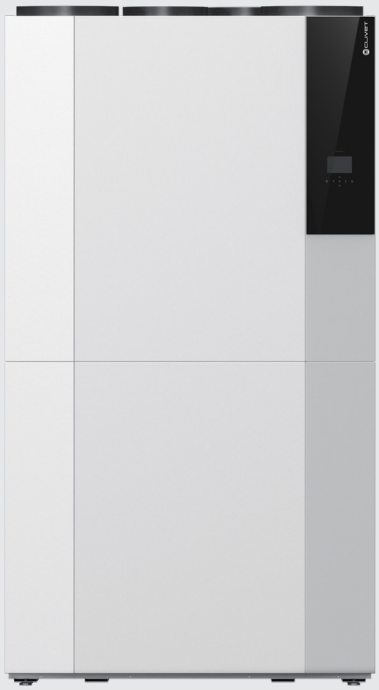
FULLNESS

CiSDN-M EP 1 MR 3.1 RANGE

Reversible air-to-air heat pump, monobloc unit with dual ducting for heating, cooling, air renewal and domestic hot water



TECHNICL BULLETIN

R-454C

SIZE	3.1
Nominal heating capacity [kW]	5,21
Nominal cooling capacity [kW]	5,0

ADI DESIGN INDEX
Selezione Compasso d'Oro

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3 General characteristics

8 Unit configuration

9 General technical data

16 Compatibility of options

17 Optional accessories

18 Accessory products

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General features

FULLNESS:

FULLNESS is not just a heat pump, but the climatic heart of modern high-efficiency homes. It is designed to go beyond heating and cooling, integrating constant air renewal and purification into a single system for total well-being.

CiSDN-M EP 1 MR 3.1

Ducted reversible air/air heat pump

- Heating capacity 5 kW
- Cooling capacity 5 kW
- Produced domestic water temperature up to 70°C
- Heating and DHW operation down to -20 °C outside air
- Low-GWP refrigerant

R-454C



General features

Compressor

Inverter controlled scroll hermetic compressor equipped with a motor protection device for overheating, overcurrents and excessive temperatures of the supply gas. It is installed on rubber antivibration mounts and comes with a full oil charge.

Structure

Primary structure in expanded polypropylene (60g/l density) which gives the unit excellent thermal insulation, air tightness and lightness during installation and maintenance.
The type of expanded polypropylene used contains 30% material recycled from EPP post-consumer waste, resulting in a 16% reduction in CO_2 emissions compared to a traditional expanded polypropylene
Secondary structure made of zinc-magnesium sheet metal that ensures excellent mechanical features and high long-term resistance to corrosion.

Internal exchanger

Finned coil exchanger made from copper pipes arranged in staggered rows and mechanically expanded to better adhere to the fin collar. The fins are made from aluminium with a special corrugated surface, appropriately distanced to ensure the maximum heat exchange efficiency.

External exchanger

Finned coil exchanger made from copper pipes arranged in staggered rows and mechanically expanded to better adhere to the fin collar. The fins are made from aluminium with a special corrugated surface, appropriately distanced to ensure the maximum heat exchange efficiency.

Fan

Brushless centrifugal supply and exhaust fans with high energy efficiency with single suction directly coupled to an electronically commutated EC electric motor.
The electronic control of the motor allows the flow-rate to be kept constant up to the maximum available pressure stated for all flow-rates settable on the keypad.

Fresh air bypass damper

Motorised damper to control the supply of renewal air to the room, up to 40% of the total air flow into the home. The damper allows the supply of renewal air to be completely closed to speed up the system's steady state or, in the event of high humidity, to allow a more effective dehumidification.

Indoor air bypass damper

Motorised damper that balances the amount of exhaust air extracted from the kitchen and bathroom, avoiding overpressure or underpressure conditions in the room.

Anemometer

Air flow measuring device, installed both on the exhaust air duct and upstream of the outdoor air bypass damper, in order to balance the opening of the dampers and have an equal amount of extracted air and renewal air.

Refrigeration circuit

Cooling circuit complete with:
- refrigerant charge
- high pressure safety pressure switch
- 4-way cycle reversing valve
- electronic expansion valve
- liquid separator

Filtration

ISO Coarse 30% filter upstream of the inner coil and source coil.
Second stage of supply filtration.
Folded air filter media in synthetic fibre, heat-pleated.
ISO EN16890 ePM10 50% efficiency.
The filter can be completely incinerated.

Drain pan

Drain pan in thermoformed ABS directly housed in the expanded polypropylene mould.
The drain pan has a condensation drain pump, antifreeze heater and safety float.

Electrical panel

Electrical panel inside the unit easily accessible via removable side panel. The control section is made up of a card with microprocessor control that allows the unit control according to the different air input conditions.
The control section includes:
- outlet air temperature probe
- supply air temperature probe
- return air temperature probe
- supply air humidity probe
- return air humidity probe
- outdoor air humidity probe (optional)
- supply air compound flow meter
- outdoor air compound flow meter
- Modbus RTU connection
- dry contacts for remote ON-OFF, cumulative alarm, summer/winter mode, fan only mode, silent mode;

User keypad

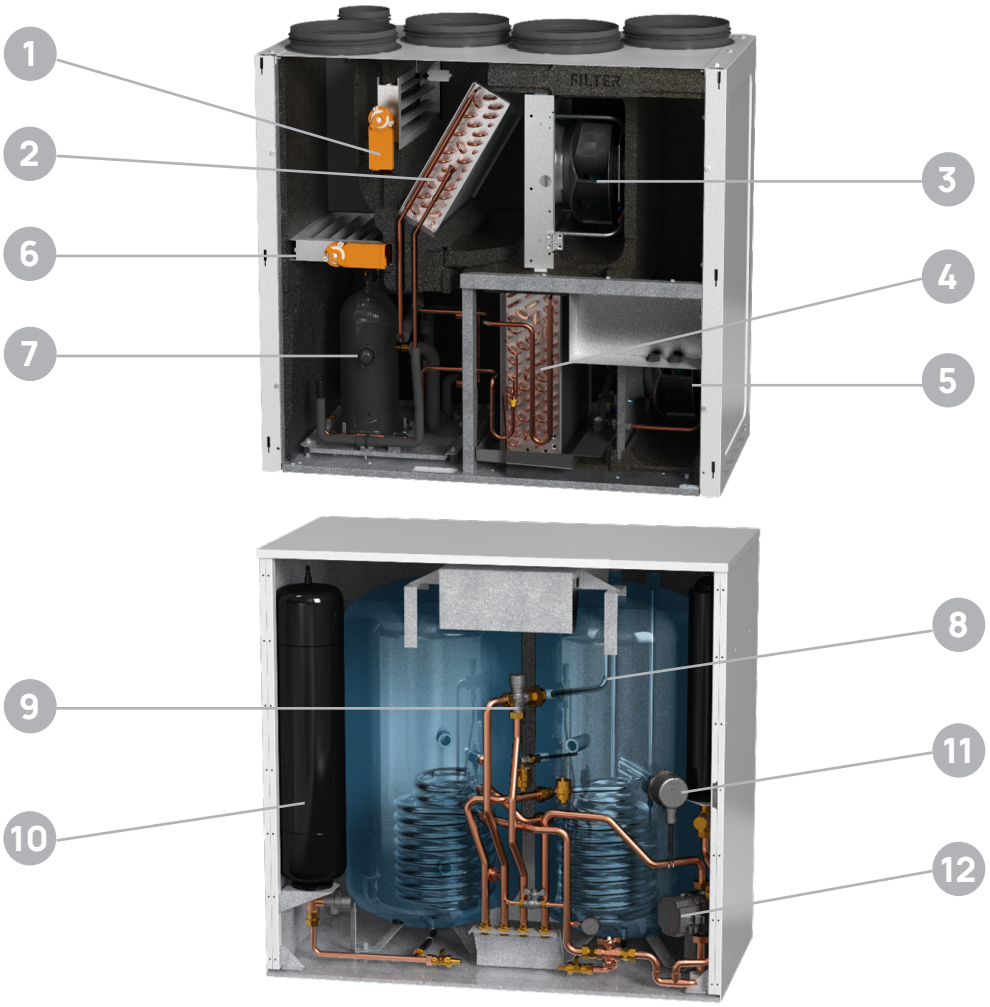
User control with a colour display that allows you to:
- control only one Fullness unit
- set the desired temperature
- set the desired air flow rate
- power it on/off
- change from Summer/Winter
- set ventilation only mode
- set Automode operating mode
- set the dehumidification function (Standard / ECO)
- set the silent function (Silent)
- manage diagnostics with a specific code for the type of error
- Modbus RTU connection
- Built-in WiFi for connection to the dedicated APP

Test

Unit built to ISO 9001 quality standards and subjected to functional testing at the end of the production line

General features

Details of main components

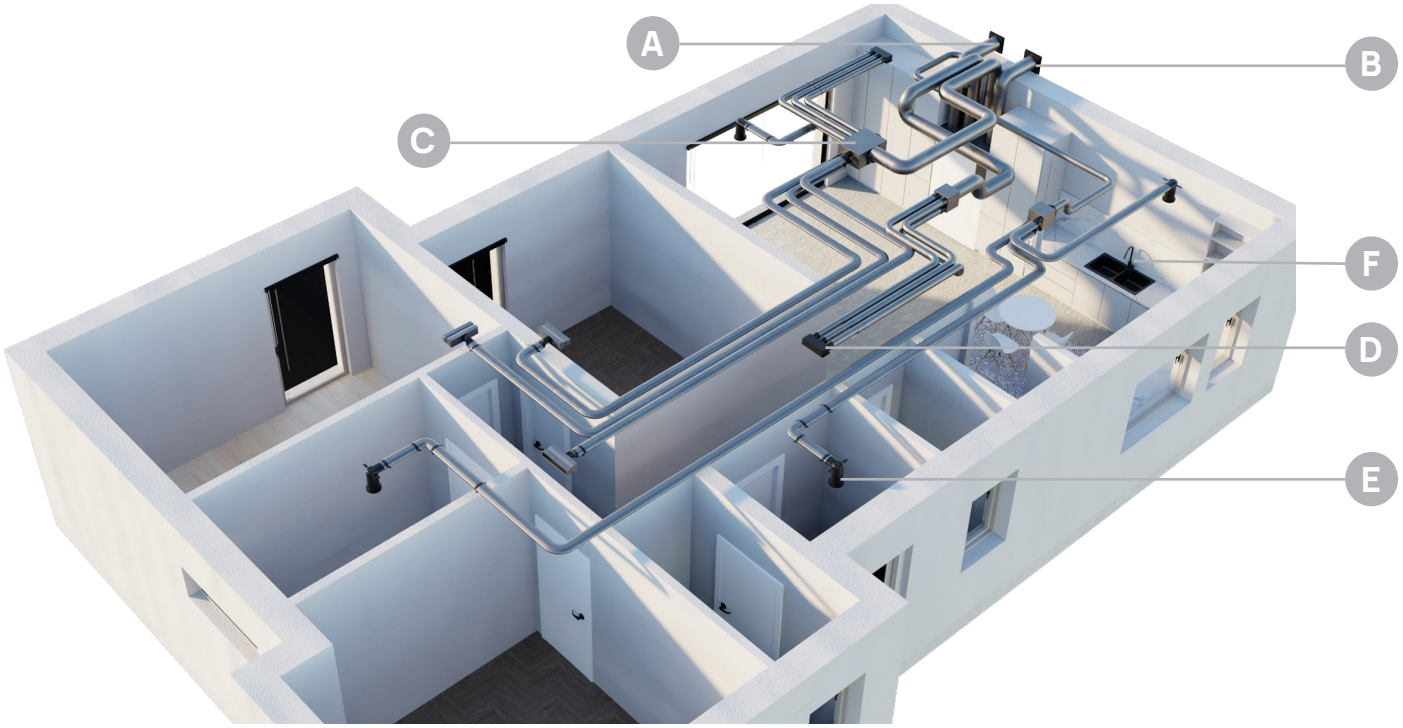


1. **Recirculation damper:** activation allows the unit to operate in full recirculation mode
2. **Supply heat exchanger:** treats the air supplied to the home to ensure comfort
3. **Supply fan:** thanks to its constant flow rate, it guarantees the required amount of air at all times
4. **Extraction heat exchanger:** recovers energy from stale air and outdoor air
5. **Exhaust fan:** extracts stale air and ensures proper exchange
6. **Fresh air damper:** manages the correct flow-rate to optimise air renewal
7. **Inverter compressor:** adapts the energy delivered to the actual request of the environment
8. **Domestic hot water tank:** provides a volume of water for 4 people
9. **Thermostatic anti-scald valve:** limits water temperature to prevent scalding
10. **15l DHW expansion vessel**
11. **DHW back-up heater**
12. **DHW pump**

Clivet›s solution: FULLNESS

The installation of FULLNESS can be completed with the new AIRPATH distribution system, a perfect combination to ensure optimal comfort conditions such as:

- heating
- cooling
- dehumidification
- domestic hot water production
- mechanical ventilation with thermodynamic recovery
- electronic filtration



A. **Renewable Energy** It uses the clean, free energy from the outside air to both climatise the home and constantly renew the indoor air, ensuring superior well-being.
B. **Heat Recovery** Maximum efficiency thanks to heat recovery: the thermal energy from the expelled air is entirely transferred to the new incoming air, eliminating energy waste
C. **Year-Round Comfort** It intelligently manages every aspect of the indoor climate: it heats in winter, cools in summer, and constantly dehumidifies and purifies the air, for perfect well-being in every season.
D. **Air Quality.** Breathe pure and healthy air. Thanks to the advanced electronic filter, the system captures and eliminates over 90% of the most dangerous fine particles (PM1), such as allergens, bacteria, and pollutants.
E. **Mechanical Ventilation with Heat Recovery.** It eliminates humidity and unpleasant odours by extracting stale air from critical areas of the house (e.g., bathrooms, kitchens) and, before expelling it, recovers its energy to avoid wasting heat.
F. **Domestic Hot Water**. Comfort and savings without compromise. It simultaneously produces heating and domestic hot water. In summer, while it cools the house, it produces domestic hot water at zero cost by harnessing the heat recovered from your rooms.

The FULLNESS system offers an integrated solution that eliminates traditional components:
HVAC via Mechanical Ventilation: Heating and cooling are handled by the mechanical ventilation ductwork, eliminating the need for traditional hydronic systems, radiant panels, or fan coils.
Autonomy and Simplicity: Each apartment has a self-contained unit, replacing the building's central plant and its distribution risers.
No External Metering: The system eliminates the need to install satellite modules for consumption metering and allocation.

Unit configuration

Configurations available:

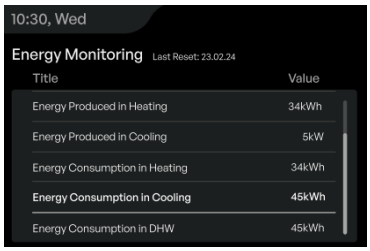
Standard unit, air/air heat pump and renewal air.



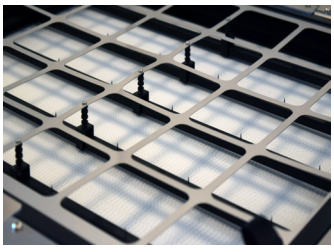
Air/air heat pump unit, renewal air and heat exchanger for heating Domestic Hot Water.



Device for monitoring energy released into the room and energy consumed. With this device, the efficiency of Fullness can be constantly monitored with the keypad on the unit or with the dedicated APP.



Electronic filter with iFD technology with 90% efficiency on PM1.
The filter is installed inside the unit near the inlet air connection. This position allows all the air (both renewal air and recirculated air) entering the room to be filtered, thus ensuring a very high level of air quality.



General technical data

Performances

Size			3.1
Capacity - Efficiency			
Heating capacity (1)		kW	5,21
COP (1)			3,13
Erp energy efficiency class in heating			A
SCOP			2,90
nsh		%	113
Cooling capacity (1)		kW	5
EER (1)			2,46
Erp energy efficiency class in cooling			B
SEER			3,79
nsh		%	148,50
Fan			
Maximum supply airflow in the room		m^3/h	800
Renewal air		m^3/h	300
Recirculation air		m^3/h	500
Maximum stale air extraction flow-rate		m^3/h	300
Maximum stale air recirculation flow-rate		m^3/h	800
Maximum fresh air intake flow-rate		m^3/h	1200
Renewal air		m^3/h	300
Maximum air flow of exhaust air to the outside		m^3/h	1200
Exhaust air/stale air		m^3/h	300
Available pressure of the fans		Pa	180
Type of fans			Radial
Filtration			
Supply air filter			ePM_{10} 50%
Outdoor and ambient air prefilter			Coarse 30%
Renewal and recirculation air prefilter			Coarse 30%
Heat pump			
Compressor			Scroll
Refrigerant gas			R-454C
Refrigerant charge (2)		kg	0,85
Total charge		t CO_2-eq	0,126
Sound pressure level at 1 m	Nom/Silent	dB(A)	45/40
Domestic hot water module			
Capacity		litres	200
Storage tank material			AISI 316 stainless steel
Electric safety heater		kW	
Domestic hot water tank protection anode			Electronic
Circulator			Electronic
DHW expansion vessel		litres	15
Recovery circuit expansion vessel		litres	3
AISI 316 stainless steel braze-welded plate exchanger			
Pressure relief valve - DHW side		bar	6
Pressure relief valve - recovery circuit side		bar	3
Overall dimensions (Operation)			
Size		mm	1.100 x 600 x 2.000
Operation weight - Ventilation Module		kg	150
Shipping weight - Ventilation Module		kg	166
Operation weight - DHW Module		kg	360
Shipping weight - DHW Module		kg	150

1)Data calculated in accordance with EN 14511:2022, with reference to an available pressure of 50 Pa
2) With DHW module, the load value is 1 kg

General technical data

Technical specifications

Size			3.1
Compressor			
Refrigerant		-	R-454C
Compressor type (1)		-	Scroll
No. of Compressors		-	1
Refrigeration circuits		-	1
Control capacity		%	33-100%
Refrigerant charge (2)		kg	0,85
Treatment area fans (supply)			
Type of fans/motor		-	CFG/EC
No. of supply fans		-	1
Nominal supply airflow		m^3/h	800
Maximum supply airflow		m^3/h	800
Installed unit power		kW	0,168
Max. supply static pressure (4)		Pa	180
Exhaust fan			
Type of fan/motor (3)		-	CFG/EC
Number of exhaust fans		-	1
Installed unit power		kW	0,168
Maximum exhaust static pressure		Pa	200
Condensation drain pump			
Maximum head		m c.a	1,2
Connection		mm	16
Water module connections			
Mains inlet		inch	3/4"
Hot water withdrawal		inch	3/4"
Pump supply		inch	3/4"
Pump return		inch	3/4"

1. SCROLL = Scroll Compressor
2. Approximate values for standard units with possible variation of +/- 10%. The actual data are indicated on the unit's nameplate.
3. CFG = centrifugal fan EC = Electronic Switching
4. Net pressure available at nominal flow-rate

Fan performances

size			3.1
Nominal supply airflow		m^3/h	800
Supply fan consumption	1	W	100
Nominal exhaust airflow		m^3/h	1000
Exhaust fan consumption	2	W	75
SFP (Specific fan power) supply fan		$W/(m^3/s)$	460
SFP (Specific fan power) exhaust fan		$W/(m^3/s)$	270

1. Available static supply pressure 50 Pa
2. Available static exhaust pressure 50 Pa

Data for calculation UNI/TS 11300

UNI/TS 11300-4 - COPpl

	Tdesignh	A	B	C	D
Te	-10	-7	2	7	12
PLR		0,88	0,54	0,35	0,15
DC		2,77	2,66	3,34	3,64
CR		1,00	0,63	0,32	0,13
P	3,13	2,77	1,68	1,08	0,48
COP (partial load)		1,54	3,23	3,24	3,40
COP' (full load)		1,54	3,24	3,77	4,13
fCOP		1,00	1,00	0,86	0,82

Power data and COP data under full load

	Heating capacity ΦH,HP out (kW)	COP
	T inlet 20°C	**T inlet 20°C**
-7,00	2,77	1,54
2,00	2,66	3,24
7,00	3,34	3,77
12,00	3,64	4,13

	Heating capacity ΦH,HP out (kW)	COP
	T supply 45°C	**T supply 45°C**
7,00	2,69	3,20
15,00	2,83	3,25
20,00	3,17	3,27
35,00	3,40	3,30

General technical data

Electrical data

Air module		
F.L.A. - Full load current at max admissible conditions		
F.L.A. Total	A	13,3
F.L.I. - Full load power input at max admissible conditions		
F.L.I. Total	kW	3,08

Data refers to standard units. Power supply: 400/3~/50 Hz +/-10%
Voltage unbalance between phases: max 2 %

Water module		
F.L.A. - Full load current at max admissible conditions		
F.L.A. Total	A	8,7
F.L.I. - Full load power input at max admissible conditions		
F.L.I. Total	kW	2

Data refers to standard units. Power supply: 220-240/1/50
Voltage unbalance between phases: max 2 %

Hydraulic data

Features		
Net boiler capacity	l	190
DHW tank setpoint	°C	51
Water mixed at 40°C (V40)	l	231
Heating time	h:min	02:36
Energy consumption during heating operation	kWh	5,363
Declared load profile	-	XL
nwh	%	56%
Domestic hot water energy class	-	B

Sound level

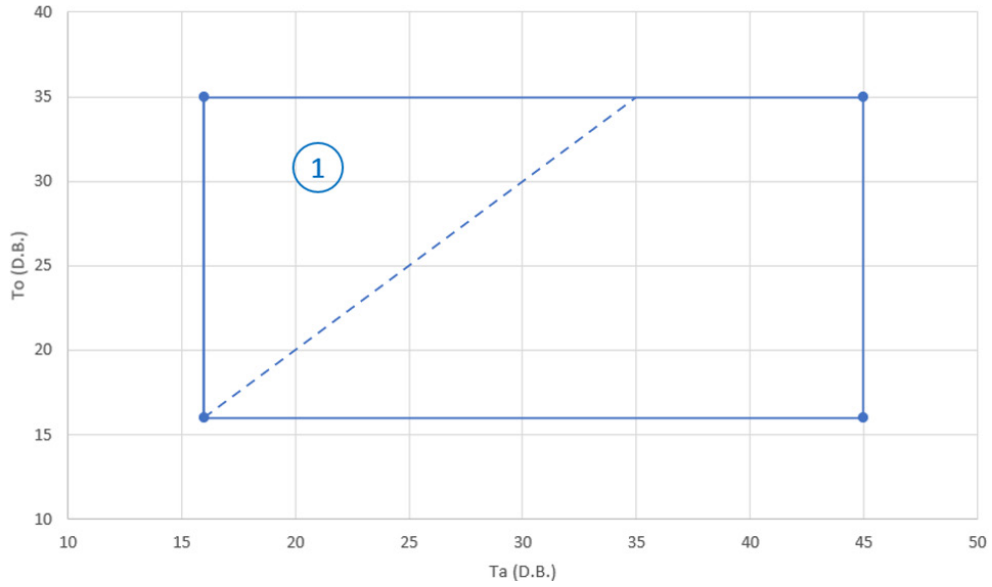
Flow-rate supply	Sound power level								Sound power level	Sound pressure level (1m)
	Octave band (Hz)									
m3/h	63	125	250	500	1000	2000	4000	8000	**dB(A)**	**dB(A)**
800	56,4	62,4	58,9	52,8	46,4	39,2	29,7	23	**55**	**45**
600	54,1	59,4	55,3	48,9	42,7	35,1	24,9	17	**52**	**42**
Silent	52,2	56,6	53,4	51,5	48,4	44,5	39,8	30,7	**50**	**40**

Sound levels refer to a ducted unit with nominal load. Available static pressure 50 Pa
The average sound pressure level, in compliance with UNI-EN ISO 3744, refers to a distance of 1 m from the outer surface of a ducted unit.
Power measurements are taken in accordance with UNI EN ISO 9614-1, with a ducted unit installed near a reflective surface, with a tolerance of 2 dB(A) on the measured sound power level.

The SILENT operating mode (selectable via keypad or dry contact) limits the compressor and fan speed in order to reduce the noise level
If the unit is installed under conditions other than the nominal test conditions (e.g., near walls or obstacles in general), sound levels may vary significantly

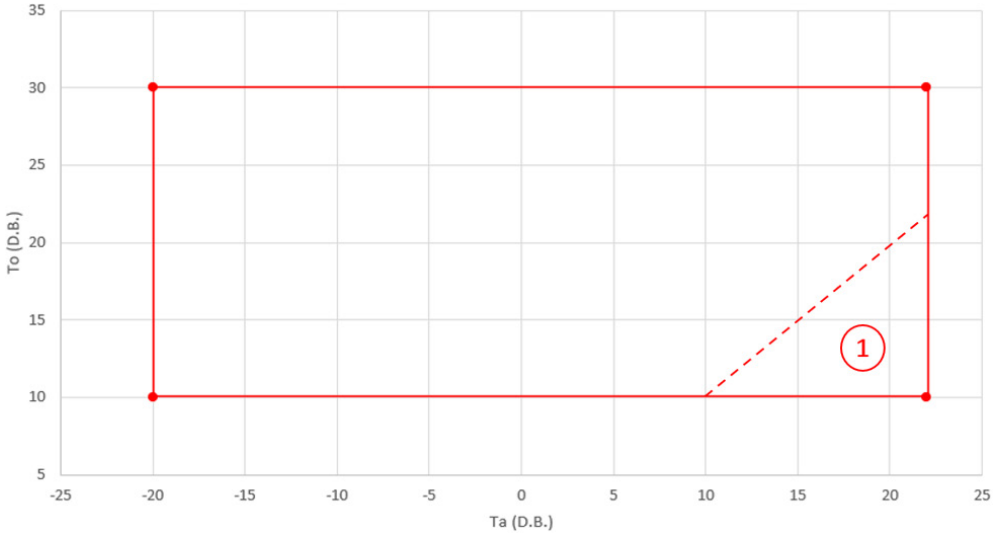
Field of operation

Cooling



To= outdoor temperature
Ta= indoor temperature
1. Possible Free cooling operation

Heating

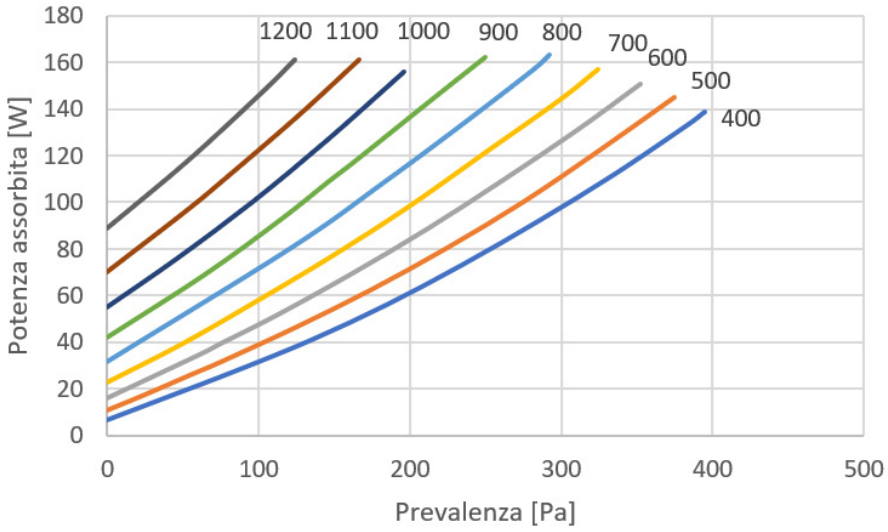


To= outdoor temperature
Ta= indoor temperature
1. Possible Free cooling operation

General technical data

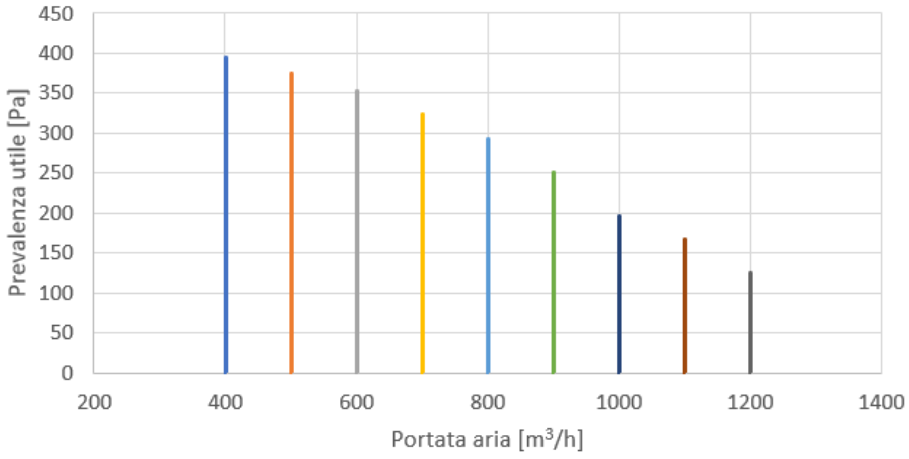
Fan curves

Exhaust fan electric consumption

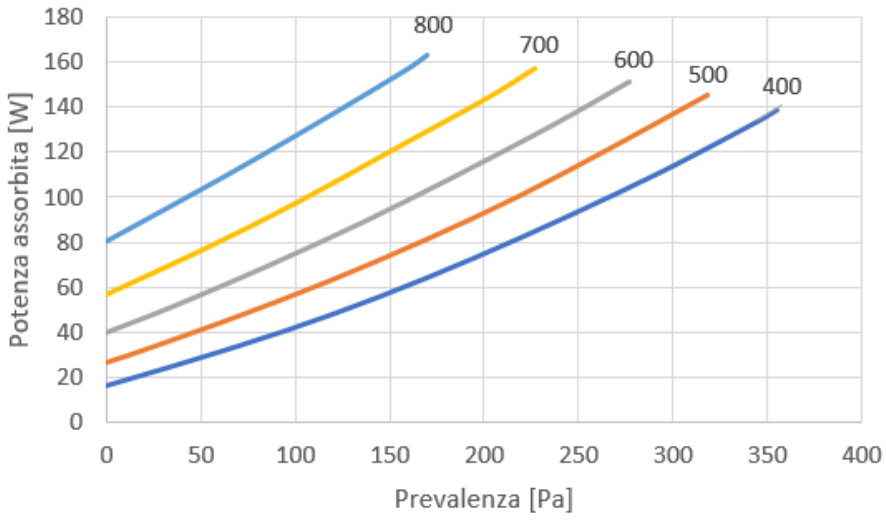


Airflow in m^3/h

Exhaust fan available pressure

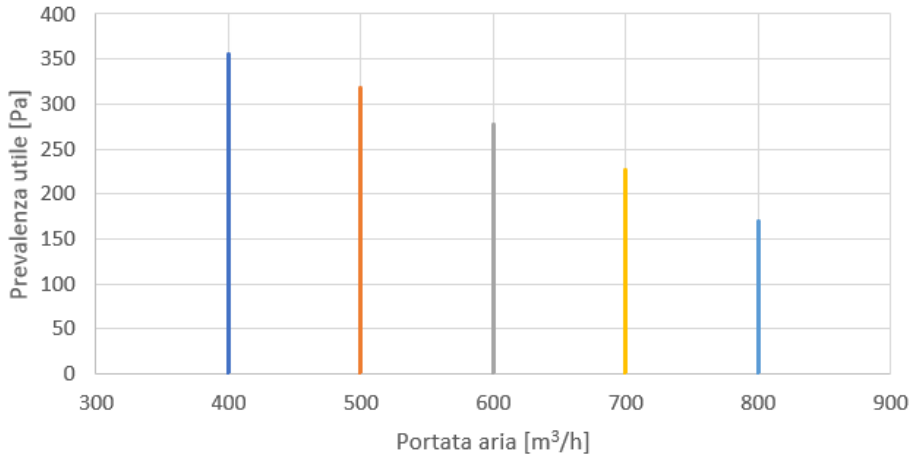


Supply fan electric consumption



Airflow in m^3/h

Supply fan available pressure



Option compatibility

Configuration and compatible accessories

CONFIGURATIONS (*)		Heat pump	Heat pump for DHW	iFD filter	Energy Metering
	Option code	PDCATA	PDCATAR	FIFD	CONTA5
Heat pump	PDCATA	√		√	√
Heat pump for DHW	PDCATAR		√	√	√
iFD filter	FIFD	√	√	√	√
Energy Metering	CONTA5	√	√	√	√
ACCESSORIES (**)					
DHW Modul	MAS200X		√	√	√
DHW module connection kit	KTCATX		√	√	√
Shut-off valves	VIRX		√	√	√

* Factory-assembled
** Supplied separately

Optional accessories

MAS200X **200-litre DHW tank module for all-in-one units**



The module is designed to be combined with the heat pump module with DHW exchanger.
The module can be installed under the heat pump module or, if the room is not high enough, it can be installed alongside or close to it.
Technical characteristics:

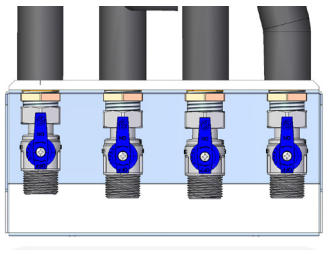
- Double storage tank with a total capacity of 200 litres, made of AISI 316L steel and equipped with an internal coil for domestic hot water heating.
- Technical water recirculation pump
- 2 kW backup electric heater
- Electronic anode installed in both tanks
- Anti-scald mixing valve
- 15-litre DHW side expansion vessel
- DHW side pressure relief valve set at 6 bar
- 3-litre technical water side expansion vessel
- Temperature probe in both tanks
- Non return valve between technical water and DHW

KTCATX **Technical water connection pipe kit with stacked units**

Heat pump module connection kit with DHW exchanger and DHW module, if stacked installation is planned

VIRX **Shut-off valves**

Shut-off valves for DHW/technical water inlet and outlet.



Product accessories

CONTROL4 NRG

Clivet Smart Living comfort and energy assistant



CONTROL4 NRG is a centralized control system for residential and commercial applications. Through an intuitive and easy to use interface panel, it effectively and efficiently manages all system elements to always achieve the best energy efficiency based on the required comfort.

CONTROL4 NRG acquires the data of the electric energy consumed by the air conditioning system and the electric energy produced by the photovoltaic system and displays charts of their trends both locally and remotely.
The entire system optimised by CONTROL4 NRG can be managed remotely with Clivet Eye, Clivet's Cloud solution, available as an App for smartphones and tablets and on your PC from any browser.

CONTROL4 NRG is at the heart of Clivet Smart Living, the complete proposal to fulfil the following requirements:

- the PRODUCTION of water for heating, cooling and domestic use
- the VENTILATION and purification of room air through the management of Elfo Fresh EVO units
- the DISTRIBUTION of thermal/cooling energy in all the rooms of the building
- energy MANAGEMENT with power consumption and self-consumption data display
- the INTEGRATION with Clivet SINERGY storage system and photovoltaic system
- remote MONITORING and control of systems with Clivet Eye from the APP or PC
- optimisation of the hydronic system with produced water temperature compensation systems
- optimisation of the thermal energy distribution system thanks to climatic curves applied to indoor environment comfort management

CONTROL4 NRG can be classed as a class A device in accordance with the requirements of European Standard UNI-EN15232 on "Energy performance of buildings" and in accordance with the requirements of Italian Decree of 6 August 2020 as indicated in Annex A, article 11.1 on the "Installation of building-automation systems" for the purpose of incentives.

See the specific documentation at Clivet.World for more details

Performances

Performance in cooling operation - DesignT +30

Outdoor temperature	°C	28	29	30
Cooling capacity	kW	3,63	3,6	5,31
DHW heating capacity	kW	1	1	1
Ventilation cooling capacity	kW	0,11	0,22	0,33
Transmission cooling capacity	kW	3,5	3,4	5,0
Power input	kW	0,76	0,77	1,74
Thermodynamic EER	-	6,09	5,97	3,63
Room supply temperature	°C	15,6	15,7	14,6

Performance in cooling - ProjectT +32

Outdoor temperature	°C	28	29	30	31	32
Cooling capacity	kW	3,63	3,6	3,56	4,38	5,6
DHW heating capacity	kW	1	1	1	1	1
Ventilation cooling capacity	kW	0,11	0,22	0,33	0,44	0,60
Transmission cooling capacity	kW	3,52	3,38	3,23	3,94	5,00
Power input	kW	0,76	0,77	0,79	1,2	2,16
Thermodynamic EER	-	6,09	5,97	5,77	4,48	3,06
Room supply temperature	°C	15,6	15,7	15,7	14,4	12,15

Performance in cooling operation - DesignT +35

Outdoor temperature	°C	28	29	30	31	32	33	34	35
Cooling capacity	kW	3,63	3,60	3,56	3,53	3,72	4,49	5,18	5,95
DHW heating capacity	kW	1	1	1	1	1	1	1	1
Ventilation cooling capacity	kW	0,11	0,22	0,33	0,44	0,60	0,71	0,83	0,95
Transmission cooling capacity	kW	3,52	3,38	3,23	3,09	3,12	3,78	4,35	5,00
Power input	kW	0,76	0,77	0,79	0,81	0,92	1,35	1,9	2,96
Thermodynamic EER	-	6,092	5,974	5,772	5,593	5,130	4,067	3,253	2,348
Room supply temperature	°C	15,6	15,7	15,7	15,76	15,4	14,2	12,9	11,4

Cooling capacity: this is the overall capacity provided by the unit, i.e. the sum of the Ventilation cooling capacity + Transmission cooling capacity
DHW (Domestic Hot Water) heating capacity: hourly load for Domestic Hot Water calculated based on a consumption of 4 people (50 litres/person), TDelta 30°C
Total thermodynamic efficiency: this is the relationship between the heating capacity supplied (DHW heating capacity + Ventilation cooling capacity + Transmission cooling capacity) and the capacity absorbed by the compressor, any defrosting and internal auxiliary devices (circulator and electrical panel). The capacity absorbed by the fans is not considered as it depends on the pressure drops of the aeraulic distribution of each specific installation

Performances

Performance in heating - ProjectT -5

Outdoor temperature	°C	-5	-4	-3	-2	-1	0	1	2	3	4	5
Heating capacity	kW	5,48	5,37	5,28	5,17	5,08	4,98	4,85	4,77	4,66	4,54	4,47
DHW heating capacity	kW	1	1	1	1	1	1	1	1	1	1	1
Ventilation heating capacity	kW	1,43	1,38	1,32	1,26	1,20	1,15	1,09	1,03	0,97	0,92	0,86
Transmission heating capacity	kW	3,05	2,99	2,96	2,91	2,88	2,83	2,76	2,74	2,69	2,62	2,61
Power input	kW	2,6	2,40	2,24	2,08	1,95	1,82	1,68	1,58	1,48	1,37	1,29
Thermodynamic COP	-	2,11	2,24	2,36	2,49	2,61	2,74	2,89	3,02	3,15	3,31	3,47
Room supply temperature	°C	31,2	31,0	30,9	30,7	30,6	30,4	30,2	30,1	29,9	29,7	29,6

Performance in heating - ProjectT -2

Outdoor temperature	°C	-2	-1	0	1	2	3	4	5	6
Heating capacity	kW	6,0	5,9	5,7	5,6	5,4	5,2	5,1	4,9	4,8
DHW heating capacity	kW	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Ventilation heating capacity	kW	1,3	1,2	1,1	1,1	1,0	1,0	0,9	0,9	0,8
Transmission heating capacity	kW	3,8	3,7	3,6	3,5	3,4	3,3	3,2	3,0	3,0
Power input	kW	2,8	2,6	2,4	2,2	2,0	1,8	1,7	1,5	1,4
Thermodynamic COP	-	2,2	2,2	2,2	2,3	2,5	2,7	2,9	3,2	3,5
Room supply temperature	°C	33,9	33,7	33,1	32,9	32,4	32,0	31,7	31,1	31,0

Performance in heating - ProjectT 0

Outdoor temperature	°C	0	1	2	3	4	5	6	7
Heating capacity	kW	6,3	6,1	5,9	5,7	5,5	5,3	5,1	4,9
DHW heating capacity	kW	1	1	1	1	1	1	1	1
Ventilation heating capacity	kW	1,15	1,09	1,03	0,97	0,92	0,86	0,80	0,75
Transmission heating capacity	kW	4,12	4,33	4,35	4,00	3,67	3,37	3,00	2,67
Power input	kW	2,9	2,7	2,4	2,2	2,0	1,8	1,7	1,5
Thermodynamic COP	-	2,2	2,2	2,3	2,5	2,7	3,0	3,2	3,5
Room supply temperature	°C	35,20	35,96	36,03	34,73	33,54	32,42	31,05	29,86

Performance in heating - ProjectT 2

Outdoor temperature	°C	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Heating capacity	kW	6,50	6,31	6,01	5,81	5,60	5,30	5,12	4,93	4,65	4,42	4,25	4,00	3,70	3,64
DHW heating capacity	kW	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ventilation heating capacity	kW	1,03	0,97	0,92	0,86	0,80	0,75	0,69	0,63	0,57	0,52	0,46	0,40	0,34	0,29
Transmission heating capacity	kW	4,47	4,34	4,09	3,95	3,80	3,55	3,43	3,30	3,08	2,90	2,79	2,60	2,36	2,35
Power input	kW	3,0	2,7	2,4	2,1	1,9	1,7	1,6	1,5	1,3	1,2	1,1	1,0	0,8	0,79
Thermodynamic COP	-	2,19	2,34	2,55	2,73	2,89	3,12	3,24	3,40	3,60	3,81	3,97	4,21	4,51	4,61
Room supply temperature	°C	36,47	35,98	35,09	34,56	34,00	33,10	32,65	32,16	31,34	30,70	30,29	29,58	28,68	28,67

Heating capacity: it refers to all the capacity provided by the unit, i.e. the sum of: DHW heating capacity + Ventilation heating capacity + Transmission heating capacity
DHW (Domestic Hot Water) heating capacity: hourly load for Domestic Hot Water calculated based on a consumption of 4 people (50 litres/person), TDelta 30°C
Thermodynamic COP: this is the relationship between the heating capacity supplied (transmissions+ventilation+DHW) and the capacity absorbed by the compressor, any defrosting and internal auxiliary devices (circulator and electrical panel). The capacity absorbed by the fans is not considered as it depends on the pressure drops of the aeraulic distribution of each specific installation

6	7	8	9	10	11	12	13	14	15
4,36	4,22	4,12	4,03	3,92	3,81	3,69	3,64	3,59	3,64
1	1	1	1	1	1	1	1	1	1
0,80	0,75	0,69	0,63	0,57	0,52	0,46	0,40	0,34	0,29
2,56	2,47	2,43	2,40	2,35	2,29	2,23	2,24	2,25	2,35
1,21	1,13	1,07	1,01	0,96	0,90	0,84	0,82	0,79	0,79
3,60	3,73	3,85	3,99	4,08	4,23	4,39	4,44	4,54	4,61
29,4	29,1	29,0	28,8	28,6	28,5	28,2	28,3	28,3	28,7

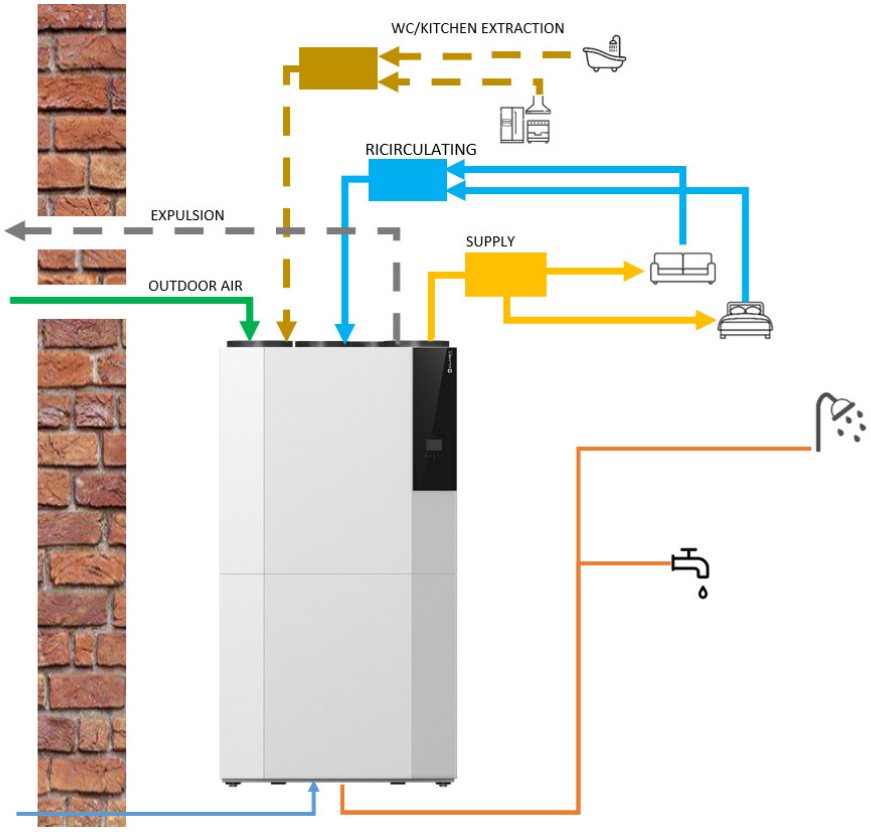
7	8	9	10	11	12	13	14	15
4,6	4,5	4,3	4,1	4,0	3,8	3,7	3,6	3,6
1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
0,7	0,7	0,6	0,6	0,5	0,5	0,4	0,3	0,3
2,9	2,8	2,7	2,5	2,5	2,3	2,3	2,2	2,4
1,3	1,2	1,1	1,0	1,0	0,9	0,9	0,8	0,8
3,7	4,0	4,4	4,4	4,4	4,5	4,5	4,5	4,6
30,5	30,3	29,9	29,2	29,0	28,5	28,6	28,3	28,7

8	9	10	11	12	13	14	15
4,7	4,6	4,4	4,2	4,0	3,8	3,7	3,6
1	1	1	1	1	1	1	1
0,69	0,63	0,57	0,52	0,46	0,40	0,34	0,29
2,31	2,05	1,84	1,93	2,03	2,14	2,23	2,33
1,4	1,3	1,2	1,1	1,0	0,9	0,8	0,79
3,8	4,1	4,4	4,4	4,5	4,5	4,5	4,6
28,52	27,55	26,77	27,13	27,49	27,88	28,20	28,60

Performance in heating - ProjectT 5

Outdoor temperature	°C	5	6	7	8	9	10	11	12	13	14	15
Heating capacity	kW	7,00	6,60	6,30	5,93	5,62	5,25	4,92	4,55	4,22	3,86	3,62
DHW heating capacity	kW	1	1	1	1	1	1	1	1	1	1	1
Ventilation heating capacity	kW	0,86	0,80	0,75	0,69	0,63	0,57	0,52	0,46	0,40	0,34	0,29
Transmission heating capacity	kW	5,14	4,80	4,55	4,24	3,99	3,68	3,40	3,09	2,82	2,52	2,33
Power input	kW	3,2	2,7	2,4	2,1	1,9	1,6	1,4	1,2	1,0	0,9	0,79
Thermodynamic COP	-	2,22	2,41	2,59	2,82	3,04	3,28	3,51	3,79	4,06	4,39	4,58
Room supply temperature	°C	38,95	37,68	36,79	35,64	34,70	33,55	32,55	31,39	30,39	29,27	28,60

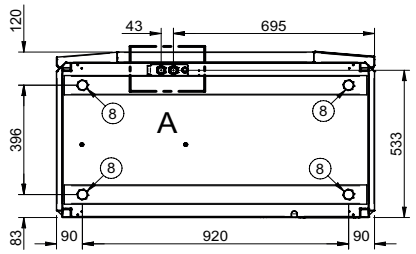
System diagram

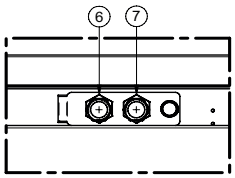


Dimensional drawings

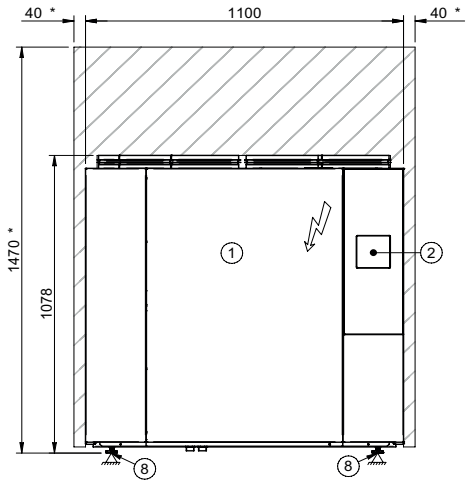
CiSDN-M EP 1 MR 3.1 - Air unit

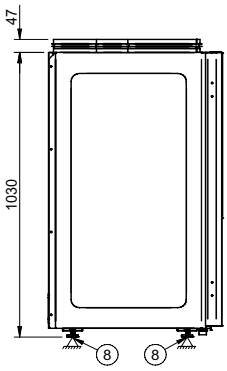
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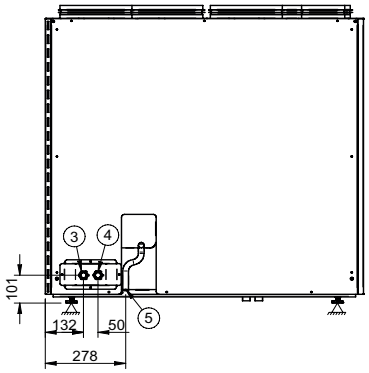


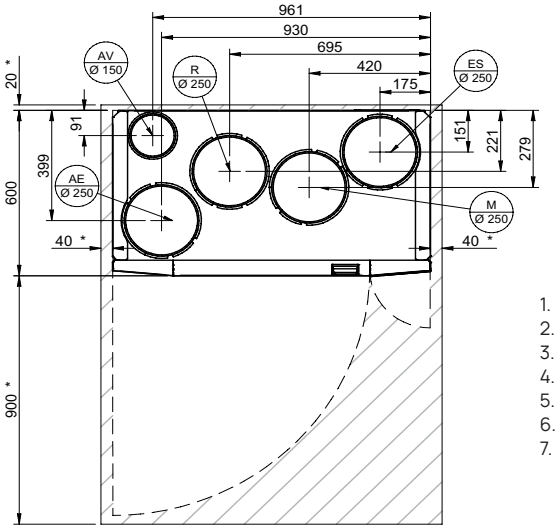


DETTAGLIO A









1. Filters and electrical panel inspection
2. Control keypad
3. Power input
4. Auxiliary cables inlet
5. Condensate drain Øint 16m
6. Supply to DHW unit (1) M 3/4"
7. Return by the DHW unit (2) M 3/4"
8. Supporting feet

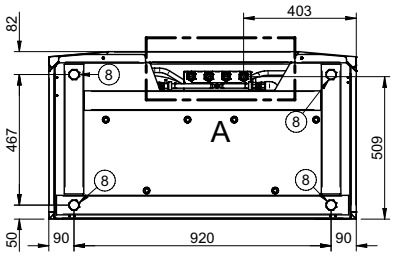
(R) Air inlet Ø250 mm
(M) Air supply Ø250 mm
(AE) External air intake Ø250 mm
(ES) Air expulsion Ø250 mm
(AV) Stale air extraction
* Functional spaces

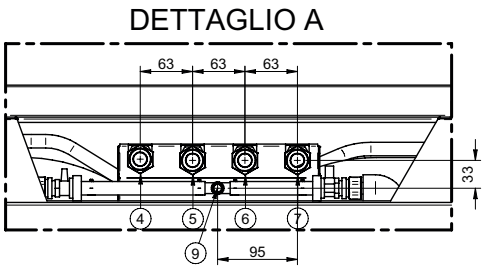
size		3.1
Operating weight	kg	150
Shipping weight	kg	166

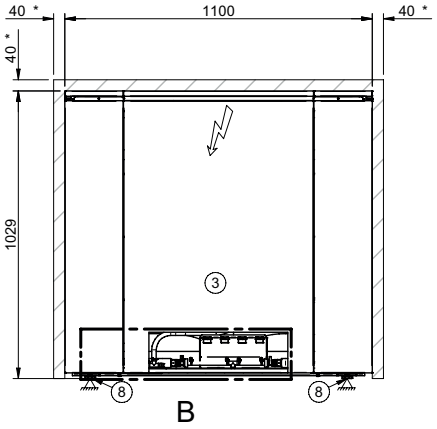
Dimensional drawings

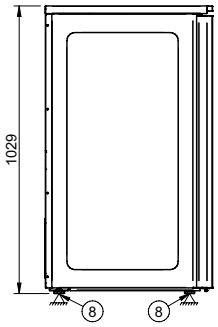
CiSDN-M EP 1 MR 3.1 - Unità ACS

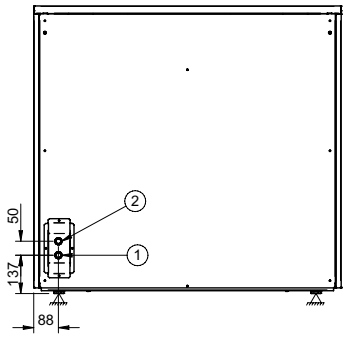
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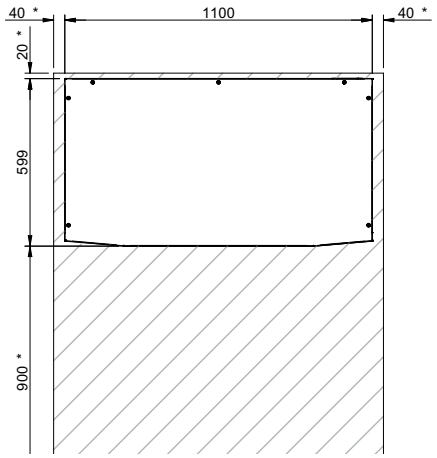


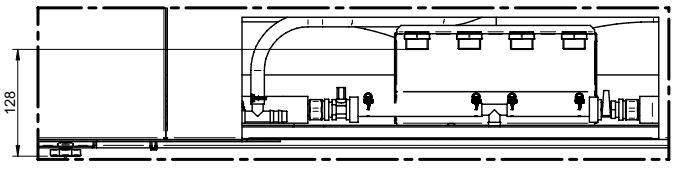










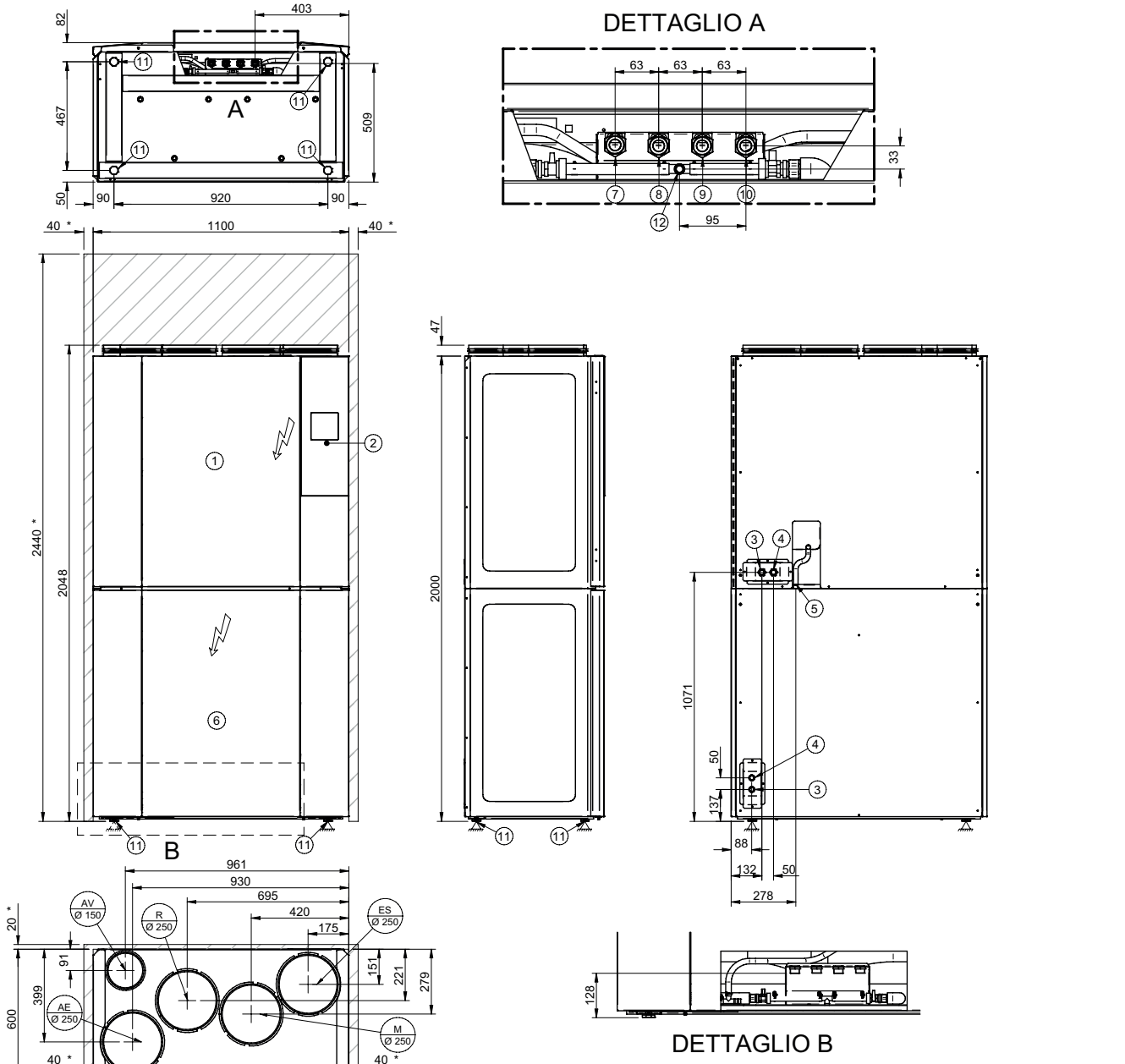


size		3.1
Operating weight	kg	360
Shipping weight	kg	150

1. Power line inlet
2. Auxiliary cables inlet
3. Inspection of DHW/technical water circuit components and electrical panel module DHW
4. Water supply system inlet M 3/4"
5. DHW outlet M 3/4"
6. Return from main unit M 3/4"
7. Supply to main unit M 3/4"
8. Supporting feet

CiSDN-M EP 1 MR 3.1 - Monobloc unit

DAA6O0000_00
Data/Date 31/07/2025



1. Filters and electrical panel ait module inspection
2. Control keypad
3. Power input
4. Auxiliary cables inlet
5. Condensate drain Øint 16m
6. DHW/Technical water circuit and electrical panel DHW module inspection
7. Mains inlet M 3/4"
8. DHW outlet M 3/4"
9. Return by principal unit M 3/4"
10. Supply to the principal unit M 3/4"
11. Supporting feet
12. Tanks water drain Ø16 mm
13. Air inlet Ø250 mm
14. Air supply Ø250 mm

(AE) External air intake Ø250 mm
(ES) Air expulsion Ø250 mm
(AV) Stale air extraction
* Functional spaces

size		3.1
Operating weight	kg	510

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