

OMNIA S 3.2 SPLIT SYSTEM REVERSIBLE HEAT PUMP WITH DC INVERTER COMPRESSOR



NEW



> MAIN FEATURES:

New range of **Full Inverter** split system heat pumps with **R32** eco-friendly refrigerant.

The range consists of an Outdoor Unit housing the most important elements of the refrigeration circuit, from the compressor to the air-side heat exchanger, which will be connected with the refrigerant pipes to the Indoor Unit.

The Indoor Unit on the other hand houses the main components of the heat source's water circuit, with the pre-installation of all essential parts such as the high-performance circulator and expansion tank, to allow safe, fast and practical installation.

It is supplied standard with an electrical integration of 3kW for single phase models, and 6kW for three-phase models. Installing a split system also offers the undeniable advantage of avoiding the problem of freezing, even at the lowest temperatures (**up to -25°C**) and in the absence of electricity (the only real problem with anti-freeze heating elements in outdoor packaged machines).

All units satisfy the most extreme winter/summer heating/cooling needs with the capacity to produce hot water up to 65°C, making them ideal for practically all heating systems, whether radiant, with fan coil units or radiators, including the production of domestic hot water (DHW) through an external water cylinder.

Ferroli's new **Full Inverter design** uses DC inverter modulation on the machine's 3 main power-consuming components, i.e., the compressor, fan, and pump. This allows modulation of the distributed power by finely tracking the heat load, thus allowing very high energy efficiency and important power savings for the end user.

Moreover, Ferroli's Full Inverter design reduces the inrush current, avoiding power grid fluctuations and thus improving the mission time of components. **The noise levels are among the lowest in the market**, and it can be used either as a stand-alone or integrated with other heat sources, for example a boiler.

All units are supplied with a temperature probe for a DHW cylinder (not supplied, to be assembled by the installer) and an outdoor air temperature probe (pre-assembled on the Outdoor Unit) for temperature regulation in both heating and cooling.

> THE CONTROL SYSTEM

The user interface comes with Capsense technology with a 2.8" graphic display, ensuring easy and extremely simple user interaction with the product. The on-board machine interface easily communicates with the new smart **Connect CRP** systems, which can manage **up to 8 thermostats (7 Connect CRP Zones + 1 Connect CRP with all programmable thermostat functions)** divided into 2 zones, one direct and one mixed. The main control functions include:

MODBUS PROTOCOL for smart control via an external BMS.

HEATING AND COOLING with the heat pump as the only heat source.

Full Inverter modulation means the setpoints can be maintained in both heating and cooling, thus optimising consumption for the user. The temperature curve setting (standard) can improve comfort and further reduce consumption.

DOMESTIC HOT WATER PRODUCTION (DHW). When the DHW Temperature probe (to be installed on the external cylinder, not supplied with the machine) falls below a certain value, the machine enters DHW mode, that is, Heating with dedicated Setpoint. 3-way diverter valve supplied standard.

SMART GRID INPUT FROM PHOTOVOLTAIC SYSTEM AND GRID. The unit is equipped with 2 digital contacts to manage an input from a photovoltaic system and the grid. These are the famous Smart Grid contacts used to optimise consumption and save on bills. The first contact (EVU) tells the heat pump when the photovoltaic system is producing: the heat pump increases the DHW setpoint with the aim of improving self-consumption (where the user has the best earnings).

The contact toward the grid (SG) warns the heat pump when the electrical power costs more (if allowed by the operator), which will then be limited in accordance with customised settings. We invite you to read the manuals for more details.

REMOTE CONTROL VIA APP. Available for iOS and Android using the Connect CRP (optional) DHW **CYLINDER HEATING ELEMENT**. In DHW mode, the unit manages a heating element inserted in the cylinder as an integration, anti-legionella function, or reserve source in case of a failure.

FAST DHW. A function making it possible to give priority to DHW production by activating all available power sources, to bring the DHW cylinder to the setpoint in the shortest possible time.

ANTI-LEGIONELLA FUNCTION. Allows the setting of weekly anti-legionella cycles. In order for it work effectively, a heating element must be installed on the DHW cylinder or integrated boiler.

SILENT MODE. When activated, reduces the maximum compressor frequency and fan speed so as to significantly reduce noise levels. Available with 2 different levels and programmable in daily time slots (for example at night).

ON/OFF from external contact. The unit can be activated and deactivated via an external contact (for example a zone thermostat): in this case the operating mode will follow the controller settings.

WARM/COOL from external contacts. The unit can receive an external summer/winter switching signal (for example from a zone thermostat).

ECO. Dedicated setpoint for "Eco" mode. Settable with a daily time slot.

WEEKLY HOURLY PROGRAMMING. The Connect CRP (optional) allows differentiated hourly programming for each day of the week, defining the mode (COOL/WARM/DHW) and operating setpoints for each time slot.

ANTI-FREEZE PROTECTION. Heat pump operation in heating mode with the circulator set to ON and eventually an electric booster.

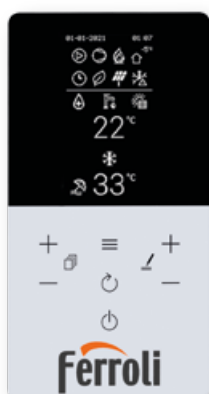
R32

New Heat Pump in R32, eco-friendly refrigerant with low GWP. Up to 75% less CO2 equivalent emissions in the environment with respect to machines in R410a

FACTORY MADE

Product suitable for Factory Made Hybrid Systems

2.8" GRAPHIC INTERFACE WITH CAPSENSE TECHNOLOGY



OUTDOOR UNIT		4	6	8	10	12	14	16	12T	14T	16T	
Power supply	V-ph-Hz	220/240-1-50							380/415-3-50			
No. compressors / No. refrigeration circuits	no.	1 x DC Twin Rotary / 1 circuit										
Exchanger type	-	finned coil										
No. and type of fans	-	1 x DC axial										
Refrigerant type / GWP	-	R32 / GWP 675										
Factory refrigerant charge ***	kg	1,5		1,65			1,84					
Refrigeration lines (max length/vert. lift) ***	m	30 / 20										
SWL - Sound power level in heating *	A7W35	dB(A)	55	58	59	60	65	65	69	65	65	69
	Max	dB(A)	60	61	61	62	65	65	69	65	65	69
	Sil. 1 / Sil. 2	dB(A)	56 / 53	56 / 53	57 / 55	58 / 55	62 / 56	62 / 56	63 / 56	62 / 56	62 / 56	63 / 56
SWL - Sound power level in cooling *	A35W18	dB(A)	56	58	60	60	64	64	69	64	64	69
	Max	dB(A)	60	61	61	62	65	65	69	65	65	69
	Sil. 1 / Sil. 2	dB(A)	55 / 52	57 / 54	57 / 54	58 / 54	62 / 56	62 / 56	63 / 56	62 / 56	62 / 56	63 / 56
Maximum input current	A	12	14	16	17	25	26	27	10	11	12	
Net weight	kg	58		77			96			112		



INDOOR UNIT		10	16	16T
Power supply	V-ph-Hz	220/240-1-50		380/415-3-50
Exchanger type	-	Brazen stainless steel plate type		
System expansion tank volume	l	10		
System water safety valve calibration	bar	3		
Minimum system water content	l	40		
Internal backup heater	kW	3		6
SWL - Sound power level indoor unit	dB(A)	42		43
Maximum input current	A	14		10
Net weight	kg	34		37



* SWL = Sound power level, considering 1x10-12 W with unit operating in conditions: **A7W35** = source: air in 7°C d.b. 6°C w.b. / system: water in 30°C out 35°C. **A35W18** = source: air in 35°C d.b. / system: water in 23°C out 18°C. **Max** = at maximum conditions in heating/cooling mode. **Sil. 1** = if silent level 1 active in heating / cooling mode. **Sil. 2** = if silent level 2 active in heating / cooling mode. The Total sound power level in dB(A) is measured in accordance with standard ISO 9614.
** For combination with outdoor units mod. 4-6, an adapter from 3/8" SAE to 1/4" SAE is supplied for the liquid line Ø 6.35. *** The factory refrigerant charge allows a maximum refrigeration line length of 15 metres. It is possible to reach 30 metres by integrating the charge during installation.

PERFORMANCE DATA		4	6	8	10	12	14	16	12T	14T	16T	
A7W35	Nominal heat output	kW	4.20	6.35	8.40	10.0	12.1	14.5	15.9	12.1	14.5	15.9
	Nominal input power	kW	0.82	1.28	1.63	2.02	2.44	3.15	3.53	2.44	3.15	3.53
	COP	W/W	5.10	4.95	5.15	4.95	4.95	4.60	4.50	4.95	4.60	4.50
	Water flow rate	l/h	722	1092	1445	1720	2081	2494	2735	2081	2494	2735
	External static pressure	kPa	81	76	61	47	58	42	34	58	42	34
A7W45	Nominal heat output	kW	4.30	6.30	8.30	10.0	12.3	14.1	16.0	12.3	14.1	16.0
	Nominal input power	kW	1.13	1.70	2.16	2.67	3.32	3.92	4.57	3.32	3.92	4.57
	COP	W/W	3.80	3.70	3.85	3.75	3.70	3.60	3.50	3.70	3.60	3.50
	Water flow rate	l/h	740	1084	1428	1720	2116	2425	2752	2116	2425	2752
	External static pressure	kPa	81	76	62	47	57	45	33	57	45	33
A35W18	Designed cooling capacity	kW	4.50	6.50	8.30	9.90	12.0	12.9	13.6	12.0	12.9	13.6
	Nominal input power	kW	0.82	1.35	1.64	2.18	3.04	3.49	3.77	3.04	3.49	3.77
	EER	W/W	5.50	4.80	5.05	4.55	3.95	3.70	3.61	3.95	3.70	3.61
	Water flow rate	l/h	774	1118	1428	1703	2064	2322	2563	2064	2322	2563
	External static pressure	kPa	80	75	62	48	58	49	40	59	49	40
A35W7	Designed cooling capacity	kW	4.70	6.50	7.45	8.20	11.5	12.4	14.0	11.5	12.4	14.0
	Nominal input power	kW	1.36	2.17	2.22	2.52	4.18	4.96	5.60	4.18	4.96	5.60
	EER	W/W	3.45	3.00	3.35	3.25	2.75	2.50	2.50	2.75	2.50	2.50
	Water flow rate	l/h	808	1118	1281	1410	1978	2133	2408	1978	2133	2408
	External static pressure	kPa	80	75	68	63	61	56	46	61	56	46
CODE		OXHK4SWA	OXHK6SWA	OXHK8SWA	OXHKASWA	OXHKCSWA	OXHKESWA	OXHKGSWA	OXHLCSWA	OXHLESWA	OXHLGSWA	

The values refer to a unit without any optional or accessories. Data declared pursuant to **EN 14511**: **EER** (Energy Efficiency Ratio) = ratio of cooling power to input power. **COP** (Coefficient Of Performance) ratio of heat output to input power. **A7W35** = source: air in 7°C d.b. 6°C w.b. / system: water in 30°C out 35°C. **A7W45** = source: air in 7°C d.b. 6°C w.b. / system: water in 40°C out 45°C. **A35W18** = source: air in 35°C d.b. / system: water in 23°C out 18°C. **A35W7** = source: air in 35°C d.b. / system: water in 12°C out 7°C.

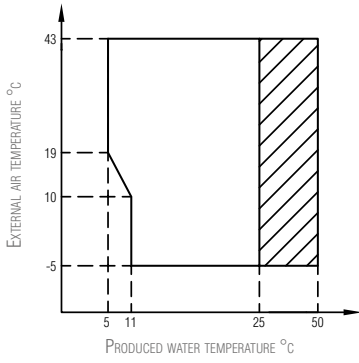
ACCESSORIES

	DESCRIPTION	CODE
	Connect CRP. Evolutionary remote control with programmable thermostat function. Can manage up to 7 additional CRP ZONES in 2 separate zones. Also accessible via App	013054XA
	Connect CRP Zones. Zone thermostat with RF connection to Connect CRP. Wall-mounted or table-top installation, powered with 2 x AA batteries	013055XA

	DESCRIPTION	CODE
	System flow temperature probe or for hybrid solar/hybrid system integration	2CP000NF
	Rubber vibration dampers for outdoor unit	2CP000ZF

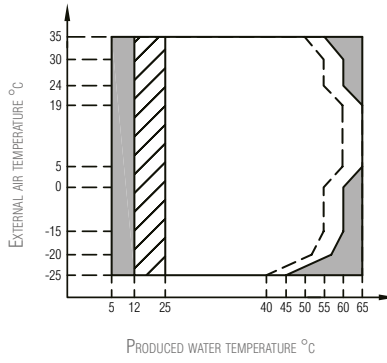
OPERATING LIMITS

COOL MODE





 Operating range with heat pump with possible limitation and protection

WARM MODE

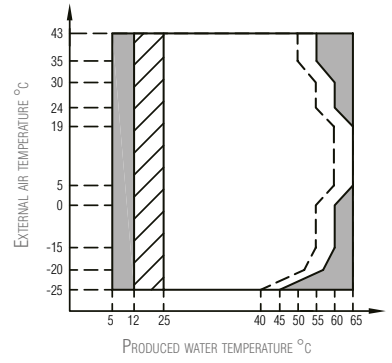



 Operating range with heat pump with possible limitation and protection


 With IBH (internal backup heater) installed


 Maximum inlet water temperature for heat pump operation

DHW MODE



 Operating range with heat pump with possible limitation and protection

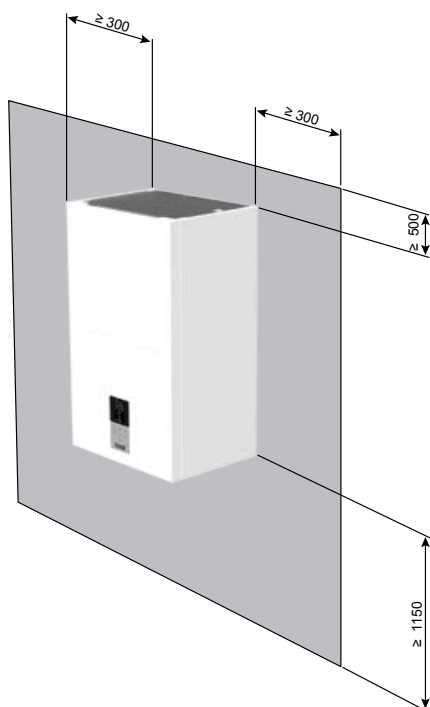
 With IBH (internal backup heater) installed

 Maximum inlet water temperature for heat pump operation

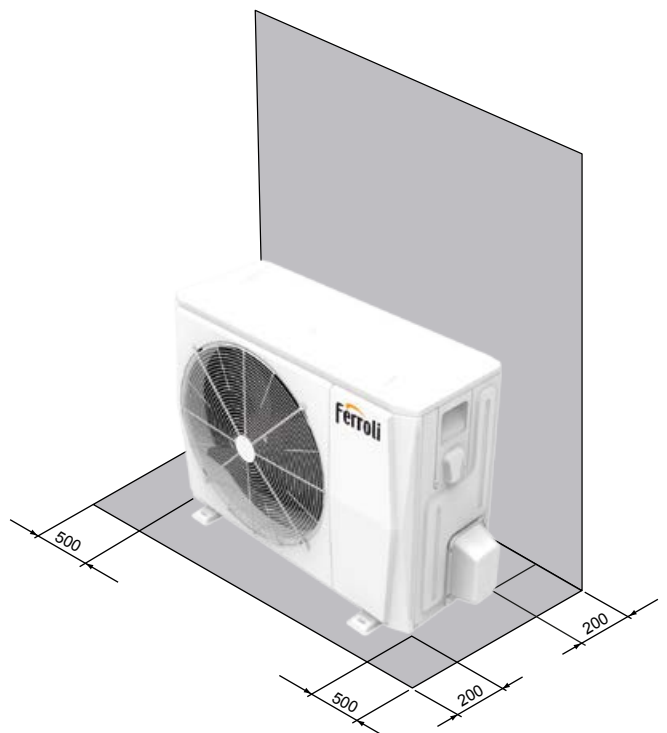
NOTE DHW MODE: produced water temperature implies the temperature of the water produced by the unit and not the temperature of the DHW available to the user, which is a function of this parameter and of the surface area of the coil of any DHW cylinder.

MINIMUM CLEARANCES (in mm)

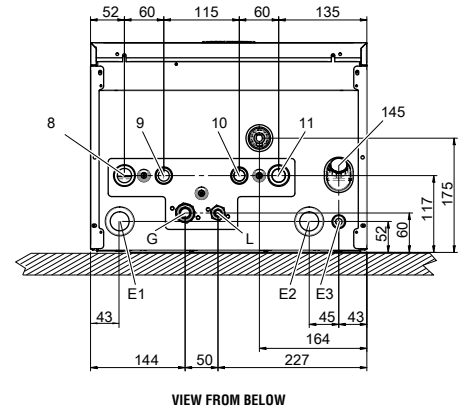
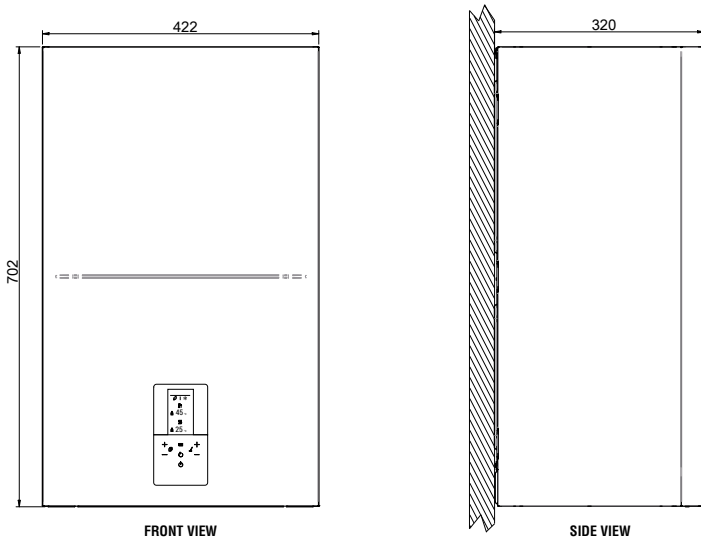
INDOOR UNIT



OUTDOOR UNIT



INDOOR UNIT FOOTPRINT (in mm)



VIEW FROM BELOW

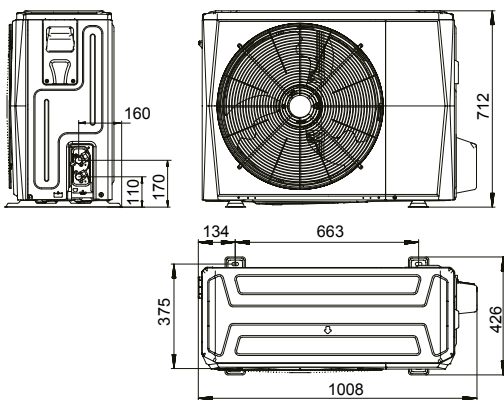
> KEY

- 8 System outlet Ø 1"
- 9 DHW outlet Ø 3/4"
- 10 DHW inlet Ø 3/4"
- 11 System inlet Ø 1"
- 145 Water pressure gauge
- G Gas line Ø 15.88 (5/8")
- L* Liquid line Ø 9.52 (3/8")
- E1 Cable gland for signal cables
- E2 Cable gland for power cables
- E3 Power cable with cable gland

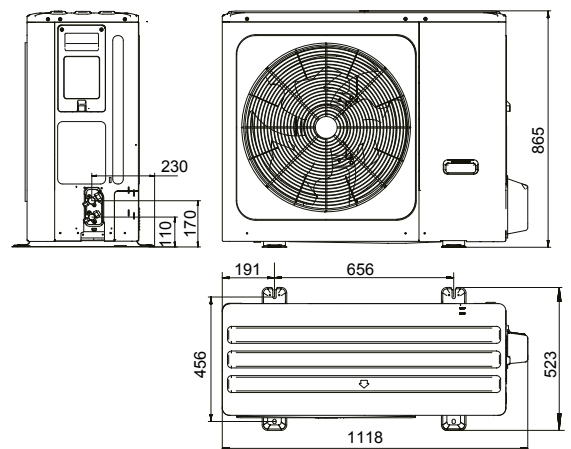
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OUTDOOR UNIT FOOTPRINT (in mm)

mod. 4 - 6



mod. 8 - 10 - 12 - 12T - 14 - 14T - 16 - 16T



MODELS		4	6	8	10	12	14	16	12T	14T	16T	
Packaging (WxHxD)	mm	1065x800x485					1190x970x560					
Packaging weight	kg	65		94		114			130			