



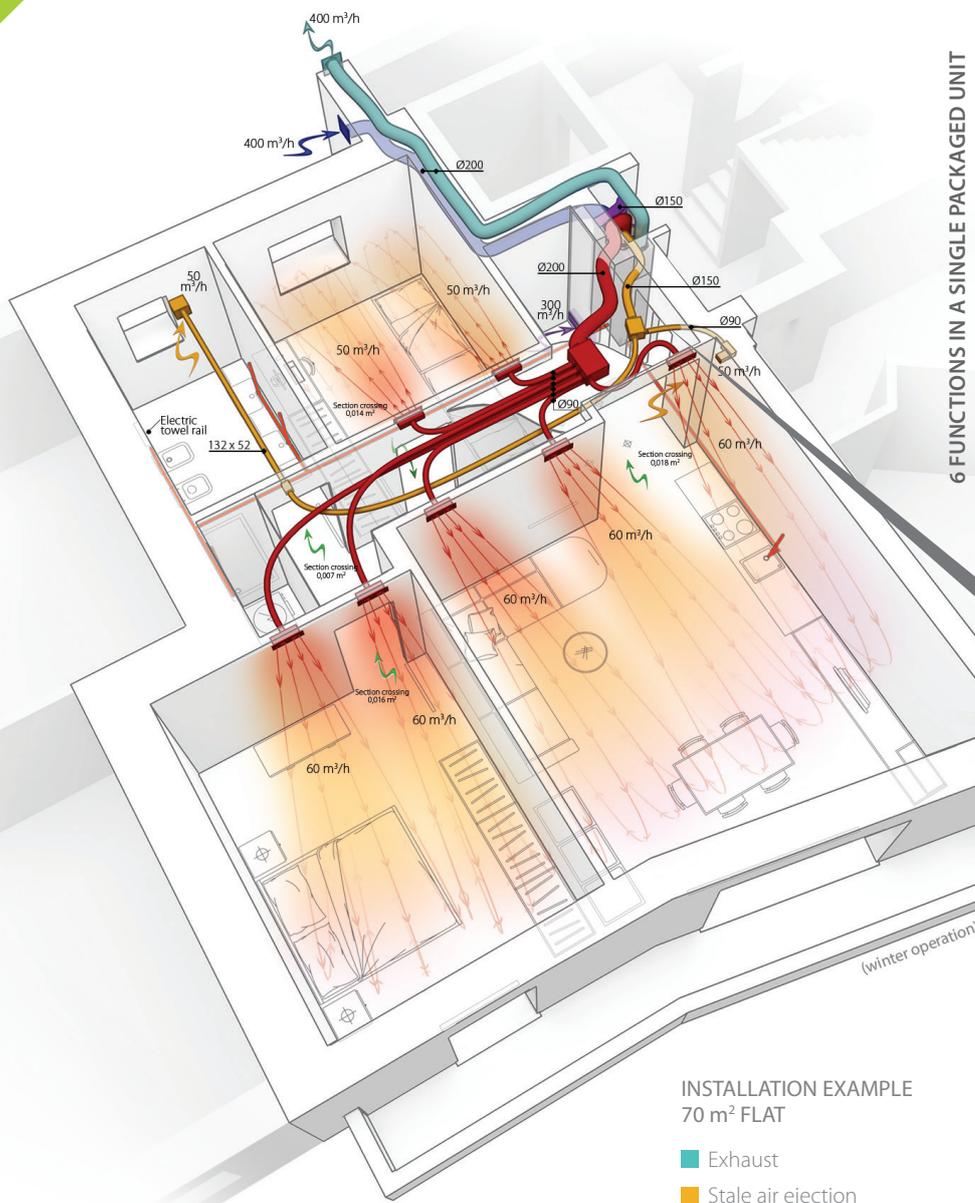
ELFOPack

Nearly Zero consumption single-family houses and multi-family houses with stand-alone system

SYSTEM'S COMPONENTS

ELFOPack
ELFOAir

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6 FUNCTIONS IN A SINGLE PACKAGED UNIT

- ▶ Heating
- ▶ Domestic Hot Water Production
- ▶ Cooling
- ▶ Summer dehumidification
- ▶ Controlled mechanical ventilation with thermodynamic heat recovery
- ▶ Air purification with electronic filtration

INSTALLATION EXAMPLE 70 m² FLAT

- Exhaust
- Stale air ejection
- External air intake
- Indoor air recirculation intake
- Fresh air supply
- Domestic hot water



+ ELFOPack main features

Uses air renewal ducts for heating, cooling and summer dehumidification

Max air renewal 100 m³/h for houses up to 120 m²

AERAUIC DISTRIBUTION

Wide selection of accessories for air distribution

Thanks to special induction air diffusers, supplied air mixes with the whole mass of air already present in the room and creates a uniform temperature and air quality in the entire room.





CLIVET
PATENTED SYSTEM

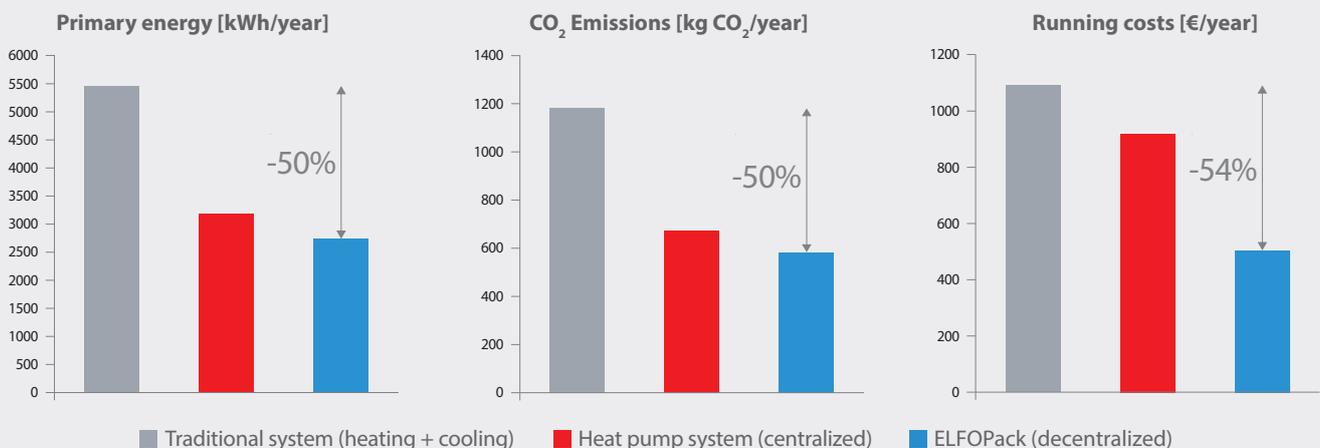
HIGH ENERGY EFFICIENCY

- 1 HIGH EFFICIENCY ELECTRONIC FILTRATION**
Standard electronic filters with filtration efficiency higher than 99,9%. The electronic filter **pressure drops** are **90% lower** than a traditional filter, allowing a considerable reduction in electrical energy used for ventilation.
- 2 REDUCTION OF 30% ON THE VENTILATION ELECTRICAL ENERGY**
High efficiency plug fans with DC motor, which guarantee a saving on electrical energy of up to 30% compared with the traditional AC fans. **The DC motor** allows the fan speed to be set to the real system pressure drops, thus minimising electrical consumption.
- 3 CAPACITY MODULATION MAXIMIZED SEASONAL EFFICIENCIES**
The inverter DC compressor adjusts the capacity according to system requirements optimizing the seasonal efficiency.
- 4 50% OF FREE DOMESTIC HOT WATER**
Integrated 180-litre storage tank. The patented circuit allows the domestic hot water to be produced at high efficiency in winter and free in summer. The innovative **twin-wall exchanger** improves the heat exchange efficiency and avoids water contamination.
- 5 THERMODYNAMIC HEAT RECOVERY**
Heat recovery from the exhaust air both in **winter and in summer** by a thermodynamic circuit. The thermal source of the heat pump is fully maximised for efficiency. Thanks to the mixture between the extracted stale air and the outdoor air. The air introduced in the room is a mixture between the fresh air and the recirculation air.

THE RESULTS: comparison between ELFOPack and a traditional system

New multi-family building with 30 apartments of 75m² in Class A.

Location:	Milan
Climatic zone:	2404 GG
Insulation:	opaque surfaces (0.34 W/m ² k) and transparent surfaces (2.2 W/m ² k)
Dispersant surfaces:	vertical opaque envelope and transparent on two views, some internal closures to unheated rooms
Air renewal rate:	0,3 vol/h



Traditional centralized system Centralized condensing boiler, centralized thermal solar system, centralized cooling with air/water chiller, decentralized CMV (passive recovery unit) for each flat, radiant system, dehumidifier

Centralized heat pump Centralized air/water heat pump for heating, cooling and DHW production. Decentralized CMV (ELFOFresh² active recovery unit) for each flat, radiant system

Data are referred to a single flat.
The running costs of systems also include the metering costs when compared with centralized systems.

ELFOPack

The air to air heat pump system with active thermodynamic heat recovery

It covers 75% of energy needs using free and unlimited renewable energy contained in the air.

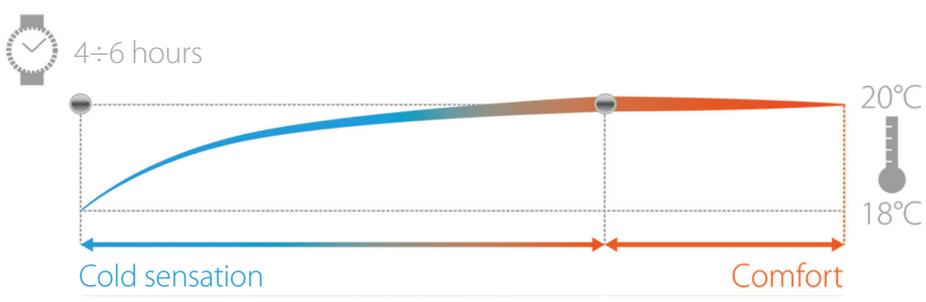
It recovers the energy from the exhaust air thanks to the active thermodynamic heat recovery.

- ▶ **The mechanical controlled ventilation system is essential** not only for energy saving, but also for a healthy environment.
- ▶ **The harmful elements and odors in the air are eliminated** by the efficient electronic filtration system
- ▶ **The low energy requirement of ELFOPack** means that in some cases, where photovoltaic systems are installed, the energy generated is sufficient to operate the ELFOPack system, helping the building to **become self sufficient**

COMFORT THROUGH THE AIR

Continuous and rapid adaptation to the desired comfort conditions.

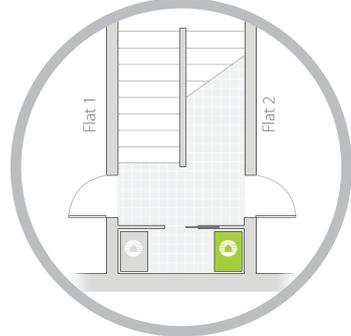
Thanks to the lower thermal inertia, the air to air air-conditioning system allows you to reach the desired comfort conditions in a much shorter time than traditional air to water air-conditioning systems. This feature is particularly appreciated in areas with frequent temperature variations typical of Mediterranean climates.



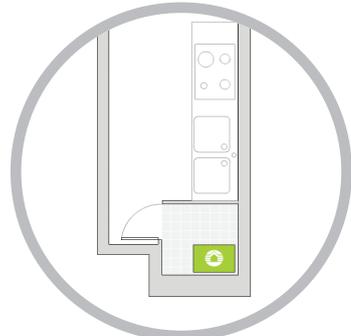
DESIGN FLEXIBILITY



On the balcony

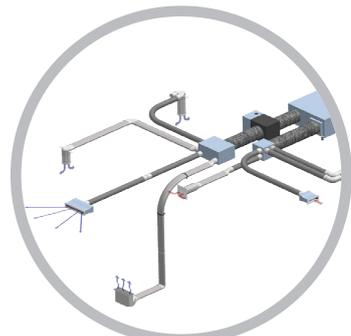


In the stairwell



In the closet

DISTRIBUTION



It can be connected to Clivet ELFOAir distribution system

**ADD VALUE
TO YOUR PROPERTY**



Thanks to the benefits detailed above and the use of heat pump technology, ELFOPack demonstrates **reduced running costs and energy consumption, which will contribute to adding value to your property.**

- A** ELFOPack
- C** Traditional system (boiler - radiators - thermal solar)

Standalone system, with one packaged unit. This means that there is no requirement for a boiler, the associated pipework and the control system.

Complete system, that removes the need for heat emitters, fancoil units, radiators or radiant panels. The ELFOPack provides complete comfort distributed through a simple ducted air system, offering complete design freedom.

Simple installation, due to its “plug and play” design, no specialist trades are required for the installation of the unit. As there is no gas requirement, this can also contribute to a reduction in the overall build cost.

User friendly controller, offers simple operation of the unit, managing all aspects of the system from a single point.

Total safety, if combined with an induction hob cooker, the requirement for gas can be removed from the installation, taking away the need to install a gas main, and saving cost on the project, as well as creating a gas free, safe environment.

WINTER



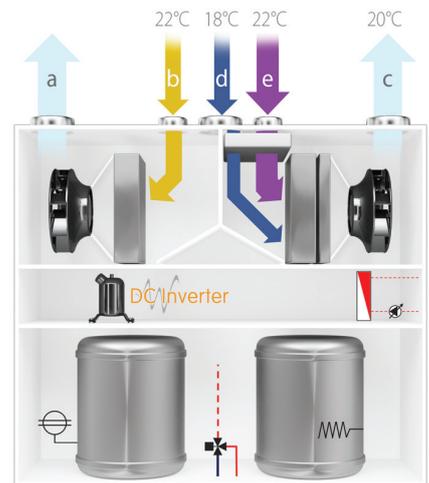
The compressor adjusts its capacity, which is distributed to purify the air and constantly produce Domestic Hot Water. The constant and simultaneous production of Domestic Hot Water increases the **system's efficiency**. During extreme conditions, the post-handling coil is activated as an additional coil.

SUMMER



Intake air is dehumidified as well as being treated and brought to the right temperature as a function of the load. The compressor adjusts its capacity in relation to indoor conditions. All the heat taken from cooling the intake air is recovered and transferred to produce **free Domestic Hot Water**.

MID-SEASON



Under optimal conditions, outdoor air is mixed with recirculated air to obtain the correct temperature, negating the need to activate the compressor (**free-cooling**). Domestic Hot Water is produced by turning off the supply air handling exchanger.