT CHARACTERISTICS OMNIA H-UI:

- Available with 3 kW electrical integration (OMNIA HI-UI) or without integration (OMNIA H-UI)
- Hydraulic unit with 3-way diverter valve for DHW production supplied as standard
- Brazed stainless steel water / gas plate heat exchanger
- Low consumption system circulator with DC brushless motor
- Automatic air vent
- Water differential pressure switch
- Water pressure gauge
- Expansion vessel
- Safety valve
- Y-shaped water filter supplied as standard (installed by the installer)

> 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 heatt 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		4		6		8		10		12		16	
Efficiency capacity / Season efficiency medium temperature (water 55°C)	(Class G - A++)	A++	127	A++	130	A++	125	A++	127	A++	127	A++	128
Efficiency capacity / Season efficiency medium temperature (water 35°C)	(Class G - A++)	A++	183	A++	185	A++	170	A++	177	A++	175	A++	158
Power supply	V-ph-Hz	230-1-50											
Compressor type	-	Twin Rotary											
N° compressors / N° refrigerant circuits	n°	1/1											
Plant side heat exchanger type	-	brazed stainless steel plate											
Source side heat exchanger type	-	finned coil											
Fans type	-	brushless DC											
N° fans	n°	1						2					
Liquid connections diameter	∅	9,5											
Gas connections diameter	∅	15,9											
SWL - Sound power level*	dB(A)	62	66	69	67	68	72						
Expansion tank volume	l	10						10					
Water safety valve set	bar	3											
Electrical integration (optional)	q.ty/kW	2/1,5											
SWL - Sound power level*		42						45					

* SWL = Sound power levels, with reference to 1×10^{-12} W.

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

The Total Sound Power in dB(A) the only binding acoustic specification.

PERFORMANCES		4	6	8	10	12	16
A7W35	Heating capacity	W	4,10	6,10	8,00	10,00	15,50
	Power input	W	0,82	1,29	1,73	2,17	3,82
	COP	W/W	5,00	4,73	4,62	4,61	4,06
A7W45	Heating capacity	W	4,01	5,96	7,34	10,12	16,05
	Power input	W	1,13	1,68	2,13	2,93	5,03
	COP	W/W	3,55	3,55	3,45	3,45	3,19
A35W18	Cooling capacity	W	4,10	6,20	8,00	10,50	13,80
	Power input	W	0,84	1,43	1,93	2,30	3,77
	EER	W/W	4,88	4,34	4,15	4,57	3,66
A35W7	Cooling capacity	W	4,12	6,15	6,44	9,39	12,85
	Power input	W	1,30	2,08	2,24	3,26	5,39
	EER	W/W	3,17	2,96	2,88	2,88	2,38
BASIC SYSTEM		OMNIA H 04	OMNIA H 06	OMNIA H 08	OMNIA H 10	OMNIA H 12	OMNIA H 16
CODE EU + IU		0XHO4AWA	0XHO6AWA	0XHO8AWA	0XHOAAWA	0XHOCAWA	0XHOGAWA
SYSTEM WITH ELECTRICAL INTEGRATION (3 KW)		OMNIA HI 04	OMNIA HI 06	OMNIA HI 08	OMNIA HI 10	OMNIA HI 12	OMNIA HI 16
CODE EU + IU		0XHO4BWA	0XHO6BWA	0XHO8BWA	0XHOABWA	0XHOCBWA	0XHOGBWA

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

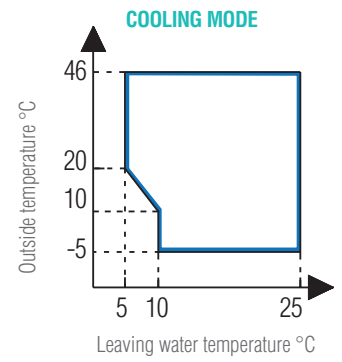
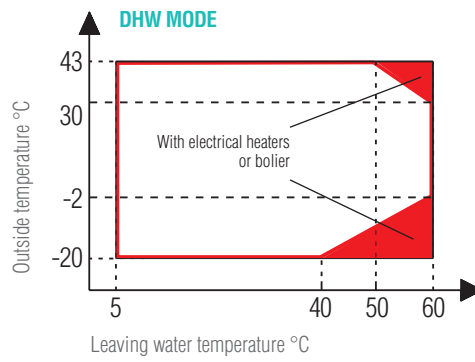
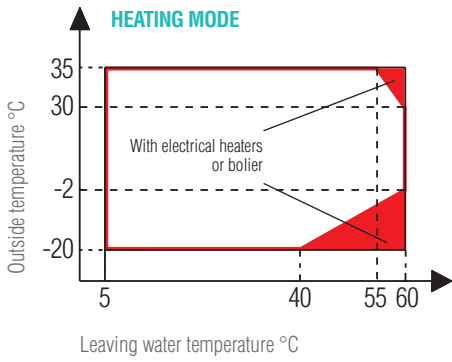
A35W7 = source : air in 35°C d.b. / plant : water in 12°C out 7°C

A35W18 = source : air in 35°C d.b. / plant : water in 23°C out 18°C

A7W45 = source : air in 7°C d.b. 6°C w.b. / plant : water in 40°C out 45°C

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

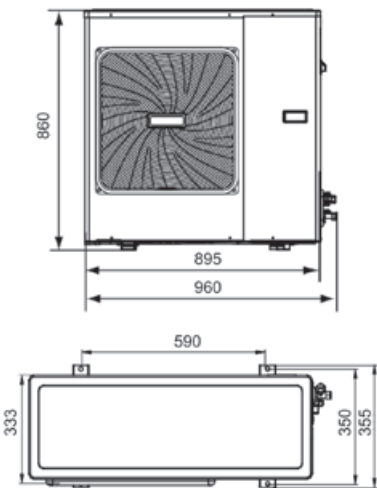
OPERATING LIMITS



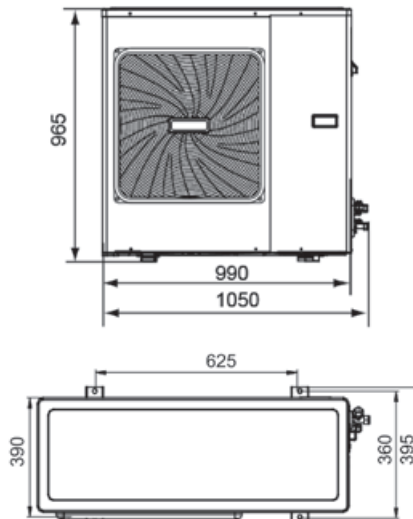
NOTE FOR DHW MODE: leaving water temperature is the temperature of the water produced by the unit and not the DHW temperature available to the user; the DHW temperature is in fact a function of this parameter and of the coil surface of the DHW boiler.

E.U. DIMENSIONS

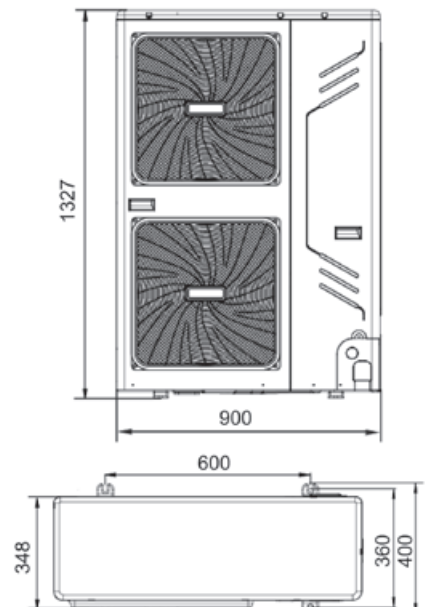
mod. 4 - 6
NET WEIGHT: 60 kg



mod. 8
NET WEIGHT: 76 kg

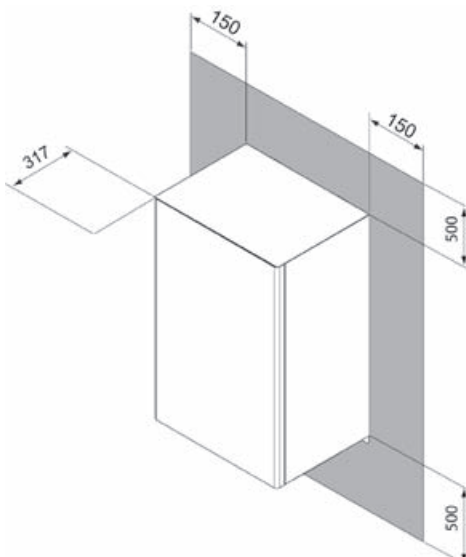


mod. 10 - 12 - 16
NET WEIGHT: 99 kg

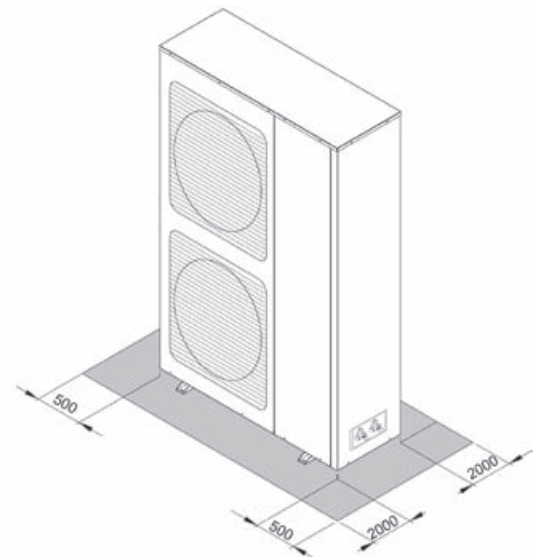


MINIMUM OPERATING AREA

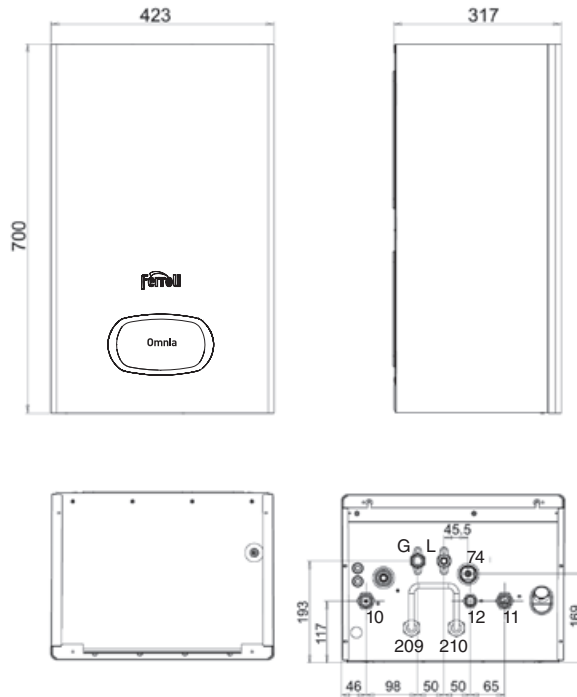
INTERNAL UNIT



EXTERNAL UNIT



INTERNAL UNIT DIMENSIONS

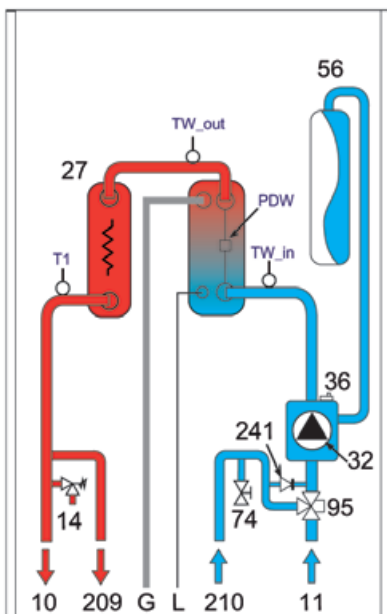


> LEGENDA

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

HYDRAULIC SCHEME

INTERNAL UNIT WITH ELECTRICAL INTEGRATION (3 kW)



INTERNAL UNIT WITHOUT ELECTRICAL INTEGRATION

