

PACK IST EVO MONOBLOCCO

High efficiency factory-built hybrid system with monobloc hydronic heat pump and supporting condensing boiler to produce domestic hot water, heating and air conditioning for small and medium-sized users



Technical and construction characteristics

PACK IST EVO MONOBLOCCO is a factory made hybrid system for summer and winter air conditioning and for the production of domestic hot water composed of:

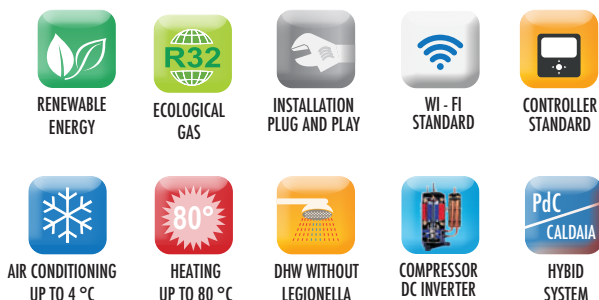
- Monobloc outdoor unit with air/water heat pump (mod. available from 5÷16 kW) with double DC rotary inverter compressors, axial fans with brushless DC motors, source exchanger with circuitry optimized by a finned coil with copper tubes and aluminum fins, user exchanger with brazed plates in AISI 304 stainless steel with reduced pressure drop on the water side;
- Inertial accumulation of 58 liters of technical water;
- Back-up modulating condensing boiler with production instant domestic hot water;
- High efficiency inverter electronic circulator for powering 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;
- 8 liter expansion vessel (puffer);
- Manual filling group consisting of pressure gauge, tap and non-return valve;
- Safety valve calibrated at 3 bar;
- Automatic air vent jolly valve.

PACK IST EVO MONOBLOCCO can be combined with an additional 75 liter inertial technical water puffer (optional), which will be added to the standard 58 liter one, which can be positioned directly underneath the monobloc hydronic heat pump.

This product can be combined with a natural circulation solar thermal system to integrate DHW production.

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.

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



Indoor unit model PACK IST EVO MONOBLOCCO U.I.

	Code	€
Indoor unit PACK IST EVO MONOBLOCCO 5-7-9 / 24 wall unit	76851924	5.400,00
Indoor unit PACK IST EVO MONOBLOCCO 5-7-9 / 32 wall unit	76852024	5.500,00
Indoor unit PACK IST EVO MONOBLOCCO 12-14 / 32 wall unit	76852924	5.800,00
Indoor unit PACK IST EVO MONOBLOCCO 16 / 34 wall unit	76851925	5.850,00
Indoor unit PACK IST EVO MONOBLOCCO 5-7-9 / 24 built-in	76853025	5.800,00
Indoor unit PACK IST EVO MONOBLOCCO 5-7-9 / 32 built-in	76853925	5.900,00
Indoor unit PACK IST EVO MONOBLOCCO 12-14 / 32 built-in	76854025	6.250,00
Indoor unit PACK IST EVO MONOBLOCCO 16 / 34 built-in	76854026	6.300,00

Model of monobloc HP outdoor units U.E.

	Thermal Power kW	Refrigeration power kW	Code	€
HPE EVO 5	6,50	6,50	37960000	4.900,00
HPE EVO 7	8,40	8,30	37960001	5.700,00
HPE EVO 9	10,00	10,00	37960002	5.940,00
HPE EVO 12	12,20	12,20	37960003	9.000,00
HPE EVO 14	14,10	13,90	37960004	9.080,00
HPE EVO 16	16,00	15,40	37960005	9.400,00
HPE EVO 12T Three-phase	12,20	12,20	37960006	9.300,00
HPE EVO 14T Three-phase	14,10	13,90	37960007	9.400,00
HPE EVO 16T Three-phase	16,00	15,40	37960008	9.680,00

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Sistema ibrido factory made ad alta efficienza con pompa di calore idronica monoblocco e caldaia a condensazione di supporto per produrre acqua calda sanitaria, riscaldamento e condizionamento per piccole e medie utenze

Accessories PACK IST EVO MONOBLOCCO

		Code	€	
	Condensing boiler control panel and remote control (not room thermostat)	30400034	106,00	
	PACK IST EVO MONOBLOC covering box mandatory for the installation of the internal unit outside the building made of insulated white painted galvanized steel Height 160 cm - Width 80 cm - Depth 35 cm	75101022	560,00	
	PACK IST EVO MONOBLOC wall unit installation template for preparation of all pipes on site	76801919	190,00	
	ATC - Hot - cold thermal flywheel and 75 liter hydraulic separator, for monobloc heat pump with rigid polyurethane foam with high thermal insulation, for installation under the unit for all HPE EVO models	37900838	1.380,00	
	Additional 6 liter system expansion vessel	10726306	98,00	
	Expansion vessel installation kit on board the ATC hot - cold thermal flywheel with connection pipes and cover panel	76802021	140,00	
	Anti-vibration floor base in vulcanized rubber (height from the ground 95 mm, length 600 mm) with screws (package of 2 pieces)	75100042	120,00	
	ATC accumulation support Omega in galvanized sheet metal	75100043	80,00	
	Automatic antifreeze valve, brass body, opening temperature 3 °C	mod. 1" mod. 1" 1/4	30403144 30403145	184,00 196,00
	Adjustable semi-automatic self-cleaning magnetic dirt separator 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 dirt separator	30403132	48,00	

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Accessories PACK IST EVO MONOBLOCCO		Code	€
	Coaxial vertical outlet Ø 60/100 with smoke extraction	30403124	32,00
	Coaxial starting curve Ø 60/100 at 90° with smoke extraction	30403123	38,00
	Separate duct kits Ø 80/80 with smoke extraction	30403022	50,00
	Curve 90° Ø 80 M/F	30403013	8,00
	Curve 45° Ø 80 M/F	30403012	8,00
	Extension Ø 80 M/F = 1000 mm	30403011	10,00
	Curve 90° coaxial Ø 60/100 M/F	30403004	38,00
	Curve 45° coaxial Ø 60/100 M/F	30403003	30,00
	Coaxial extension Ø 60/100 M/F = 1000 mm	30403002	28,00
	Coaxial fume exhaust kit Ø 60/100	30403000	60,00
	Coaxial roof terminal Ø 60/100	30403014	144,00

ATC hydraulic connection instructions for 75 liter inertial technical storage tank (optional)

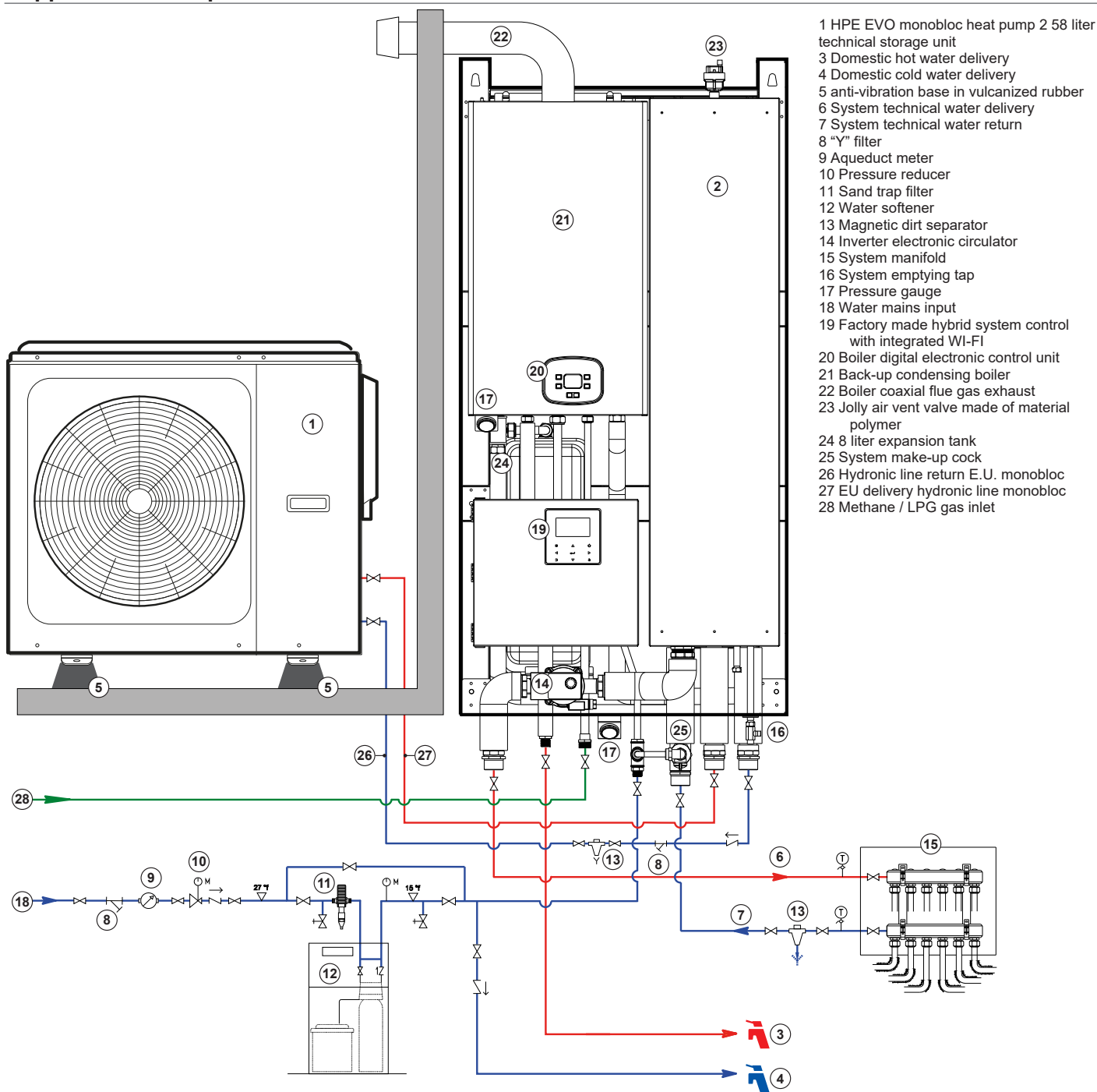


- 1 By-pass input
- 2 I.U. delivery PACK IST EVO MONOBLOCCO
- 3 Return U.I. PACK IST EVO MONOBLOCCO
- 4 By-pass outlet
- 5 Standard 1" "Y" filter (HPE EVO 5/7/9)
1"1/4 (HPE EVO 12/14/16)
- 6 Tube 1" (HPE EVO 5/7/9)
1"1/4 (HPE EVO 12/14/16)
- 7 Additional connection for electric resistance
(1" 1/2 F)
- 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 card
- 13 Technical storage suction pipe
inertial (buffer)

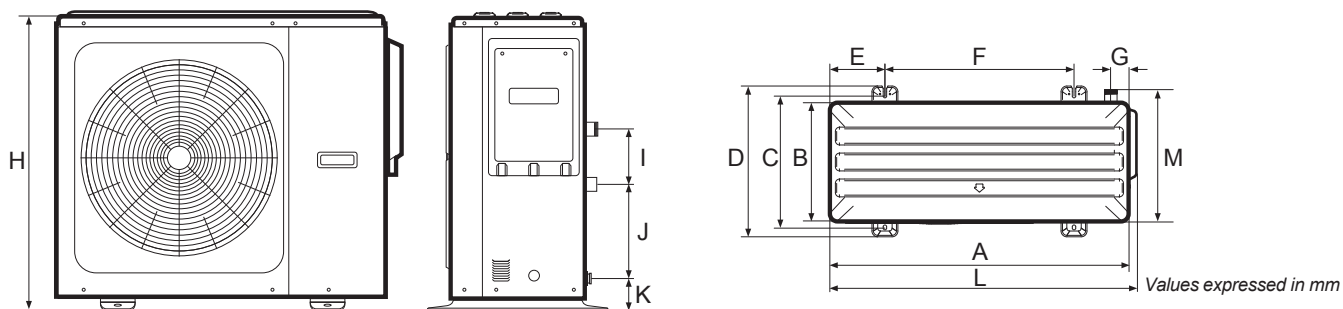
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Application example PACK IST EVO MONOBLOCCO



Dimensions of HP monobloc outdoor units PACK IST EVO MONOBLOCCO



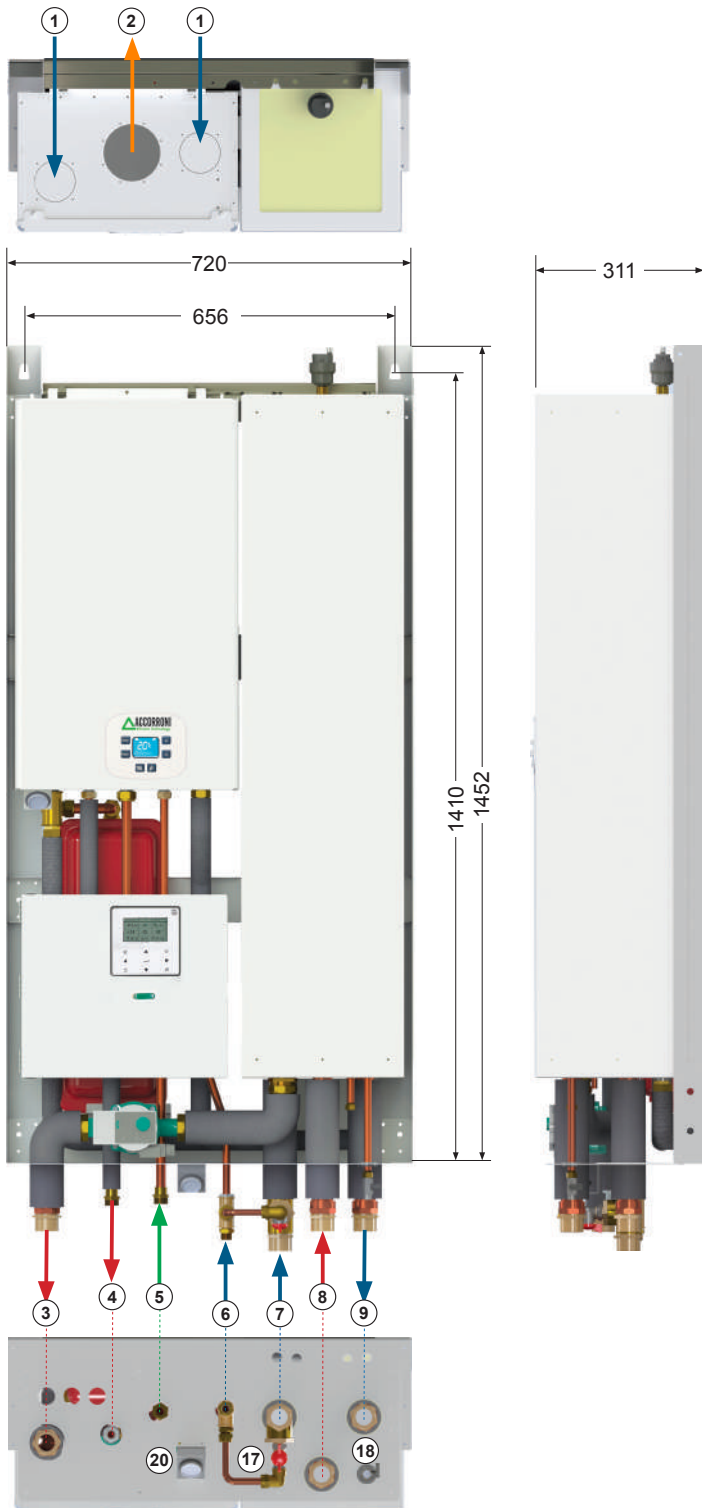
Model	A	B	C	D	E	F	G	H	I	J	K	L	M
5÷16T	1040	410	458	523	191	656	64	865	165	279	89	1068	450

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Dimensions U.I. PACK IST EVO wall installation

Axonometry U.I. PACK IST EVO wall installation



Values expressed in mm

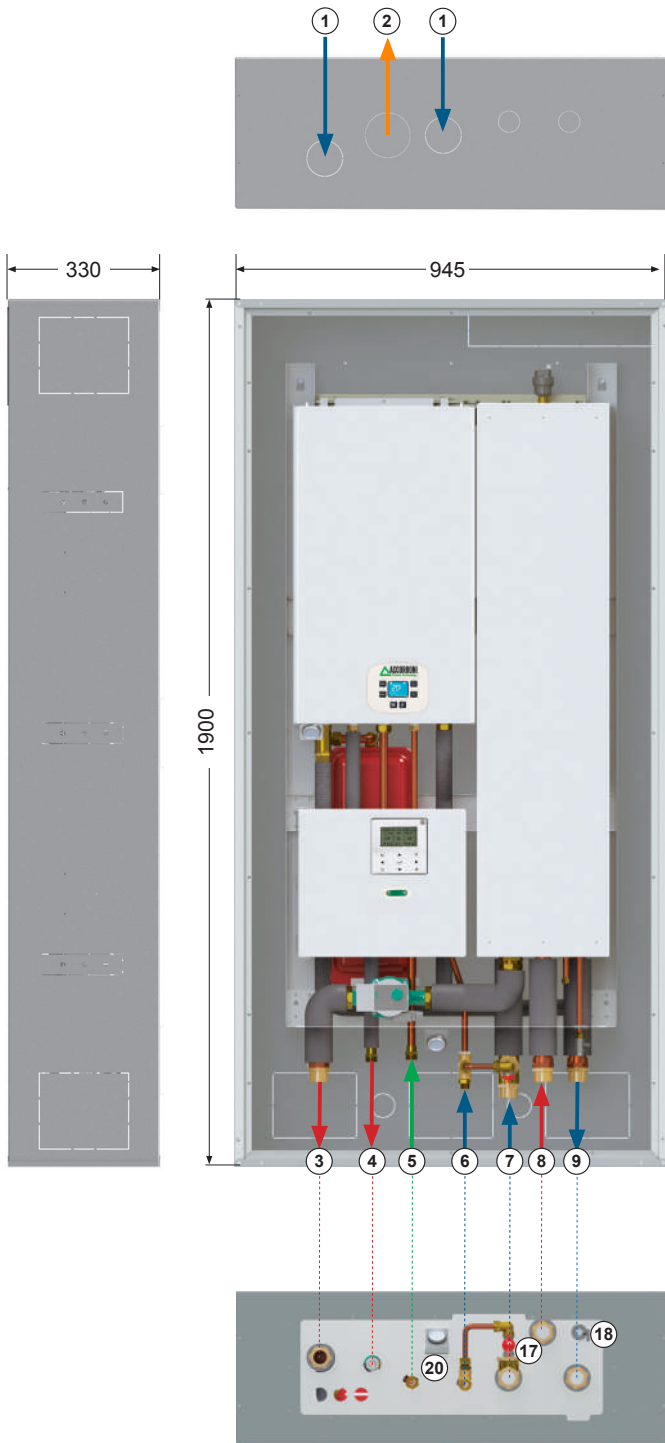
- 1 Pre-cut hole Ø 80 mm for combustion air inlet
- 2 Coaxial fume duct connection Ø 60/100 mm
- 3 Summer and winter air conditioning circuit delivery
1" M for versions 5 - 7 - 9 and 1"1/4 M for versions 12 - 14 - 16
- 4 Domestic hot water circuit flow 1/2" M
- 5 3/4" M methane/LPG gas inlet
- 6 Domestic cold water inlet 1/2" M
- 7 Return of summer and winter air conditioning circuit
1" M for versions 5 - 7 - 9 and 1"1/4 M for versions 12 - 14 - 16
- 8 Hydronic line delivery HPE EVO monobloc heat pump
1" M for versions 5 - 7 - 9 and 1"1/4 M for versions 12 - 14 - 16
- 9 HPE EVO monobloc heat pump hydronic line return
1" M for versions 5 - 7 - 9 and 1"1/4 M for versions 12 - 14 - 16

- 10 8 liter expansion tank
- 11 Automatic air vent jolly valve in polymer material
- 12 Back-up condensing boiler
- 13 Inertial accumulation of technical water (puffer) of 58 litres
- 14 Back-up boiler command and control unit
- 15 Factory made hybrid system command and control unit
- 16 Boiler emergency/integration diverter
- 17 Manual puffer filling group tap
- 18 1/4" M puffer emptying tap
- 19 System inverter electronic circulator
- 20 Puffer technical water pressure gauge
- 21 Electrical panel with connection terminal block

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Dimensions U.I. PACK IST EVO built-in



Axonometry PACK IST EVO built-in



Values expressed in mm

- 1 Pre-cut hole Ø 80 mm for combustion air inlet
- 2 Coaxial fume duct connection Ø 60/100 mm
- 3 Summer and winter air conditioning circuit delivery
1" M for versions 5 - 7 - 9 and 1 1/4" M for versions 12 - 14 - 16
- 4 Domestic hot water circuit flow 1/2" M
- 5 3/4" M methane/LPG gas inlet
- 6 Domestic cold water inlet 1/2" M
- 7 Return of summer and winter air conditioning circuit
1" M for versions 5 - 7 - 9 and 1 1/4" M for versions 12 - 14 - 16
- 8 Hydronic line delivery HPE EVO monobloc heat pump
1" M for versions 5 - 7 - 9 and 1 1/4" M for versions 12 - 14 - 16
- 9 HPE EVO monobloc heat pump hydronic line return
1" M for versions 5 - 7 - 9 and 1 1/4" M for versions 12 - 14 - 16

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- 18 1/4" M puffer emptying tap
- 19 System inverter electronic circulator
- 20 Puffer technical water pressure gauge
- 21 Electrical panel with connection terminal block
- 22 Template for recessed wall installation

PACK IST EVO MONOBLOCCO

High efficiency factory-built hybrid system with monobloc hydronic heat pump and condensing boiler support for producing domestic hot water, heating and air conditioning for small and medium-sized users

Indoor unit technical data table PACK IST EVO MONOBLOCCO

DESCRIPTION	U.M.	24	32	34
Minimum heat output of the boiler in G20 methane gas heating	kW	2,8	3,4	3,4
Maximum heat output of the boiler in G20 methane gas heating	kW	24,0	32,0	34,5
Minimum heat output of the boiler in LPG gas heating	kW	2,8	3,4	3,4
Maximum heat output of the boiler in LPG gas heating	kW	24,0	32,0	34,5
Minimum heat output of the boiler in heating (80-60 °C) methane gas G20	kW	2,5	3,3	3,3
Maximum boiler heat output in heating (80-60 °C) G20 methane gas	kW	23,7	31,3	33,3
Minimum boiler heat output in heating (80-60 °C) LPG gas	kW	2,5	3,3	3,3
Maximum boiler heat output in heating (80-60 °C) LPG gas	kW	23,7	31,3	33,3
Minimum heat output of the boiler in heating (50-30 °C) methane gas G20	kW	2,9	3,5	3,5
Maximum boiler heat output in heating (50-30 °C) methane gas G20	kW	24,9	35,1	36,1
Minimum boiler heat output in heating (50-30 °C) LPG gas	kW	2,9	3,5	3,5
Maximum boiler heat output in heating (50-30 °C) LPG gas	kW	24,9	35,1	36,1
Supply pressure for boiler powered by G20 methane gas	mbar	20		
LPG gas boiler supply pressure	mbar	30/37		
Diaphragm diameter of boiler powered by G20 methane gas	mm	5,6	6,3	6,3
Diaphragm diameter of boiler powered by LPG gas	mm	5,6	6,3	6,3
Minimum CO2 emission from boiler powered by G20 methane gas	%	9,3	8,4	8,5
Maximum CO2 emission from boiler powered by G20 methane gas	%	9,8	10,6	9,5
Minimum CO2 emission boiler powered by LPG gas	%	10,4	10,5	10,0
Maximum CO2 emission from boiler powered by LPG gas	%	10,7	10,6	10,9
Minimum pressure of the heating circuit	bar	0,5		
Maximum pressure of the heating circuit	bar	3		
Boiler useful thermal efficiency at maximum power (60/80 °C)	%	98,8	97,1	97,3
Boiler useful thermal efficiency at maximum power (30/50 °C)	%	103,7	109,8	104,5
Boiler useful thermal efficiency at minimum power (60/80 °C)	%	90,0	95,7	95,7
Boiler useful thermal efficiency at minimum power (30/50 °C)	%	102,1	103,5	103,5
Useful thermal efficiency of the boiler at 30% of the load	%	109,8	110,7	110,0
Emission class NO _x		6		
Emission NO _x	mg/kWh	23	55	55
Fume temperature at max. power	°C	70,0	74,5	74,5
Max operating temperature in heating	°C	85,0		
Methane gas consumption at maximum flow rate in heating ⁽¹⁾	m ³ /h	2,54	3,37	3,55
LPG consumption at maximum flow rate in heating ⁽¹⁾	m ³ /h	0,75	0,97	1,35
Seasonal space heating boiler energy efficiency	%	92,0		
Useful boiler efficiency at nominal heat output. (high temperature regime) ⁽²⁾	%	86,4	86,7	87,6
Boiler useful efficiency at 30% of the nominal thermal power. (low temperature regime) ⁽³⁾	%	96,4		
Heat loss in boiler stand-by	kW	0,069	0,071	0,069
Boiler annual energy consumption	GJ	42,2	62,7	103,4
Boiler seasonal energy efficiency class		A		
Inertial technical water storage volume	l	58		
Expansion vessel volume	l	9+8		
System delivery/return connections mod. 5 - 7 - 9		1"		
System delivery/return connections mod. 12 - 14 - 16		1" 1/4		
Domestic hot water and cold water connections		1/2"		
Methane gas inlet connection G20/GPL		3/4"		
Boiler condensate drain hose diameter	mm	22		
Coaxial smoke extraction duct diameter	mm	60/100		
Diameter of double rope evacuation ducts	mm	80		
Maximum system circulator flow rate	m ³ /h	3,3		
Maximum system circulator head	m	8,7	6,2	10,2
Maximum electrical power absorbed	W	102		
Power supply		230V/1/50Hz		
Transport / operating weight	Kg	110 / 159	113 / 162	113 / 162

⁽¹⁾ Value referred to the temperature of 15 °C external and 1013 mbar - ⁽²⁾ High temperature regime with 60 °C return and 80 °C delivery

⁽³⁾ Low temperature regime 30 °C (return temperature to boiler inlet)

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Domestic hot water production technical data table PACK IST EVO MONOBLOCCO

DESCRIPTION	U.M.	5-7-9 / 24	5-7-9 / 32	12-14 / 32	16 / 34
DHW production with ΔT 25 °C	l/min	15,0	19,0	19,0	19,0
DHW production with ΔT 30 °C	l/min	12,0	14,0	14,0	14,0
DHW production with ΔT 35 °C	l/min	11,0	13,6	13,6	13,6
DHW production with ΔT 40 °C	l/min	9,6	11,9	11,9	11,9
DHW production with ΔT 45 °C	l/min	8,6	10,5	10,5	10,5

Heat pump technical data table PACK IST 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 at 35 °C		A+++	A+++	A+++	A+++	A+++	A+++
	LWT at 55 °C		A++	A++	A++	A++	A++	A++
SCOP (5)	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
SEER (5)	LWT at 7 °C		5,09	5,19	5,08	5,07	5,09	5,11
	LWT at 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 ³ /h	3900	4500	4500	5200	5200	5200
Power supply			230V/50/Hz			230V/50/Hz - 400V/3+N/50Hz only models T		
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					
	Heatin	°C	+12 / +65					
	DHW	°C	+10 / +60					
Refrigerant	Type (GWP)		R32 (675)					
	Volume loaded	Kg	1,25					
Expansion valve			Electronic					
Net dimensions (WxHxD)		mm	1040 x 865 x 410					
Dimensions with packaging (WxHxD) Net / gross weight		mm	1190 x 970 x 560					
		Kg	87 / 103					

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 in conditions of:

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.