

HUB RADIATOR BLACK

Producers of domestic hot water and heating with a patented high-efficiency heat pump system with direct refrigerant/water exchange for medium and large users



Technical and construction characteristics

HUB RADIATOR BLACK is a patented product capable of offering the market the best response regarding energy efficiency in the production of instant domestic hot water for medium/large users.

This system was created to provide large productions of DHW to power the utilities of condominiums, large buildings for civil, industrial, hotel use, sports fields and wellness centres.

The HUB RADIATOR BLACK units are mainly composed of very thick FE360 steel accumulators with on board one or more immersion exchangers/condensers connected to as many external boosters in cascade which produce thermal energy in a separate and independent manner to obtain power modulation with the maximum reliability in case of malfunction. The systems with HUB RADIATOR BLACK technical water accumulator in heat pump can also be appropriately combined with forced circulation solar thermal collectors and/or biomass thanks to the models with single or double additional exchanger (S - 2S).

The HUB RADIATOR BLACK accumulators are also designed to power a heating system with hydronic terminals via one or more inverter circulators, to be chosen from the options.



Technical inertial accumulations model HUB RADIATOR BLACK U.I.

	Solar exchanger	Biomass exchanger	Code	€
Tank HR BLACK 300	-	-	37306000	1.470,00
Tank HR BLACK 500	-	-	37306001	1.660,00
Tank HR BLACK 800	-	-	37306002	2.460,00
Tank HR BLACK 1000	-	-	37306003	2.720,00
Tank HR BLACK 1500	-	-	37306004	3.120,00
Tank HR BLACK 2000	-	-	37306005	4.430,00
Tank HR BLACK 2500	-	-	37306012	4.650,00
Tank HR BLACK 3000	-	-	37306013	5.060,00
Tank HR BLACK 300 S	1,40 m ²	-	37306100	1.760,00
Tank HR BLACK 500 S	2,00 m ²	-	37306101	2.210,00
Tank HR BLACK 800 S	2,50 m ²	-	37306102	2.830,00
Tank HR BLACK 1000 S	3,50 m ²	-	37306103	2.910,00
Tank HR BLACK 1500 S	4,00 m ²	-	37306104	4.390,00
Tank HR BLACK 2000 S	4,80 m ²	-	37306105	4.910,00
Tank HR BLACK 2500 S	4,80 m ²	-	37306112	5.280,00
Tank HR BLACK 3000 S	6,00 m ²	-	37306113	5.680,00
Tank HR BLACK 300 2S	1,40 m ²	1,10 m ²	37306200	1.970,00
Tank HR BLACK 500 2S	2,00 m ²	1,80 m ²	37306201	2.660,00
Tank HR BLACK 800 2S	2,50 m ²	2,00 m ²	37306202	3.080,00
Tank HR BLACK 1000 2S	3,50 m ²	2,50 m ²	37306203	3.370,00
Tank HR BLACK 1500 2S	4,00 m ²	2,80 m ²	37306204	4.910,00
Tank HR BLACK 2000 2S	4,80 m ²	3,80 m ²	37306205	5.230,00
Tank HR BLACK 2500 2S	4,80 m ²	3,80 m ²	37306212	5.920,00
Tank HR BLACK 3000 2S	6,00 m ²	3,80 m ²	37306213	6.660,00

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Model of external moto-evaporating units U.E.	Code	€
External unit Booster HR 2.5 only heat	76010240	2.100,00
External unit Booster HR 7.0 only heat	76010500	3.800,00
External unit Booster HR 9.0 only heat INVERTER	76030500	6.360,00

Sanitary exchanger model

Finned exchanger ACS 4.54 m² tank mod. 300/500 I	37370012	1.400,00
Finned exchanger ACS 5.26 m² tank mod. 800/1000 I	37370013	1.600,00
Finned exchanger ACS 6.34 m² tank mod. 1500/2000 I	37370014	1.950,00
Finned exchanger ACS 12.68 m² tank mod. 2500/3000 I	37370015	3.900,00

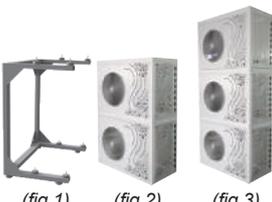
Accessories HUB RADIATOR BLACK

			Code	€		
	230 V single-phase integrative electrical resistance, IP 65 protection rating	mod. 1500 W	75050102	200,00		
		mod. 2000 W	75050103	220,00		
		mod. 3000 W	75060300	240,00		
	Three-phase integrative electrical resistance 400 V, IP 65 protection rating	mod. 6000 W	75050105	528,00		
		mod. 9000 W	75050106	534,00		
	Additional inverter electronic circulator, max flow rate 3.3 m ³ /h, max head 6.2 m, min. electrical absorption. 4W - max 45W		35006001	230,00		
	System pump kit which includes: inverter electronic circulation pump complete with shut-off valves, jolly air vent valve, safety valve, threaded plugs and probe holders		75100011	400,00		
	Hot/cold inverter system pump kit which includes: electronic circulation pump complete with shut-off valves, jolly air vent valve, safety valve, threaded plugs and probe holders		75100009	700,00		
	High efficiency wet rotor inverter electronic circulator with motor magnet permanent ECM	mod. 3/6	Q max 3,2 m³/h	H max 6,6 m	35006002	540,00
		mod. 9/10	Q max 9 m³/h	H max 10,5 m	36576012	1.250,00
		mod. 18/12	Q max 18 m³/h	H max 12,8 m	36576013	2.500,00
		mod. 27/16	Q max 27 m³/h	H max 16,0 m	36576014	3.850,00
		mod. 30/18G	Q max 30 m³/h	H max 18,0 m	36576015	6.600,00
	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		

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Accessories HUB RADIATOR BLACK

			Code	€
	Load control relay for managing absorbed power	mod. Connection BUS	37081062	172,00
		mod. Radio frequency	37081063	460,00
	Web server home automatic control unit		75101005	580,00
	Mixing valve for radiant systems	mod. fixed mechanical adjustment	75101032	120,00
		mod. motorized adjustment	75101033	600,00
	Additional condenser for Booster HR	mod. only heat HR 2.5	26505565	340,00
		mod. only heat HR 7.0 - 9.0	26515565	380,00
	Anchoring shelf for external Booster including rubber vibration dampers	mod. HR 2.5	37081060	50,00
		mod. HR 7.0 - 9.0	37081061	90,00
	Anchoring shelf for sloping roof for external Boosters mod. HR 2.5 - 7.0 - 9.0 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 Booster HR 2.5 - 7.0 - 9.0 (pack of 2 pieces)		75100018	102,00
	Anti-vibration kit for installation on shelves		75100022	22,00
	Stainless steel spring anti-vibration kits complete with bolts, washers and nuts (pack of 2)	mod. HR 2.5	37081065	62,00
		mod. HR 7.0 - 9.0	37081066	64,00
	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	mod. HR 2.5	37081069	280,00
		mod. HR 7.0 - 9.0	37081070	300,00
	Floor support complete with auxiliary basin equipped with 90 W heating cable	mod. HR 2.5 H fixed	37081071	320,00
		mod. HR 7.0 - 9.0 H fixed	37081073	350,00
		mod. HR 7.0 - 9.0 H variable	37081074	370,00
	DHW thermostatic mixer for anti-scald solar thermal systems	mod. MIX L	50103015	470,00
		mod. MIX XL	50203015	490,00
		mod. MIX XXL	50303015	1.370,00
	Additional heat generator electronic management kit with external temperature probe (for Booster 2.5 - 7.0)		75100024	220,00
	Flexible anti-vibration joint kit with connection plate and straight union	mod. HR 7.0 - 9.0 (5/8")	75100014	120,00
		mod. HR 2.5 (3/8")	75100015	60,00
	Flexible anti-vibration joint kit with connection plate and 90° curved union	mod. HR 7.0 - 9.0 (5/8")	75100016	120,00
		mod. HR 2.5 (3/8")	75100017	60,00
	Daily/weekly digital programmer clock		35639904	30,00
	<i>Open shelf for n. 2 Booster external units mod. HR 7.0 - 9.0 complete with vibration dampers (fig.1)</i>		75060406	290,00
	<i>RACK 2 cabinet for n. 2 Booster external units mod. HR 2.5 - 7.0 - 9.0 (fig.2)</i>		75060306	1.060,00
	<i>RACK 3 cabinet for n. 3 Booster external units mod. HR 2.5 - 7.0 - 9.0 Height 210 cm Width 96 cm Depth 54 cm (fig.3)</i>		75060206	1.200,00

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Solar thermal kits HUB RADIATOR BLACK



Solar collector
BLUH+ BLUHX+

- solar thermal kit 1 x 2.0 m2
- N. 1 BLUH+ 2.0 m2 flat sheet panel
 - Anchoring kit for 1 BLUH+ 2.0 m2 collector
 - 2-way solar station mod. UNIT 2 PLUS
 - CONTROL MULTI 06 S solar control unit
 - 12 liter expansion vessel
 - String fittings kit (1 string - 1 manifold)
 - Concentrated glycol 1 3 liter tank

Kit Solar HR 1 x 2.0	Code	€
Flat roof / 1 x 2.0	37318030	2.646,00
Pitched roof / 1 x 2.0	37308030	2.686,00



Anchoring kit
BLUH+ BLUHX+

- solar thermal kit 1 x 2.5 m2
- N. 1 BLUHX+ 2.5 m2 flat sheet panel
 - Anchoring kit for 1 BLUHX+ 2.5 m2 collector
 - 2-way solar station mod. UNIT 2 PLUS
 - CONTROL MULTI 06 S solar control unit
 - 18 liter expansion tank
 - String fittings kit (1 string - 1 manifold)
 - Concentrated glycol 1 4 liter tank

Kit Solar HR 1 x 2.5	Code	€
Flat roof / 1 x 2.5	37318031	2.824,00
Pitched roof / 1 x 2.5	37308031	2.836,00

- solar thermal kit 2 x 2.0 m2
- N. 2 BLUH+ 2.0 m2 flat sheet panels
 - Anchoring kit for 2 BLUH+ 2.0 m2 collectors
 - 2-way solar station mod. UNIT 2 PLUS
 - CONTROL MULTI 06 S solar control unit
 - 25 liter expansion vessel
 - String fittings kit (1 string - 2 collectors)
 - Concentrated glycol 1 7 liter tank

Kit Solar HR 2 x 2.0	Code	€
Flat roof / 2 x 2.0	37318032	3.602,00
Pitched roof / 2 x 2.0	37308032	3.710,00



Solar station
UNIT 2 PLUS

- solar thermal kit 2 x 2.5 m2
- N. 2 BLUHX+ 2.5 m2 flat sheet panels -
 - Anchoring kit for 2 BLUHX+ 2.5 m2 collectors
 - 2-way solar station mod. UNIT 2 PLUS -
 - CONTROL MULTI 06 S solar control unit -
 - 25 liter expansion tank
 - String fittings kit (1 string - 2 collectors) -
 - Concentrated glycol 1 8 liter tank

Kit Solar HR 2 x 2.5	Code	€
Flat roof / 2 x 2.5	37318033	3.968,00
Pitched roof / 2 x 2.5	37308033	4.064,00



Solar control unit
CONTROL
MULTI 06 S

- solar thermal kit 3 x 2.0 m2
- N. 3 BLUH+ 2.0 m2 flat sheet panels
 - Anchoring kit for 3 BLUH+ 2.0 m2 collectors
 - 2-way solar station mod. UNIT 2 PLUS
 - CONTROL MULTI 06 S solar control unit
 - 25 liter solar expansion tank
 - String fittings kit (1 string - 3 collectors)
 - Concentrated glycol 1 10 liter tank

Kit Solar HR 3 x 2.0	Code	€
Flat roof / 3 x 2.0	37318034	4.734,00
Pitched roof / 3 x 2.0	37308034	4.830,00

- solar thermal kit 3 x 2.5 m2
- N. 3 BLUHX+ 2.5 m2 flat sheet panels
 - Anchoring kit for 3 BLUHX+ 2.5 m2 collectors
 - 2-way solar station mod. UNIT 2 PLUS
 - CONTROL MULTI 06 S solar control unit
 - 25 liter solar expansion tank
 - String fittings kit (1 string - 3 collectors)
 - Concentrated glycol 2 7 liter cans

Kit Solar HR 3 x 2.5	Code	€
Flat roof / 3 x 2.5	37318035	5.308,00
Pitched roof / 3 x 2.5	37308035	5.404,00



Expansion tank

- solar thermal kit 5 x 2.5 m2
- N. 5 BLUHX+ 2.5 m2 flat sheet panels
 - Anchoring kit for 5 BLUHX+ 2.5 m2 collectors
 - 2-way solar station mod. UNIT 2 PLUS
 - CONTROL MULTI 06 S solar control unit
 - 50 liter expansion vessel
 - String fittings kit (1 string - 5 collectors)
 - Concentrated glycol 2 10 liter cans

Kit Solar HR 5 x 2.5	Code	€
Flat roof / 5 x 2.5	37318036	8.038,00
Pitched roof / 5 x 2.5	37308036	7.846,00



String fittings kit

- solar thermal kit 6 x 2.5 m2
- N. 6 BLUHX+ 2.5 m2 flat sheet panels
 - Anchoring kit for 6 BLUHX+ 2.5 m2 collectors
 - 2-way solar station mod. UNIT 2 PLUS
 - CONTROL MULTI 06 S solar control unit
 - 60 liter expansion vessel
 - String fittings kit (1 string - 6 collectors)
 - Concentrated glycol 3 10 liter cans

Kit Solar HR 6 x 2.5	Code	€
Flat roof / 6 x 2.5	37318037	9.502,00
Pitched roof / 6 x 2.5	37308037	9.214,00



Kit glycol
antifreeze

- solar thermal kit 10 x 2.5 m2
- N. 10 BLUHX+ 2.5 m2 flat sheet panels
 - Anchoring kit for 10 BLUHX+ 2.5 m2 collectors
 - 2-way solar station mod. UNIT 2 XL PLUS
 - CONTROL MULTI 06 S solar control unit
 - 100 liter expansion tank
 - String fittings kit (2 strings - 10 collectors)
 - Concentrated glycol 4 10 liter cans
- solar thermal kit 12 x 2.5 m2
- N. 12 BLUHX+ 2.5 m2 flat sheet panels
 - Anchoring kit for 12 BLUHX+ 2.5 m2 collectors
 - 2-way solar station mod. UNIT 2 XL PLUS
 - CONTROL MULTI 06 S solar control unit
 - 100 liter expansion tank
 - String fittings kit (2 strings - 12 collectors)
 - Concentrated glycol 5 10 liter cans

Kit Solar HR 10 x 2.5	Code	€
Flat roof / 10 x 2.5	37318038	13.976,00
Pitched roof / 10 x 2.5	37308038	13.496,00

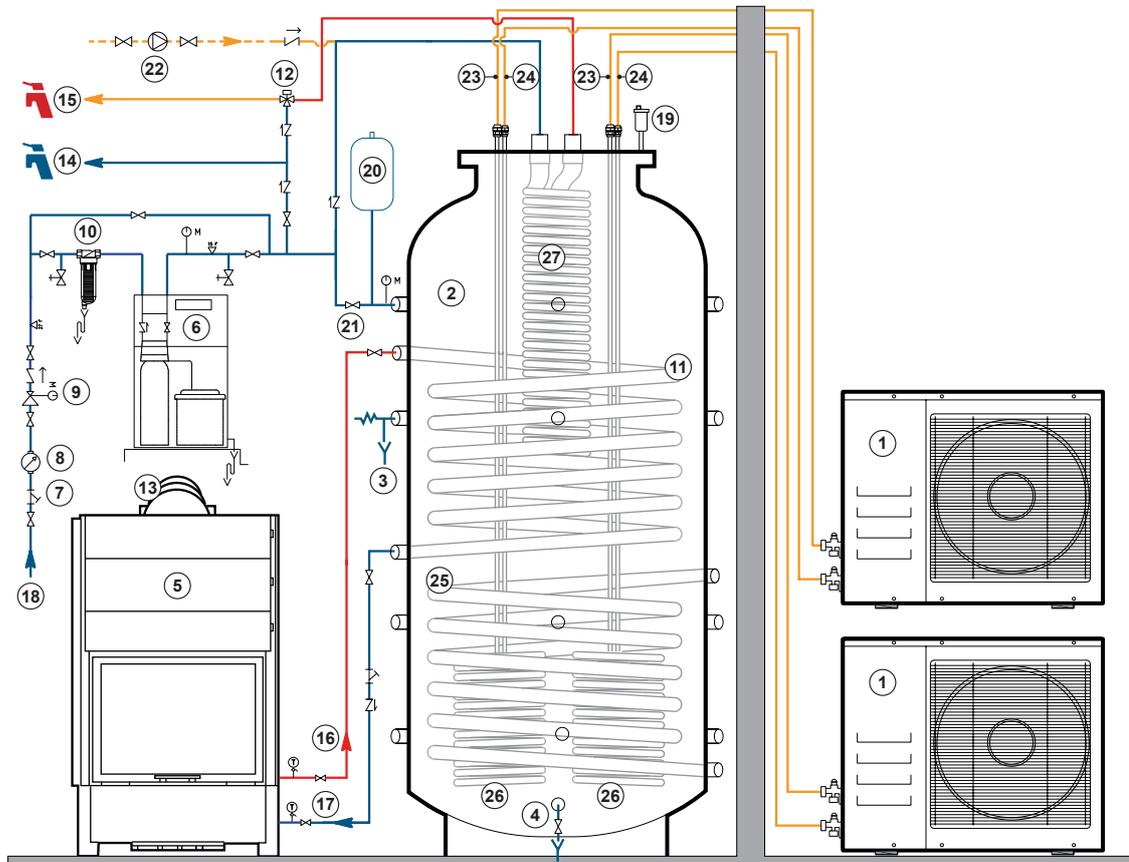
Kit Solar HR 12 x 2.5	Code	€
Flat roof / 12 x 2.5	37318039	18.588,00
Pitched roof / 12 x 2.5	37308039	18.012,00

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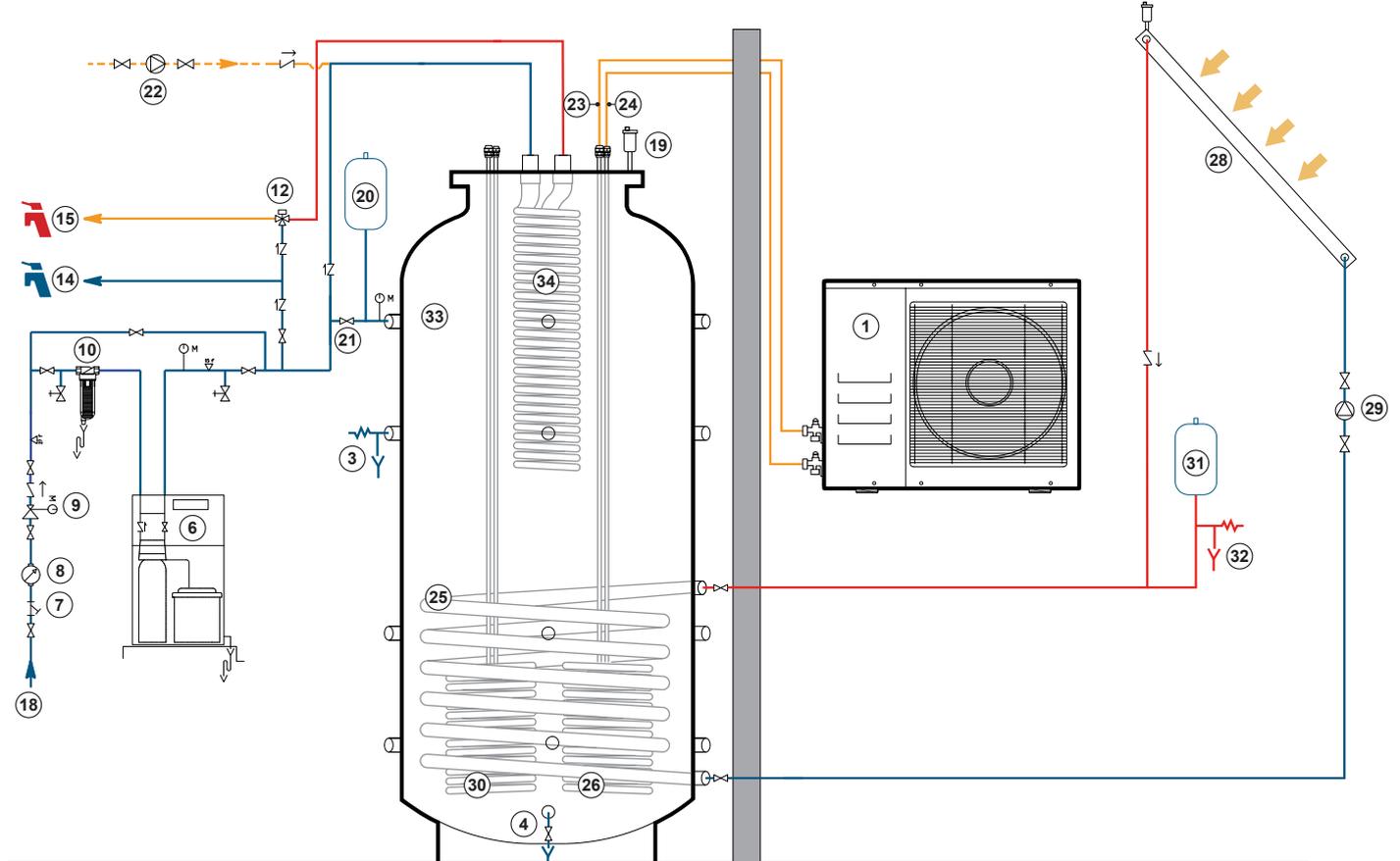
Application diagrams HUB RADIATOR BLACK

HUB RADIATOR BLACK 2 S with 800 liter technical water storage powered by 2 external HR 7.0 Boosters and by an open-vessel hydro fireplace and solar thermal predisposition



- 1 External moto-evaporator
- 2 Booster HR 7.0 hot only
- Technical storage units from 800 liters BLACK 800 2S
- 3 Safety valve
- 4 Drainage tap
- 5 Open vessel hydro fireplace
- 6 Water softener
- 7 "Y" filter
- 8 Aqueduct meter
- 9 Pressure reducer
- 10 Sand trap filter
- 11 Upper fixed exchanger
- 12 DHW mixing valve
- 13 Thermo fireplace flue
- 14 Cold water delivery
- 15 DHW delivery
- 16 Integration mandate
- 17 Return integration
- 18 Water mains input
- 19 Jolly air vent valve
- 20 System expansion vessel
- 21 System make-up tap
- 22 DHW recirculation pump
- 23 R410A refrigeration line 1/4" (liquid)
- 24 R410A refrigeration line 5/8" (gas)
- 25 Lower fixed exchanger for solar thermal predisposition
- 26 Patented exchanger ad immersion External booster
- 27 Finned copper exchanger for DHW production without legionella of 5,26 m2
- 28 Number of 3 SKY solar collectors
- 29 Solar thermal circulator
- 30 Booster exchanger additional
- 31 Solar expansion vessel
- 32 Solar safety valve
- 33 Technical storage unit HR BLACK 500 2S
- 34 Finned copper exchanger for DHW production without legionella of 4,54 m2

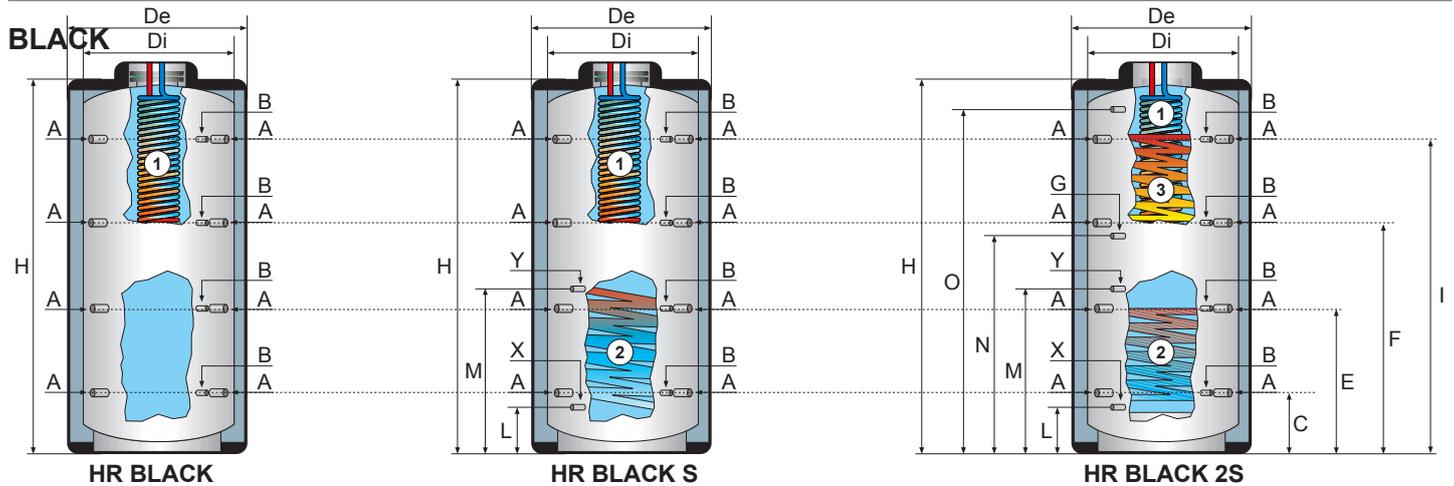
HUB RADIATOR BLACK S with 500 liter technical water storage fed from 1 HR 7.0 external Booster and 3 SKY flat plate solar thermal collectors for DHW production, with



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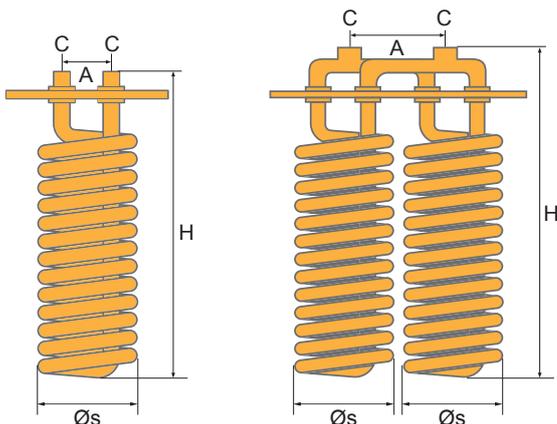
Dimensions and technical characteristics of technical accumulations HUB RADIATOR



Technical tank dimensions	U.M.	300	500	800	1000	1500	2000	2500	3000
De	mm	600	750	1050	1050	1260	1360	1400	1450
Di	mm	500	650	790	790	1000	1100	1200	1250
H	mm	1595	1645	1750	2110	2115	2380	2495	2710
C	mm	215	240	275	275	340	370	385	400
E	mm	595	615	655	810	765	930	940	1015
F	mm	1080	1105	1145	1355	1400	1435	1500	1645
I	mm	1350	1375	1410	1755	1725	1945	2050	2255
L	mm	290	315	355	350	420	450	480	490
M	mm	810	835	875	1035	1080	1090	1120	1210
N	mm	930	955	1015	1195	1220	1230	1300	1430
O	mm	1290	1315	1345	1675	1620	1710	1700	1830
X - Y - G - D		1"	1"	1"	1"	1"	1"	1"	1"
A		1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	2"	2"
B		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Technical water volume	l	289,8	499,8	749,3	931,0	1472,4	1950,0	2493,5	2957,5
Surface DHW exchanger* (1)	m ²	4,54	4,54	5,26	5,26	6,34	6,34	12,68	12,68
Surface bottom exchanger (2)	m ²	1,4	2,0	2,5	3,5	4,0	4,8	4,8	6,0
Surface top exchanger (3)	m ²	1,1	1,8	2,0	2,5	2,8	3,8	3,8	3,8
Insulation thickness	mm	50	50	100	100	100	100	100	100
Accumulation operating pressure	bar	4	4	4	4	4	4	4	4
Maximum operating temperature	°C	95	95	95	95	95	95	95	95
Fixed exchanger max pressure	bar	12	12	12	12	12	12	12	12
Thermal dispersion	W	57,3	69,7	109,9	113,8	132,8	143,5	-	-
Empty weight accumulation BLACK	Kg	81	115	148	186	232	308	327	345
Empty weight accumulation BLACK S	Kg	92	129	168	208	260	356	375	393
Empty weight accumulation BLACK 2S	Kg	101	143	186	231	288	386	405	423

*Optional exchanger to be purchased separately from the storage unit.

Dimensions and dimensions of finned exchangers ACS

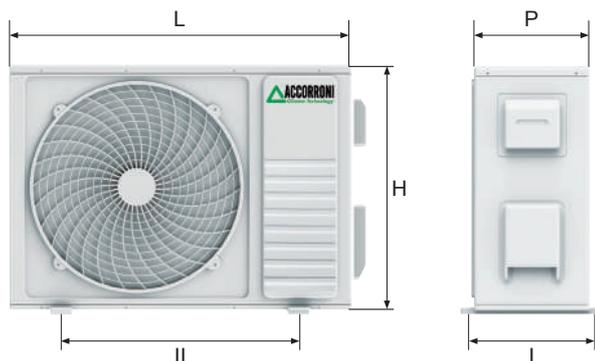


Sur. (m ²)	H (mm)	Øs (mm)	C	A (mm)
4,54	750	190	1" Ø esterno	90
5,26	850	190	1" Ø esterno	90
6,34	980	190	1" Ø esterno	90
12,68	980	190	2" Ø esterno	120

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External Booster dimensions HR 2.5 - 7.0



External Unit Models	L	H	P	I	II	Weight
	mm	mm	mm	mm	mm	kg
Booster HR 2.5	700	552	256	275	435	25
Booster HR 7.0	830	585	300	330	515	43

External Booster dimensions HR 9.0 INVERTER



External Unit Model	L	H	P	I	II	Weight
	mm	mm	mm	mm	mm	kg
Booster HR 9.0 inverter	925	785	380	358	540	62

Examples of DHW production with finned exchanger and storage at 55 °C

Mod. tank	DHW exchanger surface	Booster HR installed	DHW available in a single withdrawal*	Recovery time**
BLACK 300	4,54 m ²	7.0	173 l	0,64 h
BLACK 300	4,54 m ²	9.0	176 l	0,59 h
BLACK 500	4,54 m ²	7.0 + 2.5	288 l	0,77 h
BLACK 800	5,26 m ²	7.0 x 2	482 l	0,86 h
BLACK 800	5,26 m ²	9.0 x 2	488 l	0,79 h
BLACK 1000	5,26 m ²	7.0 x 2	679 l	1,08 h
BLACK 1000	5,26 m ²	9.0 x 2	692 l	0,99 h
BLACK 1500	6,34 m ²	7.0 x 2	865 l	1,61 h
BLACK 1500	6,34 m ²	9.0 x 2	872 l	1,48 h
BLACK 2000	6,34 m ²	7.0 x 3	1210 l	1,43 h
BLACK 2000	6,34 m ²	9.0 x 3	1236 l	1,32 h
BLACK 2500	6,34 m ²	7.0 x 3	1510 l	1,79 h
BLACK 3000	12,68 m ²	7.0 x 3	1810 l	2,15 h

*DHW drawn at 40 °C, Starting technical water temp. at 55 °C, Aqueduct temp. 10 °C **Temp. external air 7 °C, reset from 40 °C to 55 °C

Lower fixed exchanger heat output hypothesis

Mod. tank	Sup. exchnager	Power ΔT 10°C*	Power ΔT 15°C*	Power ΔT 20°C*	Flow	Pressure drop
BLACK 300 S	1,4 m ²	9,0 kW	13,4 kW	17,9 kW	620 l/h	2 kPa
BLACK 500 S	2,0 m ²	12,8 kW	19,2 kW	25,6 kW	880 l/h	4 kPa
BLACK 800 S	2,5 m ²	16,0 kW	24,0 kW	32,0 kW	1090 l/h	5 kPa
BLACK 1000 S	3,5 m ²	22,4 kW	33,6 kW	44,8 kW	1310 l/h	6 kPa
BLACK 1500 S	4,0 m ²	25,6 kW	38,4 kW	51,2 kW	1720 l/h	8 kPa
BLACK 2000 S	4,8 m ²	30,7 kW	46,0 kW	61,4 kW	1880 l/h	10 kPa
BLACK 2500 S	4,8 m ²	30,7 kW	46,0 kW	61,4 kW	1880 l/h	10 kPa
BLACK 3000 S	6,0 m ²	38,4 kW	57,6 kW	76,7 kW	2350 l/h	12 kPa

*Thermal power referred to the differential between the average temperature of the heating fluid inside the exchanger and the average temperature of the heated fluid

Lower fixed exchanger heat output hypothesis

Mod. tank	Sup. exchanger	Power ΔT 10°C*	Power ΔT 15°C*	Power ΔT 20°C*	Flow	Pressure drop
BLACK 300 2S	1,1 m ²	7,0 kW	10,6 kW	14,1 kW	400 l/h	1 kPa
BLACK 500 2S	1,8 m ²	11,5 kW	17,3 kW	23,0 kW	700 l/h	3 kPa
BLACK 800 2S	2,0 m ²	12,8 kW	19,2 kW	23,6 kW	900 l/h	3 kPa
BLACK 1000 2S	2,5 m ²	16,0 kW	24,0 kW	32,0 kW	1100 l/h	6 kPa
BLACK 1500 2S	2,8 m ²	17,9 kW	26,9 kW	35,8 kW	1400 l/h	8 kPa
BLACK 2000 2S	3,8 m ²	24,3 kW	36,5 kW	48,6 kW	1600 l/h	10 kPa
BLACK 2500 2S	3,8 m ²	24,3 kW	36,5 kW	48,6 kW	1600 l/h	10 kPa
BLACK 3000 2S	3,8 m ²	24,3 kW	36,5 kW	48,6 kW	1600 l/h	10 kPa

*Thermal power referred to the differential between the average temperature of the heating fluid inside the exchanger and the average temperature of the heated fluid

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Technical data table Booster HUB RADIATOR BLACK

DESCRIPTION	U.M.	HR 2.5	HR 7.0	HR 9.0 INVERTER
Thermal power (1)	kW	2,48	7,02	3,54/8,01/8,81*
Absorbed power (1)	kW	0,60	1,70	1,89
C.O.P. (1)	W/W	4,14	4,12	4,24
Thermal power (2)	kW	2,37	6,79	2,85/7,92/8,71*
Absorbed power (2)	kW	0,78	2,21	2,39
C.O.P. (2)	W/W	3,02	3,07	3,31
Thermal power (3)	kW	2,06	5,90	2,54/7,04/7,74*
Absorbed power (3)	kW	0,63	1,75	2,00
C.O.P. (3)	W/W	3,28	3,37	3,52
Thermal power (4)	kW	2,24	6,44	2,46/6,82/7,50*
Absorbed power (4)	kW	0,90	2,54	2,74
C.O.P. (4)	W/W	2,50	2,53	2,68
Thermal power (5)	kW	2,11	5,52	2,31/6,41/7,05*
Absorbed power (5)	kW	0,75	2,00	2,54
C.O.P. (5)	W/W	2,81	2,76	3,04
Thermal power (6)	kW	1,99	5,20	2,25/6,25/6,88*
Absorbed power (6)	kW	0,94	2,53	2,68
C.O.P. (6)	W/W	2,11	2,05	2,39
SCOP (7)	W/W	3,78	3,71	3,94
Seasonal heating efficiency (ηs)	%	153,1	150,3	159,62
Energy efficiency class (8)		A / A++		A++ / A+++
Type compressor		Rotation ON-OFF		Twin Rotary DC INV.
Compressors	n.	1		
Refrigerant circuits	n.	1		
Defrosting method		Cycle reversal with immersion condenser		
Type of refrigerant		R410A		
Technical water temperature min/max	°C	+30 / +55		
Refrigerant quantity (pre-inserted)	kg	0,8	1,5	2,2
Min distance between outdoor and indoor unit	m	3		
Max distance betw. outdoor/indoor unit without charging	m	5		
Max distance betw. een external and internal unit with charging	m	15		
Max height difference between external and internal unit	m	5		
Refrigerant gas line connection R410A		3/8"	5/8"	5/8"
Coolant line connection R410A		1/4"	1/4"	3/8"
Sound power (9)	dB(A)	65,1	68,4	64,0
Sound pressure at one meter (10)	dB(A)	51,2	54,7	49,8
External temperature operating limits	°C	-15 / +45		-20 / +45
Power supply		230V/1/50Hz		
Max power absorbed	kW	0,94	2,53	4,70
Max current absorbed	A	4,30	11,57	20,40
Weight	Kg	25	43	62

(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 db; 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

(9) Measurements carried out according to UNI EN 14511 in heating mode and boundary conditions (1)

(10) Value calculated according to ISO 3744: 2010

(*) By activating the maximum HZ function