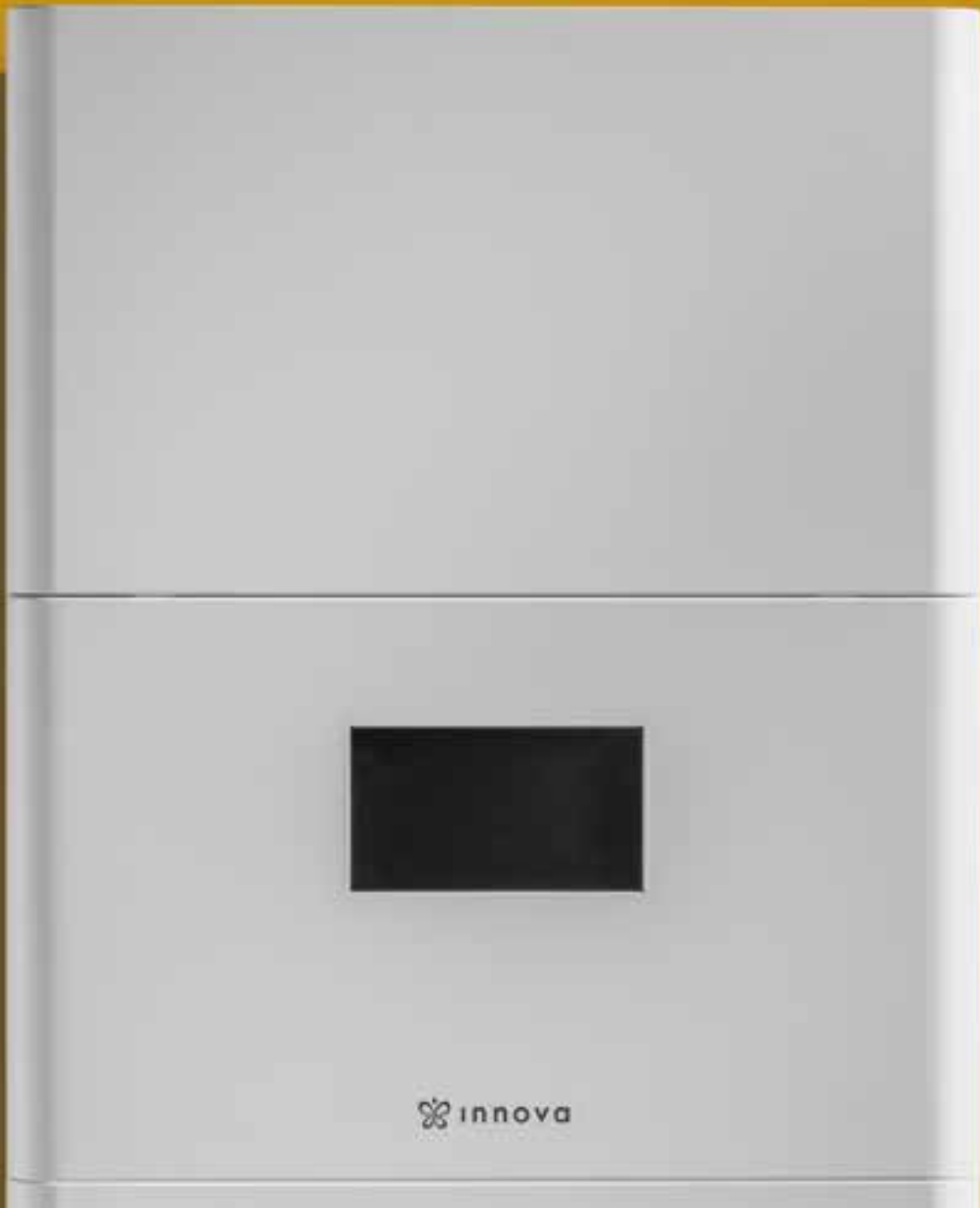


 **innova**

**eHPoca
3in1**

3in1 built-in

The ultimate heat
pumps.



**We capture free heat
from nature, to warm up
your home.**



Heat pumps





Heat pumps

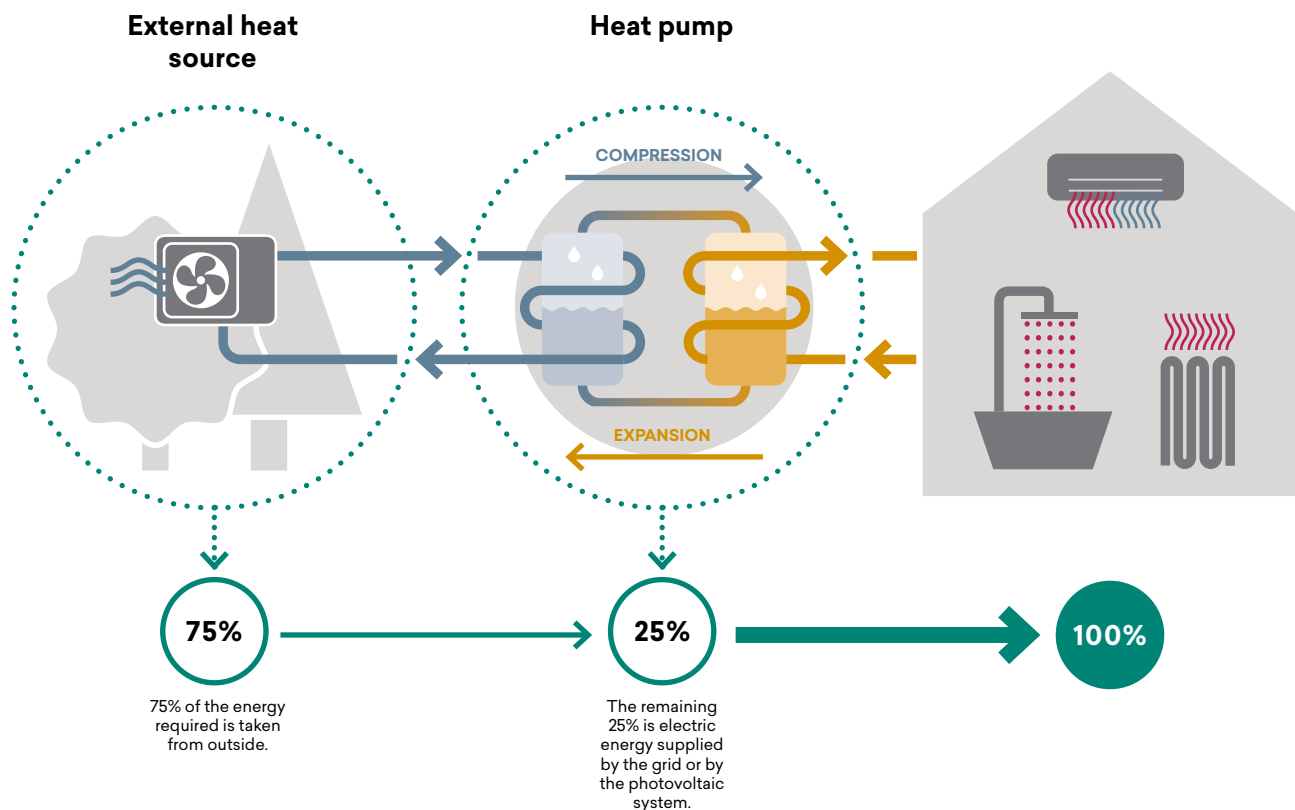


WHAT IS A HEAT PUMP?





A heat pump is used to heat and cool, as well as produce domestic hot water. The way it works is similar to a fridge: the heat taken from a place with a low temperature is transferred to a place with a higher temperature. So, the heat pump takes heat from a cold outside area and transfers to another indoor, warmer area. By inverting the operating cycle, you can cool rooms in summer with the same principle: the heat extracted indoors is taken outdoors.

This process uses the thermal energy already present in nature, so the heat pumps are highly efficient heat generators which use renewable, free energy. The heat pumps are powered by electric energy which allows a cooling cycle to be completed, but the production of heat occurs through absorption from the external source: the air, water or ground (geothermal heat pump).

Electrical energy can also be supplied by a photovoltaic or wind plant. In this case, the thermal energy produced is completely free and renewable.



COMPARISON BETWEEN A GAS BOILER AND A HEAT PUMP

	ENERGY REQUIRED	ENERGY PRODUCED BY A GAS BOILER	ENERGY PRODUCED BY A HEAT PUMP	
 HEATING	10 kWh	1,02€	0,50€	-50%
 DOMESTIC HOT WATER (DHW)	1,3* kWh	0,15€	0,09€	-40%
 RENEWABLE ENERGY		0	8,4 kWh	100%
 EMISSIONS		2,68kg CO ₂	1,25kg** CO ₂	-50%

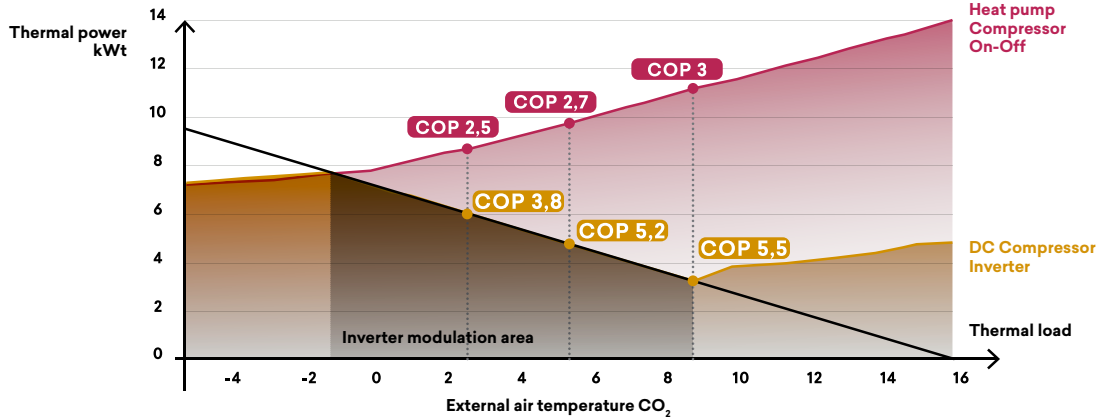
* daily energy requirement of one individual = 50 litres of hot water at 40° C

** CO₂ emissions indirectly produced by national power grid 1kWh = 0.4332 Kg CO₂





Efficiency of a Heat pump Inverter vs on/off




COP: Represents the power produced and the power absorbed

The requirement of a building is maximum at the design temperature and decreases linearly as the outside temperature increases. The heat pump with inverter compressor modulates the power supplied based on the building requirement. As the external temperature increases, the power supplied decreases and so, increases efficiency. The heat pump with on/off compressor always works at 100% and, as the external temperature increases, the power generated increases, in contrast to the building requirement. In these conditions, in order to meet the requested load, the compressor works by repeatedly turning off and on which significantly reduces efficiency.



Energy savings

INNOVA DC Inverter heat pumps guarantee significant energy savings both in heating and in the production of domestic hot water thanks to the high levels of SCOP (seasonal coefficient of performance). Compared to a conventional heating system (e.g. boiler), the cost of energy, used for an entire winter, can be between 30% and 50% less.



heaters

dal 30% \longrightarrow al 50%



radiant panels

BUTLER, smart system control

BUTLER web server is the system developed by INNOVA to manage an entire heating and cooling system directly in your home or remotely. BUTLER allows you to connect the heat pump, controlled mechanical ventilation system, fan coils and all the other system elements via a serial connection.

BUTLER is complete, simple and intuitive at the same time. You can configure a weekly calendar with time zones, create specific zones and change the settings so your home is at the right comfort level for your needs.

Interface

BUTLER is both simple and intuitive: you can manage your own comfort both from the BUTLER display and from a computer or mobile device, such as a smartphone or tablet.



**BUTLER with
built-in display**



Display



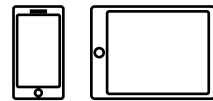
**Via network
or WEB**



local PC



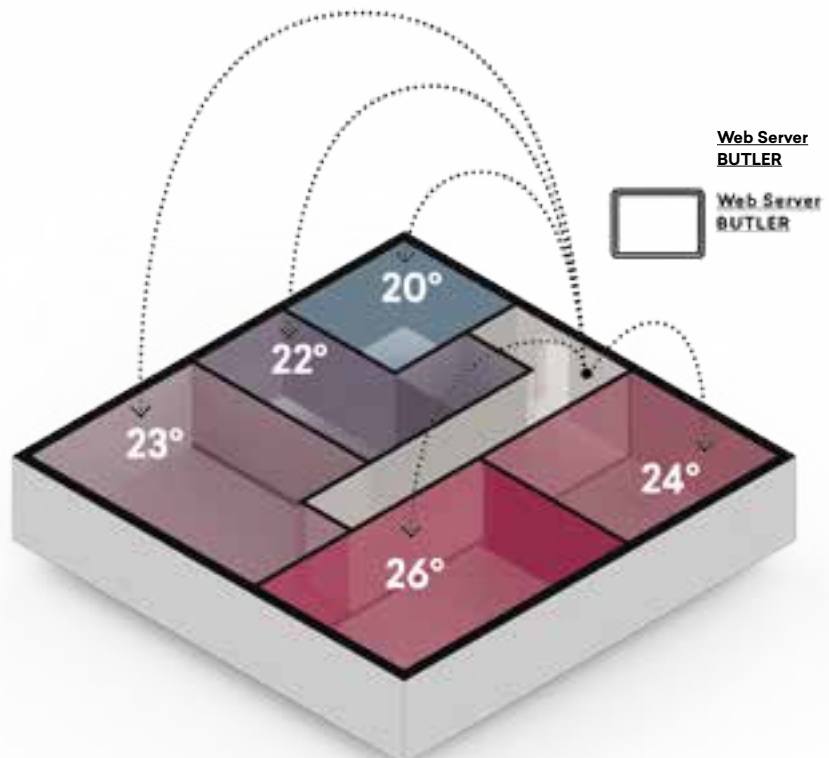
Via WEB



Smartphone
or tablet

Room by room control

You can control each room with BUTLER by configuring a weekly calendar with time zones, creating settings for each room or area, modifying the settings so your home is at just the right comfort level for your needs.



Main functions

- **Monitoring and control in local network or remotely**
The system can be managed by any smartphone, tablet or computer
- **Personalised winter and summer programming**
You can have different programmes for every season
- **Three temperature level setting on INNOVA fan coil network**
For each room or area, you can select 3 different operating temperatures, which can be modified at any time
- **Weekly programming schedule**
You can set the schedule for the different functions for each room; the same can be done for HRV and fan coils
- **PC-type network interface**
Once the bus network has been set up between the heat pump and the fan coils, the connection to the web server is the same as a standard computer
- **Remote assistance**
With the consent of the user, BUTLER can automatically enter the INNOVA cloud for diagnostics and assistance if it is needed



Weekly scheduling



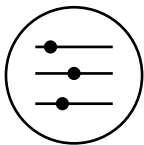
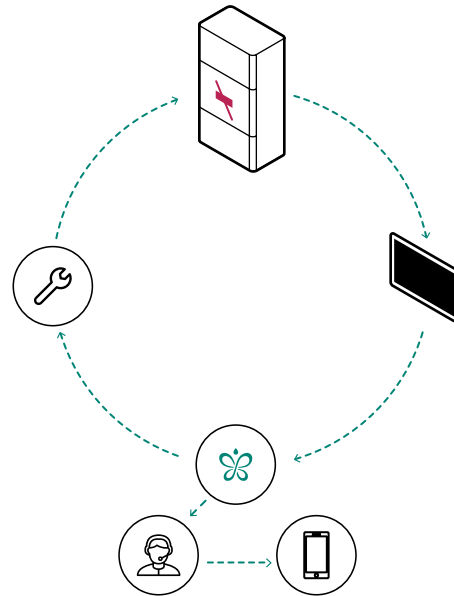
Domestic hot water settings





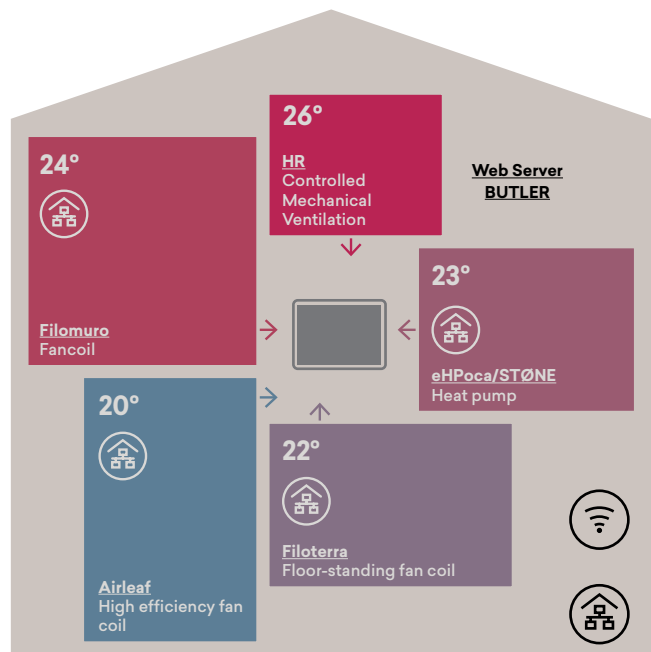
Remote assistance

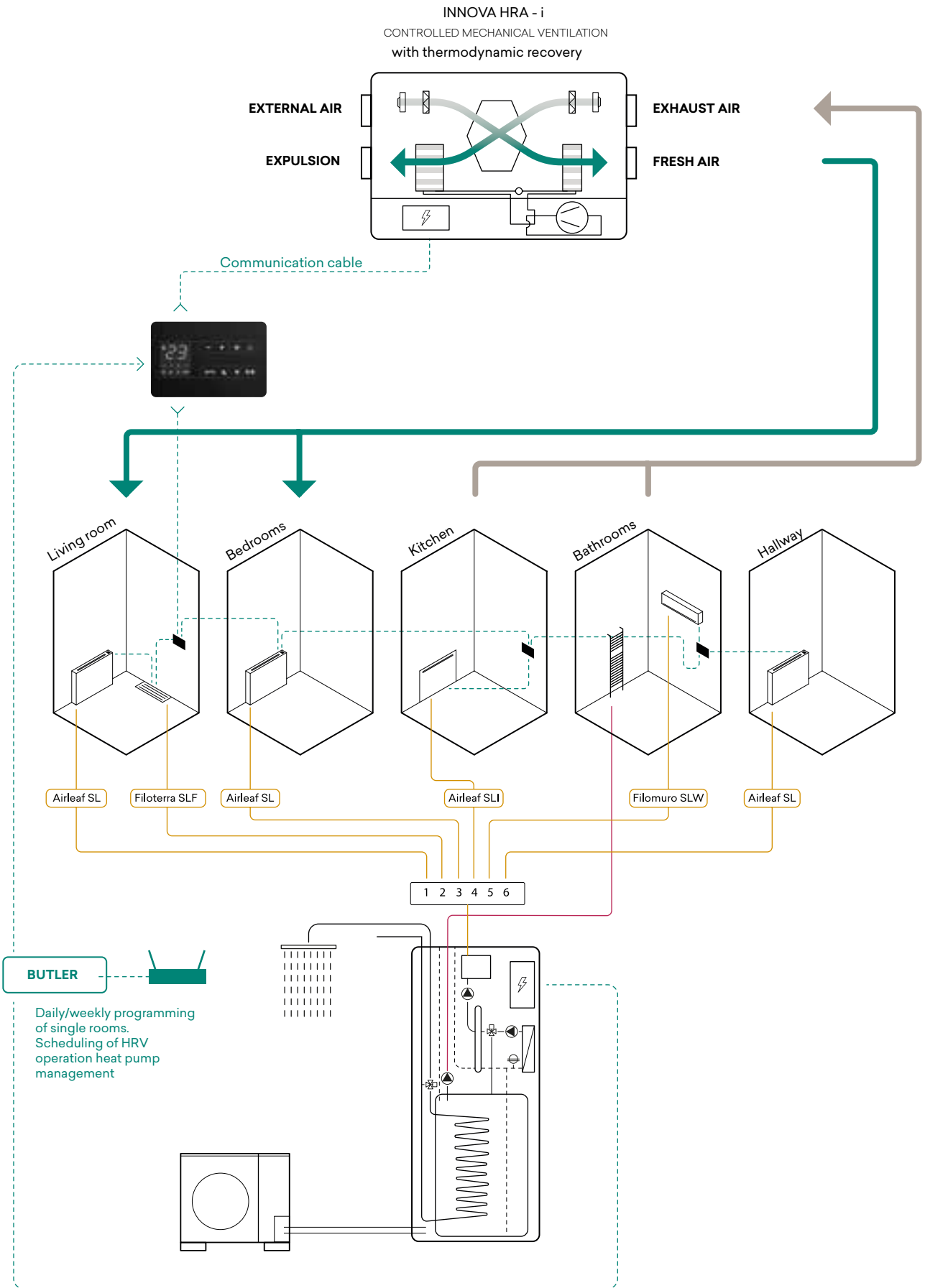
With the consent of the user, BUTLER can automatically enter the INNOVA cloud for diagnostics and assistance, if needed. Thanks to the internet connection, it is possible to check if the INNOVA products connected to the BUTLER are working correctly. Any malfunctions can be automatically sent to the BUTLER at the support centre which can intervene by modifying the operating parameters or deciding to intervene directly, thus providing a fast and prompt service.



Total control

The advantage of choosing a complete INNOVA system is that we are your sole contact point for any requirement, both for programmed maintenance and support. A complete, quality service.





OUR HEAT PUMPS



eHPoca

Internal hydraulic module connected to the external unit via refrigerant pipes. Flexible solution suitable for implementing tailor-made systems.

Features:



Power up to 32 kW



Compact size

Suitable for:



Offices



Large homes



Centralised systems



3in1

Tower with integrated 200-litre DHW tank for and connected to the external unit via refrigerant pipes. Complete solution which guarantees reliability and space saving design

Features:



Built-in water tank



Built-in components



Guaranteed result

Suitable for:



Medium-size homes



Apartments



Range of power



3in1 built-in

Built-in cabinet with integrated 170-litre DHW tank and connected to the external unit via refrigerant pipes. Ideal for apartments with outer wall installation.

Features:



Built-in water tank



Compact size



Outdoor installation



Built-in components

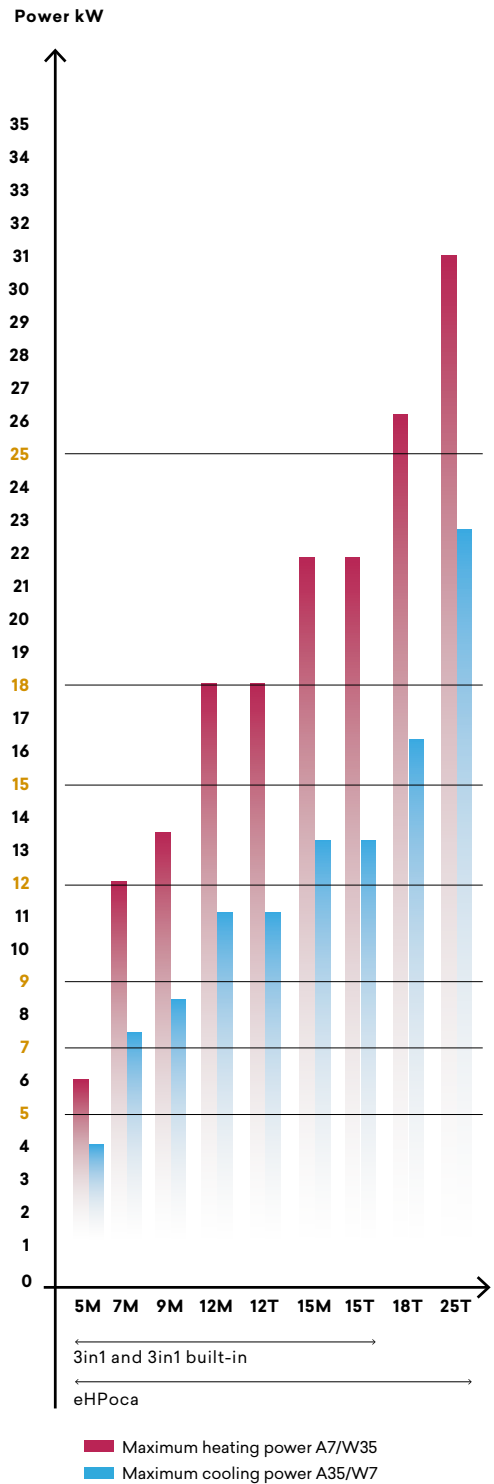
Suitable for:



Medium-size homes



Apartments



Heat pumps

eHPoca



Width
505 mm



Height
900 mm



Depth
300 mm



Indoor unit with compact size. Only 30 cm deep.



High range of power available up to a maximum power of 32 kW.



Remote management via WIFI



Maximum A+++ energy class (g. 9-12-15)

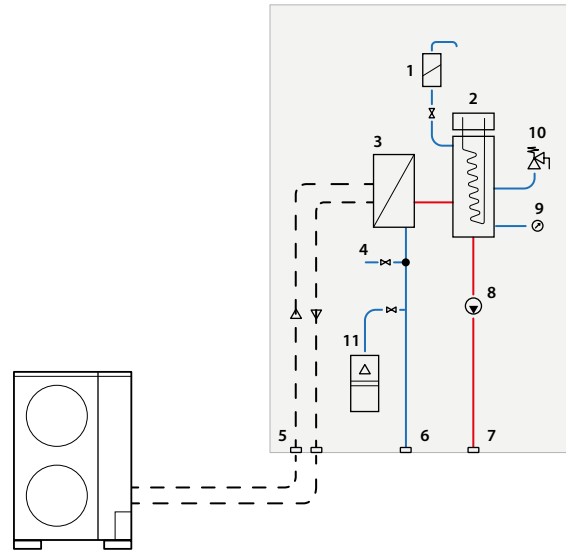
Internal hydraulic module connected to the external unit via refrigerant pipes. Ideal for:

- Offices, where DHW is not required.
- Detached houses, thanks to the combination of a DHW tank of a suitable size capable of meeting high requirements.
- Centralised multi-family systems thanks to the high range of power up to 32 kW per unit, possibility of installing additional units in sequence and availability of storage tanks for DHW that can supply multiple utilities.

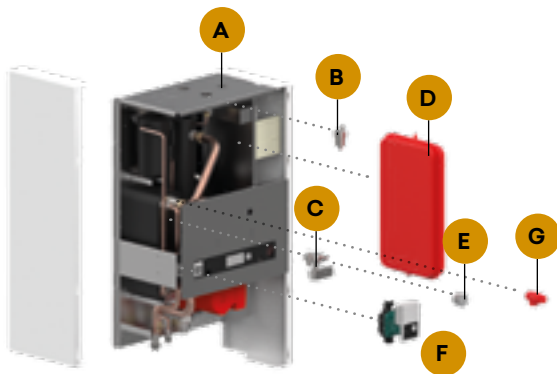


eHPoca unit diagram

1. Automatic vent valve
2. Electrical heater (optional)
3. Plate exchanger
4. Differential pressure switch
5. Refrigerant connections
6. Return system hydraulic connection
7. Supply system hydraulic connection
8. Pump
9. Pressure gauge
10. Safety valve 3 bar
11. Expansion vessel 6 litres



Standard components



Standard components

- A. Structure and cover panels with RAL9003 finish
- B. Automatic vent valve
- C. Differential pressure switch
- D. Expansion vessel 6 litres
- E. Pressure gauge
- F. Primary circuit circulation pump
- G. Safety valve 3 bar

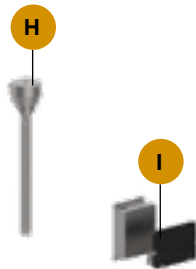
Accessories kit (supplied installed in the unit)

- H. Electrical heater kit 2-4-6 kW for system and ACS
- I. BUTLER + Tablet

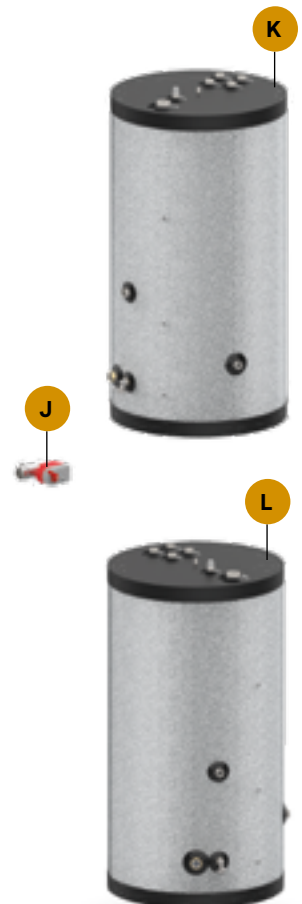
Accessories kit (supplied separately)

- J. ACS 3-way valve
- K. ACS preparation tank from 200 to 1,500 litres
- L. Inertial DHW tank from 100 to 1,000 litres

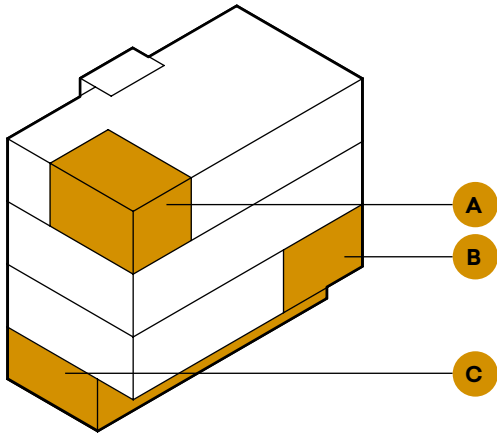
Accessories kit (supplied installed in the unit)



Accessories kit (supplied separately)



eHPoca installation



eHPoca is a flexible solution. Suitable accessories are supplied based on the application. For large homes or apartment blocks, for example, the DHW requirement may be met by choosing the appropriate DHW tank capacity of between 200 and 1,500 litres.



Offices



Large homes



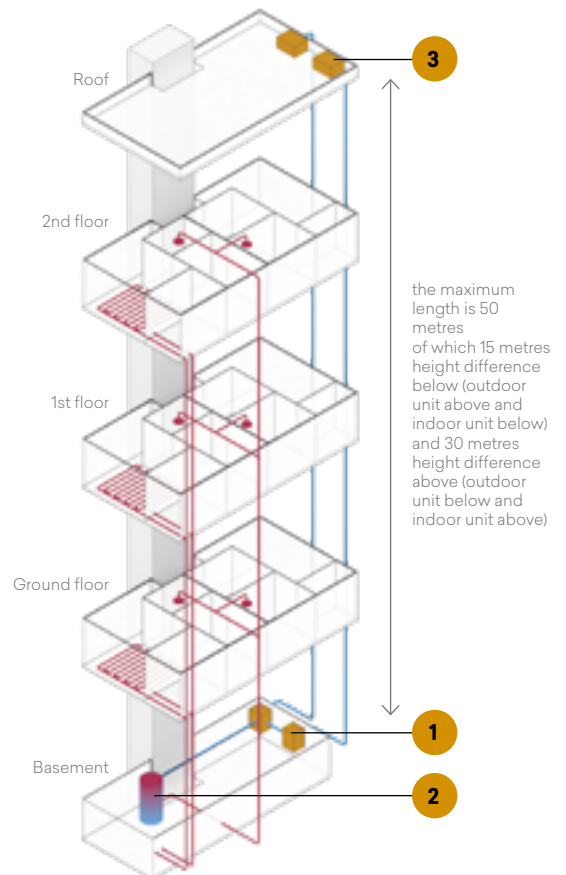
Centralised systems

eHPoca is a heat pump which can be modular and used in sequence to meet high power requirements. The indoor unit must be installed indoors in a suitable room to house all the system components.

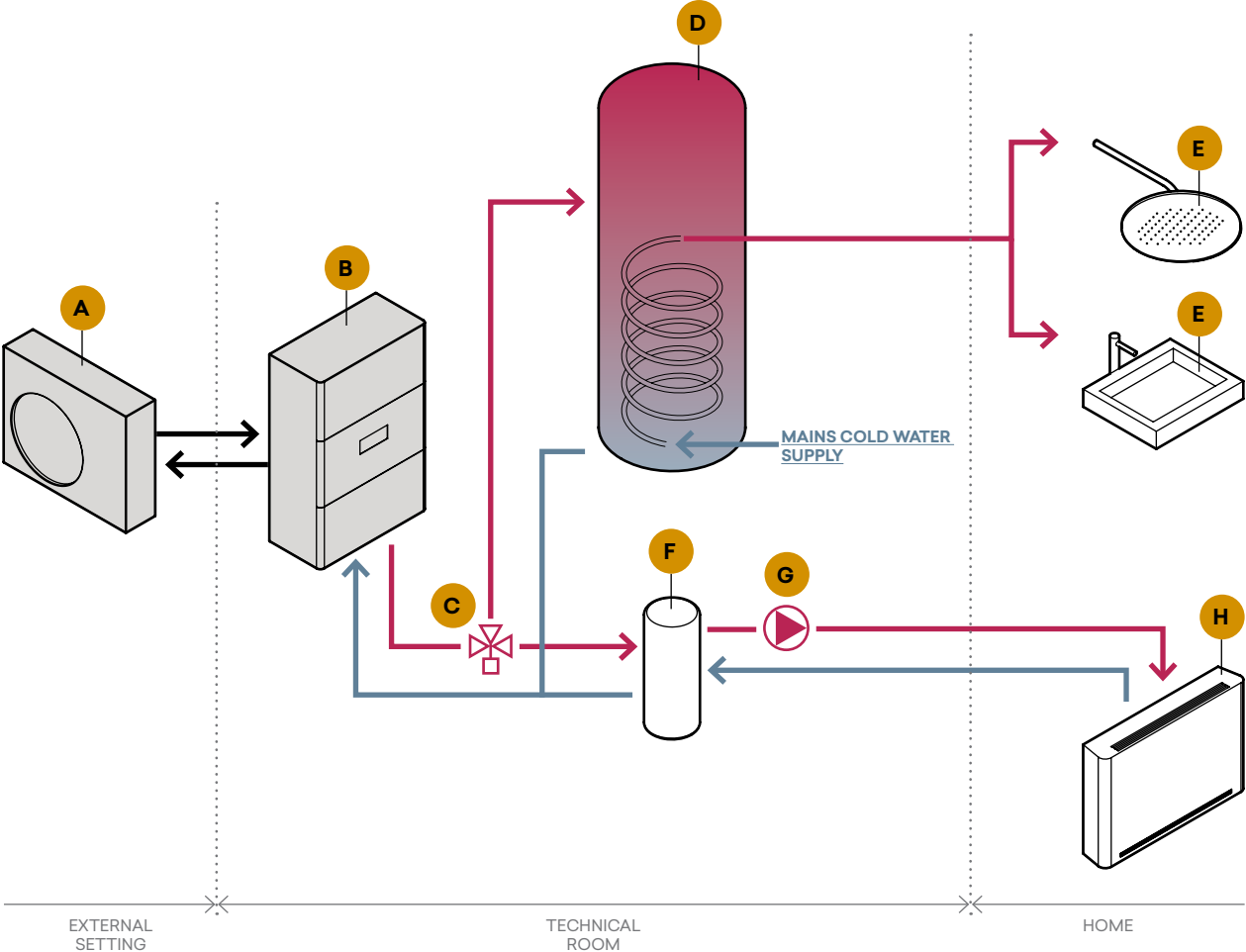
- A. Attic
- B. Laundry
- C. Cellar

Example of centralised system

- 1. eHPoca indoor unit
- 2. Domestic hot water tank
- 3. Outdoor unit
- Refrigerant pipes
- Domestic hot water / heating



eHPoca system diagram



- A. Outdoor unit
 - B. eHPoca indoor unit
 - C. 3-way valve
 - D. Thermal storage tank for instant preparation of DHW
 - E. Domestic hot water supply
 - F. Hydraulic separator
 - G. Secondary circuit pump
 - H. Heating and cooling system
- Domestic hot water
— Cold water

Heat pumps

3in1



All the hydraulic components are integrated in the indoor unit.



DHW production up to 40 °C of external air.



Remote management via WIFI



Maximum A+++ energy class (g. 9-12-15)



Width
600 mm



Height
2000 mm



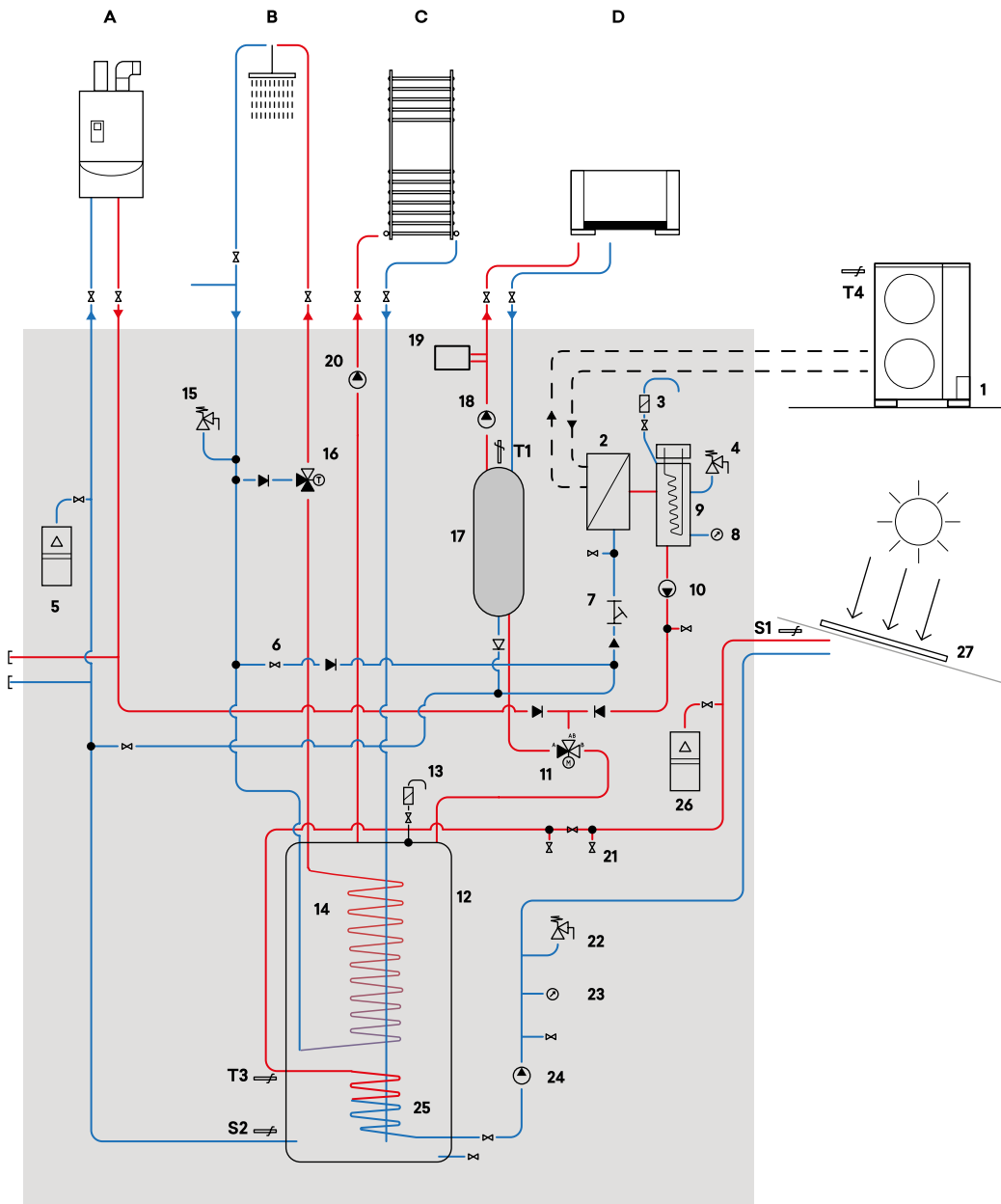
Depth
600 mm

Tower with integrated 200-litre DHW tank and connected to the external unit via refrigerant pipes.

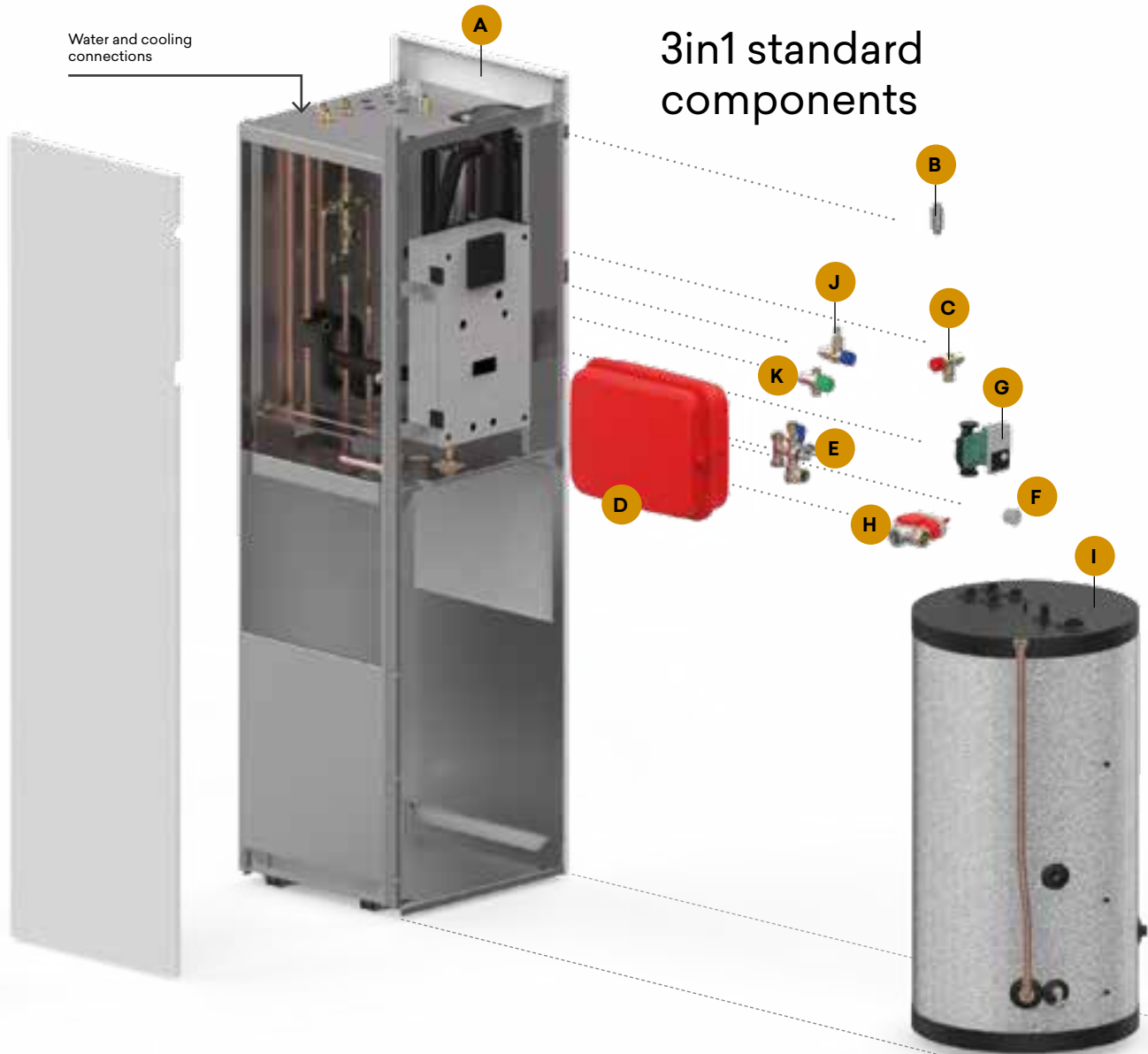
Ideal for houses and apartments for 4 people with a standard consumption of DHW. The comprehensive range of options allows the overall size of the system inside the indoor unit to be maintained, so that a technical room is not required.



3in1 diagram



- | | | | |
|--|--|--|---|
| <p>A. Boiler</p> <p>B. Domestic hot water utilities</p> <p>C. High temperature utilities (decorative radiators)</p> <p>D. System utilities</p> | <p>8. System pressure gauge</p> <p>9. Electrical heaters 2-4-6 kW (optional)</p> <p>10. Primary pump circuit ACS/system 3-way valve</p> <p>11. DHW safety valve 7 bar</p> <p>12. Domestic hot water tank 200 litres</p> <p>13. Boiler vent valve</p> <p>14. Stainless steel coil for instant DHW heating</p> <p>15. DHW safety valve 3 bar</p> <p>16. DHW thermostatic mixer</p> <p>17. Hydraulic separator (optional)</p> | <p>18. Secondary circuit pump (optional)</p> <p>19. Inertial tank 20 litres (optional)</p> <p>20. Heated towel rail pump (optional)</p> <p>21. Solar load valve (optional)</p> <p>22. Solar safety valve 3 bar (optional)</p> <p>23. Solar circuit pressure gauge (optional)</p> <p>24. Solar circuit pump (optional)</p> <p>25. Solar heating coil (optional)</p> | <p>26. Solar expansion vessel 24 litres (optional)</p> <p>27. Solar panel</p> |
|--|--|--|---|



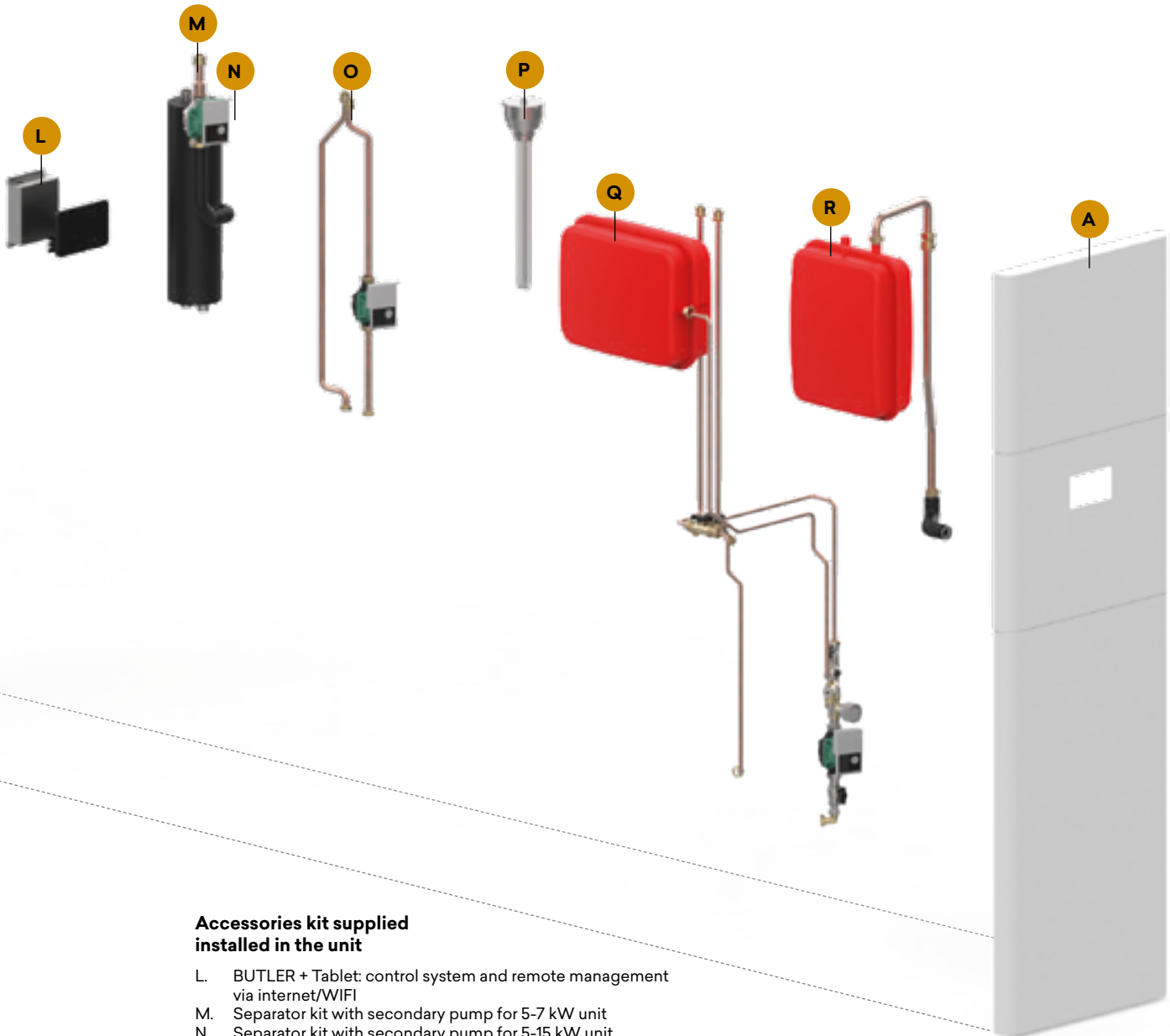
3in1 standard components

Standard components

- A. 3in1 structure and cover panels with RAL9003 finish
- B. Automatic vent valve
- C. System safety valve 3 bar
- D. System expansion vessel 24 litres
- E. System filling unit and Y filter
- F. Pressure gauge
- G. Primary circuit circulation pump
- H. ACS system 3-way valve
- I. Domestic hot water tank 200 litres
- J. DHW safety valve 7 bar
- K. DHW thermostatic mixer



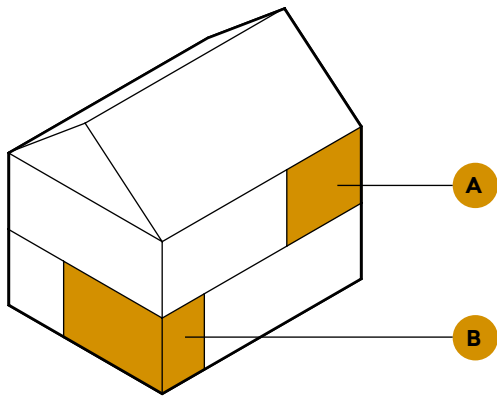
3in1 accessories kit supplied installed in the unit



Accessories kit supplied installed in the unit

- L. BUTLER + Tablet: control system and remote management via internet/WIFI
- M. Separator kit with secondary pump for 5-7 kW unit
- N. Separator kit with secondary pump for 5-15 kW unit
- O. Heated towel rail kit
- P. Electrical heater kit 2-4-6 kW for system and ACS
- Q. Solar kit (can be used if there is no inertial tank kit): control unit, pump, safety valve, expansion vessel 24 litres, filling unit, system filling valve
- R. Inertial tank kit 20 litres

3in1 installation instructions



The 3in1 is a complete solution. All the system elements are contained inside the cabinet to save space and provide greater reliability because everything is installed, adjusted and tested in the factory.



Medium-size homes



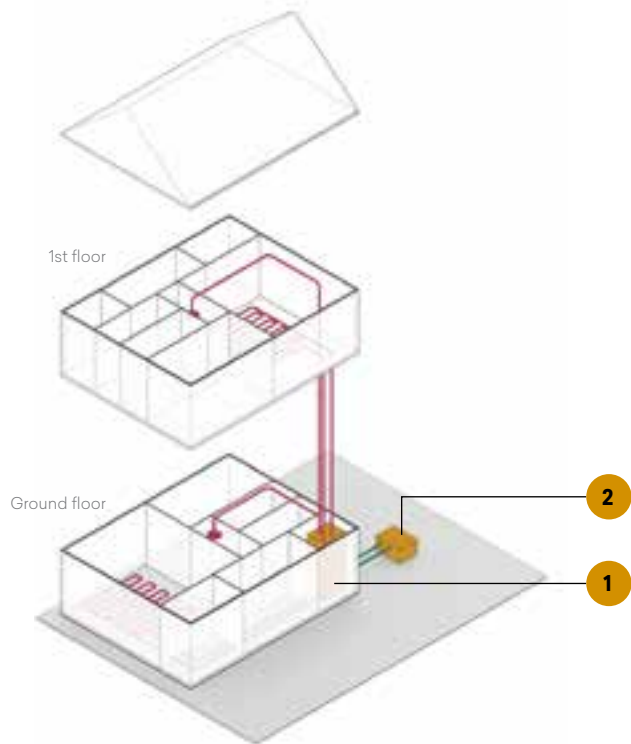
Apartments

The indoor unit can be installed indoors in any room thanks to its compact size and elegant design.

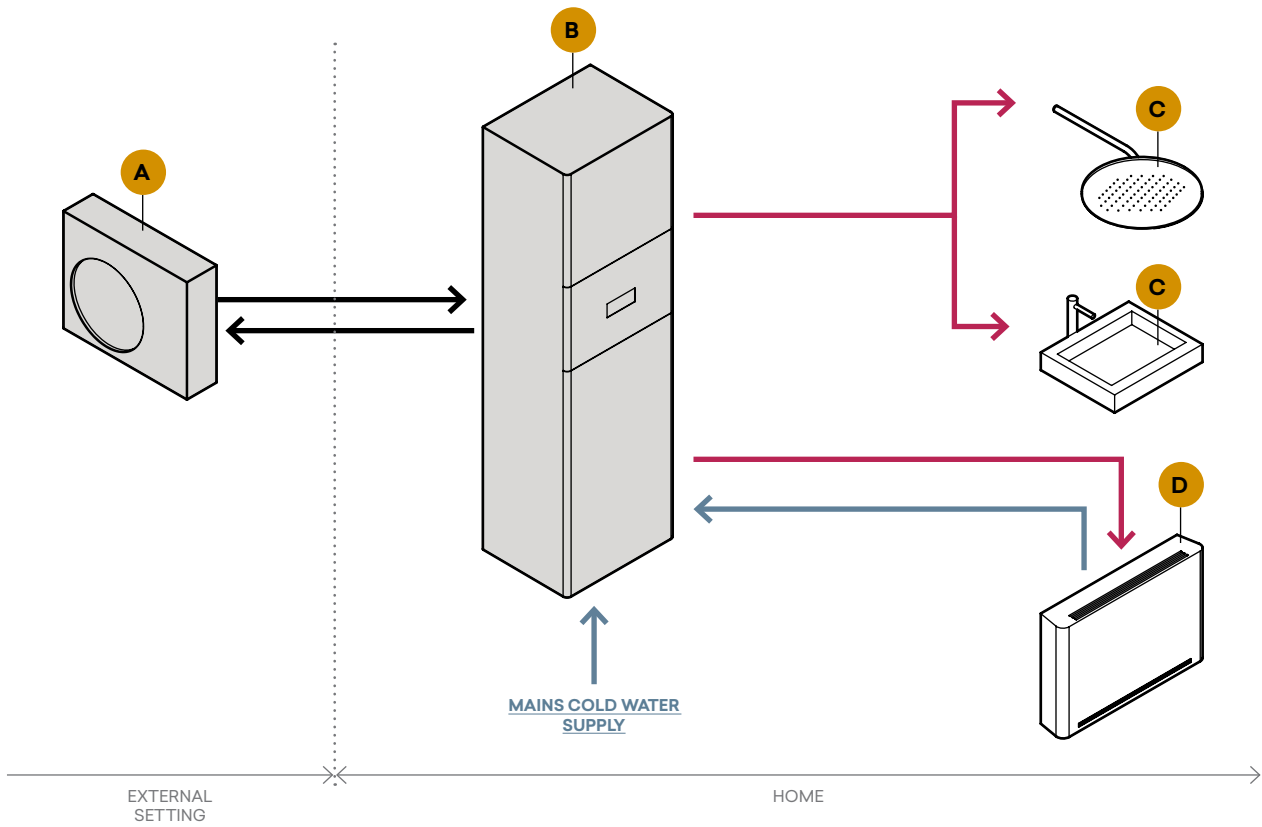
- A. Kitchen / Living room
- B. Laundry / Cellar

Example of system

- 1. 3in1 indoor unit
- 2. Outdoor unit
- Refrigerant
- Domestic hot water / heating



3in1 system diagram



- A. Outdoor unit
- B. 3in1 indoor unit
- C. Domestic hot water supply
- D. Heating system

— Domestic hot water
 — Cold water

Heat pumps

3in1 built-in



Width
950 mm



Height
2200 mm



Depth
350 mm



Modularity, thanks to a wide variety of optional modules to fulfil all system configurations



High range of power available up to a maximum power of 23 kW.



Remote management via WIFI



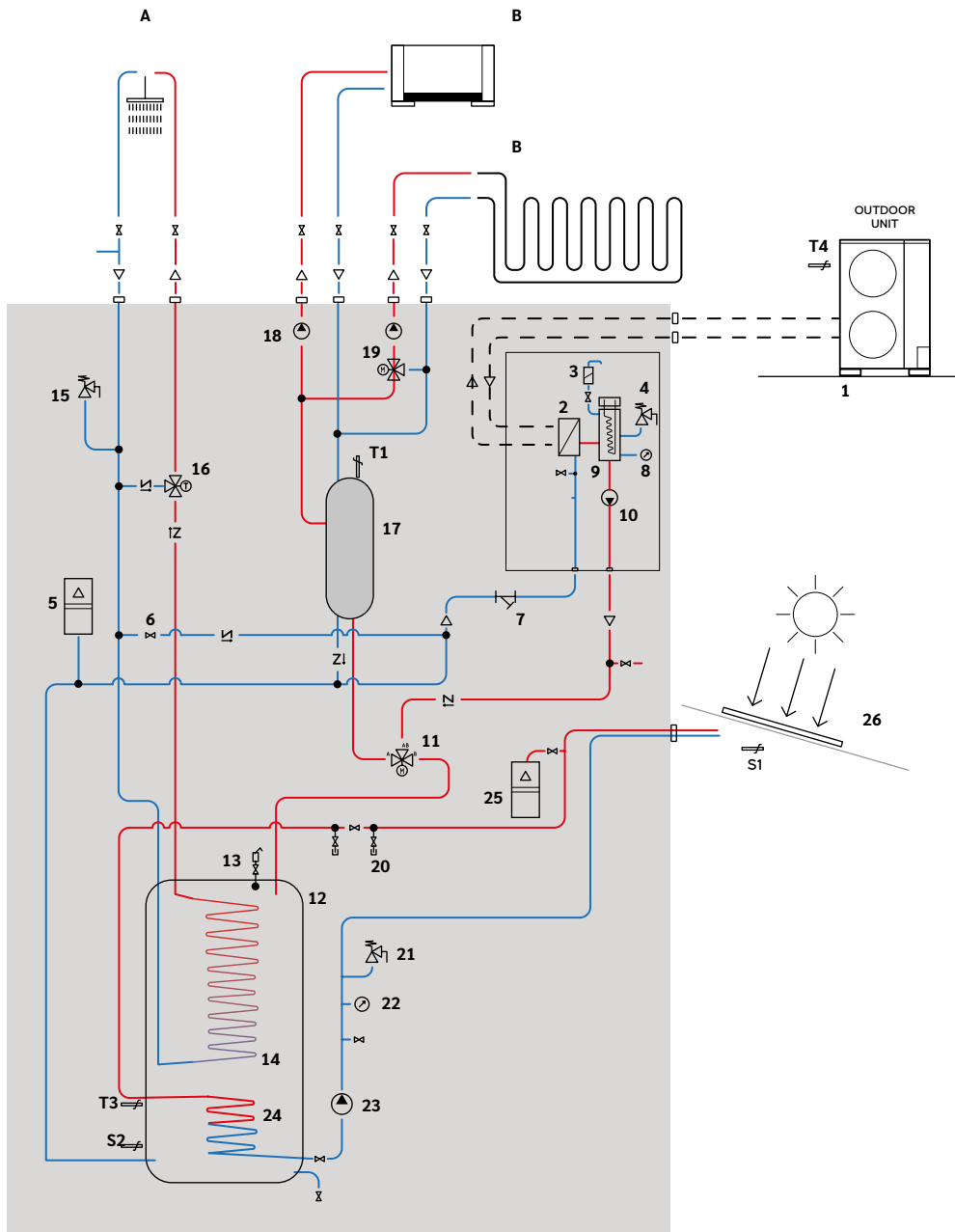
Maximum A+++ energy class (g. 9-12-15)

Indoor unit consisting of a cabinet to build into the internal or perimeter wall with access from the outside, such as a balcony or connected to the outdoor unit via refrigerant pipes.

Ideal for apartments with 3-4 people with a proportionate consumption of DHW, thanks to the 170 litre storage tank. Modular indoor unit with various options to fulfil all the system requirements of an apartment.



3in1 built-in diagram

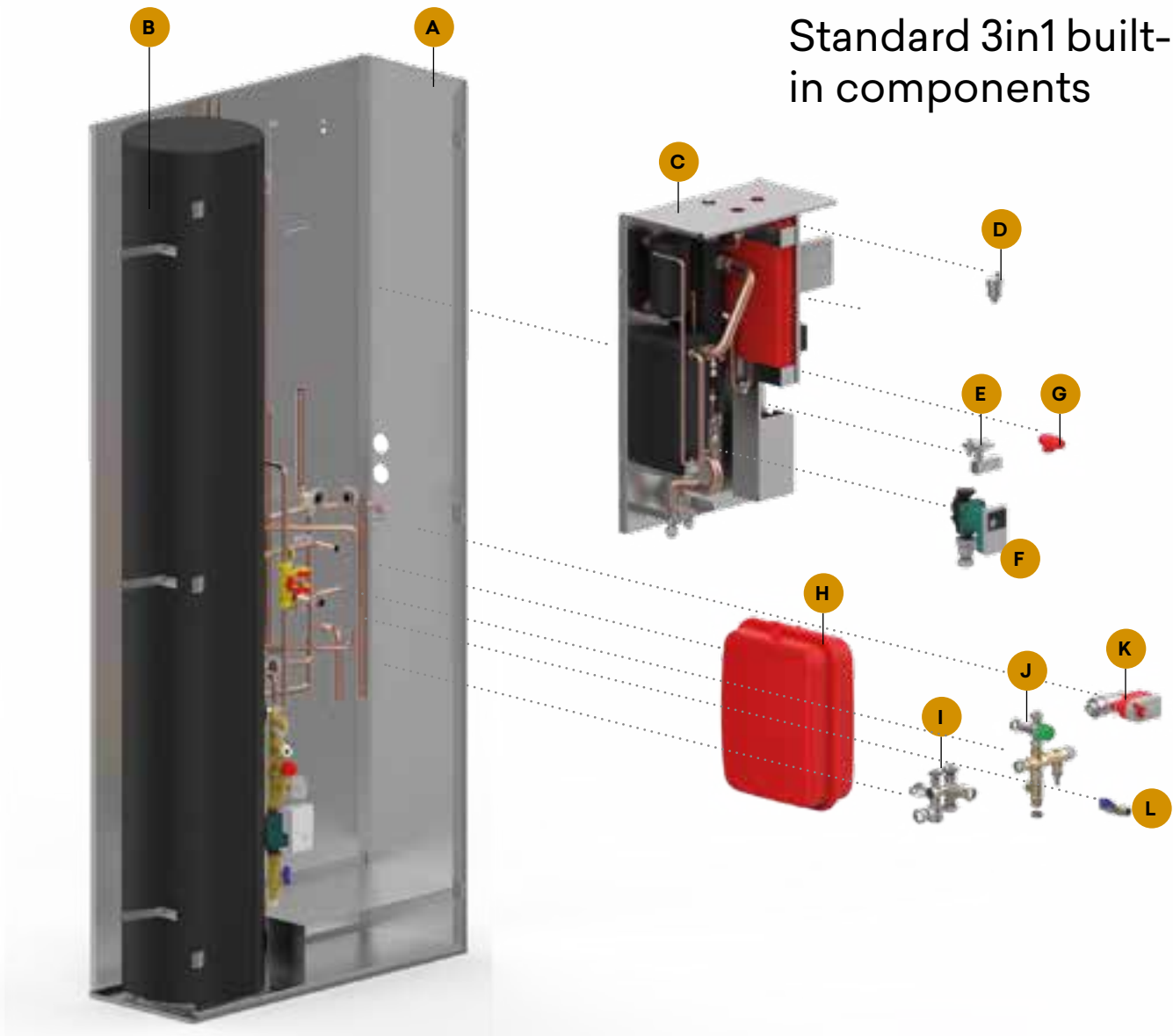


- A. Domestic hot water utilities
- B. Utilities

1. Outdoor unit
2. Plate exchanger
3. Automatic vent valve
4. System safety valve 3 bar
5. System expansion vessel 24 litres
6. Filling unit
7. Y filter
8. System pressure gauge

9. Electrical heaters 2-4-6 kW (optional)
10. Primary pump circuit
11. ACS/system 3-way valve
12. Domestic hot water tank 170 litres
13. Boiler vent valve
14. Stainless steel coil for instant DHW heating
15. DHW safety valve 7 bar
16. DHW thermostatic mixer
17. Inertial storage tank / 30 litre hydraulic separator (optional)

18. Secondary circuit pump (optional)
19. Secondary circuit pump and mixer valve (optional)
20. Solar load valve (optional)
21. Solar safety valve 3 bar (optional)
22. Solar circuit pressure gauge (optional)
23. Solar circuit pump (optional)
24. Solar heating coil (optional)
25. Solar expansion vessel 8 litres (optional)
26. Solar panel



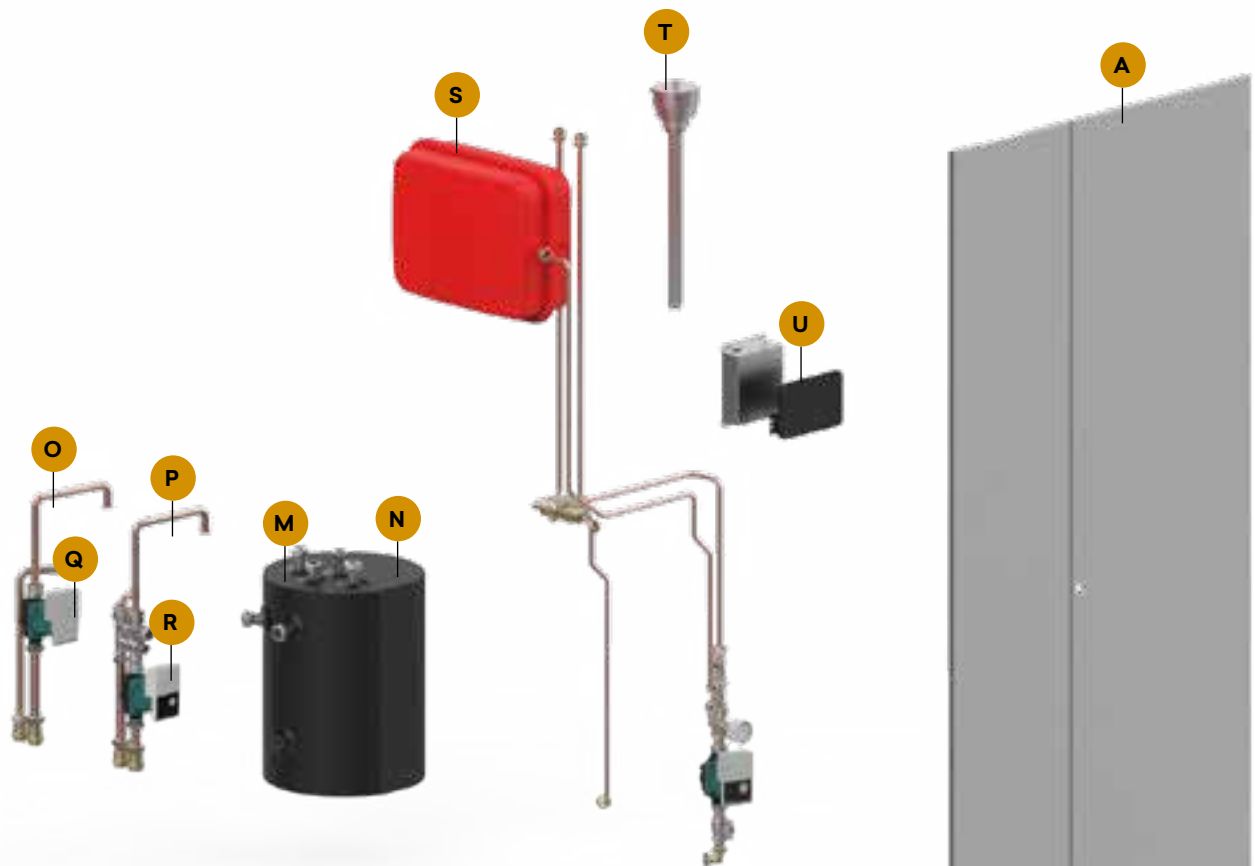
Standard 3in1 built-in components

Standard components

- A. Built-in kit with front closure doors
- B. Domestic hot water tank 170 litres
- C. Hydronic module
- D. Automatic vent valve
- E. Differential pressure switch
- F. Primary circuit circulation pump
- G. Safety valve 3 bar
- H. Expansion vessel 24 litres
- I. DHW thermostatic mixer
- J. System filling unit and Y filter
- K. ACS system 3-way valve
- L. DHW safety valve 7 bar



3in1 built-in accessories kit

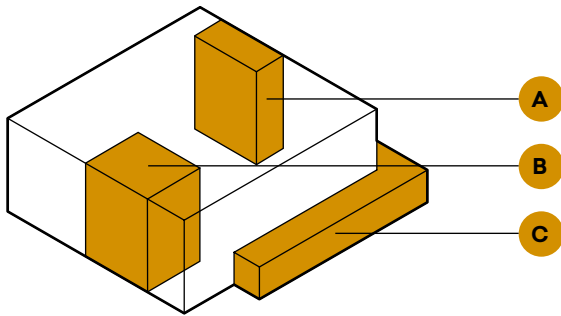


Accessories kit

- M. Inertial storage tank 30 litres
- N. Hydraulic separator kit 30 litres and secondary circuit pumps kit control board
- O. Secondary circuit pump kit for 5-7 kW units
- P. Secondary circuit pump kit+mixing valve for 5-7 kW units
- Q. Secondary circuit pump kit for 5-15 kW units
- R. Secondary circuit pump kit+mixing valve for 5-15 kW units
- S. Solar kit: control panel, pump, safety valve, expansion vessel 8 litres, filling unit
- T. Electrical heater kit 2-4-6 kW for system and ACS
- U. BUTLER + Tablet: control system and remote management via internet/WIFI

3in1 built-in installation

The 3in1 built-in is a flexible solution with various modules which can also be installed at a later stage depending on the system configuration.



Medium-size homes

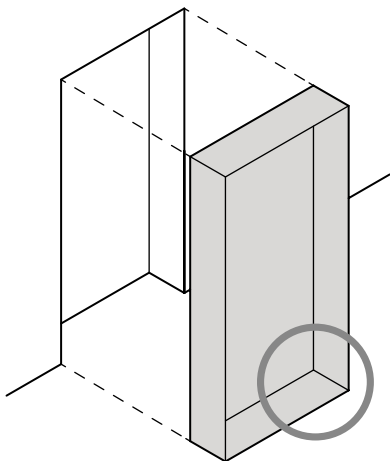


Apartments

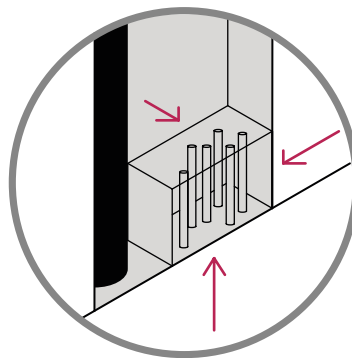
The unit housing is inserted in the wall during the building work. There are hydraulic connections in the housing for connection to the water supply. The various internal modules are installed afterwards when the system has been completed.

- A. Landing access to apartment
- B. Laundry
- C. Terrace / Balcony

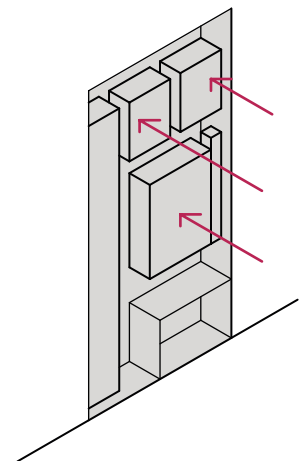
3in1 built-in installation stages



1. Positioning of the built-in casing in the wall.



2. Connection of the system connections from three different positions: rear, side or bottom.

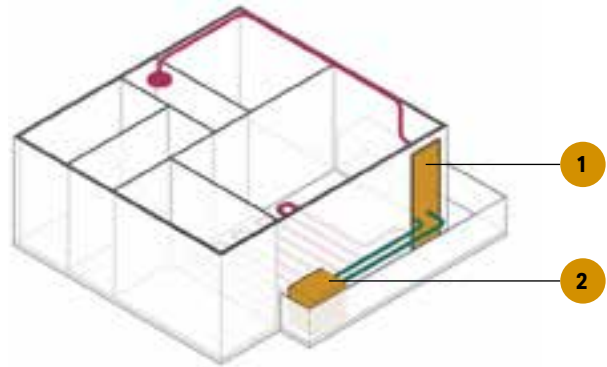


3. Installing the internal components and relevant connections.

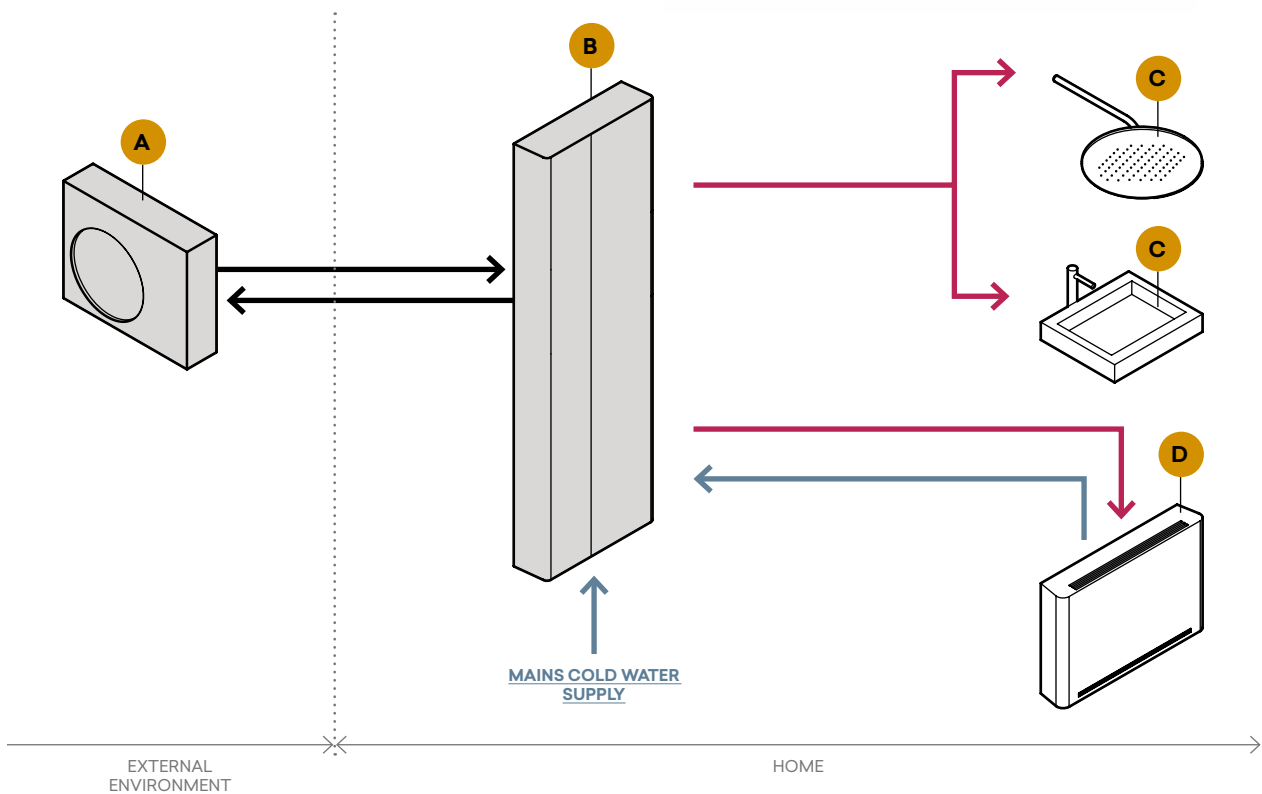


Example of system

- 1. Heat pump (3in1 built-in)
- 2. Outdoor unit
- Refrigerant
- Domestic hot water / heating



System diagram of 3in1 built-in



- A. Outdoor unit
 - B. 3in1 built-in indoor unit
 - C. Domestic hot water supply
 - D. Heating system
- Domestic hot water
 - Cold water

Outdoor units



Single fan unit

5M - 7M



Width
799 mm



Height
619 mm



Depth
299 mm



Weight
39 Kg

Single fan unit

9M



Width
940 mm



Height
996 mm



Depth
340 mm



Weight
69 Kg

Twin fan unit

12M-12T-15M-15T-18T-25T



Width
940 mm



Height
1416 mm
(25T - 1526 mm)



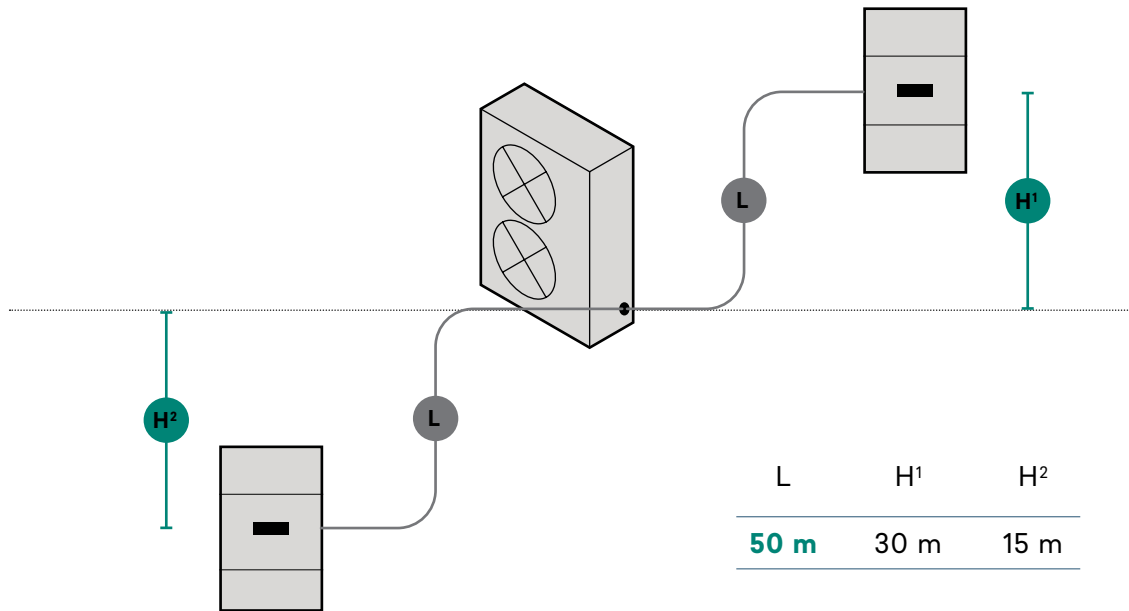
Depth
340 mm



Weight
98 Kg
(25T - 128 kg)



Distance between components.



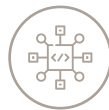
Advantages



DC inverter compressor with wide modulation range.



Silent unit thanks to the continuous modulation of the fan with DC inverter motor.

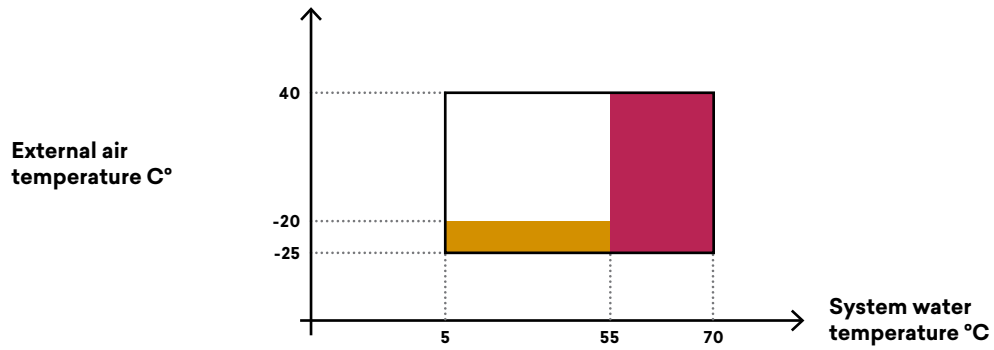


Advanced algorithms for preventing frosting of finned coil.



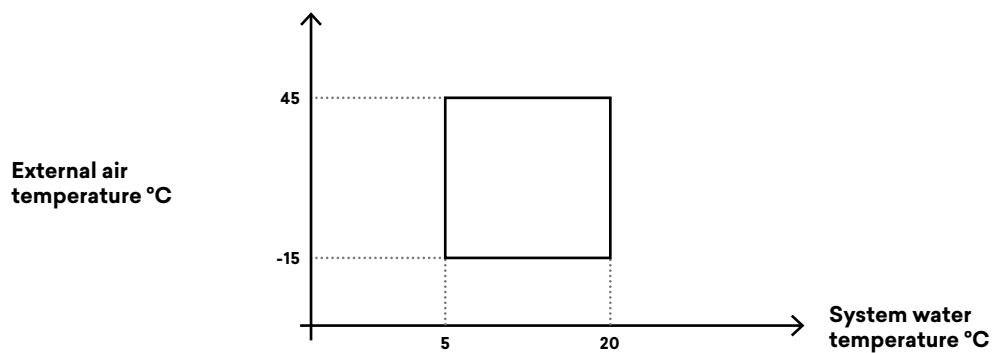
Finned coil with hydrophilic coating and subcooling circuit.

Heating and domestic hot water

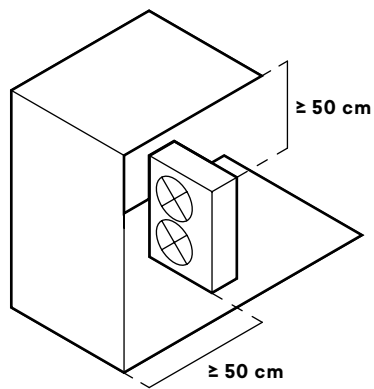
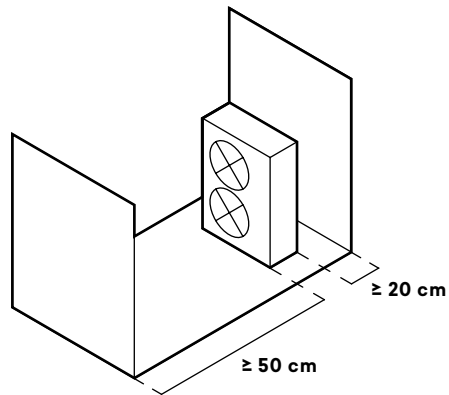
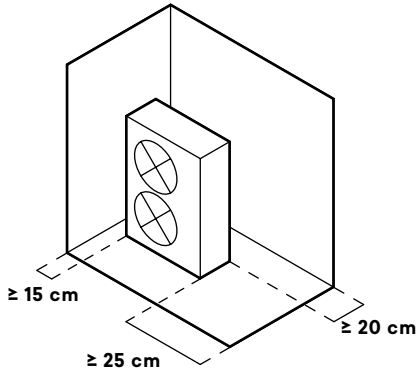


- Heating be means of electrical heaters, boiler or solar integration
- Integration by electrical heaters or boilers

Cooling



Installation distances



Technical data sheets

TECHNICAL SPECIFICATIONS		eHPoca - 3in1 - 3in1 ad incasso							eHPoca	
	u.m.	5M	7M	9M	12M	12T	15M	15T	18T	25T
HEATING PERFORMANCE (A7°C BS; W35°C)										
Nominal thermal power (1)	kW	6,80	12,35	13,70	18,30	18,30	22,80	22,80	26,94	31,07
Nominal thermal power (1)	kW	4,80	7,10	8,10	12,80	12,80	14,60	14,60	16,91	24,78
Total absorbed power (1)	kW	1,20	1,60	1,80	2,90	2,90	3,20	3,20	3,87	6,11
COP (1)		4,11	4,33	4,53	4,44	4,44	4,58	4,58	4,37	4,06
SCOP (5)		4,10	3,96	4,26	4,50	4,55	4,55	4,55	4,20	3,87
Energy efficiency class (5)		A++	A++	A+++	A+++	A+++	A+++	A+++	A++	A++
HEATING PERFORMANCE (A-7°C BS; W35°C)										
Nominal thermal power (2)	kW	4,59	7,72	8,73	11,70	11,70	14,74	14,74	17,36	18,37
Total absorbed power (2)	kW	1,79	3,48	3,50	4,46	4,46	5,80	5,80	7,20	7,17
COP (2)		2,56	2,22	2,49	2,62	2,62	2,54	2,54	2,41	2,56
HEATING PERFORMANCE (A35°C; W18°C)										
Nominal cooling power (3)	kW	6,00	11,01	11,27	16,74	16,74	18,56	18,56	23,15	32,64
Nominal cooling power (3)	kW	5,14	7,39	8,71	12,30	12,30	15,60	15,60	19,35	27,94
Total absorbed power (3)	kW	1,50	1,84	2,07	3,01	3,01	3,90	3,90	4,69	6,65
EER (3)		3,43	4,02	4,21	4,09	4,09	4,00	4,00	4,13	4,20
SEER (radiant panel application)		6,80	7,30	6,90	7,05	7,05	6,62	6,62	7,23	7,10
HEATING PERFORMANCE (A35°C; W7°C)										
Nominal cooling power (4)	kW	4,11	7,56	8,11	11,79	11,79	13,34	13,34	16,45	23,24
Nominal cooling power (4)	kW	3,52	5,30	6,27	8,89	8,89	11,24	11,24	13,94	19,90
Total absorbed power (4)	kW	1,42	1,75	1,97	2,76	2,76	3,51	3,51	4,37	6,31
EER (4)		2,48	3,03	3,18	3,22	3,22	3,20	3,20	3,19	3,15
SEER (fan coil application)		5,78	5,80	5,45	5,50	5,50	5,12	5,12	5,95	5,81
HYDRAULIC SPECIFICATIONS										
Nominal flow rate in heating (A7/W35 °C) (1)	l/min	13,7	20,3	23,2	36,5	36,5	41,9	41,9	48,5	71,0
Nominal flow rate in cooling (A35/W7 °C) (4)	l/min	10,1	15,2	18,0	25,5	25,5	32,2	32,2	40,0	57,1
eHPoca available pressure primary circuit	kPa	71,0	60,0	54,5	41,0	41,0	58,0	58,0	44,0	24,0
3in1 and 3in1 built-in available pressure primary circuit	kPa	34,0	31,0	29,0	22,0	22,0	17,0	17,0	-	-
Diameter hydraulic fittings	" GAS	1"	1"	1"	1"	1"	1"	1"	1"1/4	1"1/4
eHPoca expansion vessel capacity	L	6	6	6	6	6	6	6	6	6
3in1 and 3in1 built-in expansion vessel capacity	L	24	24	24	24	24	24	24	-	-
Minimum system water content	L	20	30	40	50	50	65	65	75	110
3in1 DHW tank capacity	L	200	200	200	200	200	200	200	-	-
3in1 built-in DHW tank capacity	L	170	170	170	170	170	170	170	-	-



TECHNICAL SPECIFICATIONS	u.m.	eHPoca - 3in1 - 3in1 ad incasso							eHPoca	
		5M	7M	9M	12M	12T	15M	15T	18T	25T
Refrigerator connections										
Extraction	" SAE	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	3/4
Liquid	" SAE	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1/2
Refrigerant R410a load	kg	1,65	2,00	2,35	3,40	3,40	3,40	3,40	3,40	6,50

SOUND SPECIFICATIONS										
Sound pressure internal unit	dB(A)	30	30	30	31	31	31	31	32	32
Sound pressure external cooling/heating unit	dB(A)	48/50	48/50	48/50	52/52	52/52	53/53	53/53	54/55	57/58

ELECTRICAL DATA										
Voltage	V/50Hz	230	230	230	230	400-3N	230	400-3N	400-3N	400-3N
Protection rating internal unit		IPX2	IPX2	IPX2	IPX2	IPX2	IPX2	IPX2	IPX2	IPX2
Protection rating external unit		IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

DIMENSIONS AND WEIGHT (EXTERNAL UNIT)										
Width-height-depth (wxhxd)	mm	799 x 619 x 299	799 x 619 x 299	940 x 996 x 340	940 x 1416 x 340	940 x 1416 x 340	940 x 1416 x 340	940 x 1416 x 340	940 x 1416 x 340	940 x 1526 x 340
Net weight	kg	39	40	69	98	98	98	98	98	128

DIMENSIONS AND WEIGHT (INTERNAL UNIT)										
eHPoca width-height-depth	mm	505 x 900 x 300	505 x 900 x 300	505 x 900 x 300	505 x 900 x 300	505 x 900 x 300	505 x 900 x 300	505 x 900 x 300	505 x 900 x 300	505 x 900 x 300
Empty weight	kg	41	41	41	41	41	43	43	46	49
3in1 width-height-depth	mm	600 x 2000 x 600	600 x 2000 x 600	600 x 2000 x 600	600 x 2000 x 600	600 x 2000 x 600	600 x 2000 x 600	600 x 2000 x 600	-	-
Empty weight	kg	172	172	172	172	172	172	172	-	-
3in1 built-in width-height-depth	mm	950 x 2200 x 350	950 x 2200 x 350	950 x 2200 x 350	950 x 2200 x 350	950 x 2200 x 350	950 x 2200 x 350	950 x 2200 x 350	-	-
Empty weight	kg	172	172	172	172	172	172	172	-	-

1. Water out T 35°C / ext. air T 7°C / R.H. 85%

2. Water out T 35°C / ext. air T -7°C

3. Water out T 18°C / ext. air T 35°C

4. Water out T 7°C / ext. air T 35°C

5. Seasonal efficiency and BT Energy Class Efficiency certified according to UNI EN 14825 by third party accredited according to standard UNI EN 17025

Rating performance according to UNI EN 14511

The performance specifications indicated may undergo variations

TABLE OF HEAT PUMP PERFORMANCE FOR HEATING - RATING FREQUENCY

	T _a	30			35			40			45			50			55		
		T _{ae}	DC	PA	COP _{DC}	DC	PA	COP _{DC}	DC	PA	COP _{DC}	DC	PA	COP _{DC}	DC	PA	COP _{DC}	DC	PA
5	-20	2.29	0.94	2.43	2.22	1.06	2.09	2.16	1.21	1.78	2.08	1.38	1.51	2.01	1.58	1.27	1.94	1.81	1.07
	-15	2.64	0.96	2.75	2.56	1.08	2.37	2.48	1.23	2.02	2.40	1.40	1.71	2.31	1.61	1.44	2.23	1.84	1.21
	-7	3.31	0.99	3.36	3.21	1.11	2.89	3.12	1.26	2.46	3.01	1.44	2.09	2.90	1.65	1.76	2.80	1.89	1.48
	-2	3.81	1.00	3.80	3.70	1.13	3.28	3.59	1.29	2.79	3.47	1.47	2.36	3.34	1.68	1.99	3.22	1.92	1.68
	0	4.03	1.01	4.00	3.91	1.14	3.45	3.80	1.29	2.93	3.67	1.48	2.49	3.54	1.69	2.09	3.41	1.94	1.76
	2	4.26	1.01	4.20	4.14	1.14	3.62	4.02	1.30	3.09	3.88	1.49	2.61	3.74	1.70	2.20	3.61	1.95	1.85
	7	4.91	1.03	4.76	4.80	1.20	4.11	4.63	1.32	3.50	4.47	1.51	2.96	4.31	1.73	2.49	4.16	1.98	2.10
	12	5.66	1.05	5.40	5.49	1.18	4.65	5.33	1.35	3.96	5.15	1.54	3.35	4.97	1.76	2.82	4.79	2.01	2.38
	15	6.16	1.06	5.82	5.98	1.19	5.01	5.81	1.36	4.27	5.61	1.55	3.62	5.41	1.78	3.04	5.22	2.03	2.56
20	7.10	1.08	6.59	6.89	1.21	5.68	6.69	1.38	4.84	6.46	1.58	4.10	6.23	1.81	3.45	6.01	2.07	2.90	
7	-20	3.14	1.53	2.05	3.04	1.72	1.77	2.95	1.96	1.50	2.85	2.24	1.27	2.75	2.57	1.07	2.65	2.55	1.04
	-15	3.49	1.43	2.44	3.39	1.61	2.11	3.29	1.83	1.79	3.18	2.09	1.52	3.06	2.40	1.28	2.95	2.58	1.14
	-7	4.45	1.35	3.30	4.32	1.52	2.85	4.20	1.73	2.42	4.05	1.97	2.05	3.91	2.26	1.73	3.77	2.59	1.46
	-2	5.30	1.35	3.93	5.15	1.52	3.39	5.00	1.73	2.88	4.82	1.98	2.44	4.65	2.26	2.06	4.49	2.59	1.73
	0	5.69	1.36	4.18	5.53	1.53	3.61	5.37	1.75	3.07	5.18	1.99	2.60	5.00	2.28	2.19	4.82	2.62	1.84
	2	6.12	1.38	4.43	5.94	1.55	3.82	5.77	1.77	3.25	5.57	2.02	2.76	5.37	2.31	2.32	5.18	2.65	1.95
	7	7.31	1.45	5.03	7.10	1.60	4.35	6.89	1.87	3.69	6.65	2.13	3.13	6.42	2.44	2.63	6.19	2.79	2.22
	12	8.69	1.57	5.55	8.44	1.76	4.78	8.19	2.01	4.07	7.91	2.29	3.45	7.63	2.63	2.90	7.36	3.01	2.44
	15	9.61	1.65	5.81	9.33	1.86	5.01	9.06	2.12	4.26	8.75	2.42	3.61	8.44	2.78	3.04	8.14	3.18	2.56
20	11.30	1.83	6.17	10.97	2.06	5.32	10.65	2.35	4.53	10.29	2.68	3.83	9.92	3.07	3.23	9.57	3.52	2.72	
9	-20	3.21	1.64	1.96	3.11	1.85	1.68	3.02	2.11	1.43	2.92	2.40	1.21	2.81	2.75	1.02	2.71	2.65	1.02
	-15	3.75	1.55	2.41	3.64	1.75	2.08	3.53	1.99	1.77	3.41	2.27	1.50	3.29	2.60	1.26	3.17	2.98	1.06
	-7	5.00	1.49	3.37	4.86	1.67	2.90	4.71	1.91	2.47	4.55	2.18	2.09	4.39	2.49	1.76	4.23	2.85	1.48
	-2	6.03	1.49	4.04	5.85	1.68	3.48	5.68	1.91	2.97	5.48	2.18	2.51	5.29	2.50	2.12	5.10	2.86	1.78
	0	6.49	1.50	4.32	6.30	1.69	3.72	6.12	1.93	3.17	5.91	2.20	2.68	5.69	2.52	2.26	5.49	2.89	1.90
	2	6.98	1.52	4.59	6.78	1.71	3.96	6.58	1.95	3.37	6.35	2.23	2.85	6.13	2.55	2.40	5.91	2.92	2.02
	7	8.34	1.59	5.25	8.10	1.80	4.53	7.86	2.04	3.85	7.59	2.33	3.26	7.32	2.67	2.75	7.06	3.05	2.31
	12	9.88	1.69	5.84	9.59	1.91	5.03	9.31	2.17	4.28	8.99	2.48	3.63	8.67	2.84	3.05	8.37	3.25	2.57
	15	10.90	1.77	6.15	10.58	2.00	5.30	10.27	2.28	4.51	9.92	2.60	3.82	9.57	2.97	3.22	9.23	3.41	2.71
20	12.74	1.93	6.59	12.37	2.18	5.68	12.01	2.48	4.83	11.59	2.83	4.09	11.18	3.24	3.45	10.78	3.72	2.90	
12	-20	4.44	1.80	2.46	4.30	2.03	2.12	4.18	2.32	1.80	4.03	2.64	1.53	3.89	3.02	1.29	3.75	3.46	1.08
	-15	5.58	2.02	2.76	5.42	2.27	2.38	5.26	2.59	2.03	5.08	2.96	1.72	4.90	3.39	1.45	4.72	3.88	1.22
	-7	7.85	2.29	3.43	7.62	2.58	2.96	7.40	2.94	2.52	7.15	3.35	2.13	6.89	3.84	1.79	6.65	4.40	1.51
	-2	9.55	2.41	3.96	9.27	2.72	3.41	9.00	3.10	2.90	8.69	3.53	2.46	8.38	4.05	2.07	8.08	4.64	1.74
	0	10.29	2.45	4.19	9.99	2.76	3.62	9.70	3.15	3.08	9.36	3.59	2.61	9.03	4.11	2.19	8.71	4.71	1.85
	2	11.06	2.49	4.45	10.74	2.80	3.83	10.42	3.19	3.26	10.06	3.64	2.76	9.71	4.17	2.33	9.36	4.78	1.96
	7	13.13	2.55	5.16	12.80	2.90	4.44	12.38	3.27	3.79	11.95	3.73	3.21	11.53	4.27	2.70	11.12	4.89	2.27
	12	15.42	2.57	6.00	14.97	2.89	5.17	14.54	3.30	4.40	14.04	3.76	3.73	13.54	4.31	3.14	13.05	4.94	2.64
	15	16.89	2.57	6.58	16.40	2.89	5.67	15.92	3.30	4.83	15.38	3.76	4.09	14.83	4.31	3.44	14.30	4.93	2.90
20	19.52	2.53	7.70	18.95	2.85	6.64	18.40	3.25	5.65	17.77	3.71	4.79	17.13	4.25	4.03	16.52	4.87	3.39	
15	-20	6.61	2.53	2.62	6.42	2.84	2.26	6.23	3.24	1.92	6.01	3.70	1.63	5.80	4.24	1.37	5.59	4.85	1.15
	-15	7.34	2.63	2.79	7.13	2.96	2.41	6.92	3.38	2.05	6.69	3.85	1.74	6.45	4.41	1.46	6.22	5.05	1.23
	-7	9.31	2.75	3.38	9.03	3.10	2.91	8.77	3.54	2.48	8.47	4.03	2.10	8.17	4.62	1.77	7.88	5.29	1.49
	-2	11.02	2.80	3.93	10.70	3.15	3.39	10.39	3.60	2.89	10.03	4.10	2.45	9.67	4.70	2.06	9.33	5.38	1.73
	0	11.81	2.81	4.20	11.47	3.17	3.62	11.13	3.61	3.08	10.75	4.12	2.61	10.37	4.72	2.20	10.00	5.40	1.85
	2	12.66	2.82	4.49	12.29	3.18	3.87	11.93	3.62	3.29	11.52	4.13	2.79	11.11	4.73	2.35	10.72	5.42	1.98
	7	15.05	2.83	5.32	14.60	3.20	4.58	14.19	3.63	3.90	13.70	4.14	3.31	13.21	4.75	2.78	12.74	5.44	2.34
	12	17.82	2.82	6.33	17.30	3.17	5.46	16.80	3.62	4.65	16.22	4.12	3.93	15.64	4.72	3.31	15.08	5.41	2.79
	15	19.66	2.80	7.03	19.09	3.15	6.06	18.53	3.59	5.16	17.89	4.09	4.37	17.26	4.69	3.68	16.64	5.37	3.10
20	23.03	2.75	8.39	22.36	3.09	7.23	21.70	3.53	6.16	20.96	4.02	5.21	20.21	4.61	4.39	19.49	5.28	3.70	
18	-20	8.21	3.73	2.20	7.97	4.20	1.90	7.73	4.79	1.62	7.47	5.46	1.37	7.20	6.25	1.15	6.95	6.33	1.10
	-15	8.89	3.50	2.54	8.63	3.94	2.19	8.38	4.49	1.87	8.09	5.12	1.58	7.80	5.87	1.33	7.53	6.33	1.19
	-7	10.95	3.30	3.32	10.63	3.71	2.86	10.33	4.23	2.44	9.97	4.83	2.07	9.62	5.53	1.74	9.27	6.33	1.46
	-2	12.85	3.28	3.92	12.47	3.69	3.38	12.11	4.21	2.88	11.69	4.80	2.44	11.28	5.49	2.05	10.87	6.29	1.73
	0	13.73	3.29	4.17	13.33	3.70	3.60	12.94	4.22	3.06	12.50	4.82	2.60	12.05	5.52	2.19	11.62	6.32	1.84
	2	14.69	3.32	4.43	14.26	3.73	3.82	13.85	4.26	3.25	13.37	4.85	2.75	12.90	5.56	2.32	12.44	6.37	1.95
	7	17.42	3.44	5.07	16.91	3.87	4.37	16.42	4.41	3.72	15.85	5.03	3.15	15.29	5.77	2.65	14.75	6.60	2.23
	12	20.61	3.64	5.66	20.01	4.10	4.88	19.42	4.67	4.16	18.76	5.33	3.52	18.09	6.10	2.96	17.45	6.99	2.49
	15	22.74	3.80	5.99	22.08	4.28	5.16	21.44	4.88	4.39	20.70	5.56	3.72	19.96	6.37	3.13	19.25	7.30	2.64
20	26.67	4.13	6.46	25.90	4.65	5.57	25.14	5.30	4.74	24.28	6.05	4.02	23.42	6.93	3.38	22.58	7.93	2.85	
25	-20	9.06	4.16	2.18	8.79	4.69	1.88	8.70	5.35	1.63	8.62	6.10	1.41	8.53	6.98	1.22	8.45	7.60	1.11
	-15	10.96	4.37	2.51	10.64	4.92	2.16	10.54	5.61	1.88	10.43	6.40	1.63	10.33	7.33	1.41	10.23	8.20	1.25
	-7	15.09	4.73	3.19	14.65	5.33	2.75	14.23	6.07	2.34	13.74	6.92	1.98	13.25	7.93	1.67	12.78	9.08	1.41
	-2	18.35	4.97	3.69	17.82	5.59	3.19	17.30	6.38	2.71	16.70	7.27	2.30	16.11	8.33	1.93	15.53	9.54	1.63
	0	19.80	5.06	3.91	19.22	5.70	3.37	18.66	6.50	2.87	18.02	7.42	2.43	17.38	8.49	2.05	16.76	9.73	1.72
	2	21.33	5.16	4.13	20.71	5.82	3.56	20.11	6.63	3.03	19.42	7.56	2.57	18.72	8.66	2.16	18.06	9.92	1.82
	7	25.52	5.42	4.71	24.78	6.11	4.06	24.06	6.97	3.45	23.23	7.94	2.93	22.41	9.10	2.46	21.61	10.42	2.07
	12	30.24	5.70	5.31	29.36	6.42	4.58	28.50	7.32	3.90	27.52	8.34</							

TABLE OF COOLING PERFORMANCE - RATING FREQUENCIES

T. a		20			25			30			35			40		
T.ae	PF	PA	EER	PF	PA	EER	PF	PA	EER	PF	PA	EER	PF	PA	EER	
5	7	4,12	1,01	4,08	3,95	1,13	3,51	3,73	1,27	2,95	3,52	1,42	2,48	3,31	1,59	2,08
	10	4,61	1,02	4,50	4,42	1,14	3,87	4,17	1,28	3,26	3,92	1,44	2,72	3,70	1,61	2,30
	13	5,13	1,04	4,93	4,92	1,15	4,27	4,64	1,30	3,58	4,36	1,46	2,98	4,12	1,64	2,52
	15	5,50	1,05	5,24	5,27	1,16	4,54	4,98	1,31	3,81	4,66	1,48	3,16	4,42	1,65	2,67
	18	6,08	1,07	5,70	5,82	1,17	4,97	5,50	1,32	4,17	5,14	1,50	3,43	4,88	1,68	2,91
22				6,62	1,19	5,58	6,25	1,34	4,68	5,83	1,53	3,81	5,55	1,71	3,25	
7	7	6,21	1,25	4,96	5,94	1,39	4,28	5,61	1,56	3,60	5,30	1,75	3,03	4,98	1,96	2,54
	10	6,82	1,27	5,36	6,52	1,40	4,65	6,17	1,58	3,91	5,84	1,77	3,30	5,46	1,99	2,75
	13	7,46	1,30	5,76	7,13	1,42	5,03	6,76	1,60	4,23	6,41	1,79	3,57	5,99	2,02	2,96
	15	7,90	1,31	6,02	7,55	1,42	5,30	7,17	1,61	4,45	6,79	1,81	3,75	6,36	2,04	3,12
	18	8,58	1,34	6,41	8,21	1,44	5,72	7,81	1,63	4,79	7,39	1,84	4,02	6,95	2,07	3,36
22				9,15	1,45	6,31	8,70	1,65	5,27	8,23	1,87	4,39	7,80	2,11	3,69	
9	7	7,35	1,43	5,14	7,02	1,56	4,50	6,64	1,75	3,79	6,27	1,97	3,18	5,89	2,20	2,68
	10	8,08	1,44	5,61	7,70	1,58	4,88	7,30	1,77	4,12	6,90	1,99	3,47	6,46	2,23	2,89
	13	8,84	1,45	6,10	8,41	1,59	5,29	7,99	1,79	4,47	7,56	2,02	3,75	7,08	2,27	3,12
	15	9,36	1,45	6,44	8,91	1,60	5,57	8,47	1,80	4,71	8,01	2,04	3,93	7,52	2,29	3,28
	18	10,17	1,46	6,96	9,69	1,61	6,01	9,22	1,82	5,08	8,71	2,07	4,21	8,21	2,33	3,53
22				10,79	1,63	6,62	10,27	1,84	5,59	9,69	2,11	4,60	9,21	2,38	3,87	
12	7	10,35	2,03	5,09	9,90	2,27	4,36	9,36	2,55	3,67	8,89	2,76	3,22	8,30	3,20	2,59
	10	11,38	2,05	5,56	10,86	2,29	4,73	10,29	2,58	3,99	9,83	2,80	3,51	9,11	3,25	2,80
	13	12,45	2,06	6,04	11,87	2,31	5,13	11,27	2,61	4,32	10,83	2,84	3,81	9,98	3,30	3,02
	15	13,18	2,07	6,38	12,57	2,33	5,40	11,95	2,63	4,54	11,53	2,87	4,02	10,59	3,33	3,18
	18	14,31	2,07	6,90	13,67	2,35	5,83	13,01	2,66	4,89	12,30	3,01	4,09	11,57	3,39	3,42
22				15,23	2,37	6,42	14,50	2,70	5,37	14,16	2,97	4,76	12,97	3,46	3,75	
15	7	13,12	2,64	4,97	12,55	2,94	4,26	9,36	3,31	2,83	11,24	3,51	3,20	10,52	4,15	2,53
	10	14,42	2,66	5,43	13,76	2,97	4,63	10,29	3,35	3,08	12,36	3,69	3,35	11,54	4,21	2,74
	13	15,77	2,67	5,90	15,04	3,00	5,01	11,27	3,39	3,33	13,54	3,81	3,56	12,65	4,28	2,96
	15	16,70	2,68	6,22	15,93	3,02	5,28	11,95	3,41	3,50	14,36	3,87	3,71	13,44	4,32	3,11
	18	18,14	2,70	6,72	17,33	3,04	5,69	13,01	3,45	3,77	15,60	3,90	4,00	14,68	4,39	3,34
22				19,29	3,08	6,27	14,50	3,50	4,14	17,41	3,96	4,40	16,47	4,48	3,67	
18	7	16,28	3,17	5,13	15,57	3,55	4,39	14,72	3,98	3,70	13,94	4,37	3,19	13,05	4,99	2,61
	10	17,90	3,19	5,61	17,08	3,58	4,77	16,18	4,03	4,02	15,39	4,43	3,47	14,33	5,07	2,83
	13	19,01	3,20	5,94	18,12	3,60	5,03	17,19	4,06	4,24	16,91	4,49	3,77	15,23	5,12	2,97
	15	20,73	3,22	6,45	19,77	3,64	5,44	18,78	4,11	4,57	17,97	4,53	3,96	16,68	5,20	3,21
	18	22,52	3,22	6,98	21,50	3,67	5,86	20,44	4,15	4,92	19,35	4,69	4,13	18,22	5,28	3,45
22				23,94	3,71	6,46	22,77	4,21	5,41	21,91	4,68	4,68	20,44	5,39	3,79	
25	7	23,26	4,59	5,06	22,24	5,13	4,33	21,03	5,76	3,65	19,90	6,31	3,15	18,64	7,22	2,58
	10	25,58	4,63	5,53	24,39	5,19	4,70	23,12	5,83	3,97	21,96	6,40	3,43	20,47	7,33	2,79
	13	27,17	4,65	5,85	25,89	5,22	4,96	24,57	5,87	4,18	24,12	6,49	3,72	21,76	7,40	2,94
	15	29,64	4,67	6,35	28,24	5,27	5,36	26,85	5,94	4,52	25,62	6,56	3,91	23,83	7,51	3,17
	18	32,20	4,69	6,86	30,71	5,32	5,77	29,23	6,01	4,87	27,94	6,65	4,20	26,04	7,63	3,41
22				34,18	5,38	6,35	32,58	6,10	5,34	31,20	6,79	4,59	29,20	7,78	3,75	

- T. ae = Outdoor ambient temperature (C°)
- T. a = Output water temperature (°C)
- DC= Heating power (kW)
- PF = Cooling power (kW)
- PA = Total power absorbed (kW)

The performance specifications, in accordance with the test conditions, take all the auxiliary elements and defrosting cycles into account
 The performance specifications indicated may undergo variations without prior notice

TABLE OF HEAT PUMP PERFORMANCE FOR HEATING - MAXIMUM FREQUENCIES

	T _a	30			35			40			45			50			55		
		T _{ae}	DC	PA	COP _{DC}	DC	PA	COP _{DC}	DC	PA	COP _{DC}	DC	PA	COP _{DC}	DC	PA	COP _{DC}	DC	PA
5	-20	3,27	1,52	2,15	3,17	1,71	1,85	3,08	1,95	1,58	2,98	2,23	1,34	2,87	2,55	1,13	3,19	2,92	1,09
	-15	3,77	1,55	2,44	3,66	1,74	2,10	3,55	1,98	1,79	3,43	2,26	1,52	3,31	2,59	1,28	3,49	2,97	1,18
	-7	4,72	1,59	2,98	4,59	1,79	2,56	4,45	2,04	2,19	4,30	2,32	1,85	4,15	2,66	1,56	4,00	3,05	1,31
	-2	5,44	1,61	3,37	5,28	1,82	2,91	5,13	2,07	2,48	4,95	2,36	2,10	4,78	2,71	1,77	4,61	3,10	1,49
	0	5,76	1,62	3,55	5,59	1,83	3,06	5,43	2,08	2,60	5,24	2,38	2,21	5,06	2,72	1,86	4,88	3,12	1,56
	2	6,09	1,63	3,73	5,92	1,84	3,21	5,74	2,10	2,74	5,55	2,39	2,32	5,35	2,74	1,95	5,16	3,14	1,64
	7	7,02	1,66	4,23	6,80	1,87	3,64	6,62	2,13	3,10	6,39	2,43	2,63	6,16	2,79	2,21	5,94	3,19	1,86
	12	8,09	1,69	4,79	7,85	1,90	4,13	7,62	2,17	3,51	7,36	2,47	2,98	7,10	2,83	2,51	6,85	3,25	2,11
	15	8,80	1,71	5,16	8,55	1,92	4,45	8,30	2,19	3,79	8,01	2,50	3,21	7,73	2,86	2,70	7,45	3,28	2,27
20	10,14	1,73	5,85	9,85	1,95	5,04	9,56	2,23	4,29	9,23	2,54	3,64	8,90	2,91	3,06	8,59	3,33	2,58	
7	-20	5,63	3,24	1,74	5,46	3,65	1,50	5,30	4,16	1,27	5,12	4,17	1,23	5,35	4,78	1,12	5,40	5,29	1,02
	-15	6,60	3,18	2,07	6,41	3,58	1,79	6,22	4,09	1,52	6,01	4,29	1,40	5,79	4,91	1,18	5,59	5,32	1,05
	-7	7,95	3,09	2,57	7,72	3,48	2,22	7,49	3,97	1,89	7,24	4,53	1,60	6,98	5,19	1,34	6,73	5,71	1,18
	-2	9,55	3,04	3,14	9,27	3,42	2,71	9,00	3,90	2,31	8,69	4,45	1,95	8,38	5,10	1,64	8,08	5,84	1,38
	0	10,24	3,02	3,39	9,94	3,40	2,93	9,65	3,87	2,49	9,32	4,42	2,11	8,99	5,06	1,78	8,67	5,80	1,50
	2	10,97	3,00	3,66	10,65	3,37	3,16	10,34	3,85	2,69	9,98	4,39	2,28	9,63	5,02	1,92	9,28	5,76	1,61
	7	12,91	2,94	4,39	12,35	3,31	3,78	12,17	3,78	3,22	11,75	4,31	2,73	11,33	4,93	2,30	10,93	5,65	1,93
	12	15,04	2,89	5,21	14,60	3,25	4,49	14,18	3,71	3,82	13,69	4,23	3,24	13,20	4,84	2,73	12,73	5,55	2,30
	15	16,42	2,86	5,75	15,94	3,22	4,96	15,47	3,67	4,22	14,94	4,18	3,57	14,41	4,79	3,01	13,90	5,49	2,53
20	18,86	2,80	6,73	18,31	3,16	5,80	17,77	3,60	4,94	17,16	4,10	4,18	16,55	4,70	3,52	15,96	5,38	2,96	
9	-20	6,83	3,24	2,11	6,63	3,65	1,81	6,43	4,17	1,54	6,21	4,18	1,49	6,49	4,90	1,33	6,55	5,30	1,24
	-15	7,74	3,19	2,43	7,52	3,59	2,09	7,30	4,09	1,78	7,05	4,30	1,64	6,80	4,92	1,38	6,96	5,33	1,31
	-7	8,99	3,11	2,89	8,73	3,50	2,49	8,48	3,99	2,12	8,18	4,55	1,80	7,89	5,21	1,51	8,11	5,64	1,44
	-2	10,64	3,06	3,48	10,33	3,45	3,00	10,03	3,93	2,55	9,68	4,48	2,16	9,34	5,13	1,82	9,01	5,88	1,53
	0	11,36	3,04	3,73	11,03	3,43	3,22	10,70	3,91	2,74	10,34	4,45	2,32	9,97	5,10	1,95	9,61	5,84	1,64
	2	12,11	3,02	4,00	11,75	3,41	3,45	11,41	3,88	2,94	11,02	4,43	2,49	10,63	5,07	2,09	10,25	5,81	1,76
	7	14,13	2,98	4,74	13,70	3,36	4,08	13,32	3,83	3,48	12,86	4,37	2,94	12,40	5,00	2,48	11,96	5,73	2,09
	12	16,36	2,95	5,55	15,88	3,32	4,79	15,42	3,78	4,08	14,89	4,31	3,45	14,36	4,94	2,91	13,85	5,66	2,45
	15	17,80	2,92	6,09	17,28	3,29	5,25	16,78	3,76	4,47	16,20	4,28	3,78	15,63	4,90	3,19	15,07	5,62	2,68
20	20,37	2,89	7,04	19,77	3,26	6,07	19,20	3,71	5,17	18,54	4,23	4,38	17,88	4,85	3,69	17,24	5,56	3,10	
12	-20	9,87	4,29	2,30	9,58	4,84	1,98	9,30	5,51	1,69	8,98	5,53	1,62	9,38	6,48	1,45	8,70	7,01	1,24
	-15	10,73	4,14	2,59	10,51	4,67	2,25	10,11	5,32	1,90	9,93	5,58	1,78	9,50	6,39	1,49	9,64	6,92	1,39
	-7	12,05	3,96	3,04	11,70	4,46	2,62	11,36	5,09	2,23	11,08	5,69	1,95	10,58	6,65	1,59	10,87	7,08	1,54
	-2	14,17	3,89	3,64	13,76	4,38	3,14	13,36	4,99	2,67	12,90	5,69	2,27	12,44	6,52	1,91	11,99	7,47	1,61
	0	15,11	3,87	3,91	14,67	4,36	3,37	14,25	4,97	2,87	13,76	5,66	2,43	13,27	6,49	2,05	12,80	7,43	1,72
	2	16,12	3,85	4,18	15,65	4,34	3,61	15,19	4,95	3,07	14,67	5,64	2,60	14,15	6,46	2,19	13,64	7,40	1,84
	7	18,87	3,83	4,93	18,30	4,31	4,25	17,79	4,92	3,62	17,18	5,61	3,06	16,57	6,43	2,58	15,98	7,36	2,17
	12	21,99	3,84	5,72	21,35	4,33	4,93	20,72	4,93	4,20	20,01	5,63	3,56	19,30	6,44	2,99	18,61	7,38	2,52
	15	24,02	3,86	6,22	23,32	4,35	5,36	22,64	4,96	4,57	21,87	5,66	3,87	21,09	6,48	3,26	20,34	7,42	2,74
20	27,71	3,92	7,06	26,90	4,42	6,09	26,12	5,04	5,19	25,22	5,74	4,39	24,32	6,58	3,70	23,45	7,53	3,11	
15	-20	11,99	5,32	2,26	11,63	5,99	1,94	11,29	6,83	1,65	10,90	6,85	1,59	10,79	7,85	1,37	11,02	8,68	1,27
	-15	13,31	5,25	2,53	12,60	5,91	2,13	12,32	6,74	1,83	12,00	7,07	1,70	11,89	8,10	1,47	11,66	8,77	1,33
	-7	15,18	5,15	2,95	14,74	5,80	2,54	14,31	6,61	2,16	13,82	7,54	1,83	13,33	8,46	1,58	12,85	9,00	1,43
	-2	17,82	5,09	3,50	17,30	5,73	3,02	16,80	6,54	2,57	16,22	7,45	2,18	15,65	8,54	1,83	15,09	9,78	1,54
	0	18,98	5,07	3,74	18,42	5,71	3,23	17,89	6,51	2,75	17,27	7,42	2,33	16,66	8,50	1,96	16,06	9,74	1,65
	2	20,18	5,05	4,00	19,59	5,68	3,45	19,02	6,48	2,94	18,37	7,39	2,49	17,72	8,47	2,09	17,09	9,70	1,76
	7	23,44	5,00	4,69	22,80	5,63	4,04	22,09	6,42	3,44	21,33	7,32	2,92	20,57	8,38	2,45	19,84	9,60	2,07
	12	27,04	4,95	5,46	26,25	5,58	4,71	25,49	6,36	4,01	24,61	7,25	3,39	23,73	8,30	2,86	22,89	9,51	2,41
	15	29,36	4,93	5,96	28,51	5,55	5,14	27,68	6,32	4,38	26,72	7,21	3,71	25,77	8,26	3,12	24,86	9,46	2,63
20	33,51	4,89	6,86	32,53	5,50	5,91	31,58	6,27	5,03	30,50	7,15	4,26	29,41	8,19	3,59	28,37	9,39	3,02	
18	-20	11,64	6,75	1,72	11,29	7,60	1,49	11,16	8,67	1,29	11,08	9,19	1,21	10,92	10,17	1,07	10,89	10,78	1,01
	-15	13,70	6,61	2,07	13,30	7,44	1,79	12,92	8,48	1,52	12,87	9,18	1,40	12,33	10,16	1,21	12,16	10,77	1,13
	-7	17,88	6,40	2,80	17,36	7,20	2,41	16,86	8,21	2,05	16,28	9,16	1,78	16,02	10,13	1,58	15,14	10,74	1,41
	-2	21,03	6,28	3,35	20,42	7,07	2,89	19,83	8,06	2,46	19,15	9,14	2,09	18,46	10,12	1,82	17,81	10,73	1,66
	0	22,41	6,23	3,60	21,76	7,02	3,10	21,12	8,00	2,64	20,40	9,12	2,24	19,67	10,11	1,95	18,97	10,72	1,77
	2	23,85	6,19	3,86	23,16	6,97	3,32	22,48	7,94	2,83	21,71	9,06	2,40	20,94	10,08	2,08	20,19	10,68	1,89
	7	27,74	6,08	4,56	26,94	6,85	3,93	26,15	7,81	3,35	25,25	8,90	2,84	24,35	10,05	2,42	23,49	10,65	2,20
	12	32,05	5,98	5,36	31,11	6,74	4,62	30,21	7,68	3,93	29,17	8,76	3,33	28,13	10,04	2,80	27,13	10,64	2,36
	15	34,83	5,93	5,87	33,81	6,68	5,06	32,83	7,62	4,31	31,70	8,68	3,65	30,57	9,95	3,07	29,48	10,54	2,59
20	39,79	5,85	6,80	38,63	6,59	5,87	37,51	7,51	4,99	36,22	8,56	4,23	34,93	9,81	3,56	33,69	10,40	3,00	
25	-20	11,36	5,60	2,03	11,02	6,31	1,75	10,91	7,20	1,52	11,81	8,21	1,44	11,70	9,40	1,24	11,89	10,77	1,10
	-15	13,74	5,89	2,34	13,34	6,63	2,01	13,21	7,56	1,75	14,08	8,62	1,63	13,95	9,87	1,41	13,12	11,31	1,16
	-7	18,92	6,37	2,97	18,37	7,17	2,56	17,84	8,17	2,18	17,22	9,32	1,85	17,19	10,68	1,61	16,52	12,23	1,28
	-2	23,01	6,69	3,44	22,34	7,53	2,97	21,69	8,58	2,53	20,94	9,79	2,14	20,19	11,21	1,80	19,48	12,84	1,52
	0	24,82	6,82	3,64	24,10	7,68	3,14	23,40	8,75	2,67	22,59	9,98	2,26	21,79	11,43	1,91	21,01	13,10	1,60
	2	26,74	6,95	3,85	25,96	7,83	3,32	25,21	8,93	2,82	24,34	10,18	2,39	23,48	11,66	2,01	22,64	13,36	1,70
	7	32,00	7,30	4,38	31,07	8,22	3,78	30,16	9,38	3,22	29,13	10,69	2,72	28,09	12,25				

TABLE OF COOLING PERFORMANCE - MAXIMUM FREQUENCIES

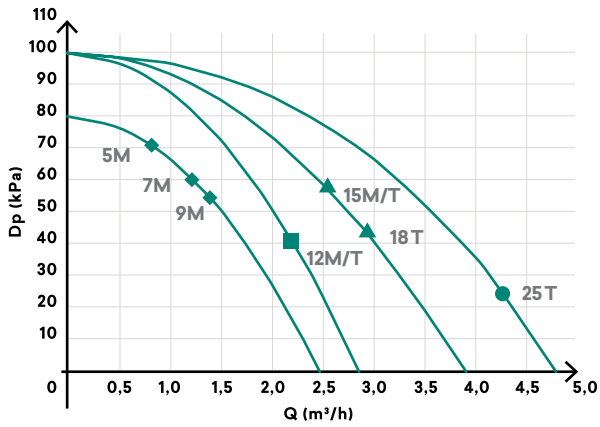
T. a		20			25			30			35			40		
T.ae	PF	PA	EER	PF	PA	EER	PF	PA	EER	PF	PA	EER	PF	PA	EER	
5	7	4,81	1,24	3,89	4,61	1,38	3,35	4,36	1,55	2,81	4,11	1,74	2,36	3,87	1,95	1,99
	10	5,38	1,25	4,29	5,16	1,40	3,70	4,87	1,57	3,11	4,58	1,76	2,60	4,32	1,97	2,19
	13	5,99	1,27	4,71	5,74	1,41	4,07	5,42	1,59	3,42	5,09	1,79	2,84	4,81	2,00	2,40
	15	6,42	1,29	5,00	6,15	1,42	4,33	5,81	1,60	3,64	5,44	1,81	3,01	5,16	2,02	2,55
	18	7,10	1,31	5,44	6,80	1,43	4,74	6,43	1,61	3,98	6,00	1,83	3,27	5,70	2,05	2,78
	22			7,73	1,45	5,32	7,30	1,63	4,47	6,80	1,87	3,63	6,48	2,09	3,10	
7	7	8,74	1,88	4,65	8,37	2,09	4,01	7,91	2,35	3,37	7,56	2,55	2,97	7,01	2,95	2,38
	10	9,61	1,91	5,02	9,18	2,11	4,35	8,69	2,38	3,66	8,41	2,58	3,26	7,69	2,99	2,57
	13	10,51	1,95	5,40	10,04	2,13	4,72	9,52	2,41	3,96	9,33	2,61	3,57	8,43	3,04	2,78
	15	11,13	1,97	5,64	10,63	2,14	4,97	10,10	2,42	4,17	9,98	2,64	3,79	8,95	3,07	2,92
	18	12,09	2,01	6,01	11,57	2,16	5,36	10,99	2,45	4,49	11,01	2,68	4,11	9,79	3,11	3,14
	22			12,88	2,18	5,91	12,25	2,48	4,94	12,48	2,73	4,57	10,98	3,17	3,46	
9	7	9,51	1,95	4,86	9,08	2,13	4,26	8,59	2,39	3,59	8,11	2,68	3,02	7,61	3,01	2,53
	10	10,45	1,97	5,31	9,96	2,15	4,62	9,44	2,42	3,90	8,93	2,72	3,28	8,36	3,05	2,74
	13	11,43	1,98	5,78	10,88	2,17	5,01	10,33	2,44	4,23	9,78	2,76	3,55	9,16	3,10	2,95
	15	12,10	1,98	6,10	11,53	2,19	5,27	10,96	2,46	4,46	10,37	2,78	3,72	9,72	3,13	3,11
	18	13,15	2,00	6,59	12,53	2,20	5,69	11,93	2,48	4,81	11,27	2,82	3,99	10,62	3,18	3,34
	22			13,95	2,23	6,27	13,29	2,51	5,29	12,53	2,88	4,36	11,91	3,25	3,67	
12	7	13,73	2,74	5,01	13,13	3,06	4,29	12,42	3,44	3,61	11,79	3,73	3,16	11,00	4,31	2,55
	10	15,09	2,76	5,47	14,40	3,09	4,66	13,65	3,48	3,93	13,04	3,78	3,45	12,08	4,38	2,76
	13	16,51	2,77	5,95	15,74	3,12	5,05	14,95	3,52	4,25	14,37	3,83	3,75	13,23	4,45	2,98
	15	17,48	2,78	6,28	16,68	3,14	5,32	15,85	3,54	4,47	15,29	3,87	3,95	14,05	4,49	3,13
	18	18,98	2,80	6,79	18,14	3,16	5,73	17,25	3,58	4,81	16,74	3,93	4,26	15,35	4,56	3,36
	22			20,20	3,20	6,32	19,23	3,64	5,29	18,78	4,00	4,69	17,20	4,66	3,69	
15	7	15,57	3,24	4,81	14,90	3,61	4,12	11,11	4,06	2,74	13,34	4,31	3,10	12,48	5,09	2,45
	10	17,12	3,26	5,25	16,34	3,65	4,48	12,22	4,11	2,98	14,68	4,45	3,30	13,71	5,17	2,65
	13	18,72	3,28	5,71	17,86	3,68	4,85	13,38	4,15	3,22	16,08	4,53	3,55	15,02	5,25	2,86
	15	19,83	3,29	6,02	18,92	3,71	5,11	14,19	4,19	3,39	17,05	4,55	3,75	15,95	5,30	3,01
	18	21,53	3,31	6,50	20,57	3,74	5,51	15,44	4,23	3,65	18,56	4,54	4,09	17,43	5,39	3,24
	22			22,91	3,77	6,07	17,21	4,30	4,01	20,68	4,44	4,66	19,55	5,50	3,55	
18	7	19,22	3,92	4,91	18,38	4,38	4,20	17,37	4,91	3,54	16,45	5,39	3,05	15,40	6,16	2,50
	10	21,12	3,94	5,36	20,15	4,42	4,56	19,09	4,97	3,84	18,16	5,47	3,32	16,91	6,26	2,70
	13	22,44	3,95	5,68	21,39	4,45	4,81	20,29	5,01	4,05	19,96	5,54	3,60	17,98	6,32	2,84
	15	24,47	3,97	6,17	23,33	4,49	5,20	22,16	5,07	4,37	21,21	5,59	3,79	19,69	6,42	3,07
	18	26,58	3,98	6,68	25,37	4,53	5,61	24,12	5,12	4,71	23,15	5,67	4,08	21,51	6,52	3,30
	22			28,25	4,57	6,18	26,88	5,20	5,17	25,86	5,78	4,47	24,13	6,65	3,63	
25	7	27,17	5,62	4,83	25,98	6,28	4,14	24,56	7,05	3,49	23,24	7,73	3,01	21,78	8,84	2,46
	10	29,87	5,66	5,28	28,49	6,35	4,49	27,00	7,13	3,79	25,65	7,83	3,27	23,91	8,97	2,66
	13	31,73	5,69	5,58	30,24	6,39	4,73	28,70	7,19	3,99	28,17	7,95	3,55	25,42	9,06	2,81
	15	34,62	5,72	6,05	32,98	6,45	5,11	31,36	7,27	4,31	29,92	8,02	3,73	27,83	9,20	3,03
	18	37,61	5,74	6,55	35,86	6,51	5,51	34,14	7,35	4,64	32,64	8,14	4,01	30,41	9,33	3,26
	22			39,93	6,59	6,06	38,05	7,46	5,10	36,44	8,31	4,38	34,11	9,52	3,58	

- T. ae = Outdoor ambient temperature (C°)
- T. a = Output water temperature (°C)
- DC = Heating power (kW)
- PF = Cooling power (kW)
- PA = Total power absorbed (kW)

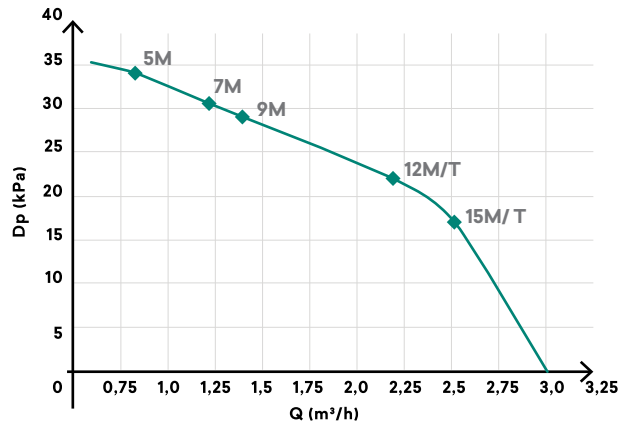
The performance specifications, in accordance with the test conditions, take all the auxiliary elements and defrosting cycles into account
 The performance specifications indicated may undergo variations without prior notice

Available pressure curves

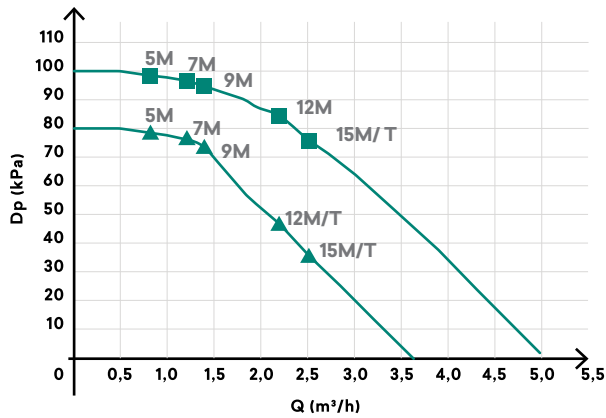
PRIMARY PUMP CIRCUIT eHPoca



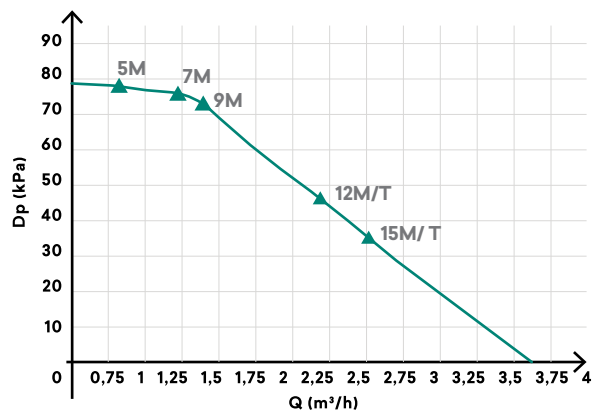
PRIMARY PUMP CIRCUIT 3in1 and 3in1 built-in



SEPARATOR KIT with secondary circuit pump for 3in1 (optional)



SEPARATOR KIT with secondary circuit pump for 3in1 built-in (optional)



- ▲ Separator kit with secondary circuit pump for 5-7 kW unit
- Separator kit plus secondary circuit pump for 5-15 kW unit

Dp (kPa): residual available pressure to unit fittings
Q (m³/h): water flow rate





Heat pumps





Heat pumps



Next Village,
50 apartments
Independent systems
with 3in1 heat pumps
Viterbo, Italy

Detached house with
timber frame
System with eHPoca
heat pump
Ledro, Italy



CREDITS

Product Designer
Luca Papini
Art Direction & Graphic
Federico Castelli
Photography
Ottavio Tomasini
Special thanks to:
Akira Nishikawa





We turn ideas
into reality.





INNOVA s.r.l.
Via 1° Maggio, 8
38089 Storo (Tn)
Tel. +39 0465 670104
Fax: +39 0465 674965
info@INNOVAenergie.com

www.INNOVAenergie.com

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