



CLIVET
Home

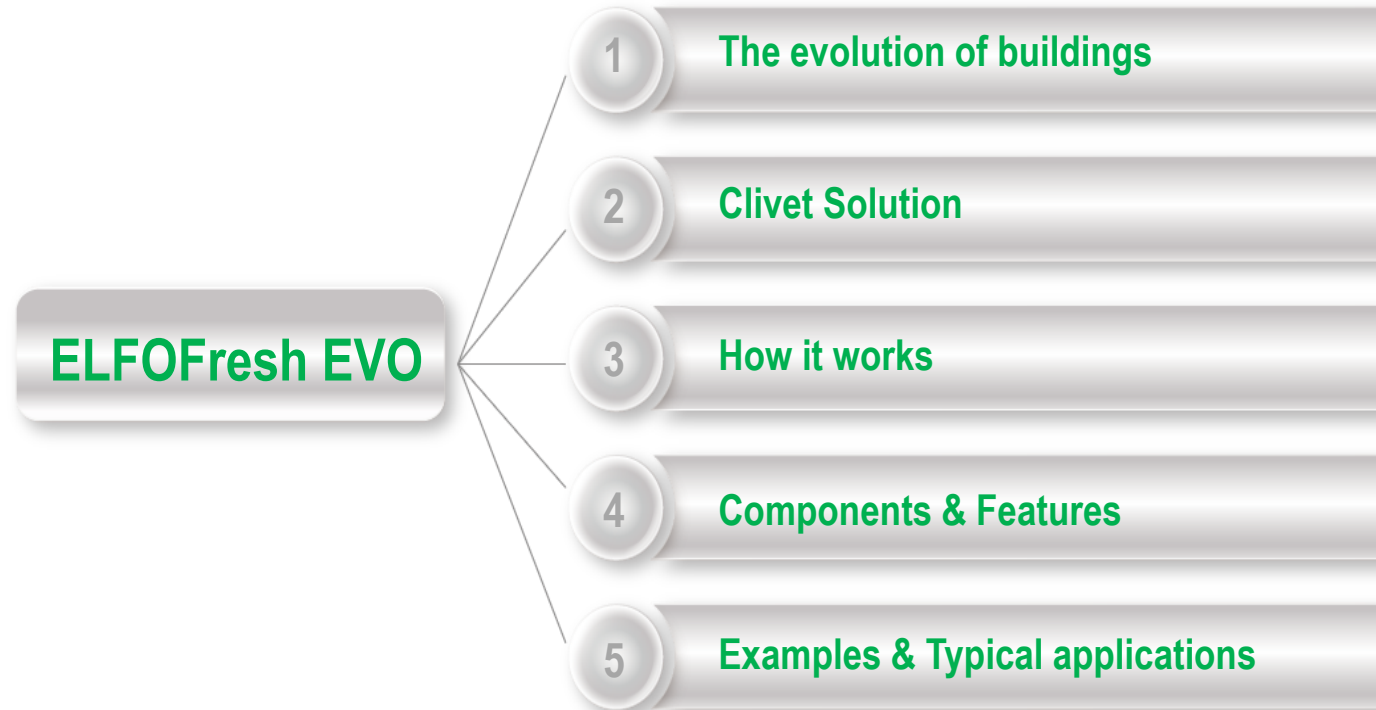


ELFOFresh EVO

CPAN-YIN

Product Presentation

ELFOFRESH EVO



THE EVOLUTION OF BUILDINGS

Buildings are becoming increasingly **energy efficient** thanks to higher standards, regulations and technological innovation.

In particular, building legislation leads designers to optimize the external coating by eliminating natural air infiltrations and **reducing losses deriving from transmission and ventilation**.

Following this trend, buildings are made more and more **airtight**, thanks to innovative technologies, creating the **risk of polluting agents** (internal or external) **stagnating** in the environments and creating a health hazard for the occupants.

Air renewal and filtering systems become indispensable in these conditions, considering the fact that more than 90% of people's time is spent in closed environments.



CLIVET SOLUTION

NOT JUST heat recovery ventilation: Thermodynamic Heat Recovery!

- ELFOFRESH EVO represents the latest generation of **thermodynamic** recovery unit.
- It grants air renewal air by **eliminating both external pollutants** from the inlet air flow **and internal pollutants** such as mold.
- It is the **best solution for total comfort** not only for air renewal, but also for **temperature and humidity control** of the air introduced into the environment.



CLIVET SOLUTION

ELFOFresh EVO: advanced thermodynamic heat recovery

- Low GWP refrigerant **R-32**
- Five air flow that can be set from **125 to 320 m³/h**
- Advanced **Full Inverter Technology**
- **Wifi** connection for the dedicated **APP**
- Capacity from **1,4 to 2,5 kW**
- Wide operating range from **-20 °C to 45 °C** without backup heating element*
- **No installation limitation** (safety standard EN 60335-2-40)
- Slim height: only **290 mm**
- Light weight: only **44 kg**

*For temperature lower than -15°C, it is demanded to the system designer to specify a third party component grating input air to the unit at temperature $\geq -15^{\circ}\text{C}$.

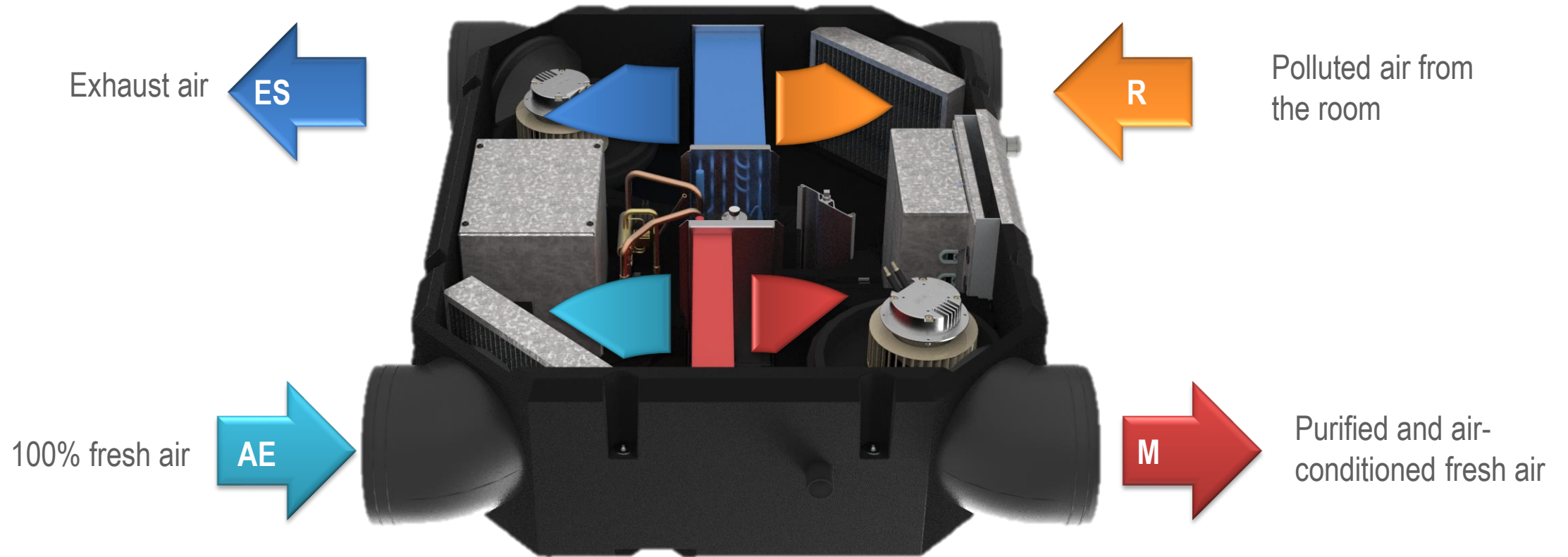


DC Inverter



HOW IT WORKS

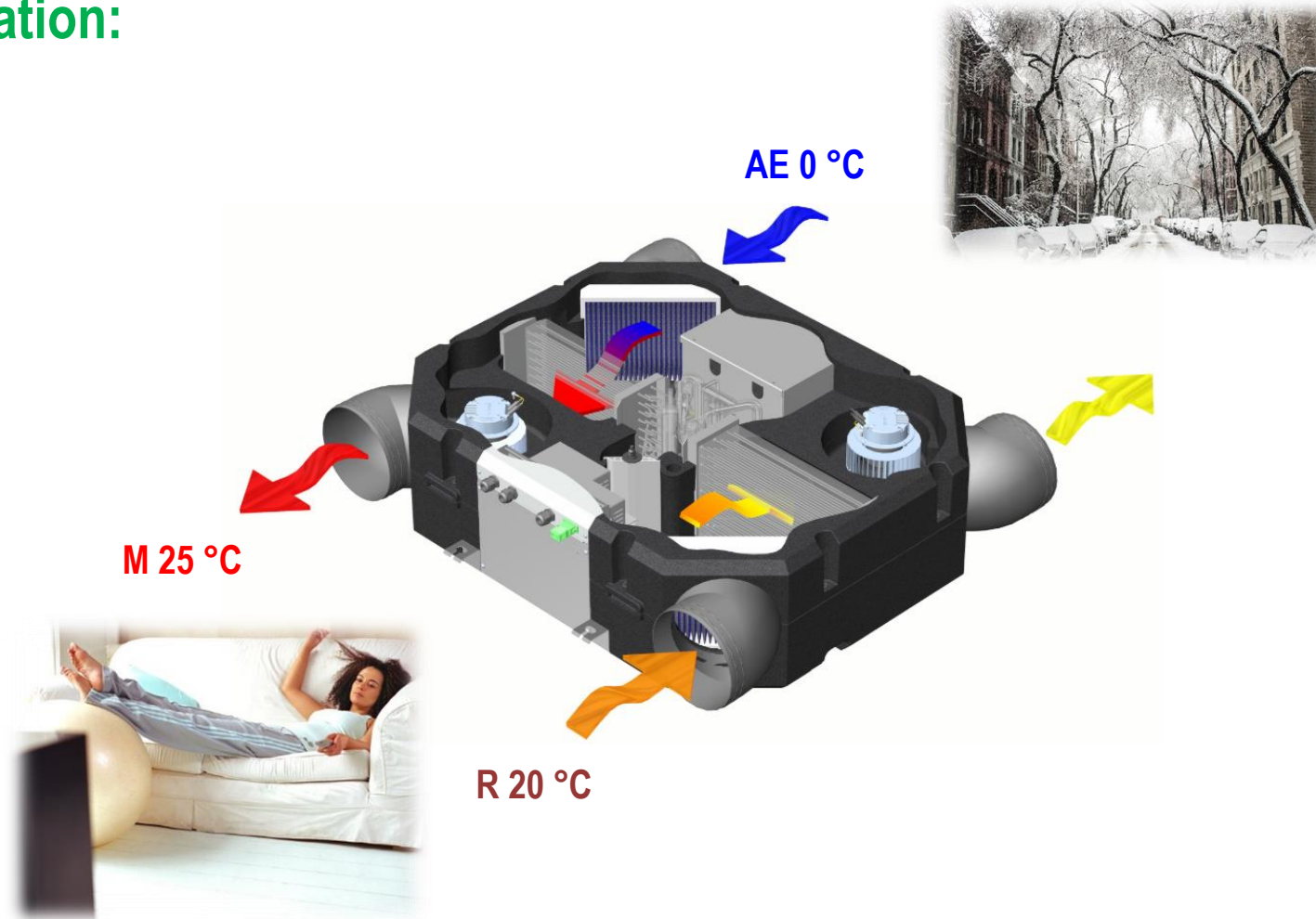
ELFOFresh EVO



AE : Outdoor air
M : Supply air
R : Return air
ES : Exhaust air

HOW IT WORKS

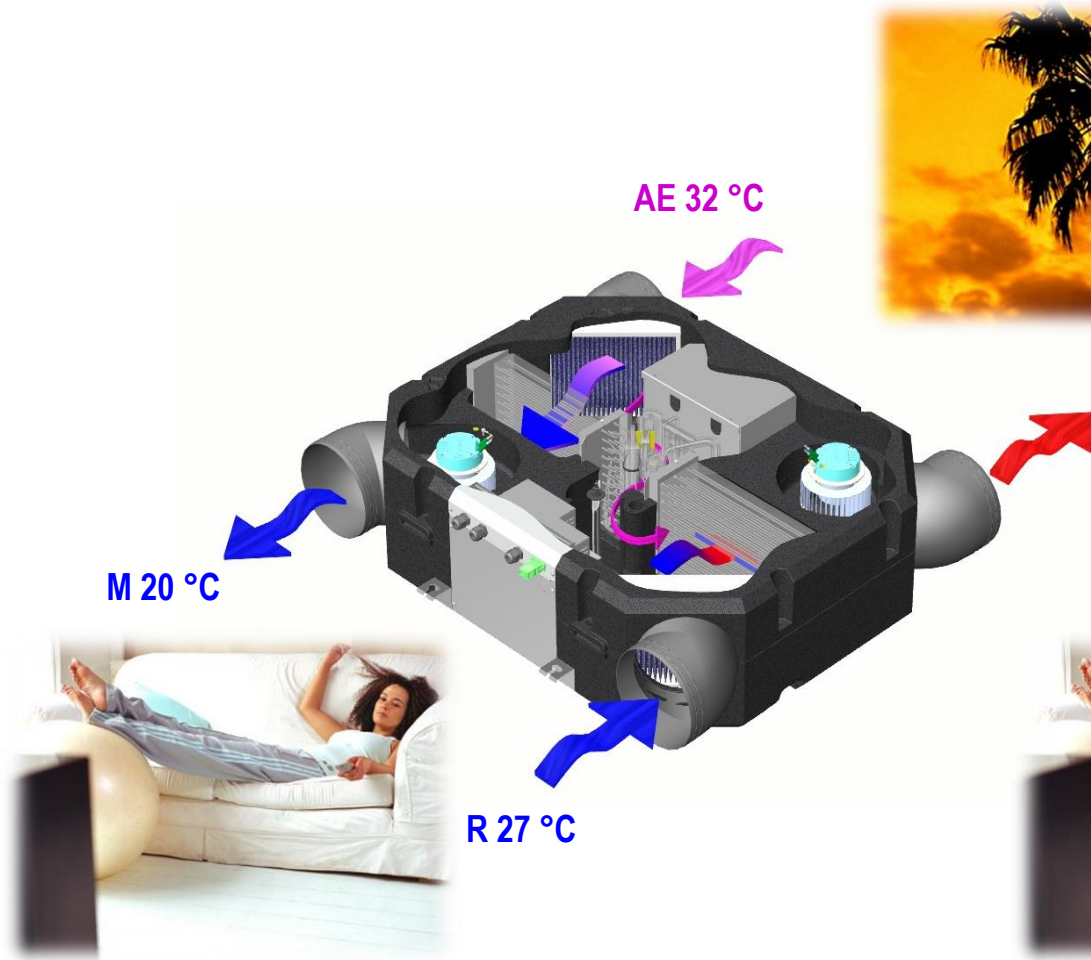
Winter operation:



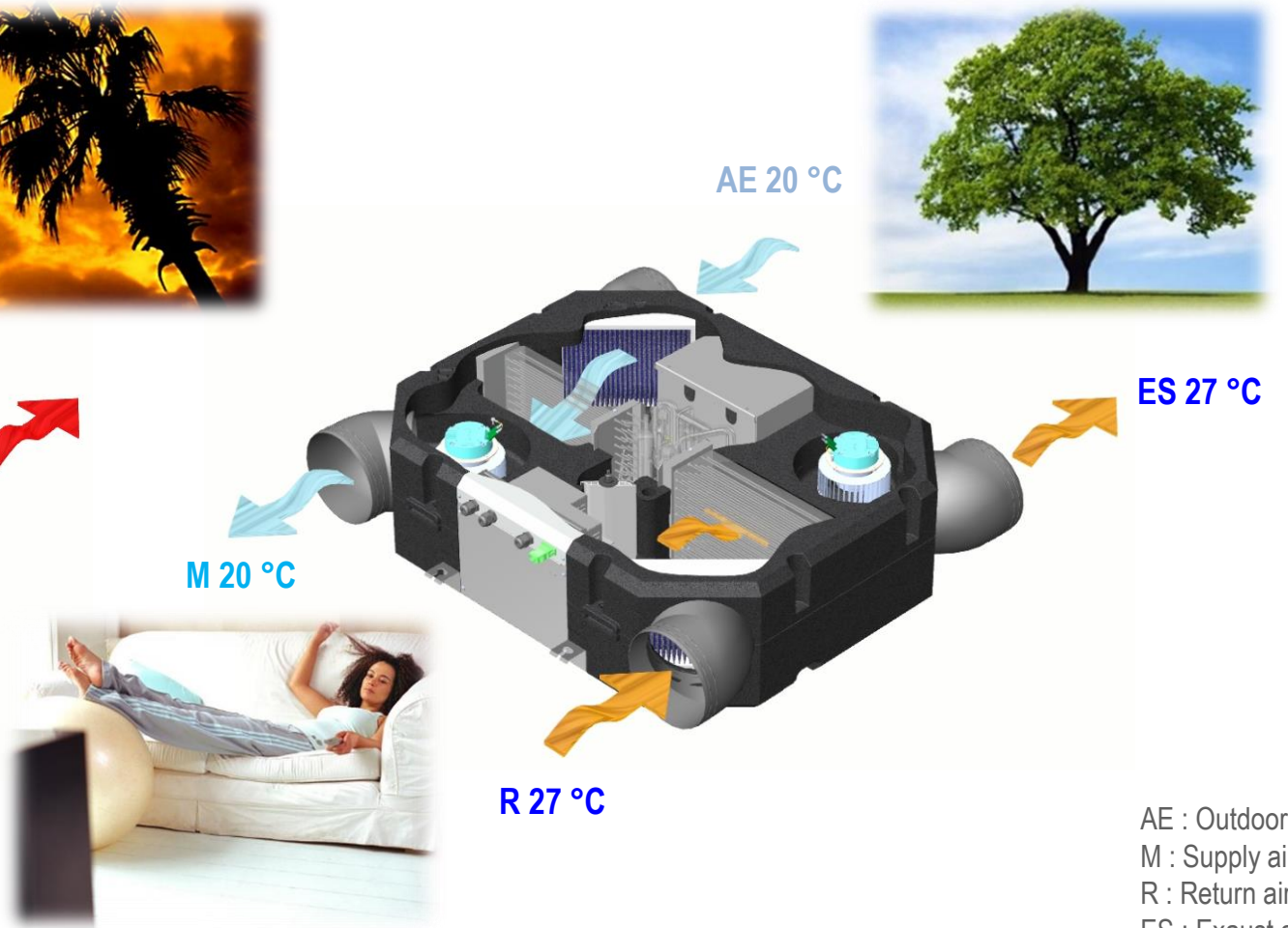
AE : Outdoor air
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R : Return air
ES : Exhaust air

HOW IT WORKS

Summer operation:



Mid-seasons:



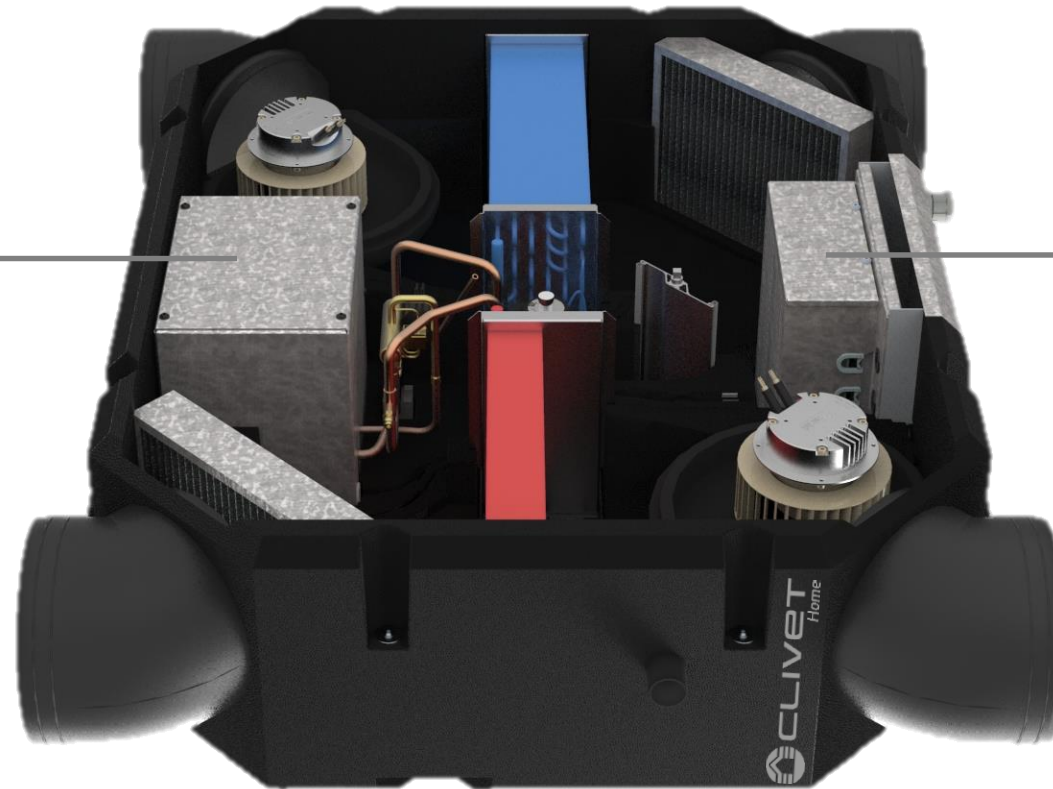
AE : Outdoor air
M : Supply air
R : Return air
ES : Exhaust air

COMPONENTS AND FEATURES

ELFOFresh EVO

Compressor located in soundproofed compartment

This feature allows to drastically reduce the noise level perceived by the occupants of the room.



Inverter to control compressor speed and modulation

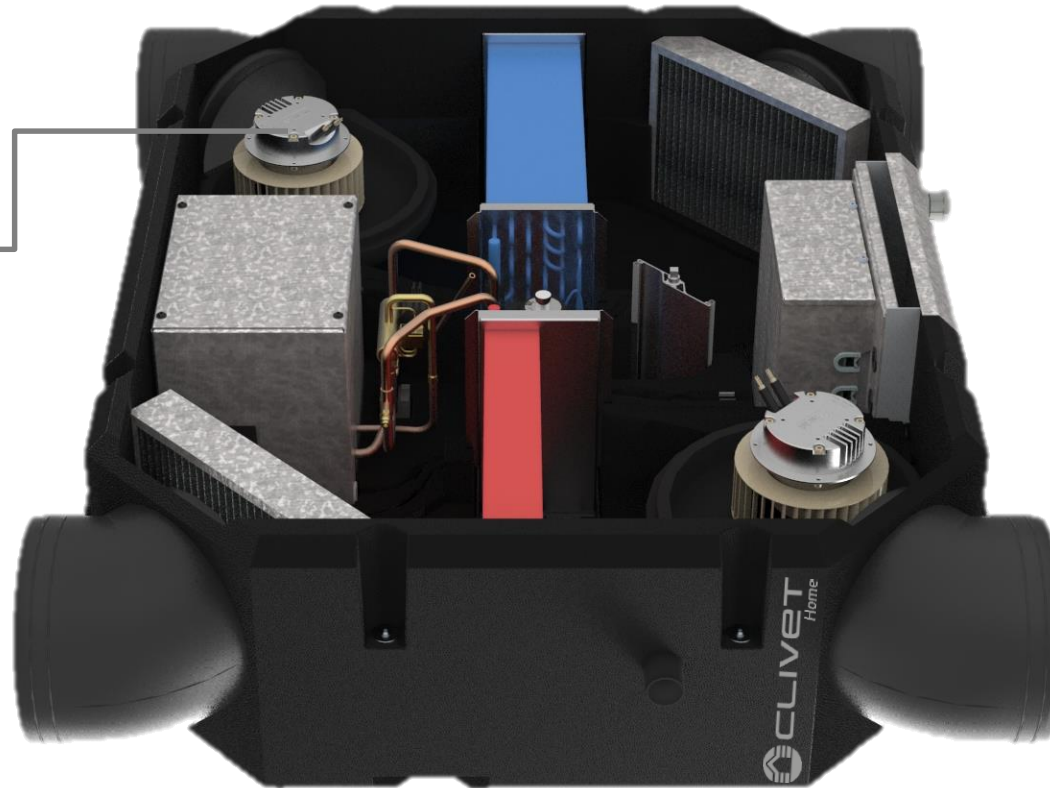
Inverter technology allows high seasonal efficiency and great stability, even during periods with low thermal request.

COMPONENTS AND FEATURES

ELFOFresh EVO

Self-regulating constant airflow fans

Once the supply air flow is set, the fans auto-adjust their speed in order to match the setting, following the variable pressure loss in the system.

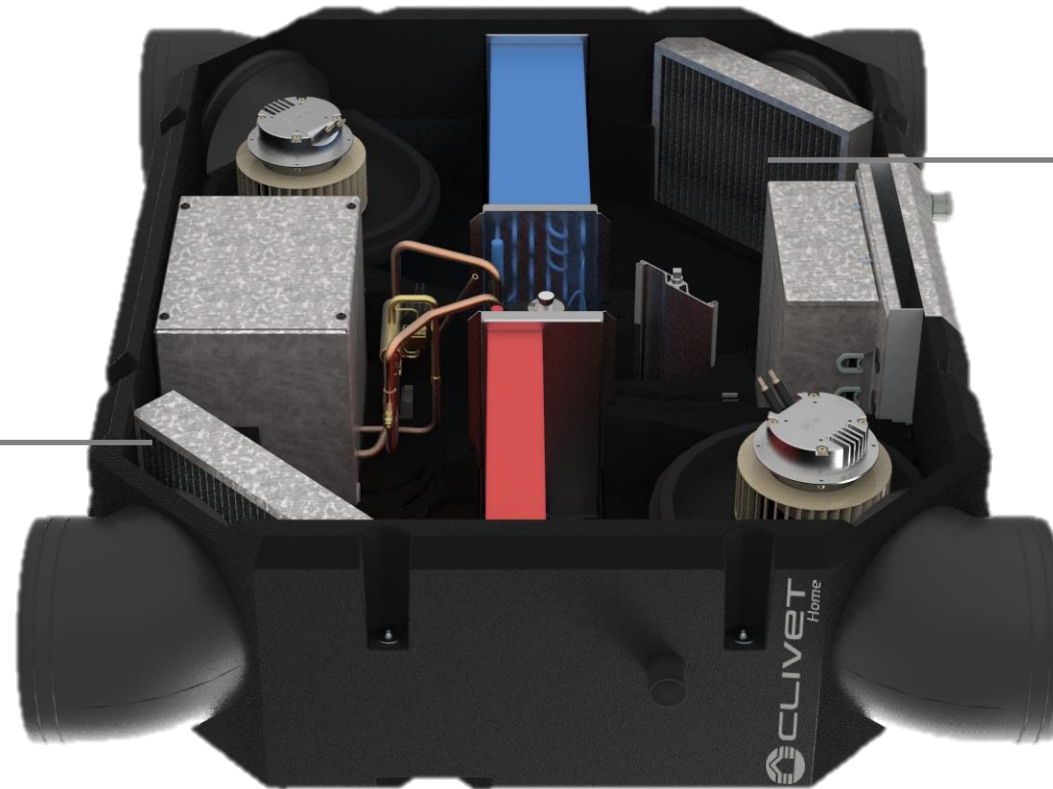


COMPONENTS AND FEATURES

ELFOFresh EVO

PM10 50% removal filter on fresh air intake

Filtering fresh air from outdoor allows to prevent pollutants from contaminating the indoor environment.



PM10 50% removal filter on return air

The filter is present on the return air, removing pollutants already present in the room.

COMPONENTS AND FEATURES

ELFOFresh EVO

Expanded polypropylene structure

The casing is realized in expanded polypropylene, granting high structural features and great thermal and noise insulation.



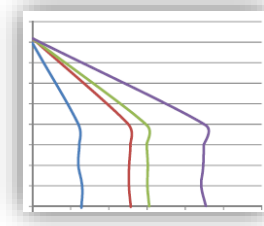
Drain pump with water level sensor

The drain pump is supplied as standard. The unit is also equipped with water level sensor, which stops the unit in case of pump failure and high condensate level, in order to prevent leakages.

CLIVET SOLUTION

Main features

- Constant airflow electronic fans
- Inverter compressor in sound-proofed casing
- Operation down to $-20\text{ }^{\circ}\text{C}$ without backup heating element
- ISO EN16890 and PM10 50% filtering on Supply and return air (previously M5)
- Drain pump with water level sensor



CLIVET SOLUTION

Main features

- Two different quite operation settings: **Silent e Super Silent**
- **Supply air humidity control** without airflow change
 - Standard
 - Eco
 - Low
- **Free-cooling** without airflow change
- 360° **Adjustable** spigots size 200 mm diameter



COMPONENTS AND FEATURES

User Interface: New remote panel

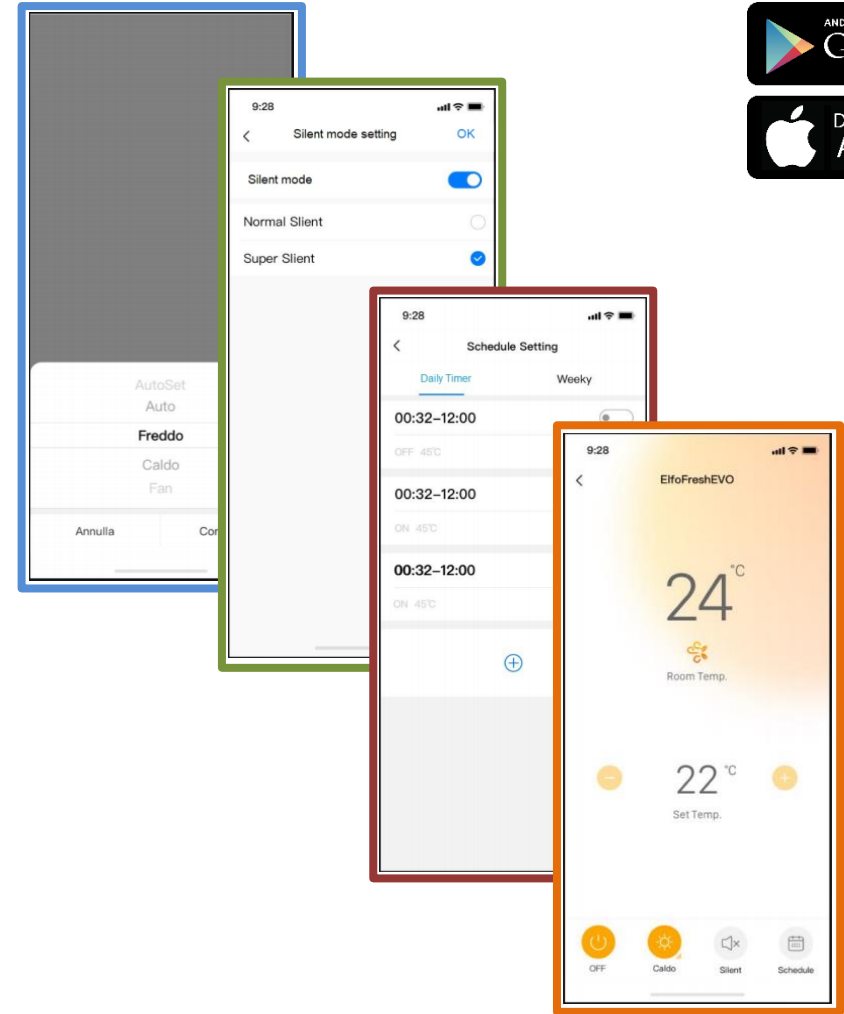
- Simple and Intuitive
- Sleek design
- Ready for remote wall installation
- Remote installation up to 50m
- **Modbus** connectivity as **standard**
- **Wifi** connection for the dedicated **APP**



CONNECTIVITY

APP: MSmart Life for a clever control

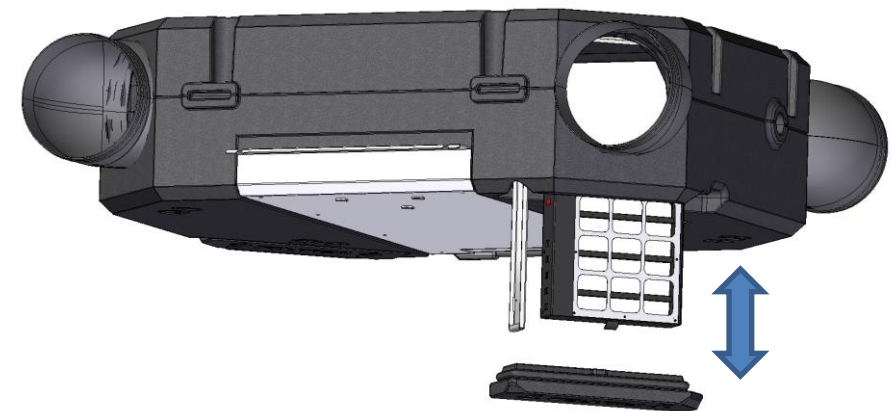
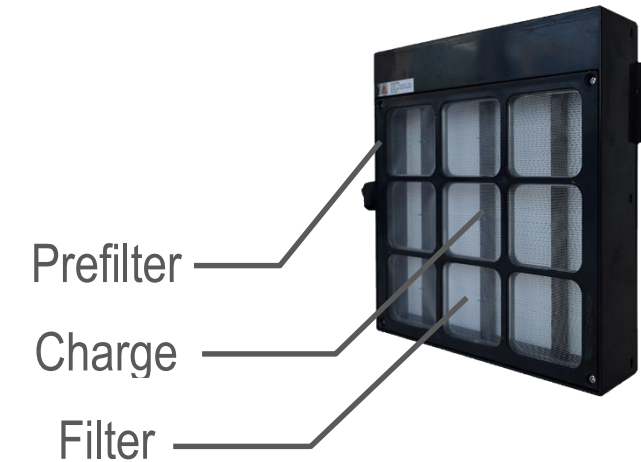
- Simple and Intuitive management from a smartphone
- Possibility to set the functionality
 - Heating
 - Cooling
 - Auto mode
 - Only ventilation
- Possibility to activate the following comfort function
 - Silent
 - Super Silent
- Scheduling
 - Daily Timer
 - Weekly Timer
- View the main condition indoor and outdoor



CLIVET SOLUTION

NEW ACCESSORY: FIFD = IFD technology Electronic air filter (ISO 16890 ePM1=90%)

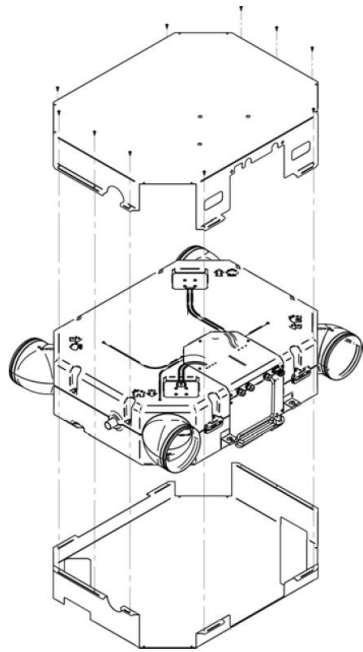
- **HIGH AIR QUALITY**
Thanks to the **iFD** technology it is active on nano particles, pollen, viruses and bacteria
- **ISO ePM1 90%**
High filtration efficiency like E10 absolute filter according to EN 1822
- **INTEGRATED FILTER**
The filter is provided already installed inside of the unit.
- **EASY MAINTENANCE**
The filter can be clean with a common neutral detergent, for a long life usage!



CLIVET SOLUTION

ACCESSORIES / CONFIGURATIONS

- **PROTECTION CASING:** mandatory in case of exposed product installation.



COMPONENTS AND FEATURES

Technical Data

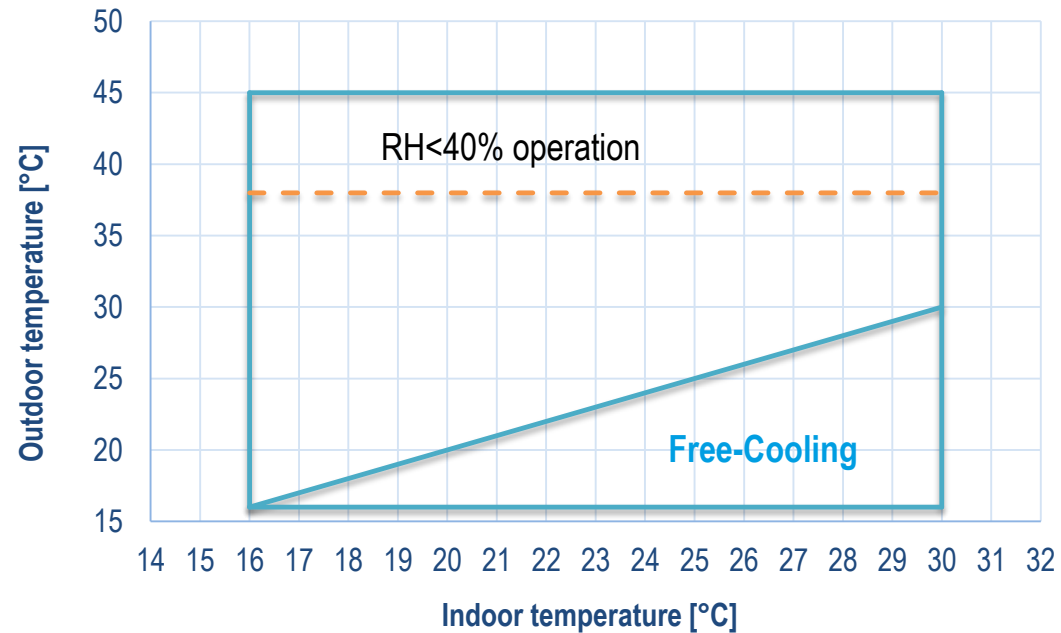
ELFOFresh EVO						
Supply air flow rate	m ³ /h	125	150	210	270	320
Heating: Air 7 °C / Air 20 °C						
Heating capacity	kW	1,42	1,55	1,86	2,05	2,49
COP (EN 14511:2018)	-	3,09	3,69	4,13	4,93	4,61
Heating: Air -5 °C / Air 20 °C						
Heating capacity	kW	1,97	2,10	2,21	2,37	2,45
COP (EN 14511:2018)	-	4,93	4,04	4,70	6,50	7,66
Cooling Air 35 °C / Air 27 °C						
Cooling capacity	kW	1,57	1,64	1,73	1,92	2,23
EER (EN 14511:2018)	-	4,34	3,15	3,26	3,50	2,77
Nominal supply static pressure						
	Pa	50				
Max supply static pressure						
	Pa	120				
Power supply						
	V	220-240/1/50				
Min. inlet air temperature (DB)						
	°C	-15				
Sound pressure level*	dB(A)	34	35	37	41	45

*1m distance

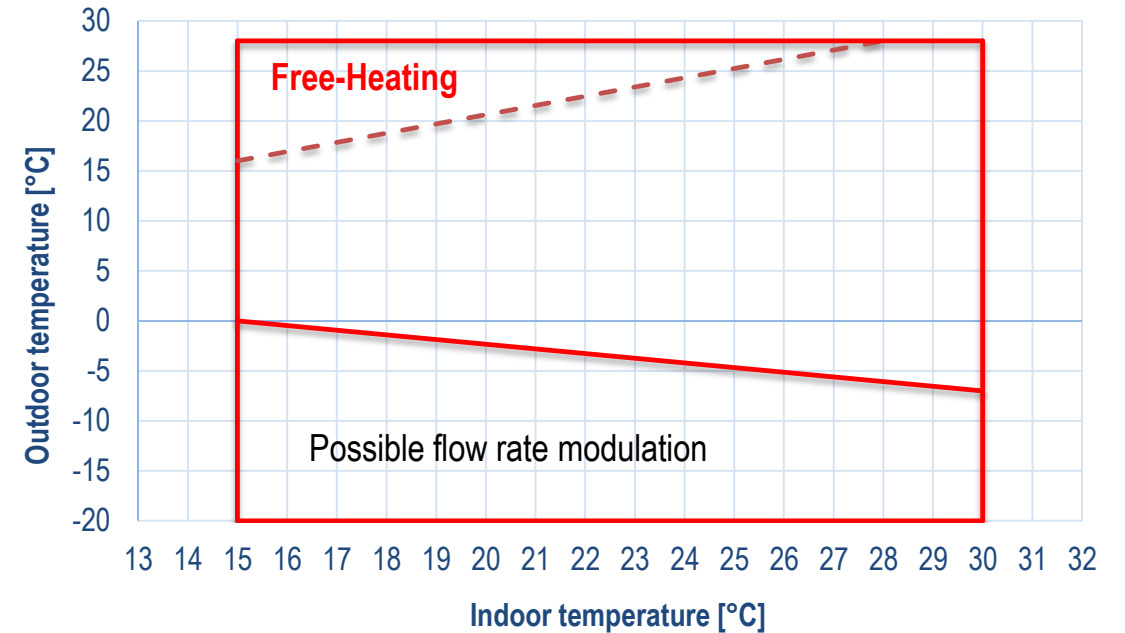
COMPONENTS AND FEATURES

Operation limits

Cooling



Heating

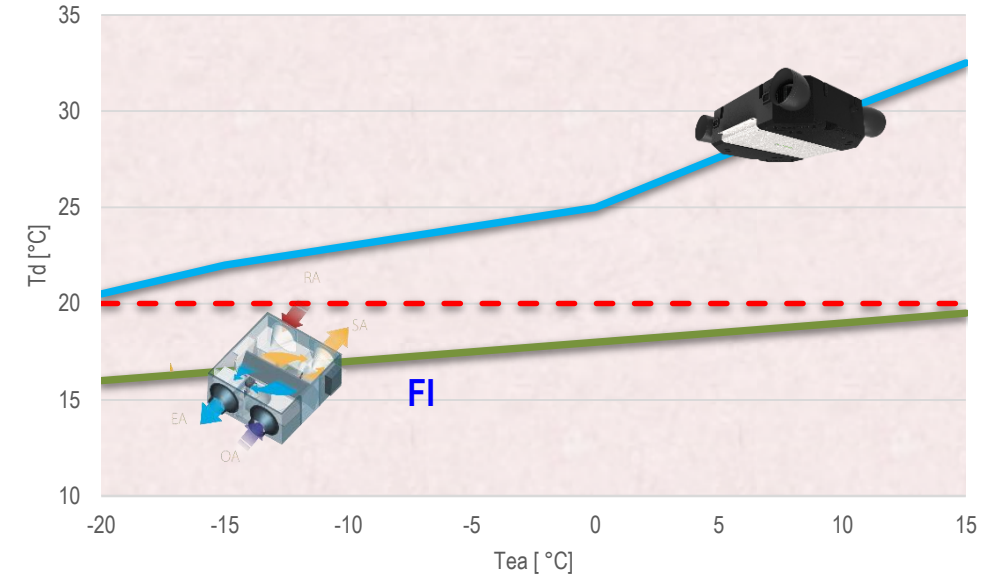


EXAMPLES AND TYPICAL APPLICATION

Supply air temperature: Heating conditions

Example: city of Milan

- With **natural ventilation** the temperature of the air flow supplied to the room is the **same as the outdoor temperature**.
- By using a **passive heat recovery unit** in winter conditions, the **supply air temperature is lower or equal to the indoor temperature**. (Gray line).
- With **ELFOFresh EVO**, comfort is guaranteed down to $-20\text{ }^{\circ}\text{C}$ and the **temperature of supply air to the room is never lower than the indoor temperature** (Green line), so reducing or completely removing the additional heating capacity requested from the room to the house heating system.



T_d = air supply temperature

T_{ea} = outdoor air temperature

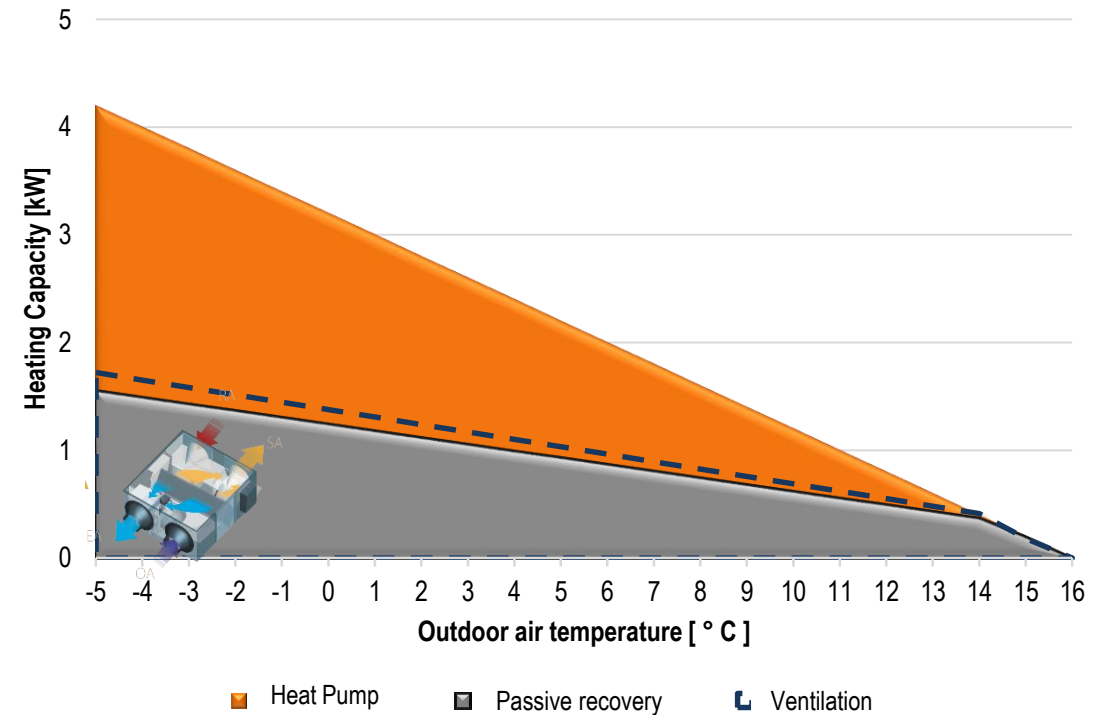
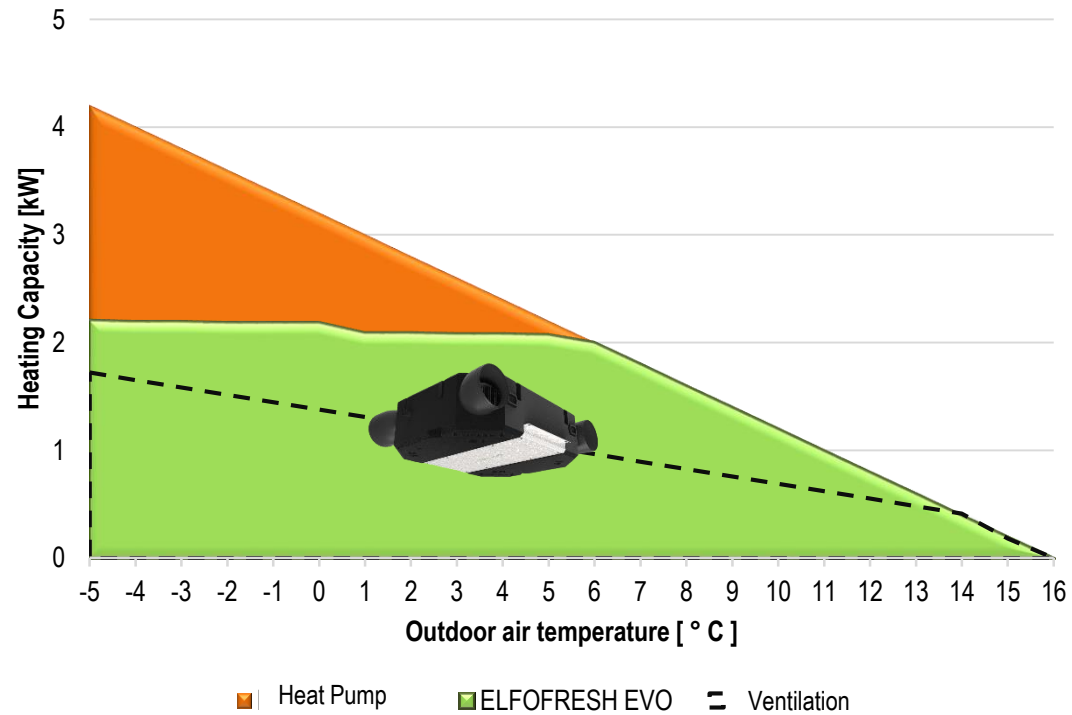
FI = passive cross-flow heat recovery 90% efficiency

--- = Indoor temperature

EXAMPLES AND TYPICAL APPLICATION

Building thermal load coverage: Heating

Example: city of Milan

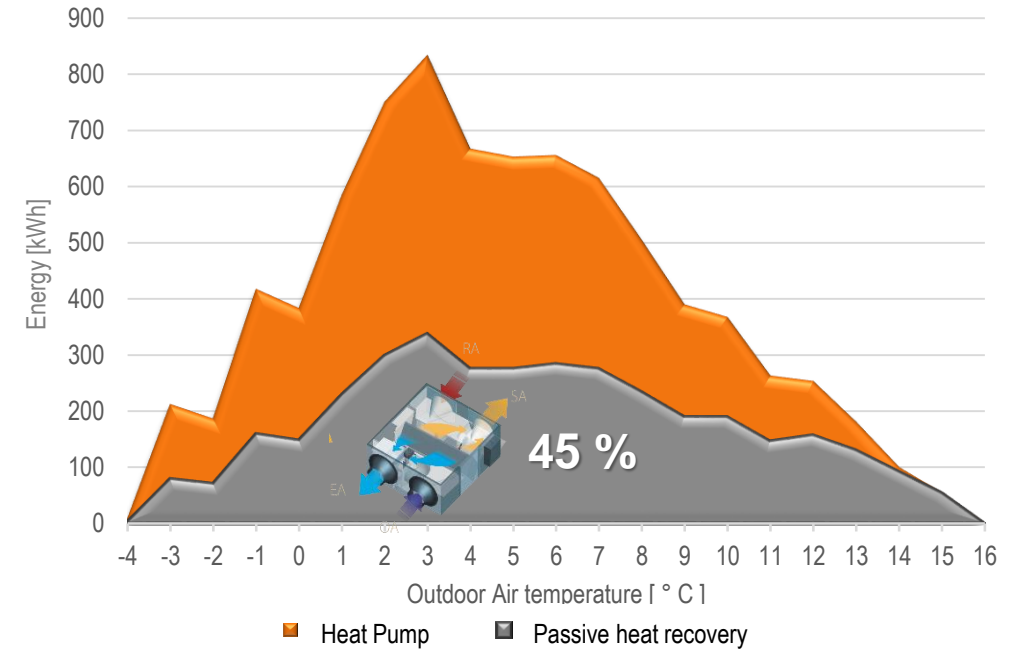
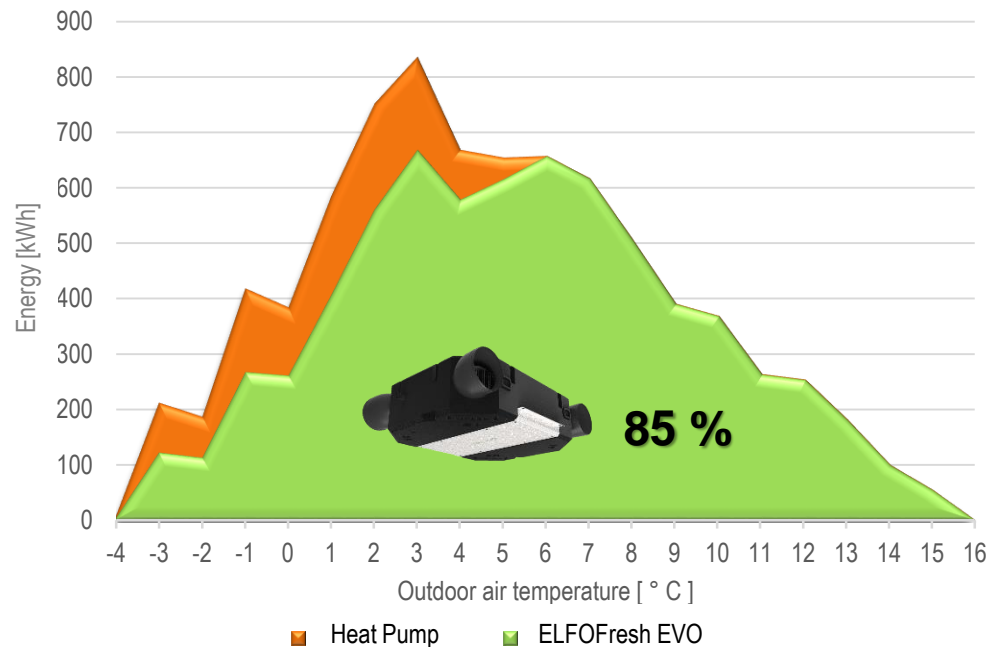


EXAMPLES AND TYPICAL APPLICATION

Building thermal load coverage: Heating

Example: city of Milan

- Only a **small percentage** of the building total need can be covered by a **passive heat recovery unit**.
- The **rest of the heating capacity** must be supplied by an **additional heating system** (example: heat pump as in the chart).



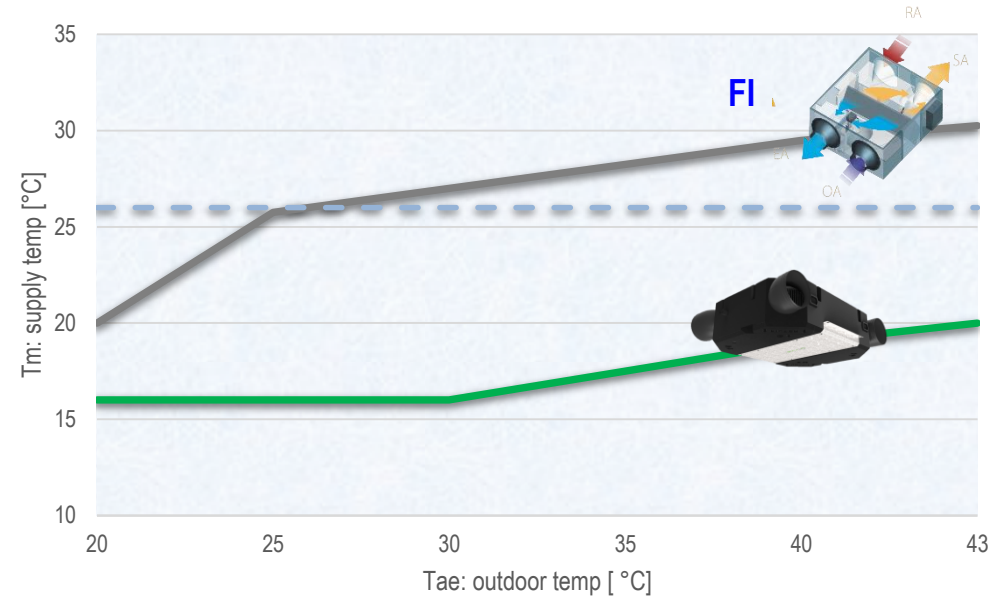
- The graphic shows how, in the same conditions, **up to 85% of the building thermal load can be covered by the ELFOFresh EVO unit, only through thermodynamic heat recovery.**
- This favorable conditions created by **ELFOFresh EVO significantly increase the seasonal efficiency of the whole building system.**

EXAMPLES AND TYPICAL APPLICATION

Supply air temperature: Cooling conditions

Example: city of Milan

- With **natural ventilation** the temperature of the air flow supplied to the room is the **same as the outdoor temperature**.
- By using a **passive heat recovery unit**, the **supply air temperature** can be higher than the indoor temperature (gray line).
- With **ELFOFresh EVO**, comfort is guaranteed up to 43°C and the **temperature of supply air to the room is never higher than 20°C** (green line), thus reducing or completely removing the additional cooling capacity requested from the room to the house air conditioning system.
- During the cooling function, it is possible to **manage the humidity on the supply air** in three levels
 - Standard
 - Eco
 - Low



Tm = air supply temperature

Tae = outdoor air temperature

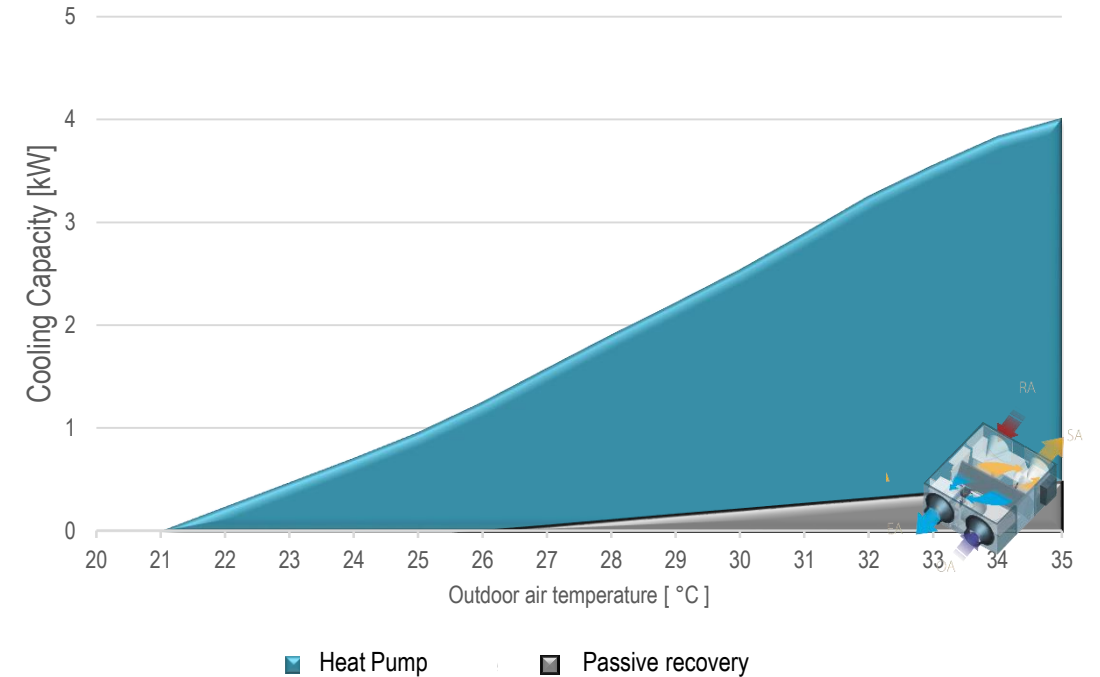
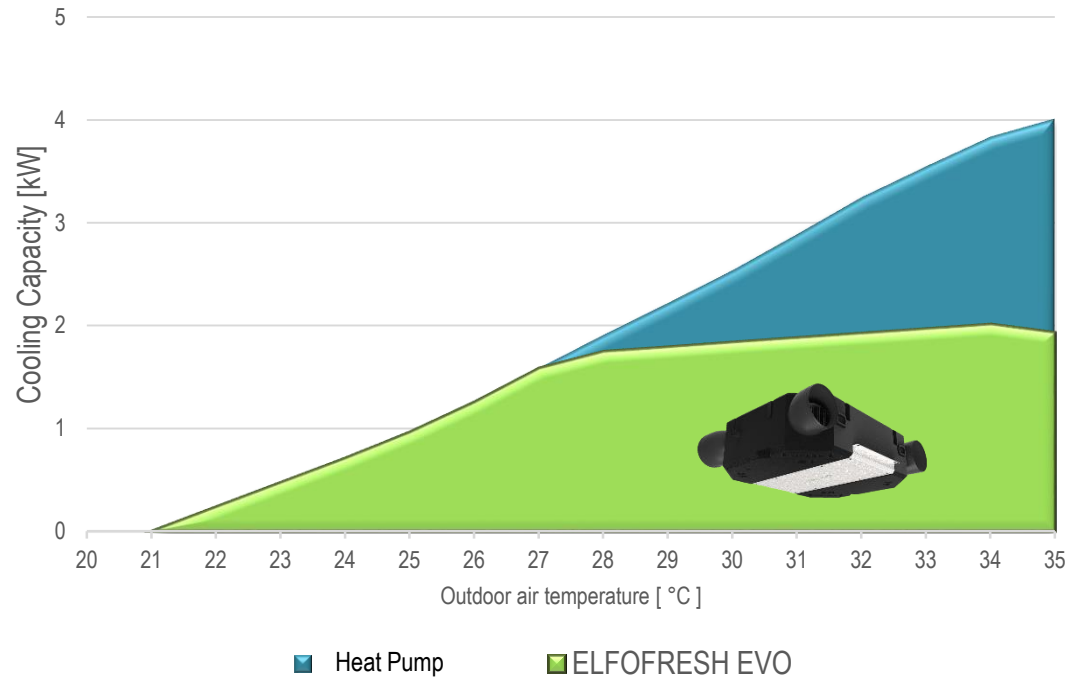
FI = passive cross-flow heat recovery – 75% efficiency

--- = Indoor temperature

EXAMPLES AND TYPICAL APPLICATION

Building thermal load coverage: Cooling

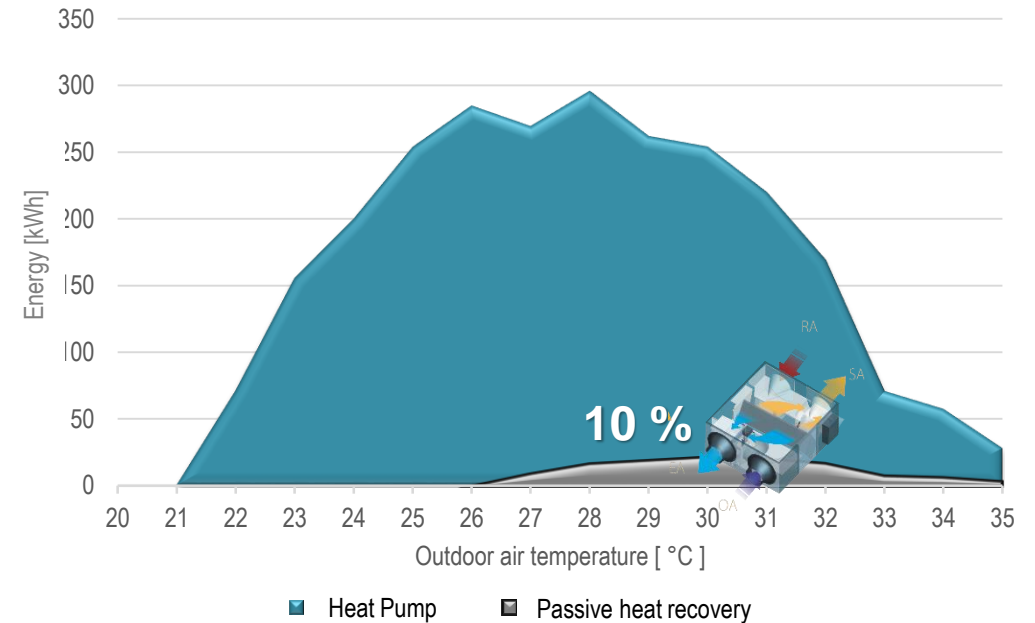
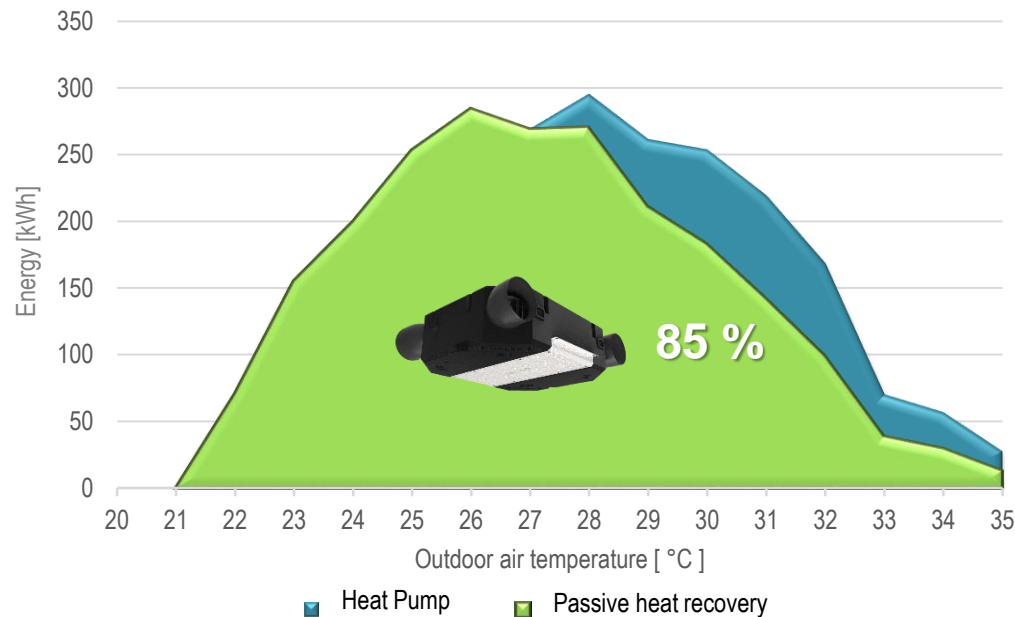
Example: city of Milan



EXAMPLES AND TYPICAL APPLICATION

Building thermal load coverage: Cooling

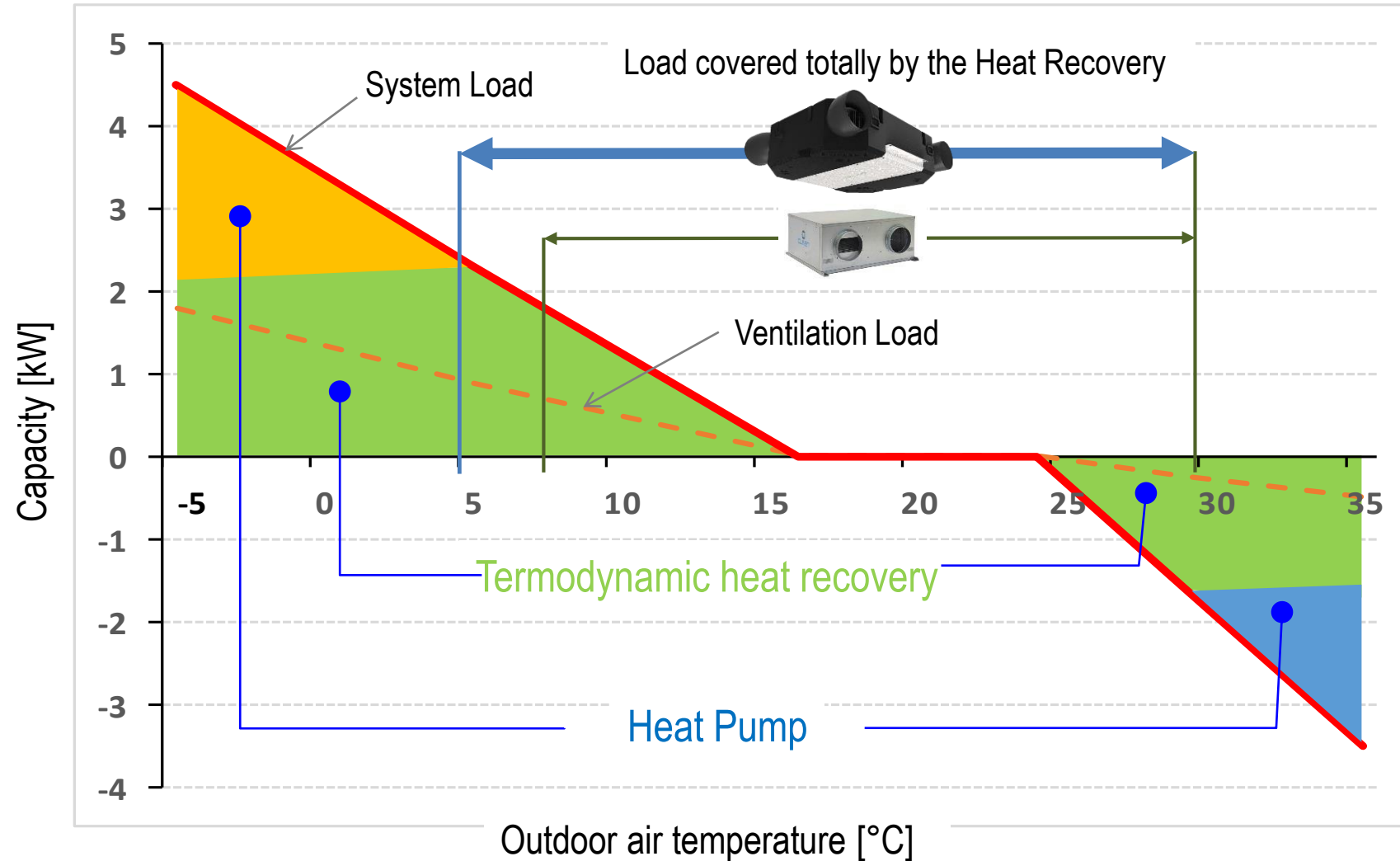
- Only a **small percentage** of the building total need can be covered by a **passive heat recovery unit**.
- The **rest of the heating capacity** must be supplied by an **additional heating system** (example: heat pump as in the chart).
- In this case the contribution of the unit is minimum, **reducing the seasonal efficiency** of the building.



- The graphic shows how, in the same conditions, **up to 85% of the building thermal load can be covered by the ELFOFresh EVO unit**, only through thermodynamic heat recovery.
- This favorable conditions created by **ELFOFresh EVO significantly increase the seasonal efficiency** of the whole building system.

EXAMPLES AND TYPICAL APPLICATION

ELFOFresh EVO: Capacity break down



EXAMPLES AND TYPICAL APPLICATION

ELFOFresh EVO in houses

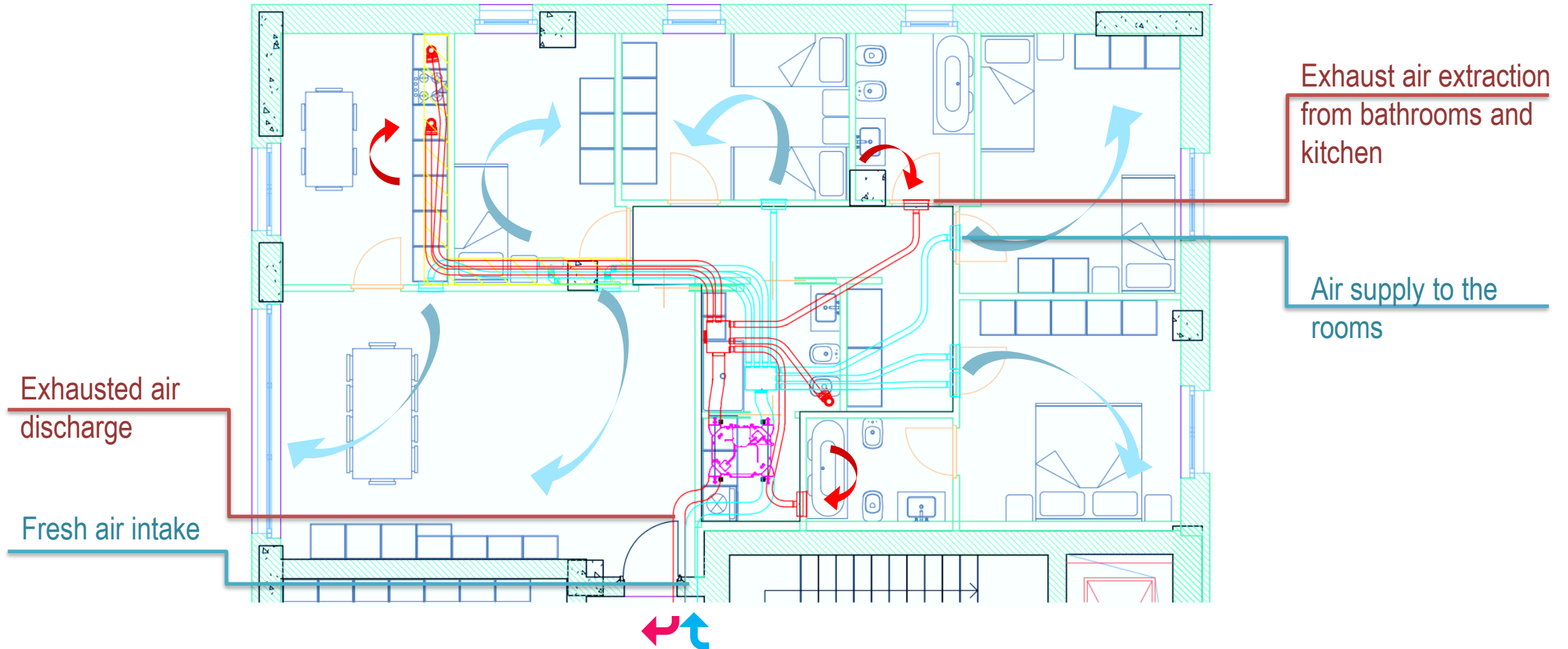
In the table below some **examples of typical applications** in which **ELFOFresh EVO** can be effectively installed to satisfy the air renewal needs of the house.

The analysis was made considering a fresh air rate of 0.5 vol / h with an average room height of 2.7 m.

Model	Selected air flow [m ³ /h]	House Volume [m ³]	House surface [m ²]
	125	250	90
	150	300	110
ELFOFresh EVO	210	420	150
	270	540	200
	320	640	240

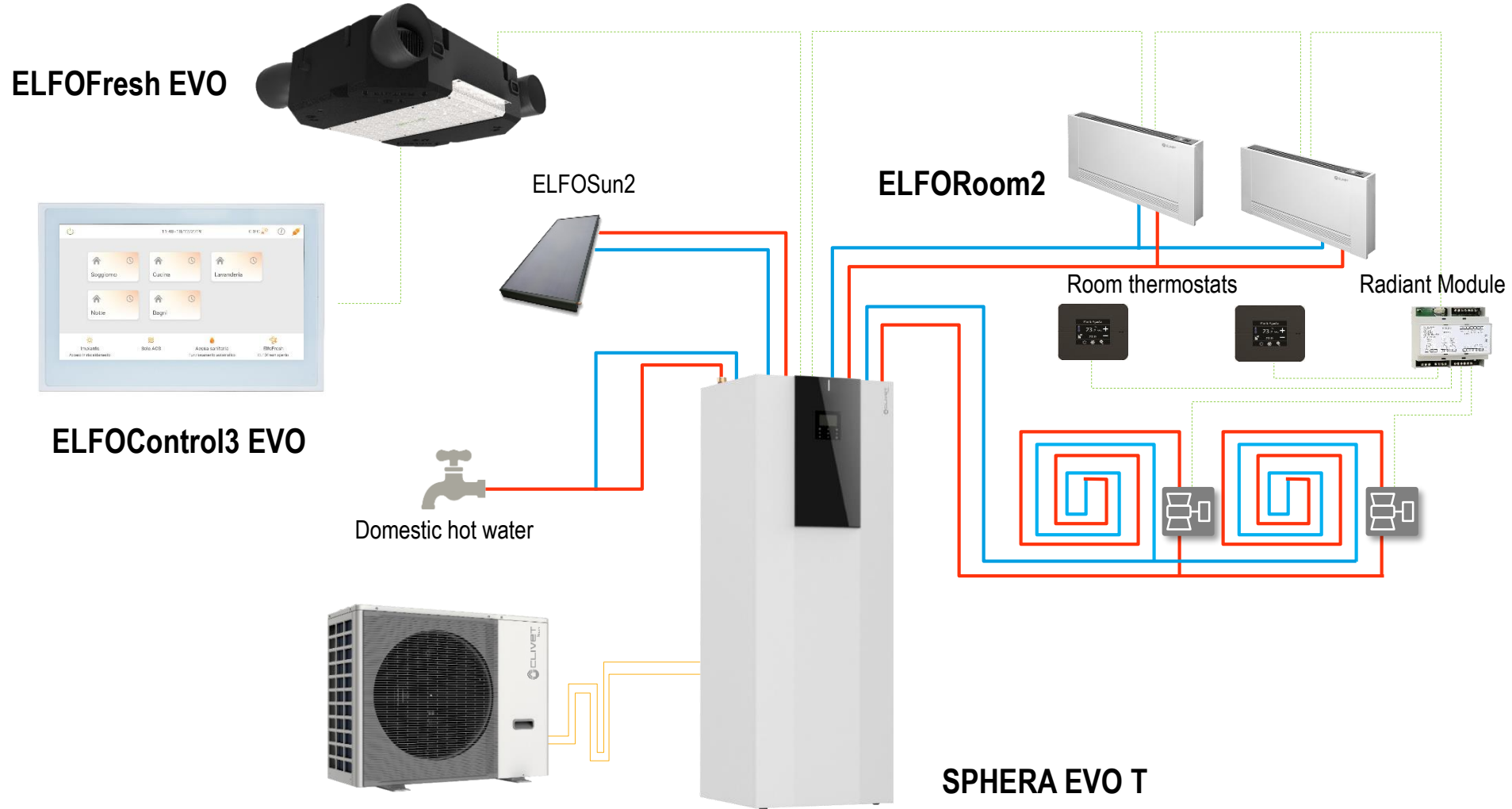
EXAMPLES AND TYPICAL APPLICATION

Below a typical example of an aeraulic installation and distribution project for ELFOFresh EVO.



EXAMPLES AND TYPICAL APPLICATION

ELFOFresh EVO : Key pillar of the ELFOSYSTEM



CONCLUSIONS

ELFOFresh EVO: advanced thermodynamic heat recovery

- Low GWP refrigerant **R-32**
- Five air flow that can be set from **125 to 320 m³/h**
- Advanced **Full Inverter Technology**
- Capacity from **1,4 to 2,5 kW**
- Wide operating range from **-20 °C to 45 °C** without backup heating element*
- High filtration efficiency with the **Electrostatic Filter**
- **Wifi** connection for the dedicated **APP**
- **No installation limitation** (safety standard EN 60335-2-40)
- Slim height: only **290 mm**
- Light weight: only **44 kg**



DC Inverter



*For temperature lower than -15°C, it is demanded to the system designer to specify a third party component grating input air to the unit at temperature $\geq -15^{\circ}\text{C}$.

Thank you!

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MideaGroup
humanizing technology