

# HUB RADIATOR H2O SPLIT 2.5

Patented high efficiency heat pump water heater with direct refrigerant/water exchange to produce domestic hot water for small and medium users

## Technical and construction characteristics

HUB RADIATOR H2O SPLIT 2.5 is a split heat pump water heater that uses the innovative direct refrigerant/water heat exchange system patented by the Accorroni group. The system is supplied as standard with:

- An external moto-evaporating Booster “HR 2.5 hot only” which closes the refrigeration circuit and directly transfers the heat taken from the external air to the technical water of the accumulator, the Booster uses the heat contained in the technical water accumulator in the coldest periods of the year to carry out very rapid defrosts at low energy impact;
- Inertial accumulation of 315 liters of technical water, with inside a patented immersion refrigerant/water condenser and a 4.54 m2 finned copper rapid DHW exchanger;
- DHW thermostatic mixing valve;
- High efficiency inverter electronic circulator for the destratification of the temperature inside the puffer;
- Microprocessor command and control panel for the management of the heat pump water heater, with function Integrated “Smart Grid” which allows you to connect the system to a photovoltaic system;
- 2.0 kW back-up elect. resistance, which can be activated in mode emergency or in integration mode;
- No. 2 expansion vessels (puffers) of 8 liters each;
- Manual filling group consisting of pressure gauge, tap and non-return valve;
- Safety valve calibrated at 3 bar;
- Automatic air vent jolly valve;
- Wheel kit to facilitate movement of the internal unit. The internal unit presents a perfect balance between compact dimensions, energy efficiency and innovative design.

This system is very ductile and flexible as it offers the possibility of installing multiple units in cascade in order to also satisfy the needs of large healthcare users (gyms, B&Bs, restaurants, football fields, etc.).

HUB RADIATOR H2O SPLIT 2.5, thanks to the use of a puffer equipped with a rapid finned copper DHW exchanger, is able to deliver large quantities of domestic hot water (up to 290 liters in a single withdrawal) without the need to carry out anti-legionella cycles, guaranteeing maximum hygiene of the sanitary circuit. This design consideration raises the level of energy efficiency of the entire system and translates into great economic savings. In order to facilitate the installation of the patented HUB RADIATOR H2O SPLIT 2.5 heat pump water heater, A2B Accorroni has equipped the internal storage unit with all the hydraulic components necessary for the correct functioning of the system, all installed and tested in factory, such as the thermostatic mixing valve, very useful for helping the end user optimize consumption.

















It is possible to request the additional inverter electronic circulator kit as an optional to also power hydronic system terminals (for example radiators).



Model	Code	€
HUB RADIATOR H2O SPLIT 2.5	37308040	4.400,00

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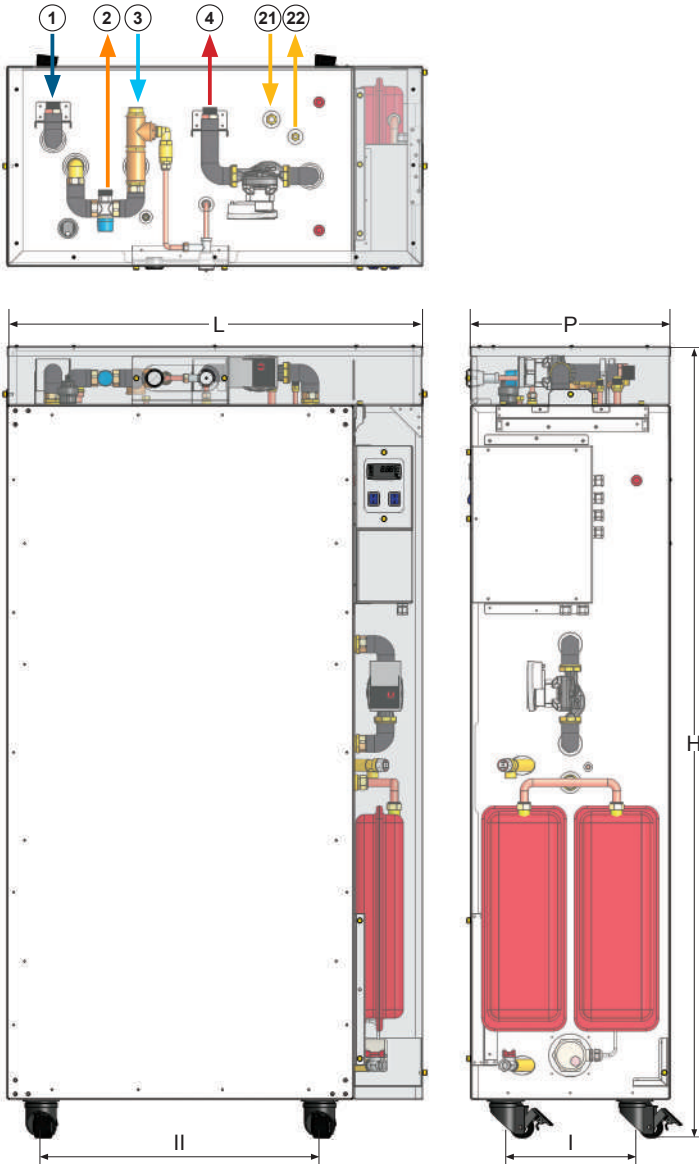
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Accessories HUB RADIATOR H2O SPLIT 2.5		Code	€	
	Wall anchoring shelf for external Booster mod. HR 2.5 including rubber vibration dampers	37081060	50,00	
	Anchoring shelf for sloping roof for external Booster mod. HR 2.5 including rubber vibration dampers	37081064	218,00	
	Anti-vibration floor base in vulcanized rubber (height from the ground 95 mm) with level and screws for external Booster mod. HR 2.5	75100018	102,00	
	Anti-vibration kit for installation on shelves for external Booster mod. HR 2.5	75100022	22,00	
	Stainless steel spring anti-vibration kits complete with bolts, washers and nuts (pack of 2) for external Booster mod. HR 2.5	37081065	62,00	
	Flush-mounted command and remote control panel for 503 box	75100005	102,00	
	Wall or wall adapter for control panel and remote control	75100029	24,00	
	Daily/weekly digital programmer clock	35639904	30,00	
	Web server home automation control unit	75101005	580,00	
	Anti-freeze condensate heating cable with thermal sensor, factory mounted	mod. 3 m. 90 W	37081067	76,00
		mod. 6 m. 120 W	37081068	80,00
	Auxiliary tray for under-shelf installation equipped with 90 W heating cable for external Booster mod. HR 2.5	37081069	280,00	
	Floor support complete with auxiliary tray equipped with 90 W heating cable for external Booster mod. HR 2.5	37081071	320,00	
	Flexible anti-vibration joint kit with connection plate and Ø 3/8" straight union for external Booster mod. HR 2.5	75100015	60,00	
	Flexible anti-vibration joint kit with connection plate and 90° curved union Ø 3/8" for external Booster mod. HR 2.5	75100017	60,00	
	Additional inverter electronic circulator kit, max flow rate 3.3 m <sup>3</sup> /h, max head 6.2 m pre-assembled in the factory (to power hydronic system terminals)	75100032	320,00	
	Domestic hot water recirculation inverter electronic circulator with brass body max flow rate 0.4 m <sup>3</sup> /h max head 1.0 m	35006004	260,00	

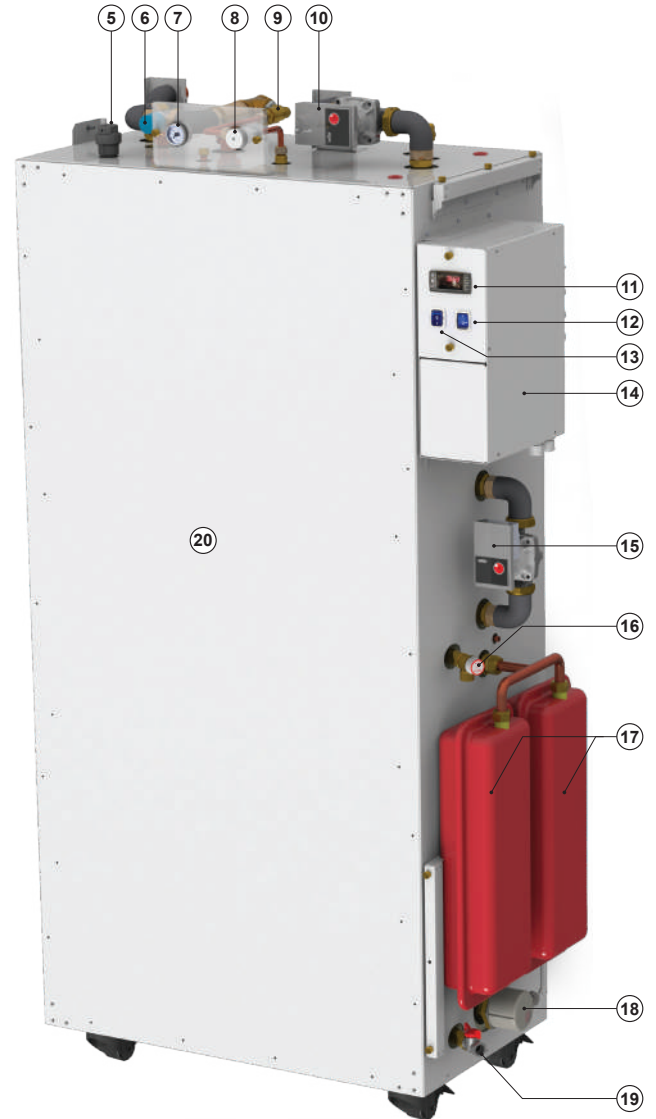
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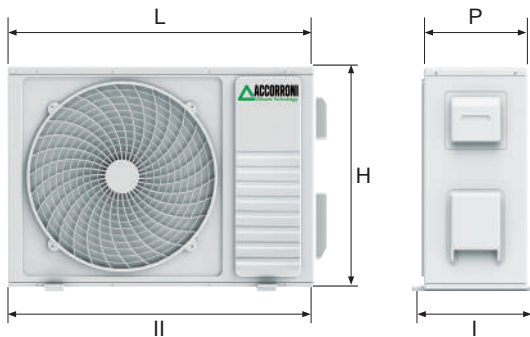
## Indoor unit dimensions HR H2O SPLIT 315 LT



## Internal unit axonometry HR H2O SPLIT 315 LT



## External Booster dimensions HR 2.5



Model	L	H	P	I	II	Weight
	mm	mm	mm	mm	mm	kg
Booster HR 2.5* (U.E.)	706	495	235	265	415	25
PLUS H2O 315 LT* (U.I.)	964	1834	462	300	645	196

- \* Minimum distance between outdoor unit and indoor unit 2,5 m
- \* Maximum distance between outdoor unit and indoor unit without additional charging 5,0 m
- \* Maximum distance between outdoor unit and indoor unit with additional charging 15,0 m (20 g/m after the first 5 m)
- \* Maximum height difference between external unit and internal unit 5,0 m (always respecting the maximum distance of 15 m)

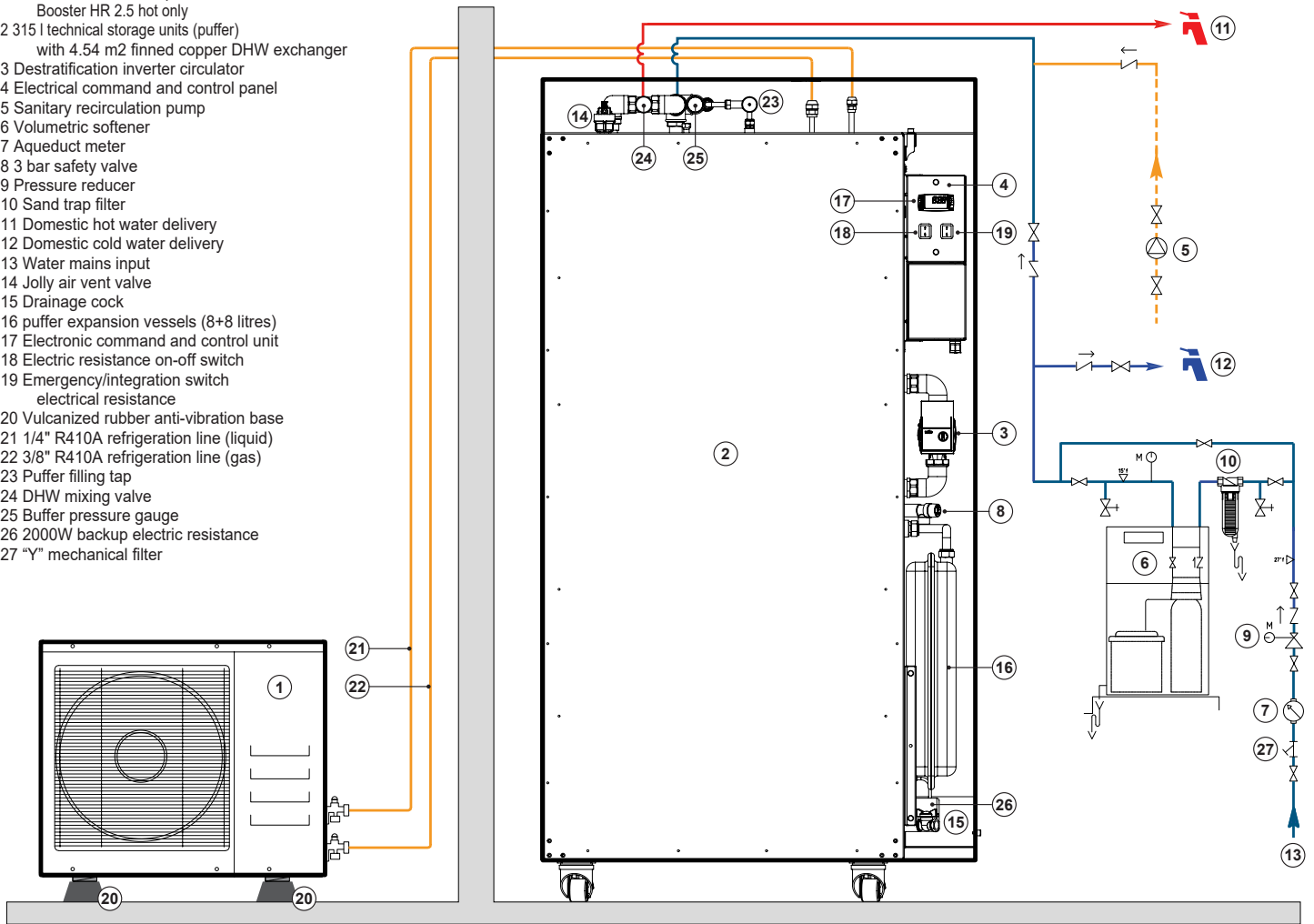
- 1 Heating circuit return 1" M (optional circulator kit electronic supplementary inverter code 75100032)
- 2 Mixed domestic hot water delivery 1" M
- 3 Domestic cold water inlet 1" M
- 4 Heating circuit delivery 1" M (optional circulator kit electronic supplementary inverter code 75100032)
- 5 Automatic air vent jolly valve in polymer material
- 6 Manually adjustable thermostatic mixing valve
- 7 Puffer technical water pressure gauge
- 8 Manual puffer filling group tap
- 9 Manual puffer filling unit non-return valve
- 10 Additional inverter electronic circulator kit cod. 75100032 (optional)
- 11 Electronic command and control unit
- 12 Emergency/electric resistance integration switch
- 13 Electric resistance on-off switch
- 14 Electrical panel with connection terminal block for the unit External Booster HR 2.5
- 15 Puffer esterasing circulator
- 16 Puffer technical water safety valve with calibration at 3 bar
- 17 Puffer technical water expansion tanks of 8 liters each.
- 18 2.0 kW single-phase electric resistance
- 19 1/2" F puffer emptying tap
- 20 Inertial storage of technical water (puffer) of 315 liters equipped of 4.54 m<sup>2</sup> finned copper DHW exchanger
- 21 External Booster cooling circuit connection 3/8"
- 22 External Booster cooling circuit connection 1/4"

# HUB RADIATOR H2O SPLIT 2.5

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refrigerant/water to produce domestic hot water for small and medium users

## Application example HUB RADIATOR H2O SPLIT 2.5

- 1 External moto-evaporator  
Booster HR 2.5 hot only
- 2 315 l technical storage units (puffer)  
with 4.54 m2 finned copper DHW exchanger
- 3 Destratification inverter circulator
- 4 Electrical command and control panel
- 5 Sanitary recirculation pump
- 6 Volumetric softener
- 7 Aqueduct meter
- 8 3 bar safety valve
- 9 Pressure reducer
- 10 Sand trap filter
- 11 Domestic hot water delivery
- 12 Domestic cold water delivery
- 13 Water mains input
- 14 Jolly air vent valve
- 15 Drainage cock
- 16 puffer expansion vessels (8+8 litres)
- 17 Electronic command and control unit
- 18 Electric resistance on-off switch
- 19 Emergency/integration switch  
electrical resistance
- 20 Vulcanized rubber anti-vibration base
- 21 1/4" R410A refrigeration line (liquid)
- 22 3/8" R410A refrigeration line (gas)
- 23 Puffer filling tap
- 24 DHW mixing valve
- 25 Buffer pressure gauge
- 26 2000W backup electric resistance
- 27 "Y" mechanical filter



## DHW withdrawal table HUB RADIATOR H2O SPLIT 2.5

DESCRIPTION	DHW available in a single withdrawal (litres)	Recovery time (minutes)
Inlet water 10 °C - external temperature -7 °C	267,9	160
Inlet water 10 °C - external temperature 0 °C	273,1	139
Inlet water 10 °C - external temperature +7 °C	276,0	132
Inlet water 10 °C - external temperature +15 °C	279,3	113
Inlet water 15 °C - external temperature -7 °C	285,1	160
Inlet water 15 °C - external temperature 0 °C	290,5	139
Inlet water 15 °C - external temperature +7 °C	292,4	132
Inlet water 15 °C - external temperature +15 °C	294,6	113
Inlet water 20 °C - external temperature -7 °C	302,2	160
Inlet water 20 °C - external temperature 0 °C	307,6	139
Inlet water 20 °C - external temperature +7 °C	309,4	132
Inlet water 20 °C - external temperature +15 °C	310,8	113

### TRIAL CONDITIONS

- Technical water set-point temperature 55 °C
- Domestic hot water outlet temperature 40 °C
- Domestic hot water withdrawal flow rate 8 l/m
- Electrical resistance in OFF mode
- Technical room temperature 20 °C
- Distance between U.I and U.E. 5 meters without charging

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## Technical data table HUB RADIATOR H2O SPLIT 2.5

DESCRIPTION	U.M.	PLUS H2O SPLIT 2.5
Thermal power (1)	kW	2,48
Absorbed power (1)	kW	0,60
C.O.P. (1)	W/W	4,14
Thermal power (2)	kW	2,37
Absorbed power (2)	kW	0,78
C.O.P. (2)	W/W	3,02
Thermal power (3)	kW	2,06
Absorbed power (3)	kW	0,63
C.O.P. (3)	W/W	3,28
Thermal power (4)	kW	2,24
Absorbed power (4)	kW	0,90
C.O.P.a (4)	W/W	2,50
Thermal power (5)	kW	2,11
Absorbed power (5)	kW	0,75
C.O.P. (5)	W/W	2,81
Thermal power (6)	kW	1,99
Absorbed power (6)	kW	0,94
C.O.P. (6)	W/W	2,11
S.C.O.P. (7)	W/W	3,78
Seasonal heating efficiency ( $\eta_s$ )	%	153,1
Energy efficiency (8)		A / A++
Domestic hot water withdrawal profile		L
C.O.P. ( UNI EN 16147)		2,69
Type of compressor		Rotation ON-OFF
Defrosting method		Cycle reversal with immersion condenser
Technical water temperature min/max	°C	+ 30 / + 55
Quantity of R410A refrigerant (pre-inserted)	kg	0,8
Min distance between outdoor and indoor unit	m	3
Max distance between outdoor and indoor unit without charging	m	5
Max distance between external and internal unit with charging	m	15
Max height difference between external and internal unit	m	5
Refrigerant gas line connection		3/8"
Refrigerant fluid line fitting		1/4"
External temperature operating limits	°C	-15 / +45
Internal unit technical water content	l	315
Max circulator flow rate (optional)	m <sup>3</sup> /h	3,3
Max pump head (optional)	m	6,2
Circulator electrical absorption (optional)	W	3 - 45
Volume of expansion vessels	l	8 + 8
Preload expansion vessels	bar	1
Safety valve calibration	bar	3
Back up electrical resistance	W	2000
Power supply		230V/1/50Hz
Cold water inlet and DHW outlet hydraulic connections		1" M
System delivery/return hydraulic connections (optional)		1" M
Thermal dispersion of internal unit accumulations	kWh/24h	1,82
Internal transport/operating unit weight	kg	174 / 489
Outdoor unit weight	kg	25

(1) Heating: external air temperature 7 °C d.b. - 6 °C b.u.; inlet/outlet water temperature 30/35 °C

(2) Heating: external air temperature 7 °C d.b. - 6 °C b.u.; inlet/outlet water temperature 40/45 °C

(3) Heating: external air temperature 0 °C d.b.; inlet/outlet water temperature 30/35 °C

(4) Heating: external air temperature 0 °C d.b.; inlet/outlet water temperature 40/45 °C

(5) Heating: external air temperature -7 °C db; inlet/outlet water temperature 30/35 °C

(6) Heating: external air temperature -7 °C db; inlet/outlet water temperature 40/45 °C

(7) Heating: average climate conditions; inlet/outlet water temperature 30/35 °C - (8) Water 35 °C / 55°C