

# PLUS EVO MONOBLOCCO

High efficiency monobloc heat pump system for producing domestic hot water, heating and cooling for medium users with or without solar thermal integration



## Technical and construction characteristics

PLUS EVO MONOBLOCCO is a monobloc heat pump summer and winter air conditioning system with integrated production of domestic hot water. The system is composed of:

- Monobloc air/water heat pump outdoor unit with integrated external technical inertial storage tank (75 liter ATC model) equipped with motorized sanitary priority diverter valve. These units are equipped with double DC rotary inverter compressors, axial fans with brushless DC motors, source exchanger with finned coil with copper tubes and aluminum fins, user exchanger with brazed plates in AISI 304 stainless steel;
- Inertial accumulation of 315 liters of technical water, with inside a 4.54 m<sup>2</sup> finned copper rapid DHW exchanger;
- DHW thermostatic mixing valve;
- High efficiency inverter electronic circulator to power the hydronic heating circuit;
- Microprocessor command and control panel for the system management with integrated Wi-Fi;
- 2.0 kW back-up electrical 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;
- External unit self-cleaning magnetic dirt separator;
- Hydraulic separator for the system circulators;
- Wheel kit to facilitate movement of the internal unit.

PLUS EVO MONOBLOCK, 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 without the need to carry out anti-legionella thermal shock cycles, in fact this innovative system exploits the first in - first out method which guarantees maximum hygiene of the sanitary circuit, definitively eliminating the problem of limescale deposits.

This product can be combined with a forced circulation solar thermal system (optional) which acts as an integration for the production of DHW and for winter air conditioning.

The system can be equipped with a second inverter electronic circulator (optional) factory installed inside the storage unit to power a second air conditioning circuit.

PLUS EVO MONOBLOCK, is equipped with all the hydraulic components necessary for the correct functioning of the system, all installed and tested in the factory.



Model internal technical inertial storage unit (puffer) U.I.

Code €

**INDOOR UNIT PLUS EVO MONOBLOCCO**

**37308070 4.880,00**

Model of monobloc HP outdoor units U.E. with ATC technical inertial storage and standard diverter valve

	Thermal Power kW	Refrigeration Power kW	Code	€
<b>HPE EVO 5 + ATC</b>	<b>6,50</b>	<b>6,50</b>	<b>37961000</b>	<b>6.500,00</b>
<b>HPE EVO 7 + ATC</b>	<b>8,40</b>	<b>8,30</b>	<b>37961001</b>	<b>7.316,00</b>
<b>HPE EVO 9 + ATC</b>	<b>10,00</b>	<b>10,00</b>	<b>37961002</b>	<b>7.536,00</b>
<b>HPE EVO 12 + ATC</b>	<b>12,20</b>	<b>12,20</b>	<b>37961003</b>	<b>10.618,00</b>
<b>HPE EVO 14 + ATC</b>	<b>14,10</b>	<b>13,90</b>	<b>37961004</b>	<b>10.676,00</b>
<b>HPE EVO 16 + ATC</b>	<b>16,00</b>	<b>15,40</b>	<b>37961005</b>	<b>11.008,00</b>
<b>HPE EVO 12T + ATC</b>	<b>12,20</b>	<b>12,20</b>	<b>37961006</b>	<b>10.916,00</b>
<b>HPE EVO 14T + ATC</b>	<b>14,10</b>	<b>13,90</b>	<b>37961007</b>	<b>11.002,00</b>
<b>HPE EVO 16T + ATC</b>	<b>16,00</b>	<b>15,40</b>	<b>37961008</b>	<b>11.280,00</b>

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Solar thermal kit PLUS EVO MONOBLOCCO	Code	€
KIT SOLAR HR 1 x 2.0 pitched roof	37308030	2.686,00
KIT SOLAR HR 1 x 2.0 flat roof	37318030	2.646,00
KIT SOLAR HR 1 x 2.5 pitched roof	37308031	2.836,00
KIT SOLAR HR 1 x 2.5 flat roof	37318031	2.824,00
KIT SOLAR HR 2 x 2.0 pitched roof	37308032	3.710,00
KIT SOLAR HR 2 x 2.0 flat roof	37318032	3.602,00
KIT SOLAR HR 2 x 2.5 pitched roof	37308033	4.064,00
KIT SOLAR HR 2 x 2.5 flat roof	37318033	3.968,00
KIT SOLAR HR 3 x 2.0 pitched roof	37308034	4.830,00
KIT SOLAR HR 3 x 2.0 flat roof	37318034	4.734,00
KIT SOLAR HR 3 x 2.5 pitched roof	37308035	5.404,00
KIT SOLAR HR 3 x 2.5 flat roof	37318035	5.308,00

## Solar thermal kits to combine with PLUS EVO MONOBLOCCO



**KIT SOLAR HR PLUS 2.0 m<sup>2</sup>**  
 - N. 1 BLUH+ collector 2.0 m<sup>2</sup>  
 - BLUH+ 2.0 m<sup>2</sup> anchoring kit  
 - 2-way solar station mod. UNIT 2 PLUS  
 - CONTROL MULTI 06 S solar control unit  
 - 12 liter expansion vessel  
 - String fittings kit  
 - Glycol antifreeze (1 3 liter canister)

**KIT SOLAR HR PLUS 2.5 m<sup>2</sup>**  
 - N. 1 BLUH+ collector 2.5 m<sup>2</sup>  
 - BLUH+ 2.5 m<sup>2</sup> anchoring kit  
 - 2-way solar station mod. UNIT 2 PLUS  
 - CONTROL MULTI 06 S solar control unit  
 - 18 liter expansion vessel  
 - String fittings kit  
 - Glycol antifreeze (1 4 liter canister)

**KIT SOLAR HR PLUS 2 x 2.0 m<sup>2</sup>**  
 - N. 2 BLUH+ 2.0 m<sup>2</sup> collectors  
 - Anchoring kit 2 BLUH+ 2.0 m<sup>2</sup>  
 - 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)  
 - Antifreeze glycol (2 3-litre canisters)



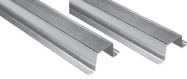






**KIT SOLAR HR PLUS 2 x 2.5 m<sup>2</sup>**  
 - N. 2 BLUH+ 2.5 m<sup>2</sup> collectors  
 - Anchoring kit 2 BLUH+ 2.5 m<sup>2</sup>  
 - 2-way solar station mod. UNIT 2 PLUS  
 - CONTROL MULTI 06 S solar control unit  
 - 25 liter expansion vessel  
 - String fittings kit (1 string-2 collectors)  
 - Antifreeze glycol (2 4 liter cans)

**KIT SOLAR HR PLUS 3 x 2.0 m<sup>2</sup>**  
 - N. 3 BLUH+ 2.0 m<sup>2</sup> collectors  
 - Anchor kit 3 BLUH+ 2.0 m<sup>2</sup>  
 - 2-way solar station mod. UNIT 2 PLUS  
 - CONTROL MULTI 06 S solar control unit  
 - 40 liter expansion vessel  
 - String fittings kit (1 string-3 collectors)  
 - Antifreeze glycol (3 3-litre cans)

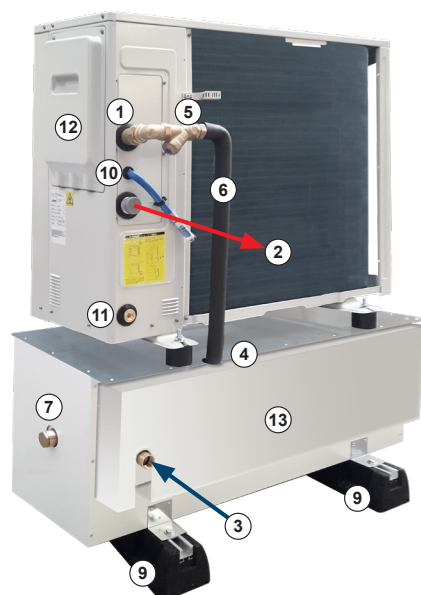
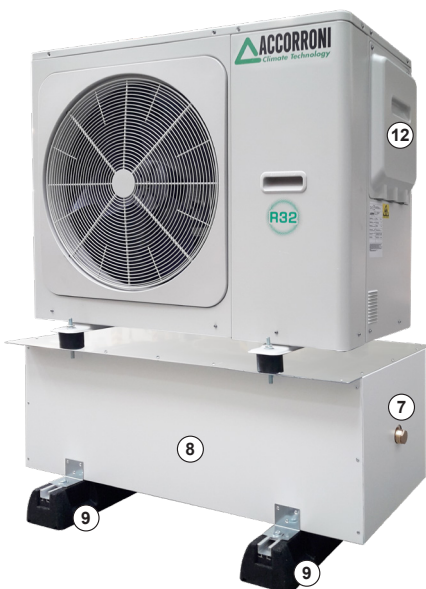
**KIT SOLAR HR PLUS 3 x 2.5 m<sup>2</sup>**  
 - N. 3 BLUH+ 2.5 m<sup>2</sup> collectors  
 - Anchor kit 3 BLUH+ 2.5 m<sup>2</sup>  
 - 2-way solar station mod. UNIT 2 PLUS  
 - CONTROL MULTI 06 S solar control unit  
 - 40 liter expansion vessel  
 - String fittings kit (1 string-3 collectors)  
 - Antifreeze glycol (3 4 liter cans)

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Accessories PLUS EVO MONOBLOCCO		Code	€
	"Y" mechanical brass filter with removable metal mesh	<b>included</b>	
	Semi-automatic self-cleaning magnetic dirt separator with insulating shell and pre-assembled in the internal unit with 1" connections for models 5-7-9 and 1" 1/4 connections for models 12-14-16	<b>included</b>	
	ATC accumulation support Omega in galvanized sheet metal	<b>75100043</b>	<b>80,00</b>
	Anti-vibration floor base in vulcanized rubber (height from the ground 95 mm, length 600 mm)	<b>75100042</b>	<b>120,00</b>
	Second air conditioning system pump kit	<b>75101034</b>	<b>490,00</b>
	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	<b>35006004</b>	<b>260,00</b>
	Forced circulation solar thermal exchanger with 1.50 m <sup>2</sup> exchange surface	<b>75101002</b>	<b>644,00</b>
	230 V single-phase integrative electrical resistance, IP 65 protection rating for external ATC puffer	<b>mod. 2000 W - 1" 1/2</b> <b>mod. 3000 W - 1" 1/2</b>	<b>75050103</b> <b>75060300</b> <b>220,00</b> <b>240,00</b>
	Automatic antifreeze valve, brass body, opening temperature 3 °C	<b>mod. 1"</b> <b>mod. 1" 1/4</b>	<b>30403144</b> <b>30403145</b> <b>184,00</b> <b>196,00</b>

## Hydraulic connection instructions for ATC 75 liter technical inertial storage tank (included)

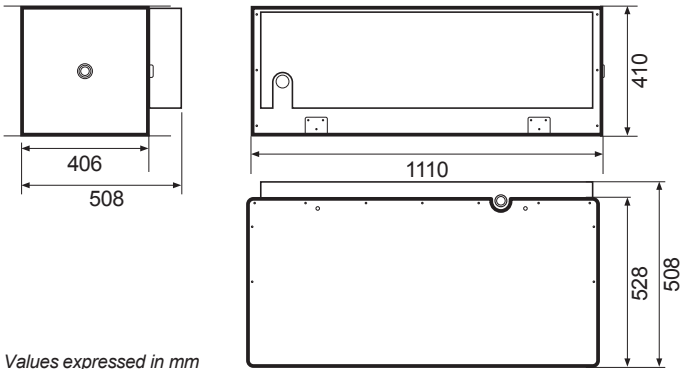


- 1 By-pass input
- 2 I.U. delivery PLUS EVO MONOBLOCK
- 3 Return I.U. PLUS EVO MONOBLOCK
- 4 By-pass outlet
- 5 "Y" filter 1"1/4" (standard)
- 6 1" by-pass tube (HPE EVO 5/7/9)  
1"1/4 (HPE EVO 12/14/16)
- 7 Additional attachment for resistance electric (1" 1/2 F)
- 8 75 liter inertial technical storage (puffer)
- 9 Rubber floor anti-vibration base vulcanized (optional)
- 10 Safety valve drain
- 11 Condensate drain
- 12 Electrical connection board
- 13 Technical compartment cover box with inside l with motorized diverter valve for the management of health priority

# PLUS EVO MONOBLOCCO

High efficiency monobloc heat pump system for producing domestic hot water, heating and cooling for medium users with or without solar thermal integration

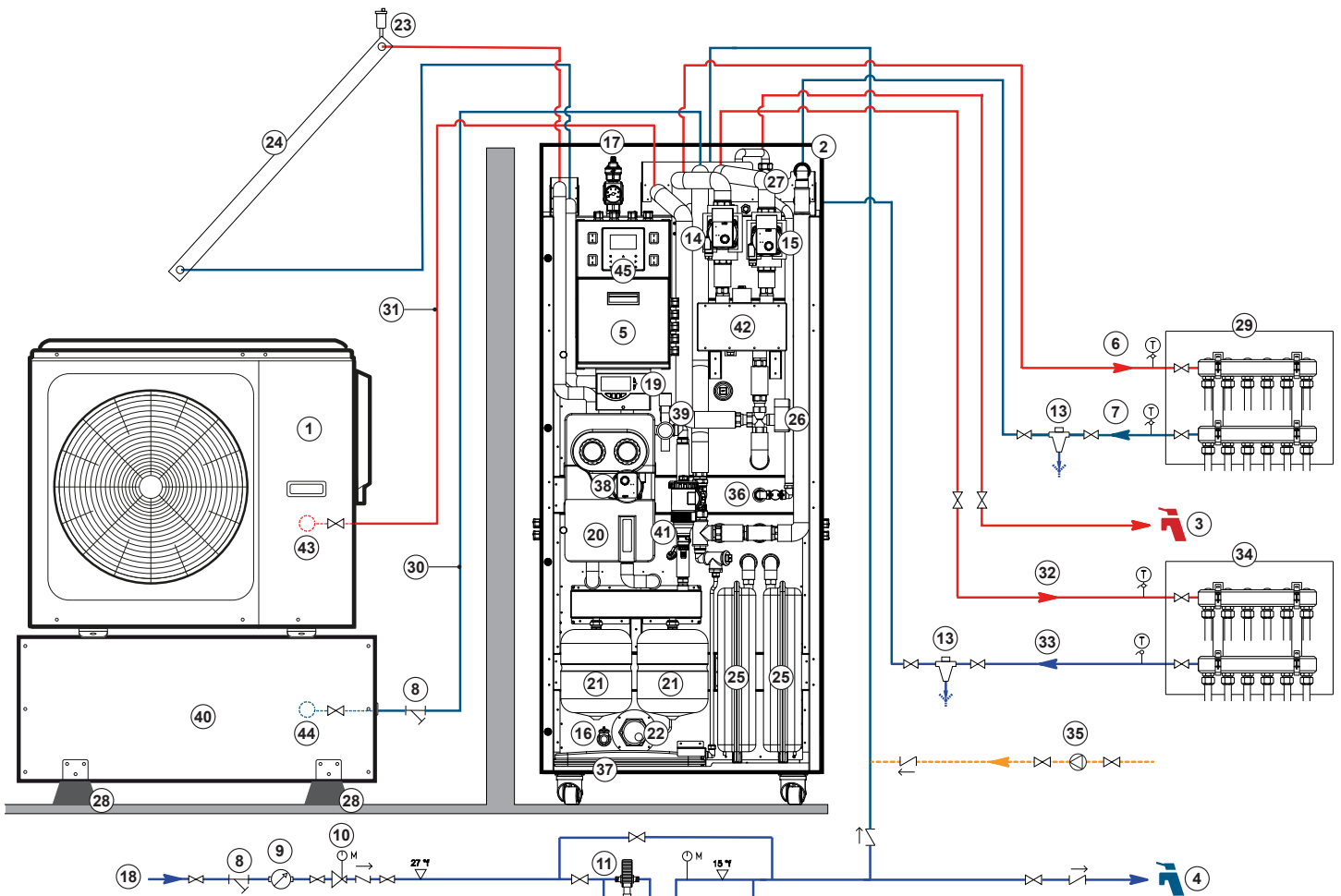
## ATC 75 liter technical inertial storage for hot and chilled technical water (included)



Values expressed in mm

Model	U.M.	ATC
Useful capacity	l	75
Insulation thickness	mm	50
Thermal conductivity coefficient	W/mK	0,033
Max operating temp	°C	60
Max working pressure	bar	3
Max testing pressure	bar	6
Empty weight	kg	65
Operating weight	kg	140

## Application example PLUS EVO MONOBLOCCO



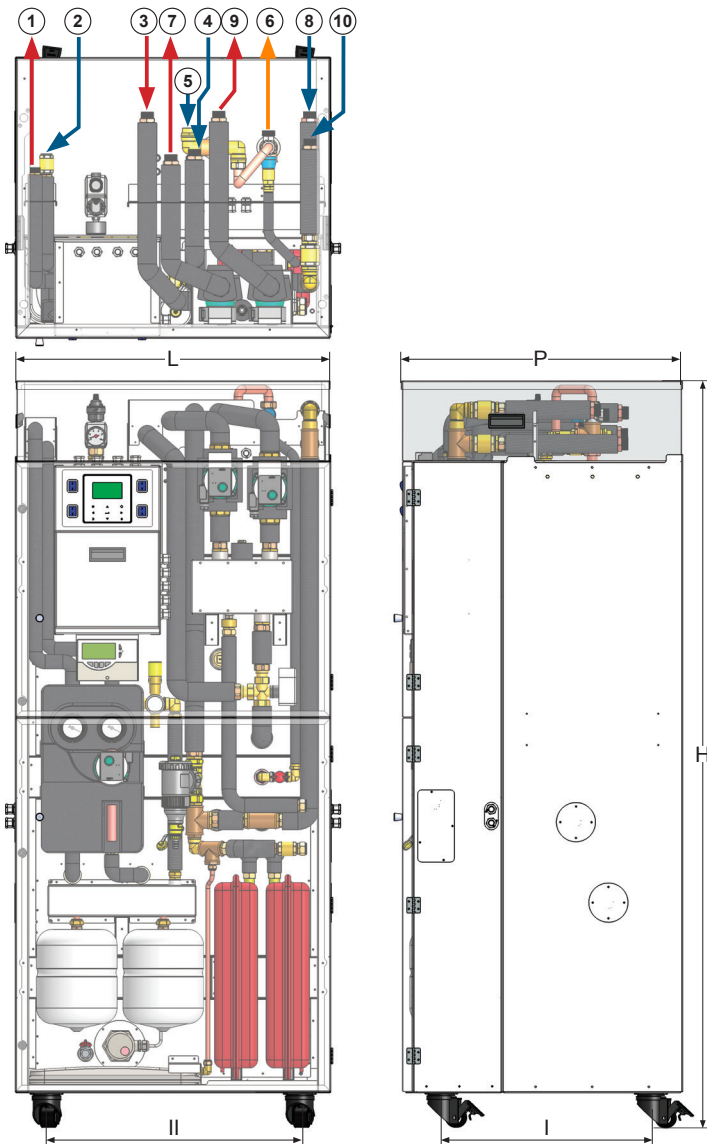
- 1 HPE EVO 7 external unit
- 2 Inertial accumulation of technical water (puffer) of 315 litres equipped with a 4.54 m<sup>2</sup> finned copper exchanger
- 3 Domestic hot water delivery
- 4 Domestic cold water delivery
- 5 Electrical command and control panel
- 6 Technical water delivery 1st radiant circuit
- 7 Technical water return 1st radiant circuit
- 8 "Y" mechanical filter
- 9 Aqueduct volumetric meter
- 10 Water network pressure reducer
- 11 Water network sand trap filter
- 12 Volumetric softener
- 13 Magnetic dirt separator
- 14 Inverter circulator 1st radiant circuit
- 15 Inverter circulator 2nd radiant circuit
- 16 1/2" F accumulation emptying tap
- 17 Safety group with pressure gauge, jolly valve and 3 bar safety valve
- 18 Water mains inlet
- 19 Digital solar controller 0-10V CONTROL MULTI 06 S
- 20 UNIT 2 PLUS solar station
- 21 8 liter solar expansion vessel
- 22 Supplementary electric resistance 2 kW

- 23 Jolly solar thermal air vent valve
- 24 BLUH+ / BLUHx+ solar collector
- 25 8 liter puffer expansion vessel
- 26 Motorized diverter valve to manage the sanitary priority
- 27 Anti-scald DHW mixing valve
- 28 Vulcanized rubber anti-vibration base
- 29 1st radiant circuit system manifold
- 30 E.U. return hydronic line. 1"
- 31 EU delivery hydronic line. 1"
- 32 Technical water delivery 2nd radiant circuit
- 33 2nd radiant circuit technical water return
- 34 2nd radiant circuit system manifold
- 35 DHW recirculation pump
- 36 System filling group
- 37 6 liter system expansion tank
- 38 Inverter solar circulator
- 39 Forced circulation solar system safety group
- 40 ATC inertial technical storage (standard)
- 41 Self-cleaning magnetic dirt separator U.E. HPE EVO 7
- 42 Hydraulic separator for secondary circulators
- 43 Delivery connection 1" F, U.E. HPE EVO 7
- 44 Return connection 1" F, U.E. HPE EVO 7
- 45 Electronic command and control unit

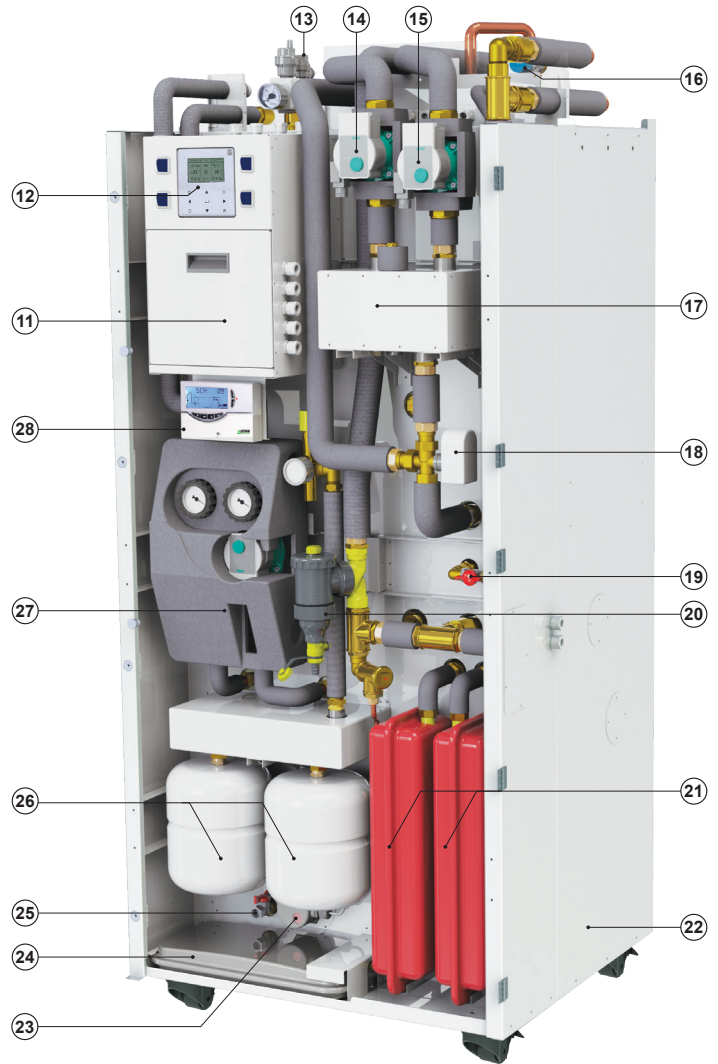
# PLUS EVO MONOBLOCCO

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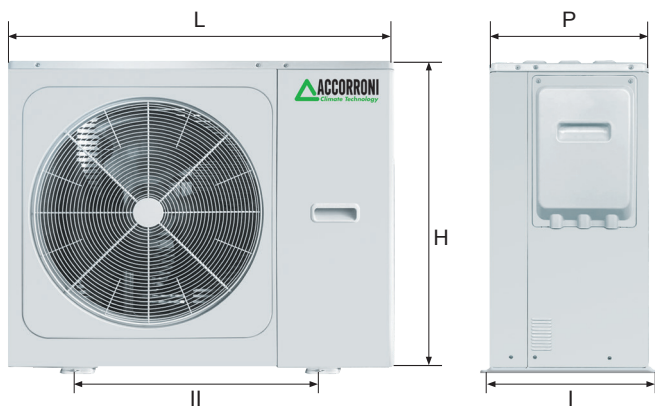
## Dimensions U.I. PLUS EVO MONOBLOCCO



## Axonometry U.I. PLUS EVO MONOBLOCCO



## Dimensionis outdorr unit PLUS EVO MONOBLOCCO



- 1 solar thermal system delivery 3/4" M
- 2 3/4" M solar thermal system return
- 3 EU delivery hydronic line connection. HPE EVO
- 4 EU return hydronic line connection HPE EVO
- 5 Domestic cold water inlet 1" M
- 6 Mixed domestic hot water delivery 1" M
- 7 1st air conditioning circuit delivery 1" M
- 8 1st air conditioning circuit return 1" M
- 9 2nd air conditioning circuit flow 1" M
- 10 2nd air conditioning circuit return 1" M
- 11 Electrical panel with connection terminal block for U.E.
- 12 Electronic command and control unit
- 13 Safety group consisting of pressure gauge, joker valve air vent and 3 bar system safety valve
- 14 E.C. circulator for the 1st climate control circuit (standard)
- 15 E.C. circulator for the 2nd climate control circuit (optional)
- 16 Anti-scald DHW mixing valve
- 17 Hydraulic separator for secondary circulators
- 18 Motorized diverter valve for DHW management
- 19 Manual puffer filling group
- 20 Magnetic dirt separator for E.U. HPE EVO (standard)
- 21 8 liter puffer expansion vessel
- 22 Inertial accumulation of technical water (puffer) of 315 litres equipped with a 4.54 m<sup>2</sup> finned copper DHW exchanger
- 23 2 kW supplementary electrical resistance
- 24 6 liter system expansion vessel
- 25 Accumulation emptying tap
- 26 8 liter solar expansion vessel
- 27 UNIT 2 PLUS solar station
- 28 Digital solar controller 0-10V CONTROL MULTI 06 S

Model	L	H	P	I	II	Weight
	mm	mm	mm	mm	mm	kg
PLUS EVO MONOBLOCCO (U.I.)	804	1902	715	534	645	182
HPE EVO 5÷16T (U.E.)	1068	865	450	458	656	87

# PLUS EVO MONOBLOCCO

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## Domestic Hot Water sampling table PLUS EVO 5 MONOBLOCCO

DESCRIPTION	DHW available in a single withdrawal (l.)	Recovery time (minutes)
Inlet water 15 °C - external temperature -7 °C	286,6	59
Inlet water 15 °C - external temperature 0 °C	290,1	54
Inlet water 15 °C - external temperature +7 °C	292,6	51
Inlet water 15 °C - external temperature +15 °C	297,9	46

## Domestic Hot Water sampling table PLUS EVO 7 MONOBLOCCO

DESCRIPTION	DHW available in a single withdrawal (l.)	Recovery time (minutes)
Inlet water 15 °C - external temperature -7 °C	297,3	45
Inlet water 15 °C - external temperature 0 °C	301,8	41
Inlet water 15 °C - external temperature +7 °C	304,3	39
Inlet water 15 °C - external temperature +15 °C	310,8	35

## Domestic Hot Water sampling table PLUS EVO 9 MONOBLOCCO

DESCRIPTION	DHW available in a single withdrawal (l.)	Recovery time (minutes)
Inlet water 15 °C - external temperature -7 °C	306,2	38
Inlet water 15 °C - external temperature 0 °C	311,6	35
Inlet water 15 °C - external temperature +7 °C	314,7	33
Inlet water 15 °C - external temperature +15 °C	322,4	30

## Domestic Hot Water sampling table PLUS EVO 12/12T MONOBLOCCO

DESCRIPTION	DHW available in a single withdrawal (l.)	Recovery time (minutes)
Inlet water 15 °C - external temperature -7 °C	318,6	31
Inlet water 15 °C - external temperature 0 °C	325,1	29
Inlet water 15 °C - external temperature +7 °C	328,8	27
Inlet water 15 °C - external temperature +15 °C	338,3	24

## Domestic Hot Water sampling table PLUS EVO 14/14T MONOBLOCCO

DESCRIPTION	DHW available in a single withdrawal (l.)	Recovery time (minutes)
Inlet water 15 °C - external temperature -7 °C	329,2	30
Inlet water 15 °C - external temperature 0 °C	336,8	25
Inlet water 15 °C - external temperature +7 °C	341,1	23
Inlet water 15 °C - external temperature +15 °C	352,0	21

## Domestic Hot Water sampling table PLUS EVO 16/16T MONOBLOCCO

DESCRIPTION	DHW available in a single withdrawal (l.)	Recovery time (minutes)
Inlet water 15 °C - external temperature -7 °C	339,9	24
Inlet water 15 °C - external temperature 0 °C	348,4	22
Inlet water 15 °C - external temperature +7 °C	353,3	21
Inlet water 15 °C - external temperature +15 °C	365,7	19

### 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
- Heating function disabled

# PLUS EVO MONOBLOCCO

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## Internal Unit technical data table PLUS EVO MONOBLOCCO

DESCRIPTION	U.M.	PLUS EVO MONOBLOCCO 315 LT (U.I.)
Internal unit technical water content	l	315
Max flow rate of inverter electronic circulator	m <sup>3</sup> /h	3,3
Max inverter electronic circulator head	m	6,2
Electrical absorption of inverter electronic circulator	W	3 - 45
Volume of system expansion vessels/puffer	l	6 / 8 + 8
Preload expansion tank	bar	1
Safety valve calibration	bar	3
Insulation type		High density extruded expanded polystyrene
Insulation thickness	cm	5
Cold water inlet and DHW outlet hydraulic connections		1" M
System delivery and return hydraulic connections		1" M (mod. 5-7-9) 1"1/4 M (mod. 12-14-16)
Thermal dispersion of internal unit accumulations	kWh/24h	1,82
Transport / operating weight	kg	182 / 497

## Heat pump technical data table PLUS EVO MONOBLOCCO

Model		U.M.	5	7	9	12-12T	14-14T	16-16T
HEATING (1)	Thermal power	kW	6,50	8,40	10,00	12,20	14,10	16,00
	Absorbed power	kW	1,22	1,66	2,12	2,49	3,00	3,55
	COP	W/W	5,30	5,05	4,70	4,90	4,70	4,50
HEATING (2)	Thermal power	kW	6,30	8,20	9,40	12,00	14,00	16,00
	Absorbed power	kW	1,96	2,60	3,03	4,00	4,74	5,61
	COP	W/W	3,20	3,15	3,10	3,00	2,95	2,85
COOLING (3)	Refrigeration power	kW	6,50	8,30	10,00	12,20	13,90	15,40
	Absorbed power	kW	1,27	1,71	2,32	2,65	3,15	3,66
	EER	W/W	5,10	4,85	4,30	4,60	4,40	4,20
COOLING (4)	Refrigeration power	kW	5,50	7,40	9,00	11,60	13,40	14,00
	Absorbed power	kW	1,69	2,34	3,10	3,74	4,57	4,82
	EER	W/W	3,25	3,15	2,90	3,10	2,93	2,90
Seasonal thermal efficiency class in heating (5)	LWT a 35 °C		A+++	A+++	A+++	A+++	A+++	A+++
	LWT a 55 °C		A++	A++	A++	A++	A++	A++
SCOP (5)	LWT a 35 °C		5,12	5,17	5,12	5,08	4,89	4,84
	LWT a 55 °C		3,59	3,67	3,71	3,61	3,62	3,59
SEER (5)	LWT a 7 °C		5,09	5,19	5,08	5,07	5,09	5,11
	LWT a 18 °C		7,81	8,09	8,31	7,79	7,59	7,49
Sound power level (6)		dB(A)	60	63	65	70	72	72
External fan	Air flow	m <sup>3</sup> /h	3900	4500	4500	5200	5200	5200
Power supply			230V/50/Hz			230V/50/Hz - 400V/3+N/50Hz onlu for models T (threephase)		
Water pipe connections			1"	1"	1"	1"1/4	1"1/4	1"1/4
Pressure set in the safety valve		MPa	0,3					
Total volume of water		l	5					
Nominal head circulator		m c.a.	5	5	5	9	9	9
Operation limits	COOLING	°C	-5 / +43					
	HEATING	°C	-25 / +35					
	DHW	°C	-25 / +43					
LWT range	COOLING	°C	+5 / +30					
	HEATING	°C	+12 / +65					
	DHW	°C	+10 / +60					
Refrigerant	Type (GWP)		R32 (675)					
	Volume loaded	Kg	1,25			1,80		
Expansion valve			Electronic					
Net dimensions (WxHxD)		mm	1040 x 865 x 410					
Dimensions with packaging (WxHxD)		mm	1190 x 970 x 560					
Net / gross weight		Kg	87 / 103			120 / 136		

1) Outside air temperature 7 °C DB, 85% R.H.; EWT 30 °C, LWT 35 °C.

2) Outside air temperature 7 °C DB, 85% R.H.; EWT 47 °C, LWT 55 °C.

3) Outside air temperature 35 °C DB; EWT 23 °C, LWT 18 °C.

4) Outside air temperature 35 °C DB; EWT 12 °C, LWT 7 °C.

5) Seasonal energy efficiency for heating (average climate)

6) Maximum sound power level tested under conditions:

a) Heating with external air temperature 7 °C DB, 6 °C WB; EWT 30 °C, LWT 35 °C;

b) Heating with external air temperature 7 °C DB, 6 °C WB; EWT 47 °C, LWT 55 °C;

c) Cooling with external air temperature 35 °C DB, 24 °C WB; EWT 12 °C, LWT 7 °C.