THERMODYNAMIC MONOBLOCK BOILER

High efficiency thermodynamic boiler with heat pump to produce domestic hot water and heating for small and medium residential users

Technical and construction features

THERMODYNAMIC MONOBLOCK BOILER is the Accorroni Full Inverter heat pump with R32 refrigerant gas with low environmental impact for the production of heating and domestic hot water, designed for applications in small and medium-sized residential units.
Each of its components has been designed with the energy efficiency of existing heating systems in mind, ensuring maximum thermal comfort through an efficient, compact and environmentally friendly solution.
All units meet the most extreme winter air conditioning needs, in fact they can produce hot water up to 65 °C, which makes them suitable for practically most heating systems.
SINGLE-BLOCK THERMODYNAMIC BOILER is composed of an external unit with the following characteristics: compressor with double DC rotary inverter, axial fan with brushless DC motor, source exchanger with circuitry optimised by a finned battery with copper pipes and aluminium fins, user exchanger with brazed plates in AISI 304 stainless steel with reduced pressure drop on the water side.
The refrigeration circuit is made of copper pipe that includes the condensation control, the electronic thermostatic valve, the reversing valve, the high and low pressure switches, liquid separator and receiver, the valves for maintenance and control, high and low pressure transducers. The internal unit is instead made up of: 105-liter inertial accumulation of technical water with a rapid ACS exchanger inside that allows you to avoid anti-legionella cycles, high-efficiency electronic inverter circulator to power the hydronic heating circuit, microprocessor control and command panel for managing the system with integrated Wi-Fi, 2.0 kW back-up electric resistance, 8-liter expansion vessel, manual filling group, emptying tap, safety valve, automatic air vent jolly valve.

Model	Thermal Power kW	Code	€
THERMODYNAMIC MONOBLOCK BOILER 5	**6,50**	**37960100**	**8.600,00**
THERMODYNAMIC MONOBLOCK BOILER 7	**8,40**	**37960101**	**9.400,00**
THERMODYNAMIC MONOBLOCK BOILER 9	**10,00**	**37960102**	**9.640,00**
THERMODYNAMIC MONOBLOCK BOILER 12	**12,20**	**37960103**	**12.700,00**
THERMODYNAMIC MONOBLOCK BOILER 14	**14,10**	**37960104**	**12.780,00**
THERMODYNAMIC MONOBLOCK BOILER 16	**16,00**	**37960105**	**13.100,00**
THERMODYNAMIC MONOBLOCK BOILER 12T	**12,20**	**37960106**	**13.000,00**
THERMODYNAMIC MONOBLOCK BOILER 14T	**14,10**	**37960107**	**13.100,00**
THERMODYNAMIC MONOBLOCK BOILER 16T	**16,00**	**37960108**	**13.380,00**

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Accessories THERMODYNAMIC MONOBLOCK BOILER			Code	€
	Mechanical “Y” filter in brass with removable metal mesh		**INCLUDED**	
	Mixing valve for radiant systems	**mod. fixed mechanical adjustment** **mod. motorized adjustment**	**75101032** **75101033**	**120,00** **600,00**
	Anti-vibration floor base in vulcanized rubber (height from the ground 95 mm) with level and screws for Booster HR 2.5 - 7.0 (pack of 2 pieces)		**75100042**	**102,00**
	Automatic antifreeze valve, brass body, opening temperature 3 °C	**mod. 1”** **mod. 1” 1/4**	**30403144** **30403145**	**184,00** **196,00**
	Adjustable differential by-pass valve with graduated scale, 1” 1/4 threaded connections	**mod. 1 - 6 m** **mod. 5 - 25 m**	**30403140** **30403141**	**360,00** **360,00**
	Brass balancing valve with graduated scale flow meter	**mod. 1”** **mod. 1” 1/4**	**30403142** **30403143**	**200,00** **226,00**
	Self-cleaning semi-automatic magnetic mud remover, adjustable for vertical and horizontal installations	**mod. 1”** **mod. 1” 1/4**	**30403085** **30403137**	**424,00** **480,00**
	Thermal and anti-condensation insulation for 1” and 1” 1/4 self-cleaning magnetic mud separator		**30403132**	**48,00**
	Mandatory cover box for the installation of the internal unit outside the building SINGLE-BLOCK THERMODYNAMIC BOILER made of insulated white pre-painted galvanized steel Height 140 cm - Width 70 cm - Depth 40 cm		**75100119**	**360,00**
	External recessed template for internal unit MONOBLOC THERMODYNAMIC BOILER made of galvanized sheet metal (Height 160 cm - Width 70 cm - Depth 40 cm)		**75101119**	**420,00**

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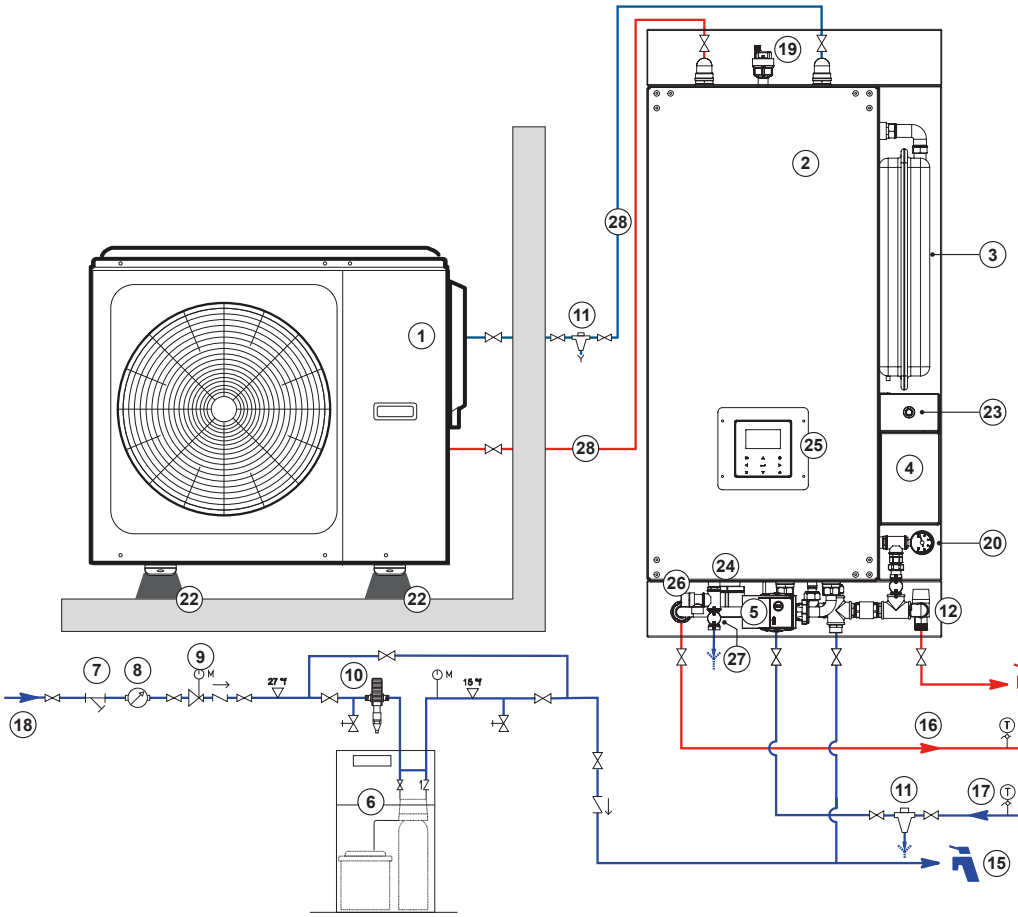
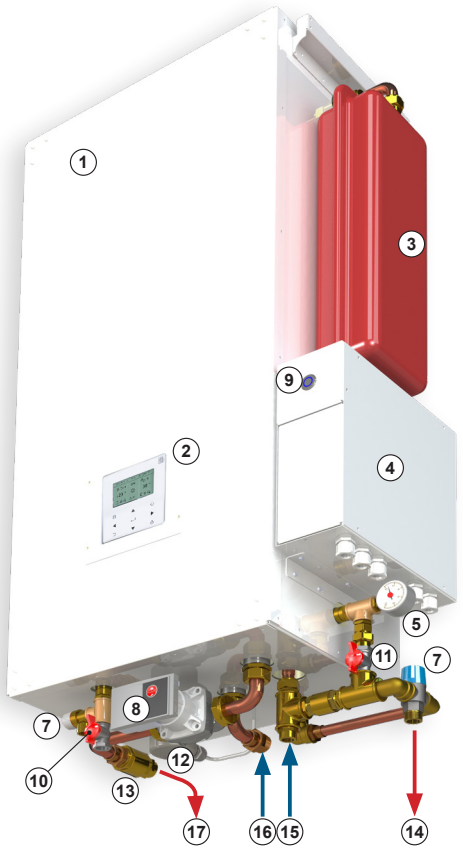
Application example THERMODYNAMIC MONOBLOCK BOILER 7



1 HUB RADIATOR MINI external unit MONOBLOCCO 7
2 105 litre internal unit
3 8 litre expansion vessel
4 Electrical control panel
5 Inverter electronic circulator
6 Water softener
7 "Y" filter
8 Water meter
9 Pressure reducer
10 Sand trap filter
11 Mud separator
12 ACS mixing valve
13 Radiator system manifold
14 Domestic hot water delivery
15 Domestic cold water delivery
16 System delivery
17 System return
18 Water mains inlet
19 Air vent jolly valve
20 Pressure gauge
21 System refill tap
22 Vulcanised rubber anti-vibration base
23 ACS INFINITY button
24 2 kW electric resistance
25 WI-FI control unit
26 Safety valve
27 System emptying tap
28 1" hydraulic line

Axonometry of the internal unit of the THERMODYNAMIC MONOBLOCK BOILER

View A



View B

1 105 litre indoor unit
2 Wi-Fi control and command unit
3 8 litre expansion vessel
4 Control and command electrical panel
5 Pressure gauge
6 Air vent valve
7 ACS mixing valve
8 Inverter electronic circulator
9 ACS FAST button
10 System draining tap
11 System refill tap
12 2 kW electric resistance
13 System non-return valve
14 Domestic hot water delivery
15 Water network inlet
16 System delivery
17 System return

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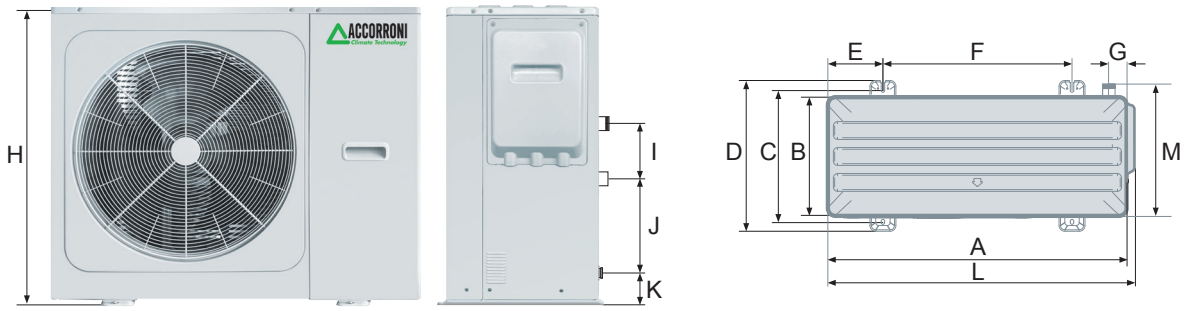
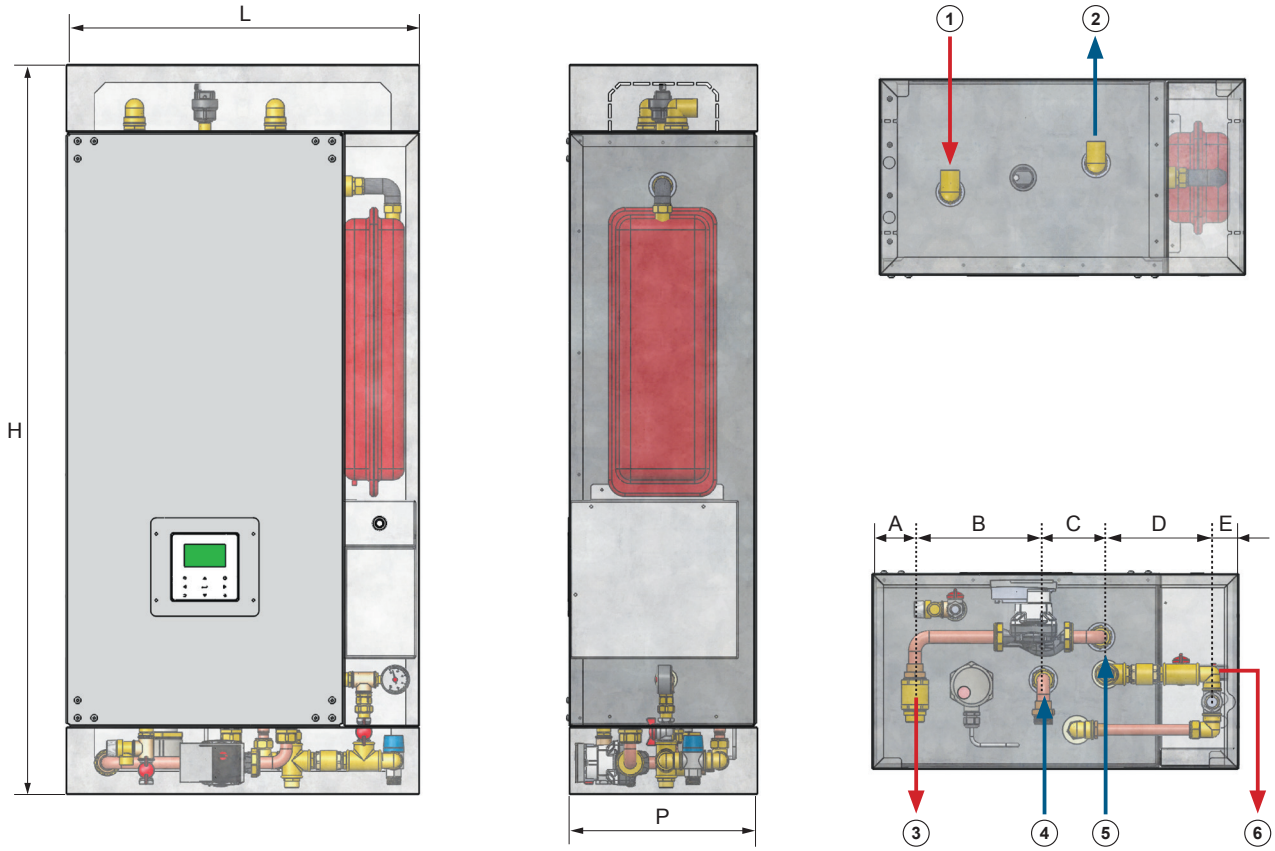
External unit dimensions THERMODYNAMIC MONOBLOCK BOILER



Model	A	B	C	D	E	F	G	H	I	J	K	L	M
5÷16T	1040	410	458	523	191	656	64	865	165	279	89	1068	450

Values expressed in mm

Dimensions of the internal wall-hung unit THERMODYNAMIC MONOBLOCK BOILER



H	L	P	A	B	C	D
1320	640	340	72	224	110	46

1	Inverter monoblock external unit delivery
2	Return of the external monobloc inverter unit
3	System delivery
4	System return
5	Domestic cold water inlet
6	Domestic hot water outlet

Values expressed in mm

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Technical data table THERMODYNAMIC MONOBLOCK BOILER

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
	Power absorbed	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
	Power absorbed	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
Seasonal thermal efficiency class in heating (3)	LWT at 35 °C	kW	A+++	A+++	A+++	A+++	A+++	A+++
	LWT at 55 °C		A++	A++	A++	A++	A++	A++
SCOP (3)	LWT at 35 °C		5,12	5,17	5,12	5,08	4,89	4,84
	LWT at 55 °C		3,59	3,67	3,71	3,61	3,62	3,59
Sound power level (4)		dB(A)	60	63	65	70	72	72
External fan air flow		m^3/h	3900	4500	4500	5200	5200	5200
Electrical supply			230V/1/50Hz			230V/1/50Hz - 400V/3+N/50Hz mod. T (three-phase)		
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	Heating	°C	-25 / +35					
	DHW	°C	-25 / +43					
LWT range	Heating	°C	+12 / +65					
	DHW	°C	+10 / +60					
Refrigerant	Type (GWP)		R32(675)					
	Volume charge	Kg	1,25			1,80		
Expansion valve			Electronic					
Technical water content of internal unit		l	105					
Max flow rate of electronic inverter circulator		m^3/h	3,3					
Max prevalence of electronic inverter circulator		m	6,2					
Electrical absorption of electronic inverter circulator		W	3 - 45					
Expansion vessel volume		l	8					
Expansion vessel pre-charge		bar	1					
Safety valve calibration		bar	3					
Backup electrical resistance		W	2000					
Hydraulic connections cold water inlet DHW outlet			1/2” M					
Hydraulic connections for system flow and return			1” M					
Heat loss accumulates internal unit		kWh/24h	1,82					
Weight of internal transport / operating unit		Kg	79 / 134					
Net/Gross Weight Outdoor Unit		Kg	87 / 103			120 / 136		

EU standards and legislation:
EN14511: 2016; EN14825: 2016; EN50564: 2011; EN12102: 2017; (EU) No. 811/2013; (EU) No. 813/2013; OJ 2014/C 207/02; OJ 2017/C 229/01.
1)External air temperature 7 °C DB, 85% R.H.; EWT 30°C, LWT 35°C.
2)External air temperature 7 °C DB, 85% R.H.; EWT 47°C, LWT 55°C.
3)Seasonal energy efficiency class for heating under average climate conditions.
4)Maximum sound power level tested under conditions of:

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

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

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