Outdoor monobloc air-water unit with BLDC compressor

HIWARM COMPACT 10 - 29 kW





Total heat recovery multi-purpose unit | Multi-purpose unit - 2-pipe system | BLDC scroll compressor | R-410A refrigerant | Cooling / Heating | Axial fans | Monobloc unit

PLUS

- Total heat recovery for DHW production
- Twin-rotary or scroll compressor activated by an electronically-controlled BLDC motor.
- Electronically controlled electric expansion valve
- Modulating hydraulic pumps with a stainless steel impeller.
- Access to the tax incentives provided for energy retrofitting

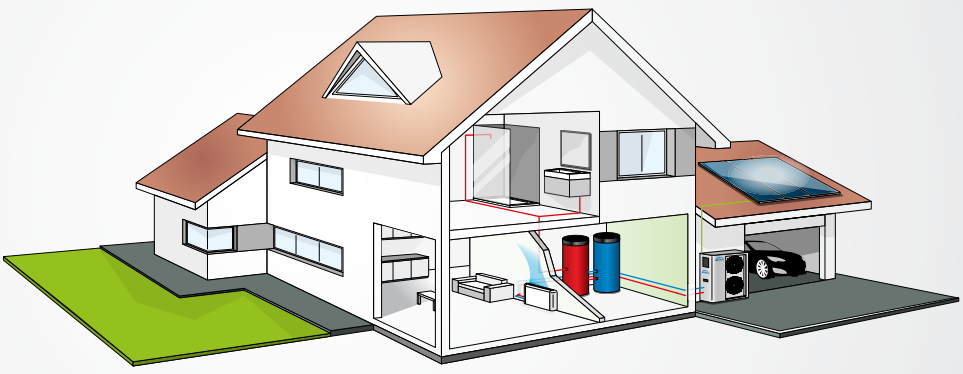
Total recovery and energy efficiency in every condition

The HIWARM COMPACT units have been designed to cool and heat water for air conditioning systems and for the production of DHW for residential or commercial use. They are total heat recovery multi-purpose units with 2 separated circuits, whose operating modes are described below:

- cold water production in summer for the air conditioning system
- cold water production for the air conditioning system with total condensation heat recovery for DHW production
- hot water production for the heating system
- production of DHW during winter or mid-seasons with priority over heating.

Thanks to high-standard performances of the main components used, HIWARM COMPACT operating range is particularly extended and allows a proper and effective response to the need of residential or commercial buildings even with low external temperatures, making the use of additional heat power units unnecessary. Thanks to a reliable engineering and a management software specifically developed by Galletti R&D Dpt, the BLCD variable-speed compressor responds every minute to the system's requests by adjusting the produced power in the most efficient way.
The compact dimensions and the hydronic kit included, not to mention the wide range of options and accessories, guarantee a simple installation without requiring excessive dedicated spaces.

HIWARM COMPACT can represent the only system generator for residential use, single or centralized.
In dual-purpose/bioenergetic systems, it is managed by EVOSYSTEM.





MAIN COMPONENTS

Structure

The cabinet, made of galvanized and painted sheet , has been created to resist to atmospheric agents and allow a comfortable access to the internal components for maintenance.

Microprocessor control

Developed according to the most recent technologies, the microprocessor control allows the complete management of HIWARM COMPACT units through a specifically designed software.



Electronically controlled electric expansion valve

By rapidly adjusting to the variation of workloads and thus integrating the activities carried out by the compressor, it represents one of the key components of the units and it assures the efficiency and stability of its operation.

Heat exchanger

The finned exchanger is made of copper pipes mechanically fixed to aluminium fins: thanks to the accurate design, it guarantees the maximum efficiency in every operating mode and it facilitates defrosting phases.

Compressor

It is housed in a completely closed space and it is further made sound-proof through the use of soundproofing insulation. Hermetic twin-rotary or scroll activated by a BLDC permanent magnet motor is fixed on the base though anti-vibration dampers.

Hydraulic kit

The centrifugal circulators (both system and DHW side) can be of modulating type with a stainless steel impeller which allows the operation with water mixtures and ethylene glycol up to 35%. Moreover, an expansion tank and an automatic loading tap are included.



CONFIGURATION

The models are completely configurable by selecting the version and the options. To the right is shown an example of configuration.

Version	Optional ▶	1	2	3	4	5	6	7	8	9	10	11	12	13
HWMC010HMAA		A	6	S	3	E	E	0	0	0	0	G	0	0

To verify the compatibility of the options, use the selection software or the price list.

AVAILABLE VERSIONS

Total heat recovery multi-purpose unit

HWMC…H0AA Unit with 400V - 3N - 50 Hz power supply
HWMC…HMAA Unit with 230V - 1 - 50 Hz power supply

CONFIGURATION OPTIONS

1 - EXPANSION VALVE
- **A** Electronic 230V

2 - PUMP AND ACCESSORIES
- **0** Absent
- **2** 1 Modulating standard pump, system side
- **3** 1 EC pump, system side
- **5** 2 Modulating pumps (system+DHW side)
- **6** 2 EC pumps (system+DHW side)

3 - INERTIAL BUFFER TANK
- **0** Absent
- **S** Present, system side

4 - AUXILIARY
- **0** Absent
- **1** User tank sensor
- **2** External electric heating element control
- **3** Opt 1 + Opt 2

5 - FANS
- **C** Standard with condensation control
- **E** BLDC with electronic control

6 - ANTIFREEZE KIT
- **E** Base (plate exchangers only)
- **1** Additional protection for 1 pump
- **2** Additional protection for 1 pump and tank
- **3** Additional protection for 2 pumps
- **4** Additional protection for 2 pumps and tank

7 - SOUND INSULATION
- **0** Absent
- **1** Compressor compartment soundproofing
- **2** Compressor silencing housings
- **3** Opt 1 + Opt 2

8 - COOLING ACCESSORIES
- **0** None
- **M** Refrigerant pressure gauges

9 - REMOTE CONTROL
- **0** Absent
- **B** MYCHILLER BASE remote control (option 1 - 3 field 13 disabling)
- **P** MYCHILLER PLUS remote control (option 1 - 3 field 13 disabling)
- **C** Advanced pGD1 remote control

10 -SPECIAL HEAT EXCHANGERS
- **0** Standard
- **R** Copper / copper
- **C** Cataphoresis
- **B** Corrosion-proof
- **I** Hydrophilic

11 - CONDENSER PROTECTIVE GRILLE
- **0** Absent
- **G** Present

12 - ADDITIONAL OPTIONS
- **0** Absent
- **1** Exchanger heating cable

13 - ADDITIONAL CARDS
- **0** Absent
- **1** RS485 (Carel / Modbus)
- **2** Clock card
- **3** LON card

ACCESSORIES

- Base rubber vibration dumpers
- Base spring vibration dumpers

Rated technical data

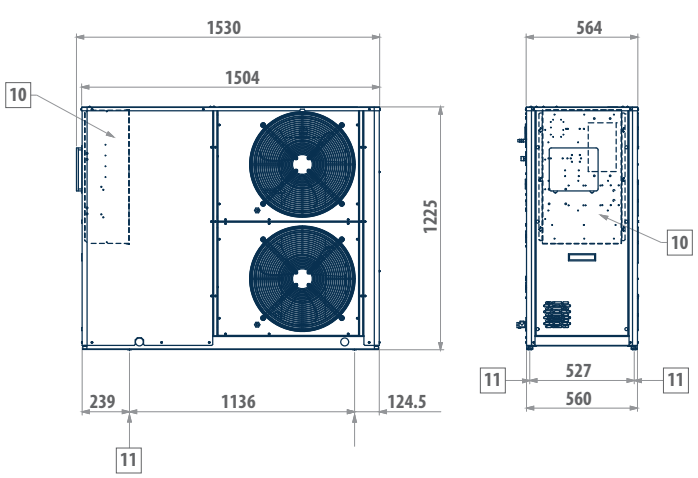
HIWARM COMPACT		HWMC 010 HM		HWMC 013 H		HWMC 018 H		HWMC 023 H		HWMC 029 H	
Power supply	V-ph-Hz	230 - 1 - 50		400 - 3N - 50		400 - 3N - 50		400 - 3N - 50		400 - 3N - 50	
Compressor status		min	max	min	max	min	max	min	max	min	max
Cooling mode (1)											
Cooling capacity	kW	2,90	10,5	5,68	13,7	5,64	18,4	9,04	23,3	9,10	29,4
Power input	kW	0,90	3,41	1,61	4,45	1,61	7,65	2,54	7,54	2,59	11,7
EER		3,22	3,10	3,53	3,09	3,51	2,40	3,56	3,08	3,51	2,52
ESEER		4,87	4,87	4,62	4,62	4,44	4,44	4,12	4,12	4,06	4,06
Water flow	l/h	499	1824	978	2370	970	3178	1556	4016	1565	5088
Water pressure drop	kPa	<5	21	<5	18	<5	31	<5	24	<5	30
User side water pump available pressure head	kPa	182	127	205	157	205	117	198	147	198	120
Cooling mode + DHW (2)											
Cooling capacity	kW	2,66	10,1	5,30	13,5	5,26	18,8	8,54	23,1	8,60	30,3
Power input	kW	0,73	3,48	1,51	4,39	1,50	7,35	2,22	7,28	2,26	10,9
DHW heating capacity	kW	3,30	13,1	6,63	17,4	6,58	25,3	10,5	29,5	10,6	39,9
Total COP		8,12	6,67	7,92	7,04	7,89	6,02	8,59	7,22	8,49	6,45
User side water flow rate	l/h	457	1739	912	2330	905	3259	1471	3983	1481	5233
User side water pressure drops	kPa	<5	19	<5	18	<5	32	<5	24	<5	32
User side water pump available pressure head	kPa	183	132	206	159	206	112	199	148	199	115
DHW side water flow rate	l/h	573	2266	1148	3001	1141	4365	1820	5092	1838	6886
DHW side water pressure drops	kPa	<5	28	<5	25	<5	51	6	39	<5	46
DHW side water pump available pressure head	kPa	179	97	199	128	199	45	191	107	193	57
Heating mode or DHW (3)											
Heating capacity	kW	2,85	11,5	5,81	15,0	5,79	21,7	9,17	25,8	9,31	33,9
Power input	kW	0,99	3,52	1,74	4,42	1,85	7,68	2,95	8,21	3,07	12,2
COP		2,88	3,26	3,35	3,39	3,13	2,82	3,11	3,14	3,04	2,78
User side water flow rate	l/h	494	1978	1007	2589	1004	3736	1589	4449	1615	5857
User side water pressure drops	kPa	<5	22	<5	19	<5	38	<5	31	<5	34
User side water pump available pressure head	kPa	181	116	203	149	203	89	195	131	197	101
General data											
Maximum current absorption	A	25		12		12		18		26	
No. of compressors / circuits		1/1		1/1		1/1		1/1		1/1	
Expansion vessel (user side / DHW)	dm^3	5/1		5/1		5/1		5/1		5/1	
Buffer tank volume	dm^3	30		30		30		50		50	
Sound power level (4)	dB(A)	71		71		71		74		74	
Transport weight unit with pump and tank	kg	241		295		295		358		358	
Operating weight unit with pump and full tank	kg	257		303		303		395		395	

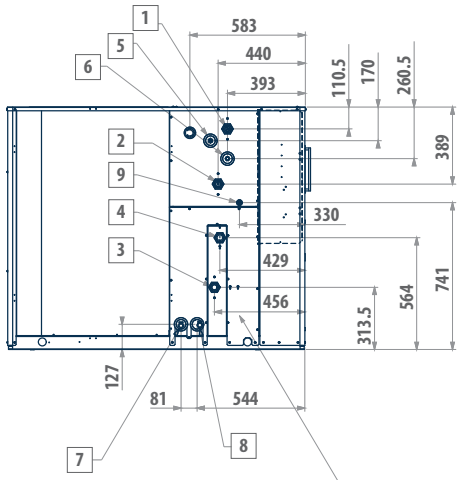
(1) Water temperature 12 / 7 °C, outdoor air temperature 35 °C (UNI EN 14511:2011)
(2) Water temperature 12 / 7 °C, recovery water temperature 40 / 45 °C
(3) Water temperature 40 / 45 °C, outdoor air temperature 7 °C D.B. / 6 °C W.B. (UNI EN 14511:2011)
(4) Sound power level measured according to UNI EN ISO 9614

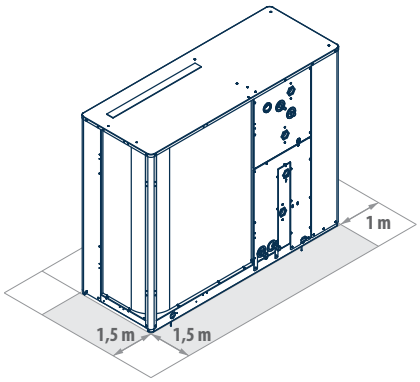


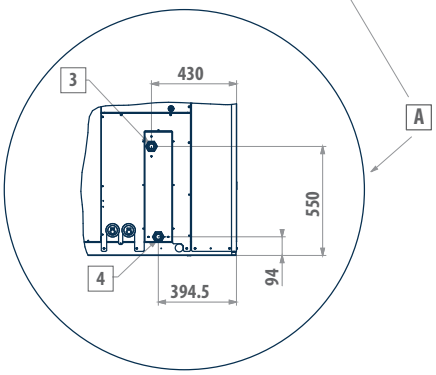
Dimensional drawings

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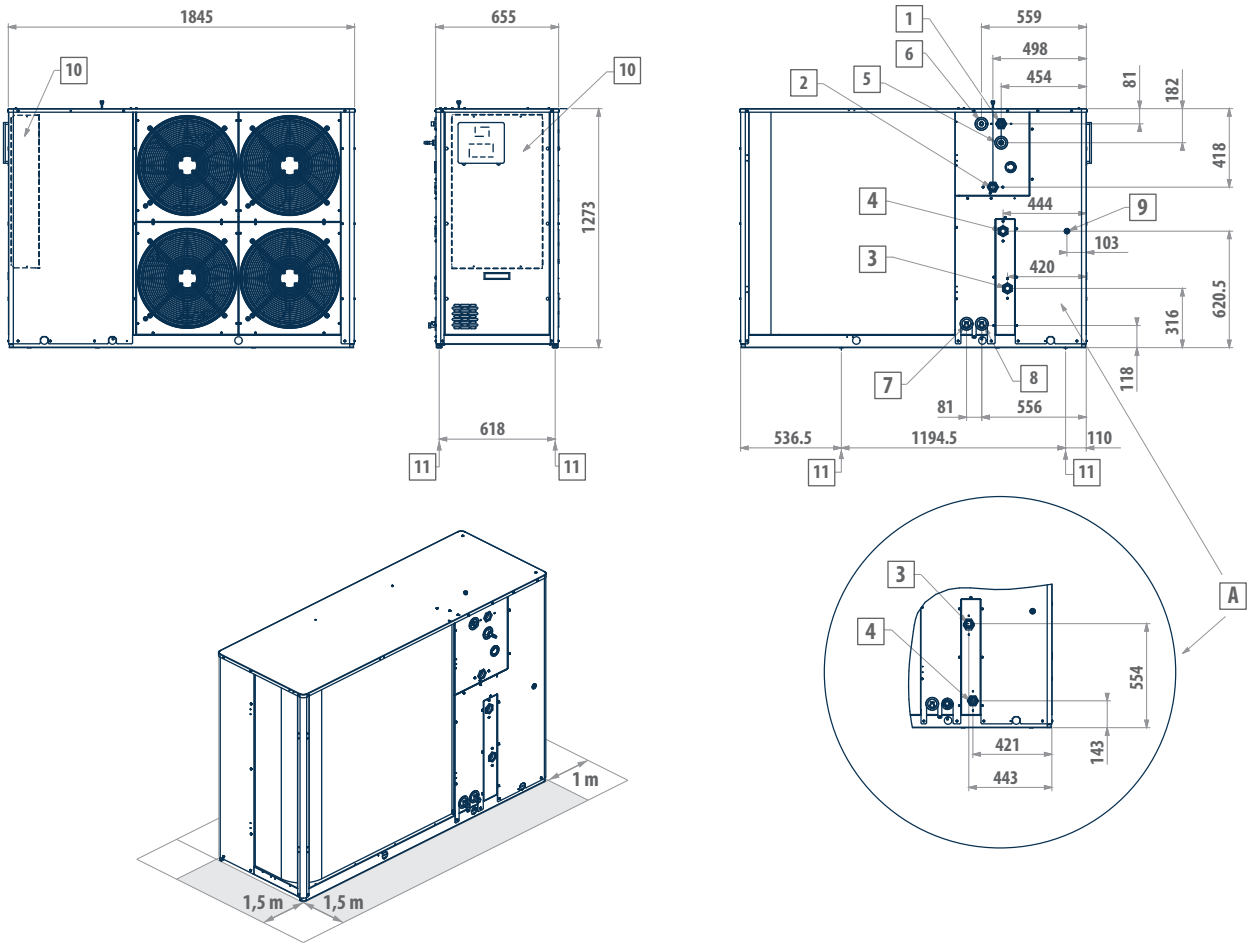


LEGEND

1	Water inlet 1" ¼ female
2	Sanitary hot water inlet 1" ¼ female
3	Water outlet 1" ¼ female
4	Sanitary hot water outlet 1" ¼ female
5	Safety valve discharge outlet provided with rubber ring holder
6	Water supply ½" male (optional tap)
7	Water drainage ½" female
8	Sanitary hot water drainage ½" female
9	Power supply, Ø 28 mm
10	Electric control board
11	Fastening points for vibration dampers
A	Version with EC pump

Dimensional drawings

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LEGEND

1	Water inlet 1" ¼ female
2	Sanitary hot water inlet 1" ¼ female
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5	Safety valve discharge outlet provided with rubber ring holder
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