



Inspiring Solutions. Since 1989



ELFOEnergy Edge EVO
WSAN-YMi 21-141
Full electric and Hybrid
Product presentation

New hydronic range

NEW ELFOEnergy EVO R-32 SERIES



5 kW

ELFOEnergy EDGE EVO



ELFOEnergy SHEEN EVO



90 kW

ELFOEnergy STORM EVO



New hydronic range

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5 kW

ELFOEnergy EDGE EVO



ELFOEnergy SHEEN EVO

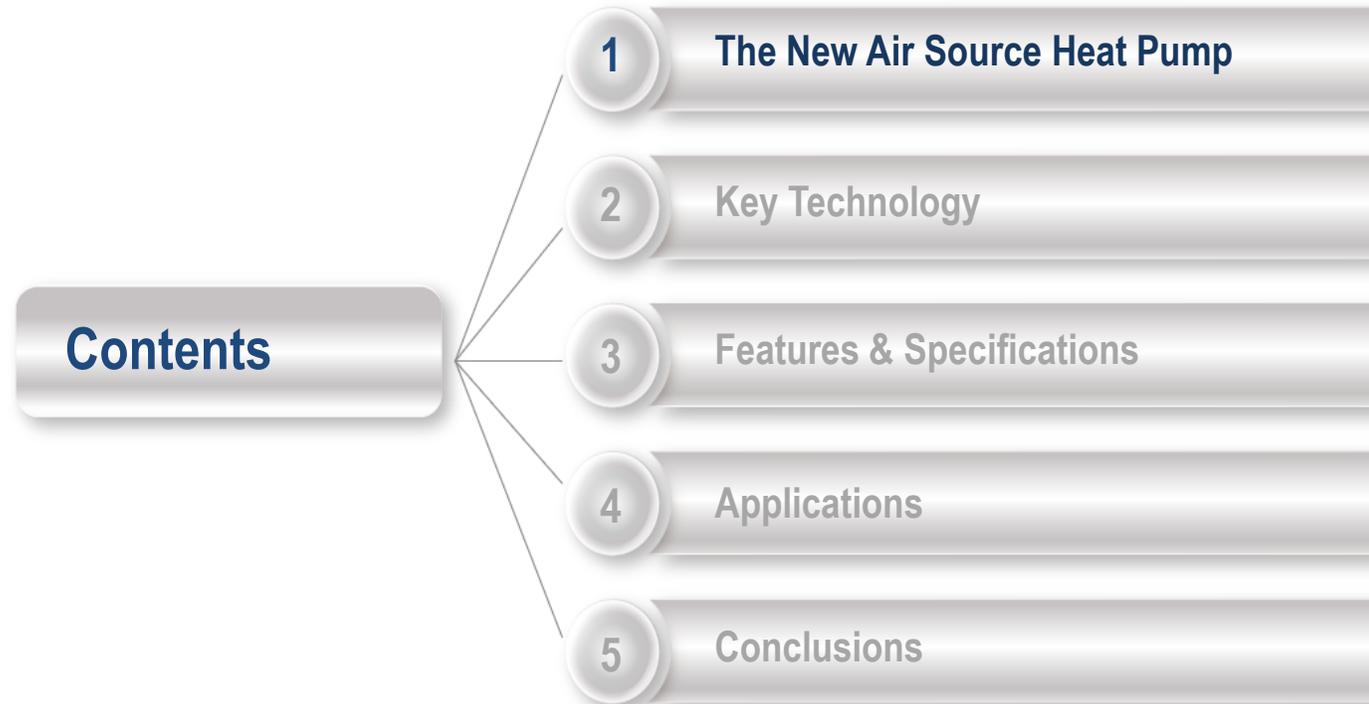


90 kW

ELFOEnergy STORM EVO



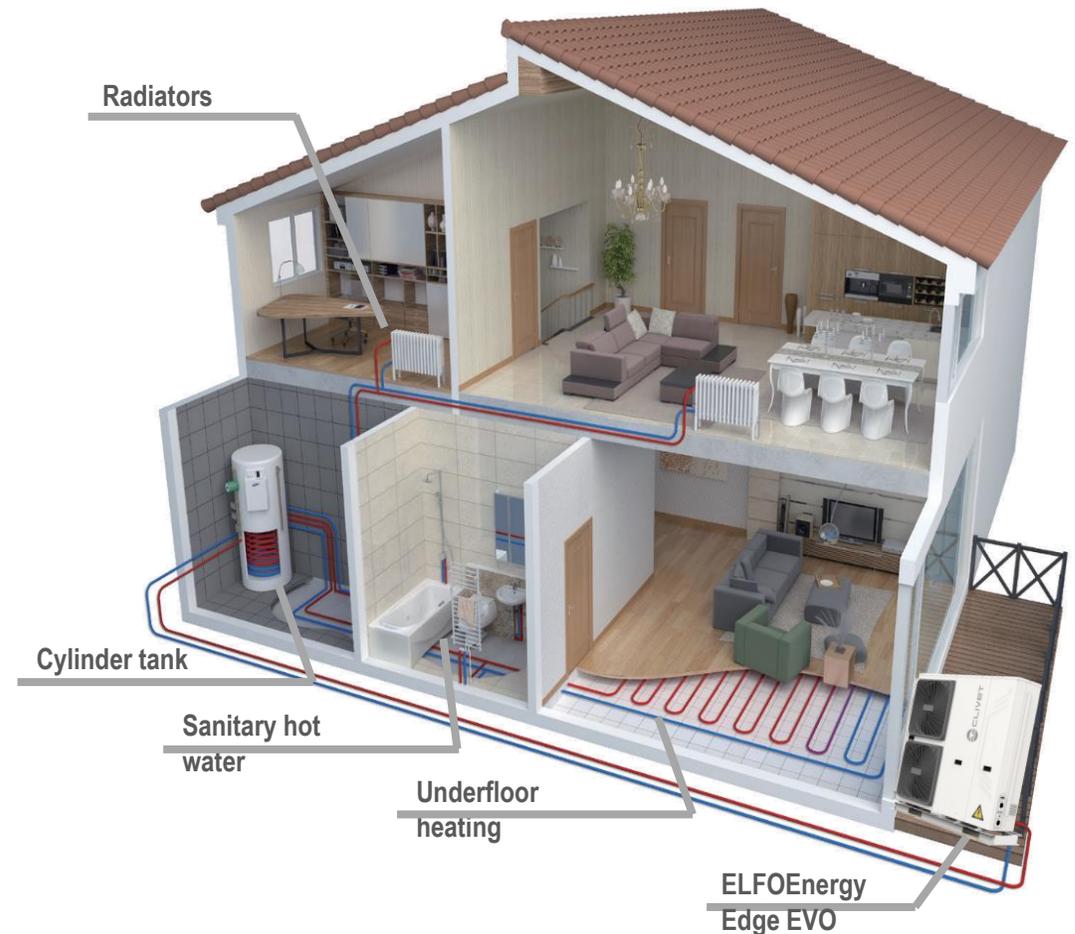
ELFOEnergy Edge EVO



ELFOEnergy Edge EVO: the new air source Heat Pump

ALL IN ONE SOLUTION FOR ANY APPLICATION: Cooling, Heating, Domestic hot water

- ELFOEnergy Edge is the integrated system that heats and cools space, as well as produces domestic hot water.
- It offers **total comfort solution** all year round
- The system can **completely replace** the traditional gas or fuel boilers. Furthermore, it is also able to work **together** with them.



ELFOEnergy Edge EVO: new refrigerant R-32



ELFOEnergy Edge EVO is the sustainable solution for the all year round comfort thanks to the new ecological **refrigerant R-32:**

- Low GWP (Global Warming Potential): -70% compared to R410A
- Better performance under severe conditions
- Less charged volume is needed in the system
- Higher heat transfer coefficient

BEST FEATURES AND MOST ADVANCED TECHNOLOGY

- **New R-32 refrigerant**
- **10** models are available for ELFOEnergy Edge with **5-30 kW** range
- **A++/A+++** Class Heating LT (LWT 35°C) / **A+/A++** Class Heating MT (LWT 55°C)
- **SEER up to 4,99**: effective as a **Chiller**
- Twin rotary DC inverter compressor and DC inverter fans
- Self-contained **integrated system**: built-in hydronic module
- Operation Range **down to -25°C**
- **Silent mode** and **super silent mode** for night operation
- Hybrid capability compatible with **solar panel** or **back-up boiler**
- Connectivity via **APP** or **ELFOControl³**
- **24 kW** or **34 kW Combi boiler** with instant production of **DHW (Hybrid Version)**



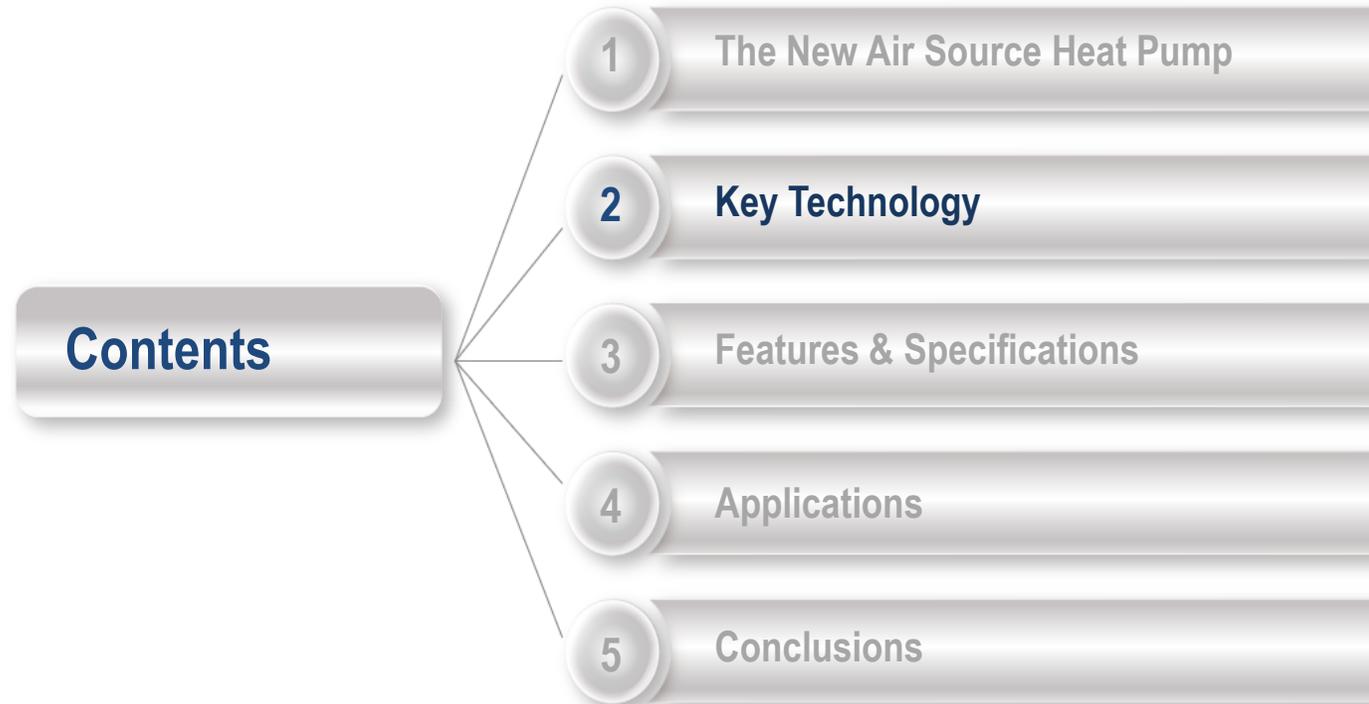
DC Inverter



Wide capacity range to meet every capacity demand

Series	WSAN-YMi 21-141									
Size	21	31	41	61	71	81	91	101	121	141
Heating Capacity [kW] (A7/W45)	5	7	9	12	14	16	18	22	26	30
Appearance	 Foot print 0,48m²			 Foot print 0,57m²			 Foot print 0,59 m²			
230/1/50	●	●	●	●	●	●				
400/3/50+N				●	●	●	●	●	●	●
HYBRID Boiler Capacity	24 kW	24 kW	24 kW	34 kW	34 kW	34 kW	N.A.	N.A.	N.A.	N.A.

ELFOEnergy Edge EVO



Key Technology

ELFOEnergy Edge EVO is the new energetic reference for the heat pump, bringing:

- **DC Inverter technology**, ideal for the operation at partial load.
- **Electronic expansion valve**, that quickly and precisely adapts to the effective load required.
- The **plate heat exchanger** maximizes the thermal efficiency thanks to large exchange surfaces .
- High efficiency brushless **DC inverter pump**, integrate in the hydronic module.
- The **Hydrophilic Coil** ensures a better cleaning maintaining thermal exchange efficiency and reduced defrost time

A Class in Heating
A7/W45

ErP Class:
A++/A+++ @W35°C
A++ @W55°C

SEER up to 4,99
A35/W7

**...with LOW SOUND
OPERATION!**

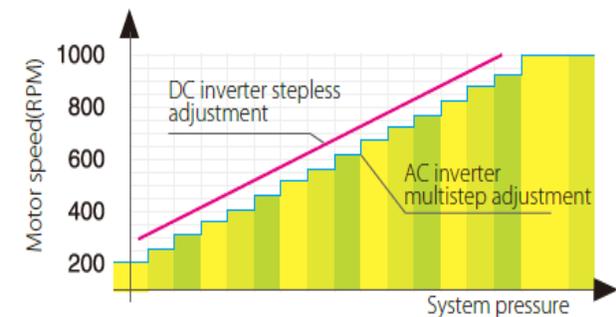
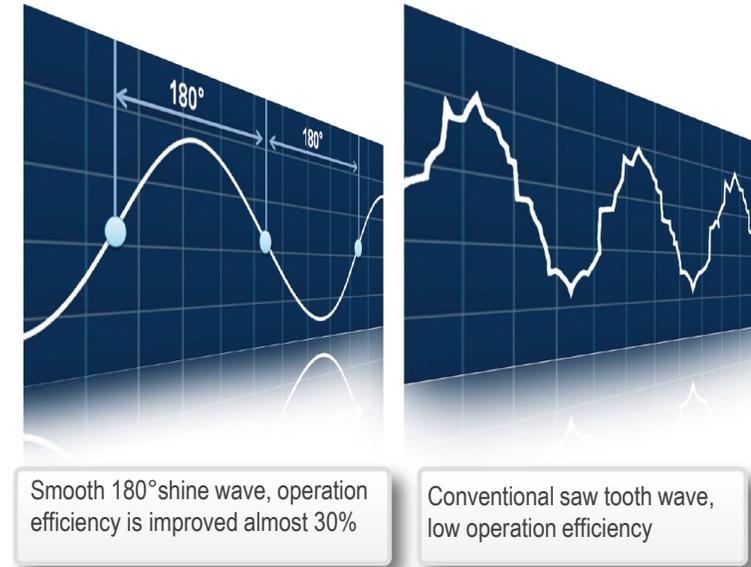
Full DC Technology

DC inverter twin rotary compressor

- ✓ New designed compressor with Permanent Magnets:
 - low working sound
 - wide working frequency.
- ✓ Full DC frequency conversion system that dramatically **reduces power consumption by more than 30%**.

DC inverter fan motor

- ✓ Brushless DC (BLDC) fan motor helps to meet up-to-date heating and cooling demands with **low noise fan**, as well **low power consumption**.
- ✓ Fan blower and fan guard designed with **CFD air flow technology** (Computation Fluid Dynamics), bringing quiet and high efficient operation.



Hydronic module

All hydraulic components, e.g. circulation pump and expansion vessel, **are included in the unit** to guarantee:

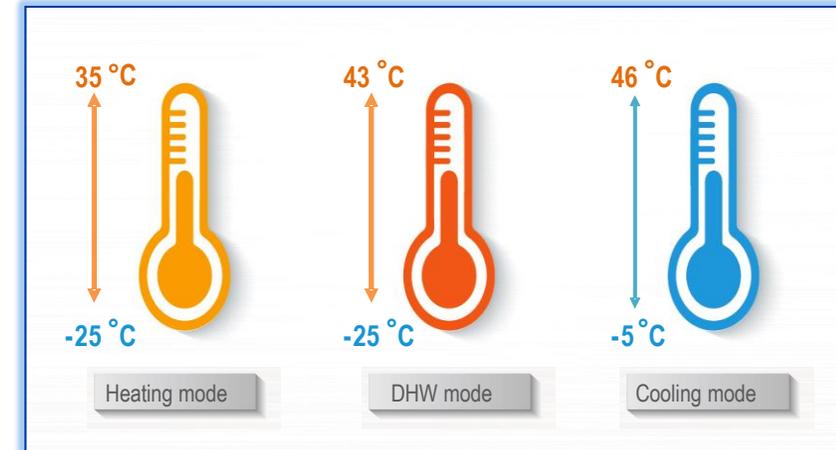
- High reliability
- Space reduction
- Quicker and easier maintenance of the hydraulic circuit



Extended Operating Range

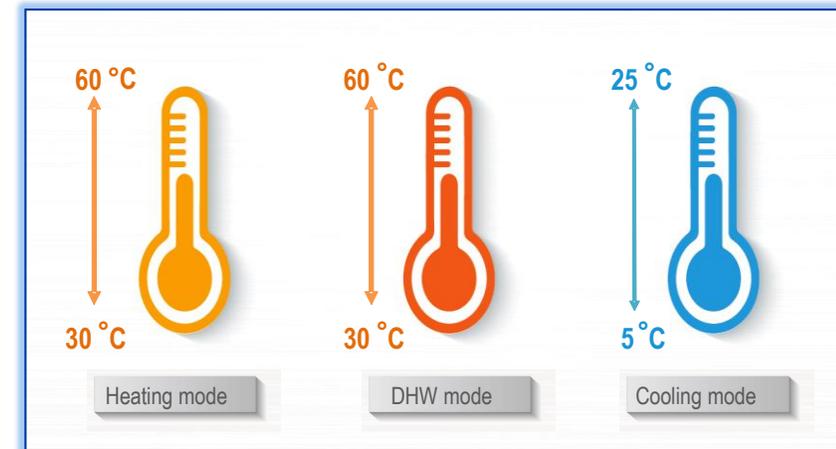
Outdoor air temperature operating range

ELFOEnergy Edge is made up of an inverter compressor optimally operated according to the outdoor temperature, offering **heating capacity of 80% at -7°C** and **reliable anti-freezing protection at -25°C** .



Leaving water temperature range

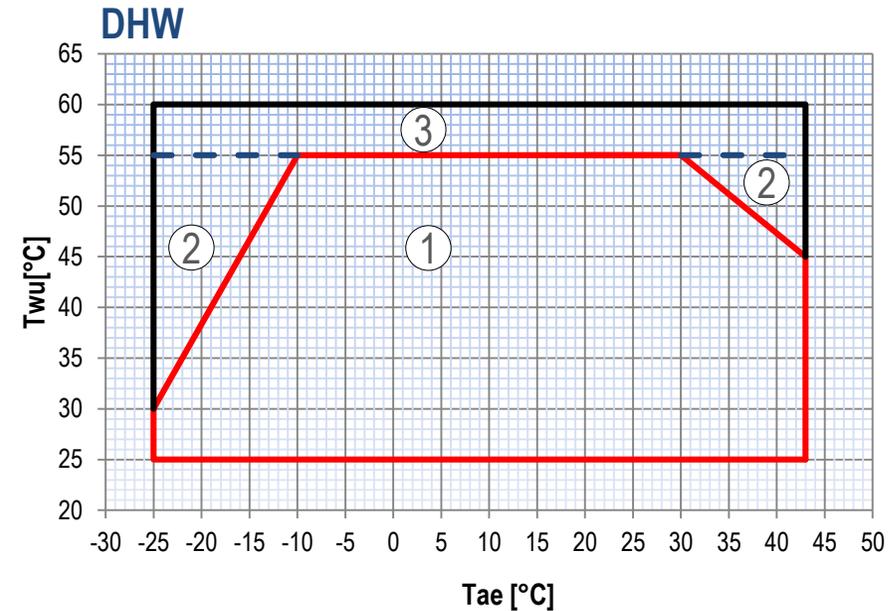
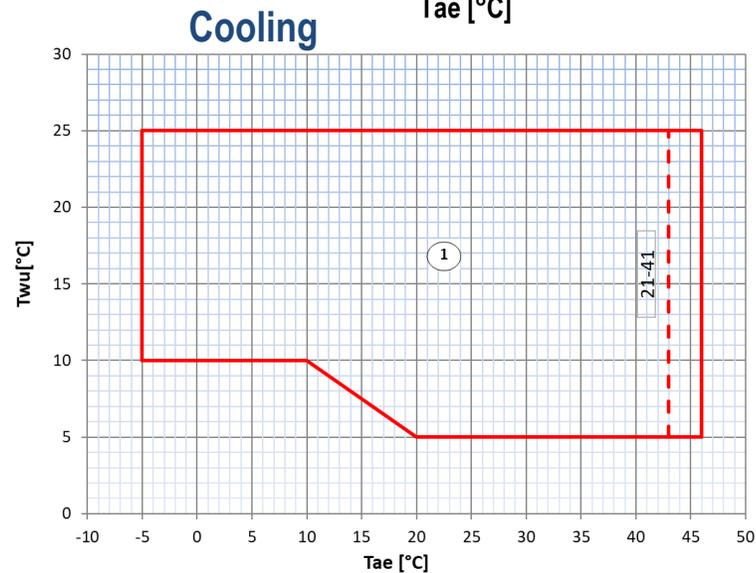
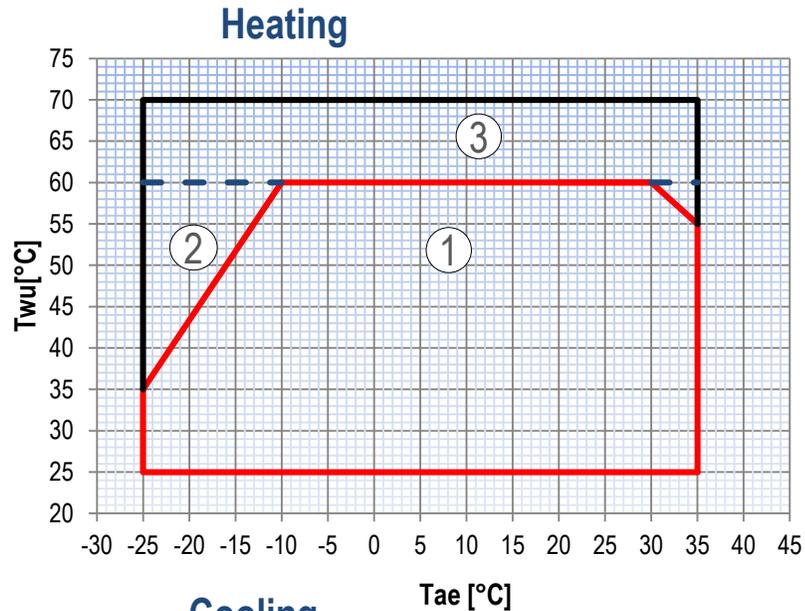
ELFOEnergy Edge can supply a **minimum water temperature** in cooling mode of 5°C and a maximum leaving temperature in heating mode of 60°C .*



* The leaving water temperature range will differ when setting different mode.

Extended Operating Range

Hot water production down to -25°C air temperature!



DHW at 60°C from -10°C to 30°C of air temperature!

T_{wu} [°C] = Leaving exchanger water temperature

T_{ae} [°C] = External exchanger inlet air temperature

- ① = Normal operating range
- ② = Operating range with only back-up heater* or additional heating source
- ③ = Hybrid Version operating range

- Back-up heater supplied as a separate option for size 21-41. Integrated or as a separate option for size 61-81.

Certifications



Eurovent certification



Keymark mark

From December 2020 for sizes
91-141



EHPA Quality Label

Only for sizes 21-81



MCS mark

Only for sizes 21-81

The Certification Mark for Onsite
Sustainable Energy Technologies



Features & Specifications

Newly designed wired remote User Interface

New generation remote User Interface , for internal installation, that guarantees a **complete control solution**:

- ON/OFF unit
- Operation Mode setting: cooling/heating/AUTO
- DHW setting
- Temp. setting: water outlet temp, room temp
- Time setting: 12H/24H
- Timer ON/OFF setting, Day/Weekly
- Display space heating/cooling set temperature
- Water tank temperature
- Display components status
- Query, malfunction Code, Parameter
- Test mode setting
- Two multi-authorization control levels
- **Modbus connection**



* Unit is managed **only** with User Interface

Features & Specifications

Two zones control (high and low temperature)

The unit can manage **two different set-points**:

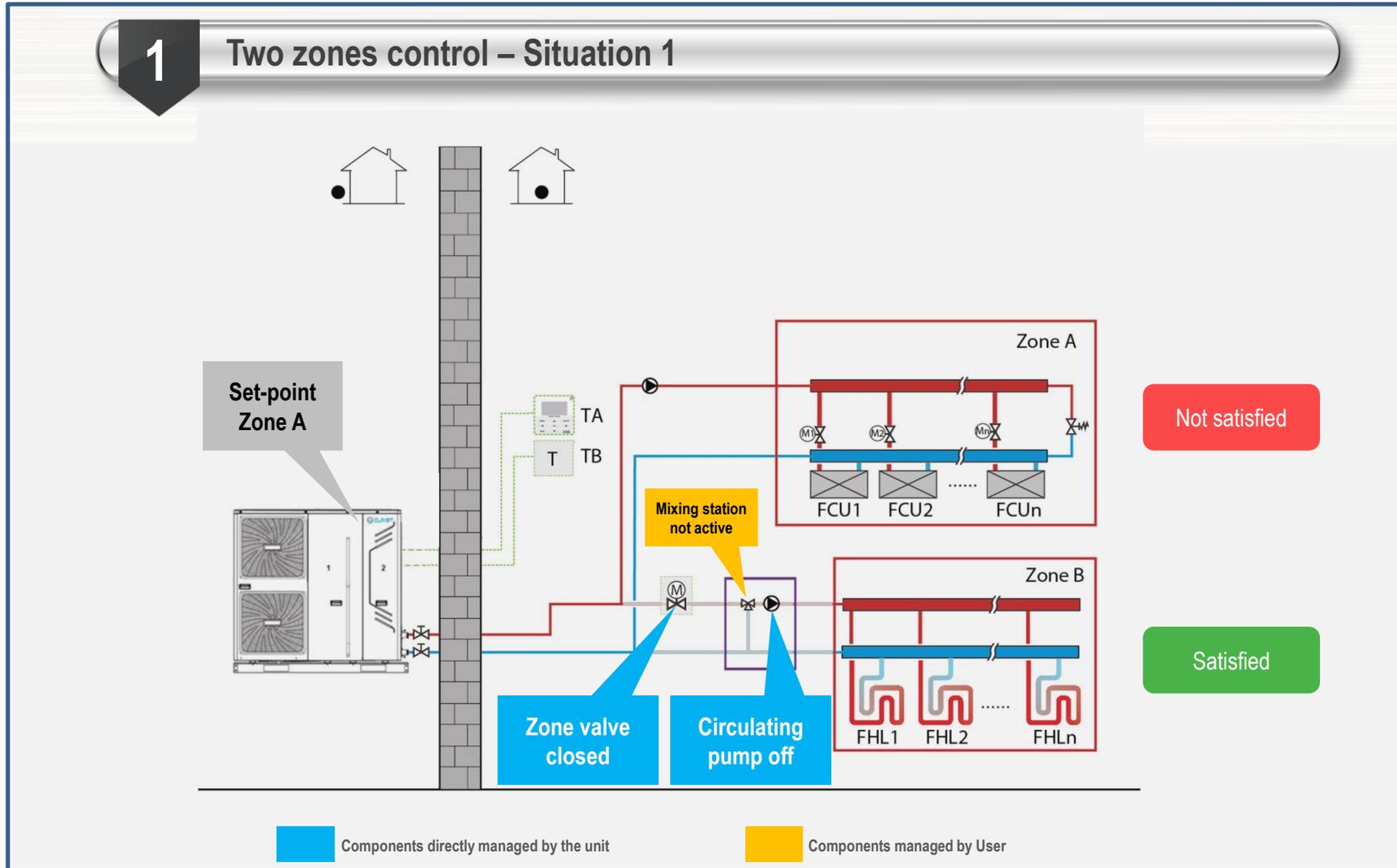
- **Zone A:** High temperature zone controlled by thermostat (User interface)
- **Zone B:** Low temperature zone controlled by thermostat (user supply)

The system has to be set up with:

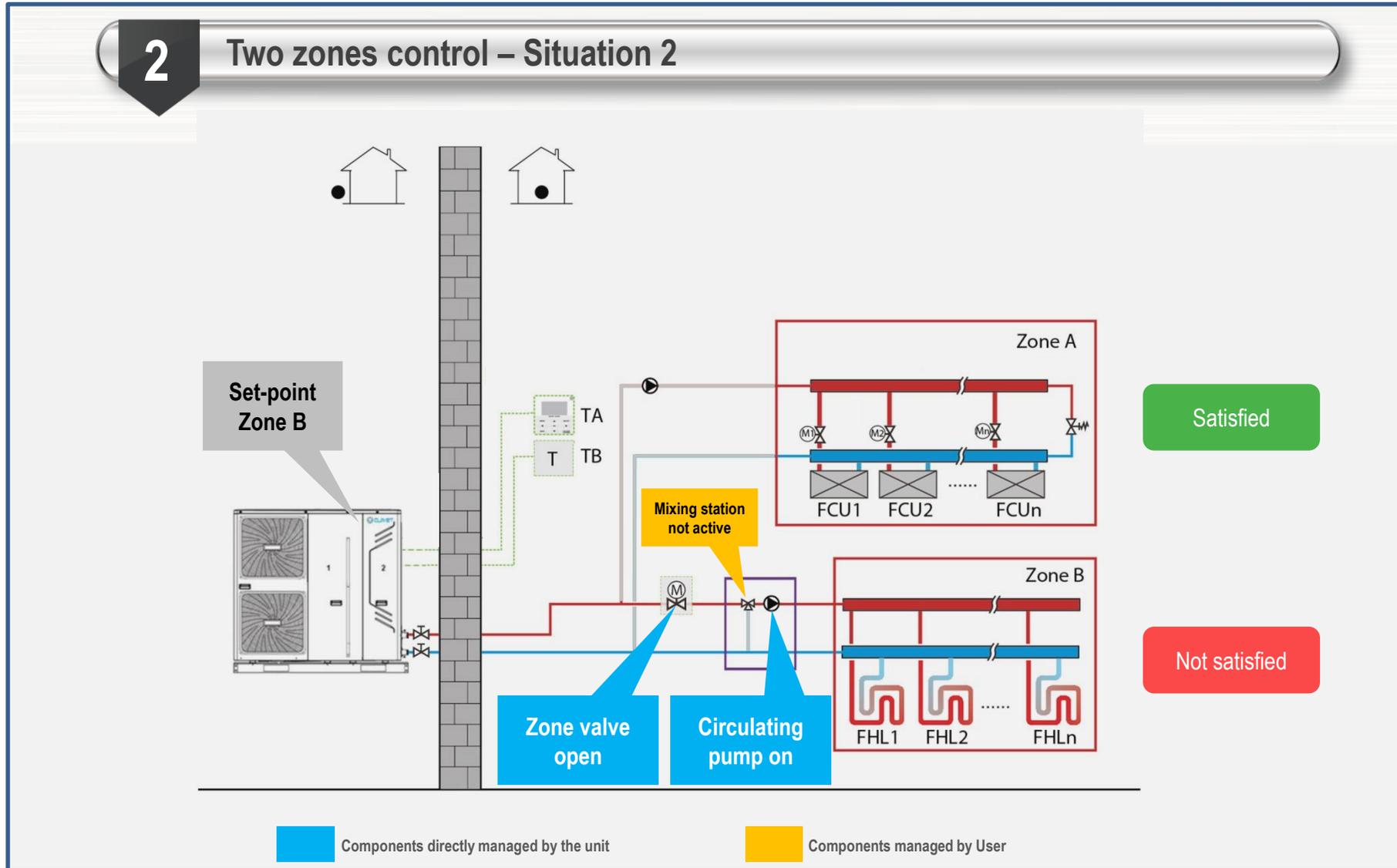
- Mixing station (not managed by the unit)
- Zone valve (managed by the unit)
- Zone B circulating pump (managed by the unit)



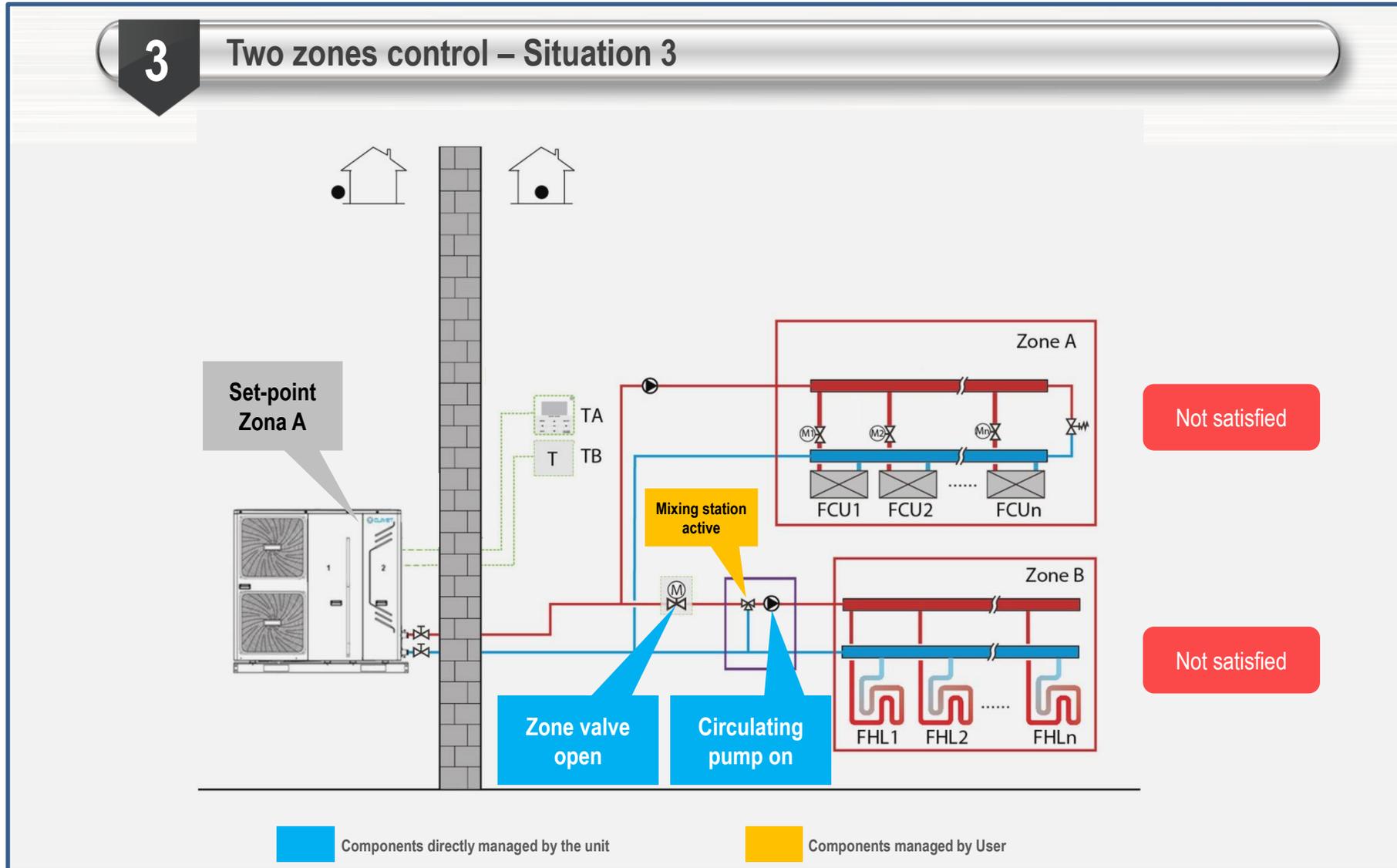
Typical Applications



Typical Applications



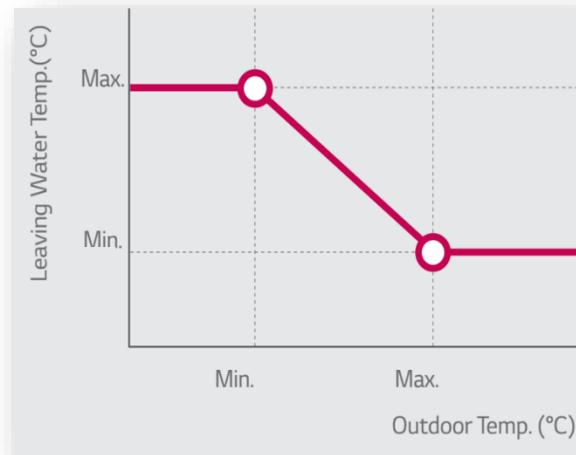
Typical Applications



Features & Specifications

Climatic compensation with outdoor air temperature

In cooling mode, the user can set the **Climate correlation curve** according to its needs, then system will set the outlet water temperature according to the outdoor ambient temperature automatically.



- **Cooling operation:** if outdoor temperature increases outlet water set-point will decrease automatically to allow a higher cooling capacity to the system.
- **Heating operation:** if outdoor temperature decreases, heating capacity supplied will increase automatically in order to keep comfortable heating performance.

Features & Specifications

ECO Mode

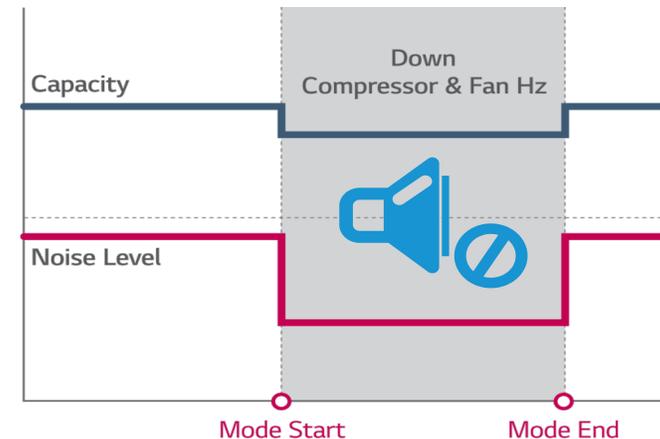
- In heating mode: during the daytime (7:00 – 22:00) the setting leaving water temperature will be **40°C** in order to keep comfortable heating performance.
- And during the night time (22:00 – 7:00) the setting leaving water temperature will be **30°C** in order to save energy.
- Above duration (7:00 – 22:00 – 7:00) as well the water temperature (e.g. **30°C** or **40°C**) **can be set on the User Interface automatically.**



Features & Specifications

Silent mode

- Silent mode operation can reduce the noise level specially during the night time.
- When the silent mode operation starts, the outdoor unit will reduce the compressor and fan motor speed to lower the noise.
- The default silent mode operation duration is settable .
- **Two silent mode levels** are available: up to **-6 dB(A)** can be reduced compared with normal operation.
- There are two methods to set the silent mode: ***Silent mode all time*** and ***Silent mode in timer*** (two different timers can be set).



Features & Specifications

Priority DHW mode (fast domestic hot water)

- To immediately supply hot water ASAP.
- When the fast DHW mode operation starts, the outdoor unit will run the compressor and fan motor with full load.
- The DHW will have the first priority and stop running any other mode .
- Back-up electrical heater will run accordingly.

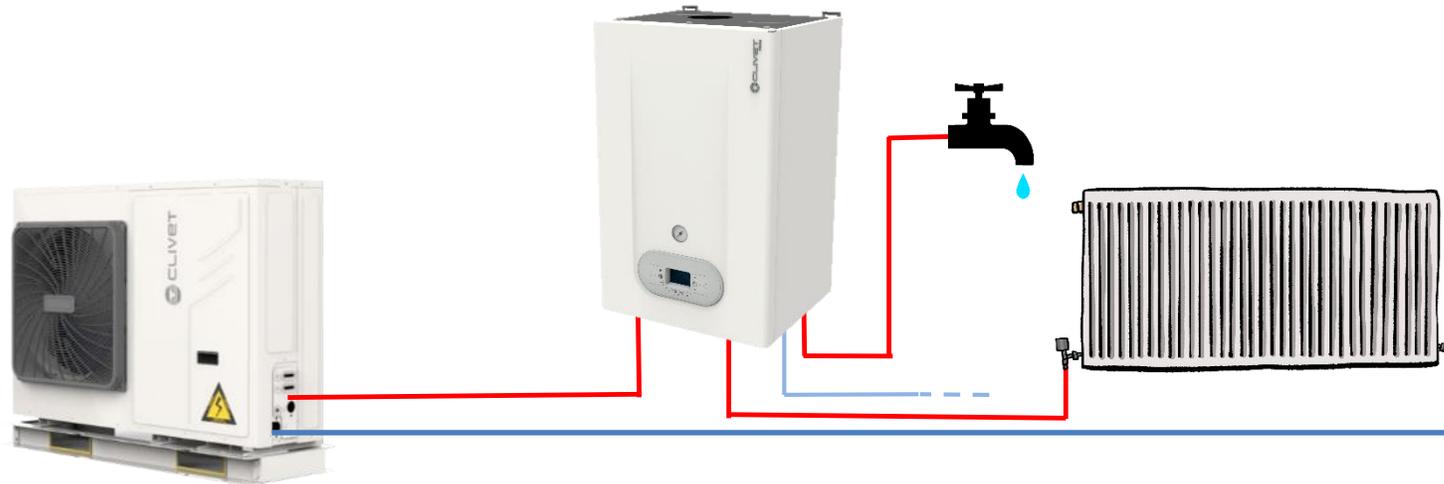


FEAUTURES & SPECIFICATIONS

Hybrid Version

EDGE EVO Hybrid is the combination of the **heat pump** with the **24 kW or 34 kW combi boiler** by Clivet, up to **WSAN-YMi 81**.

- Leaving water temperature up to **70 °C** for high temperature system.
- Integration function to help the heat pump
- Back up function
- Instant production of domestic hot water thanks to the combi boiler
- Simultaneous cooling or heating operation with **DHW** withdrawal.

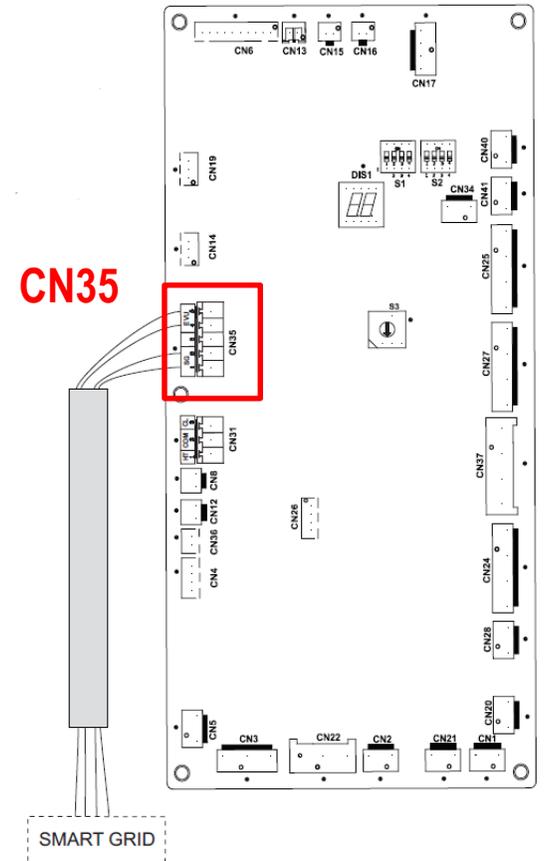


Features & Specifications

Smart-grid and photovoltaic function

- EVU signal for the integration of the unit in a Smart-Grid.
- SG signal for operation in combination with photovoltaic panels.
- With unit forced in DHW mode the set-point is automatically set to 70°C.

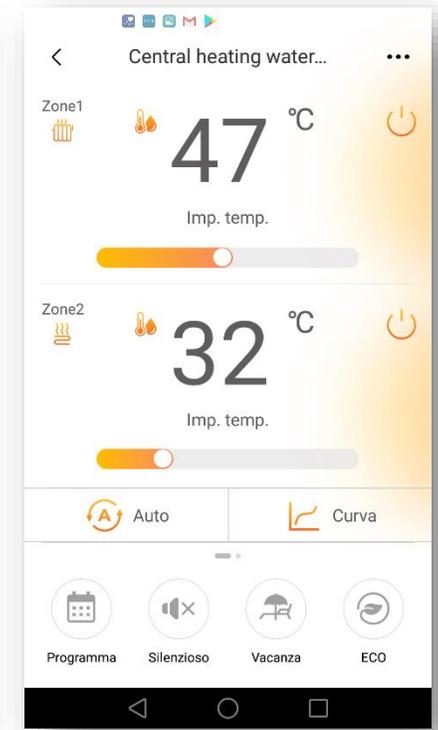
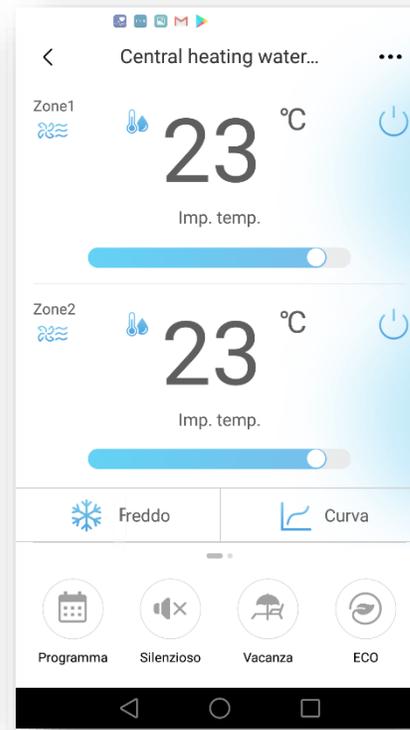
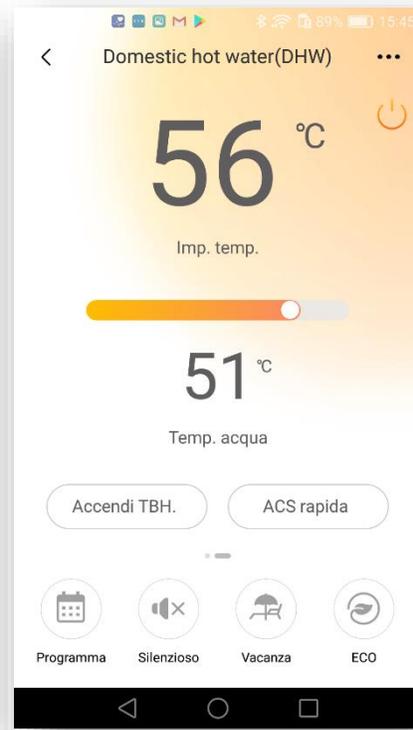
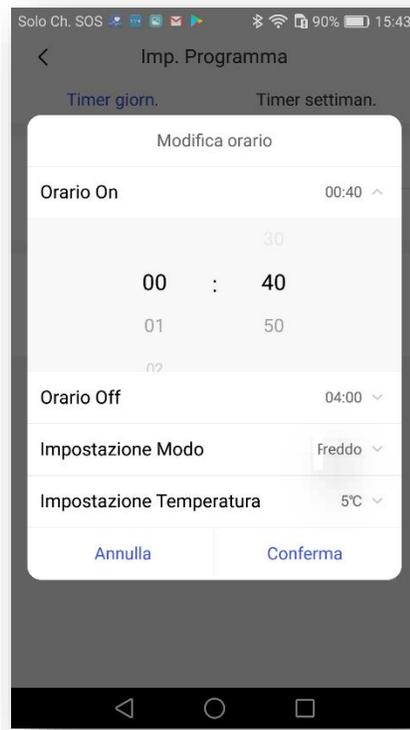
	EVU	SG
Normal unit operation	OFF	ON
Unit is switched off	OFF	OFF
Unit is forced in DHW mode	ON	ON o OFF

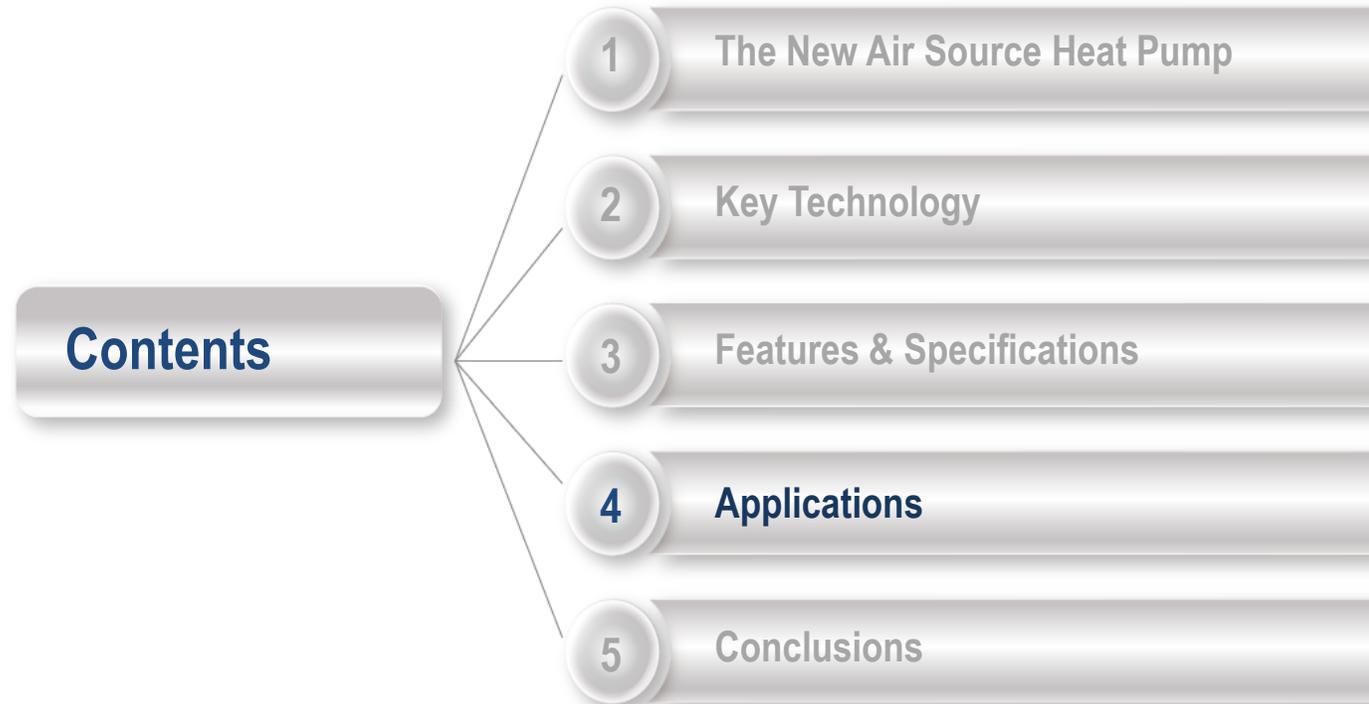


Connectivity

APP for a smart control

- A simply a intuitive management from your smartphone
- Download it on GooglePlay → **MSmartLife**

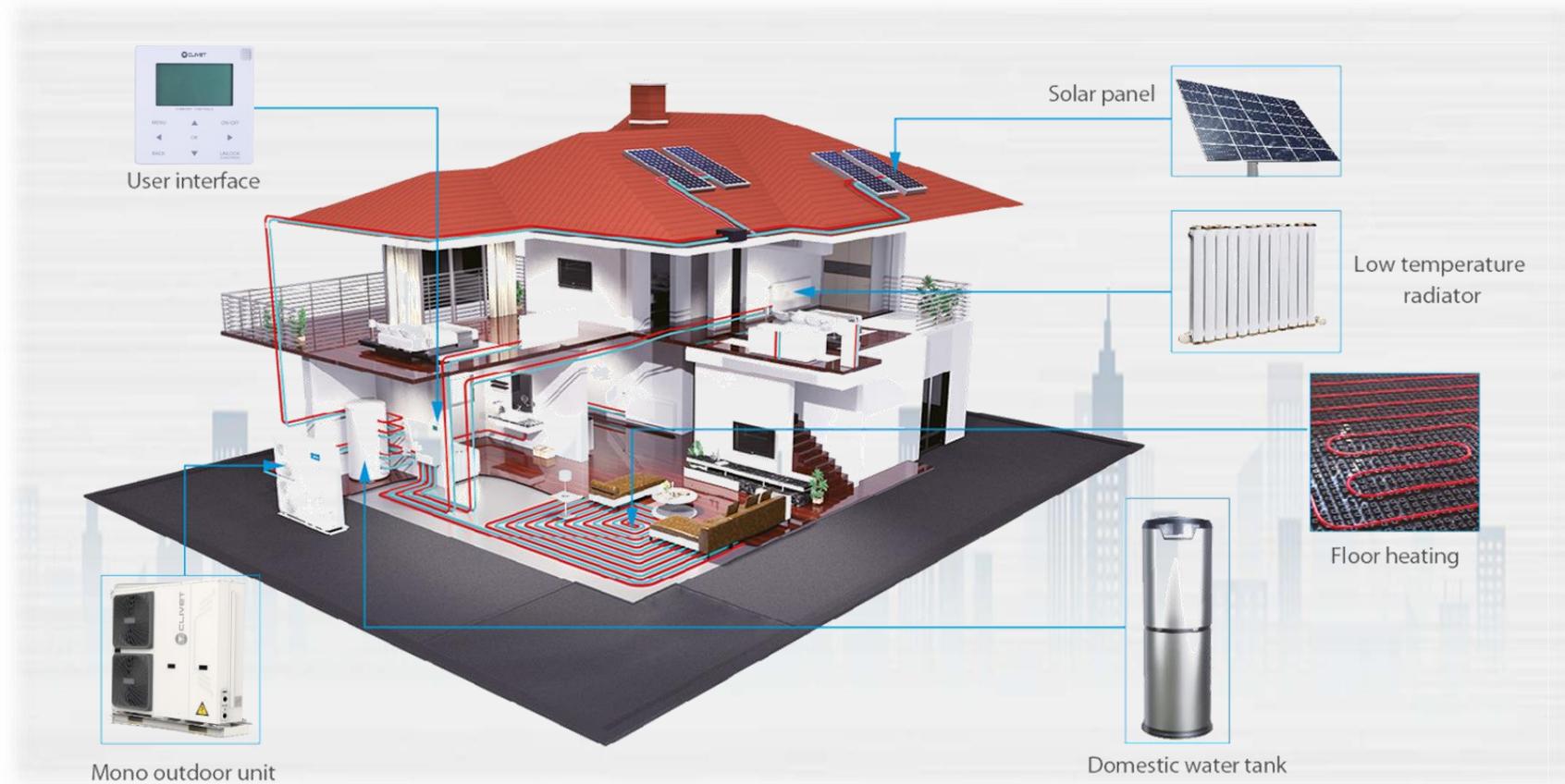




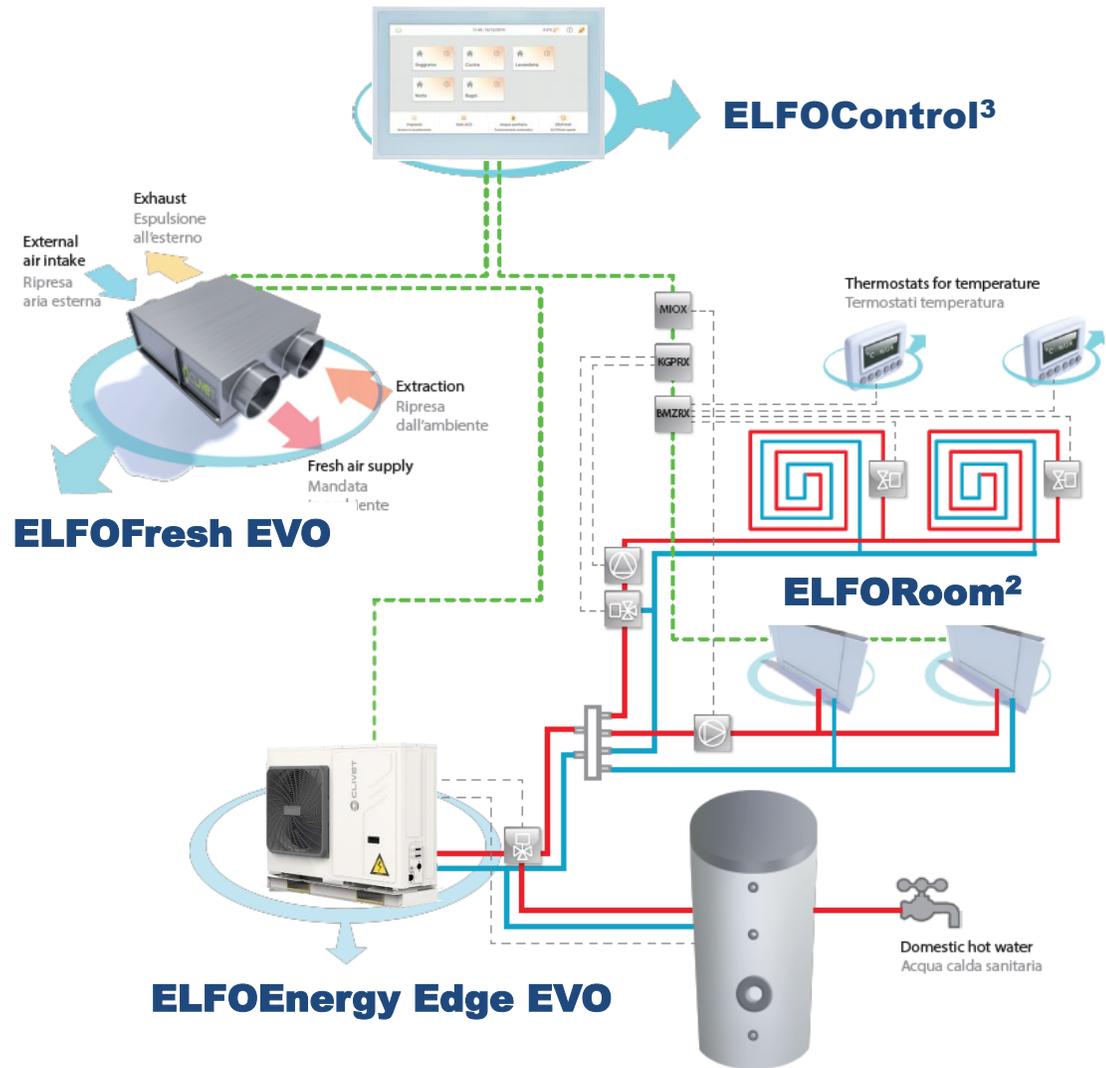
Applications

To guarantee the **maximum flexibility**, **ELFOEnergy Edge EVO** can be combined together with radiant panels, fancoil units, radiators and domestic water tank.

It can also **be connected** and **manages** solar collectors, gas furnace, boiler and other heat sources.



Combination with ELFOControl³



ELFOControl³ is the advanced control system to manage the operation of the entire system.

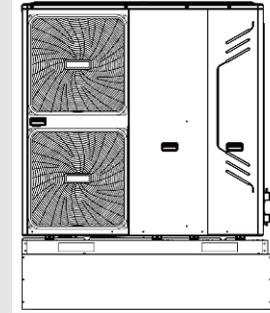
- **High seasonal efficiency** thanks to the possible algorithm optimization by the control of all the system components
- **Optimization** of units efficiency and operation
- **Comfort improvement** (temperature, humidity, air quality, domestic hot water)
- **Simply** to use and complete system management
- **Operation safety** thanks to the energy source choice most suitable for each ambient condition.

Typical Applications - Accessories

- **Buffer tank**

60-liter tank in painted sheet metal, thermally insulated. The cylinder is included inside a box which can be positioned below the heat pump.

*Only for sizes 21-81



- **100-litre circuit breaker**

Storage tank Fe360b with external insulation, equipped with 8 connections.



- **Back-up electrical heater**

The back-up electrical heater provide additional heating capacity during extremely cold outdoor temperatures operation conditions. Nominal capacity is 3 kW and it is adjustable. For indoor installation.

*Only for sizes 21-81



Typical Applications - Accessories

- **3-way valve kit for domestic hot water**

For the deviation of the water flow to a DHW heating storage tank. It can be managed directly by the unit.

- **Hose kit for connection to the heat pump**

Length 300mm, necessary for the connection of the unit to the plant.



- **300-litre and 500-litre DHW storage tank**

Carbon steel storage tank with external insulation, equipped with anodic protection and 3 kW (single phase) electric heater with safety thermostat.

Also available with solar coil.

*Only for sizes 21-101



Applicazioni tipiche – Accessori Caldaia

- **Coaxial fitting for smoke discharge and intake (ø60/100)**



Coaxial polypropylene flanged connection (ø60/100) for combustion gas discharge and air intake through two coaxial ducts.

- **Splitter for boiler smoke discharge**



The KSDFX kit consists of a splitter (Ø 80/80) that can be connected to a boiler for air intake and smoke exhaust.

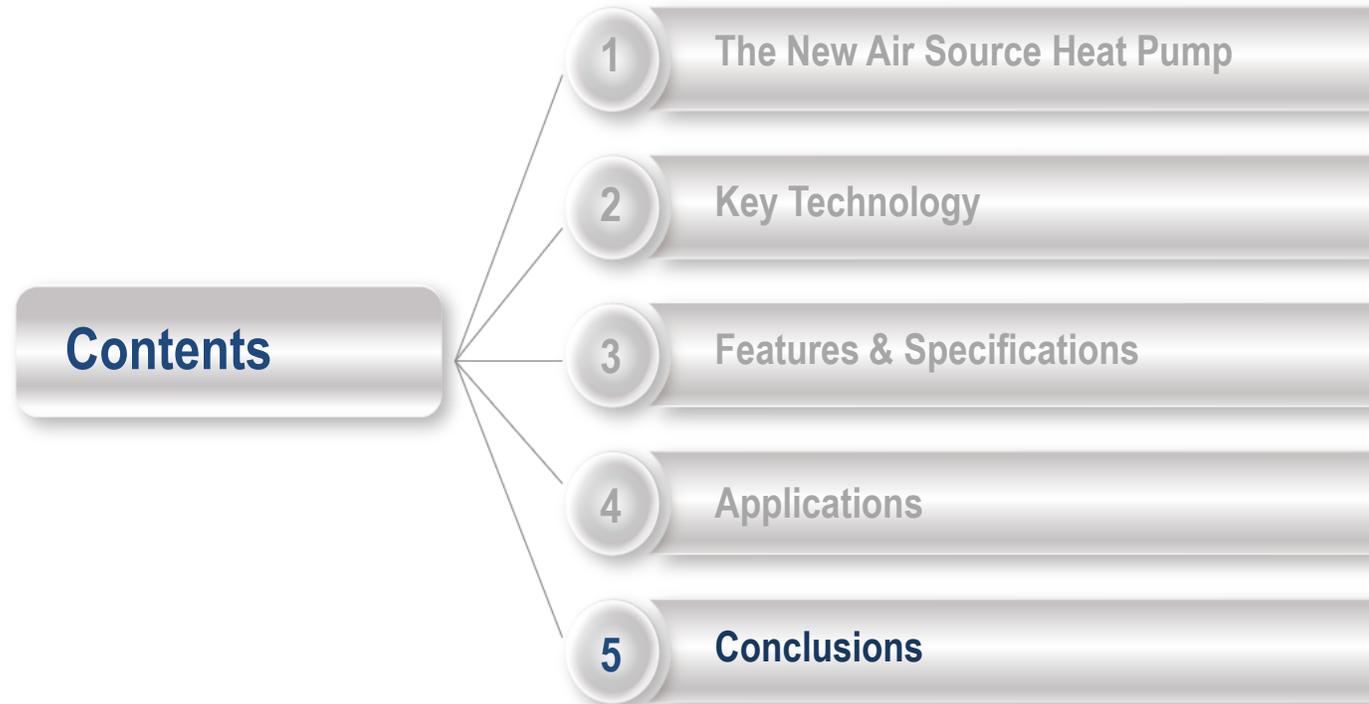
- **Smoke intake and discharge fittings, 80 mm diameter**



The KAS80X kit consists of 2 fittings (Ø 80) for splitting the air intake and smoke exhaust directly from the boiler body.

- **Kit to convert boiler from methane to LPG**

ELFOEnergy Edge EVO



Conclusions

ELFOEnergy Edge EVO: the best features for heating, cooling and domestic hot water production

- **New R-32 refrigerant**
- **10 models are available for ELFOEnergy Edge with 5-30 kW range**
- **Top performances for a even higher seasonal efficiency**
 - **A++/A+++ Class Heating LT (LWT 35°C)**
 - **A+/A++ Class Heating MT (LWT 55°C)**
 - **SEER up to 4,99: effective as a Chiller**
- **The most advanced Full DC technology**
- **All the features to offer a single integrated system**
- **Extended Operation Range down to -25°C to meet any working condition**
- **New functions and modalities for a complete comfort solution**
- **24 kW or 34 kW Combi boiler with instant production of DHW (Hybrid Version)**



DC Inverter



Thank you!

www.clivet.com



A Group Company of
 Midea