

SPHERA EVO

SRHME + MDAN-YMi 2.1 - 5.1

Product Presentation

SPHERA EVO



SPHERA EVO: The New split Air to Water Heat Pump

INTEGRATED SOLUTION FOR EACH APPLICATION: Heating, Cooling and Domestic Hot Water

- **SPHERA EVO** it is the integrated system that provide heating, cooling and domestic hot water for all the family.
- **A total comfort solution** for all the year,
- It **completely replaces** the traditional fuel or gas boilers,



SPHERA EVO : Applications

Each version has been carefully designed to meet in the best way the different demands of each type of residential home .

Medium-Low consumption single-family Houses



SPHERA EVO T Comfort thanks to the storage of 190 or 250 litres meets perfectly the demands of the sanitary comfort of single-family houses of recent construction, where the heating power required is low-to-medium

SPHERA EVO: New refrigerant R-32



SPHERA 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 R-410A
- Better performance under severe conditions
- Less charged volume is needed in the system
- Higher heat transfer coefficient

SPHERA EVO : Main features



FULL DC INVERTER TECHNOLOGY

- **New R-32 refrigerant**
- **4 capacity sizes** to cover every needed
- **Class A+++** on heating mode BT (LWT 35°C)
- **Classe A++** on heating mode MT (LWT 55°C)
- **Class A+ Profile L** on Domestic Hot Water production
- Twin Rotary DC inverter compressor and DC inverter Fan
- Electronic pump with variable flow
- From **-25°C** on heating mode to **+46°C** on cooling mode
- **Silent** mode during the night - **4 dB(A)**
- **ICE Protection System** to protect the outdoor unit

Nominal heating capacity:
(A7/W35) da 4 a 10 kW

Nominal cooling capacity :
(A35/W7) da 4 a 10 kW

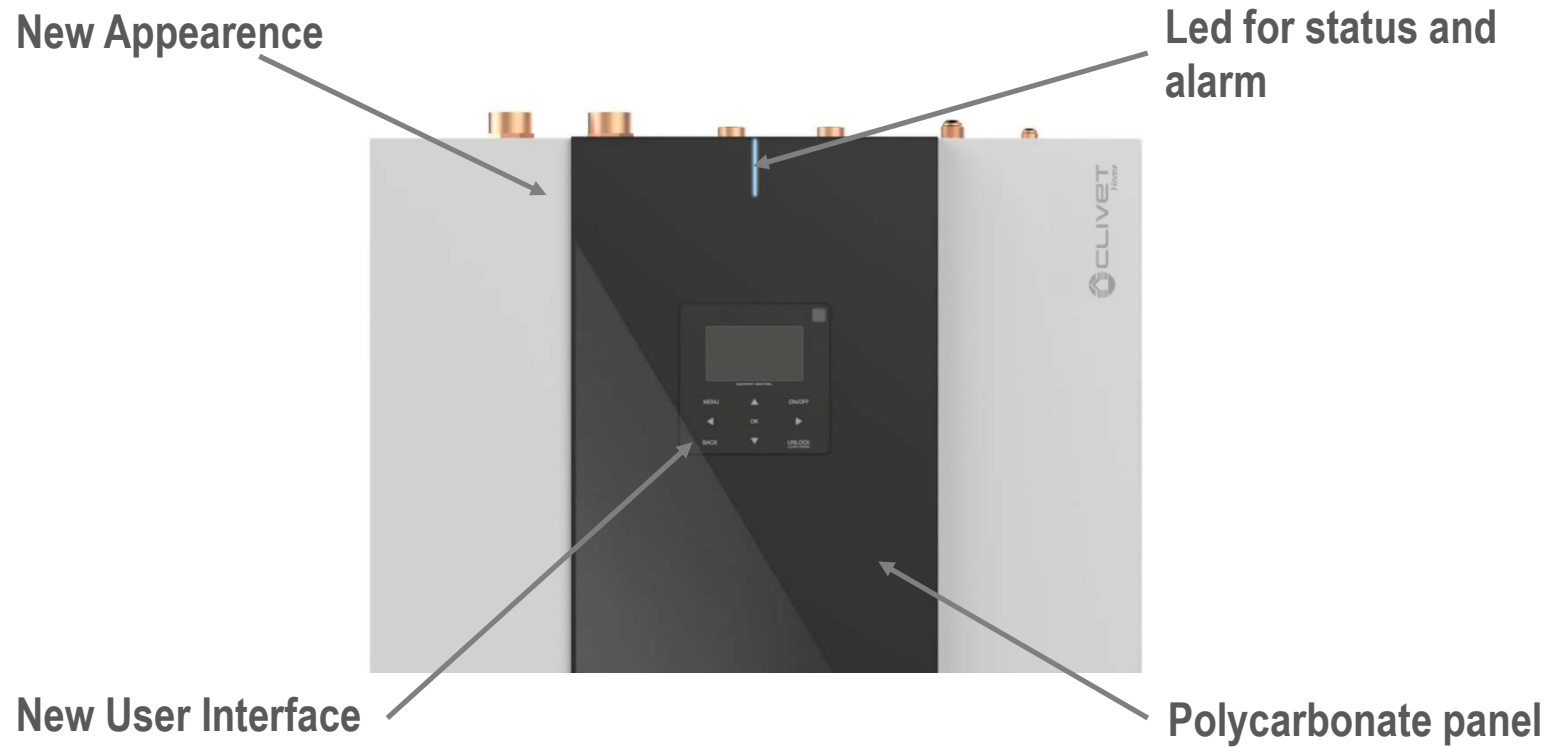


DC Inverter



SPHERA EVO : What is new?

NEW IDENTITY → Clivet DNA



SPHERA EVO : What is new?



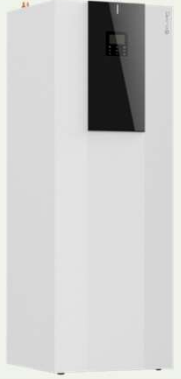
DISTINTIVE Features and differences compared to R-410A serie

DISTINTIVE FEATURES

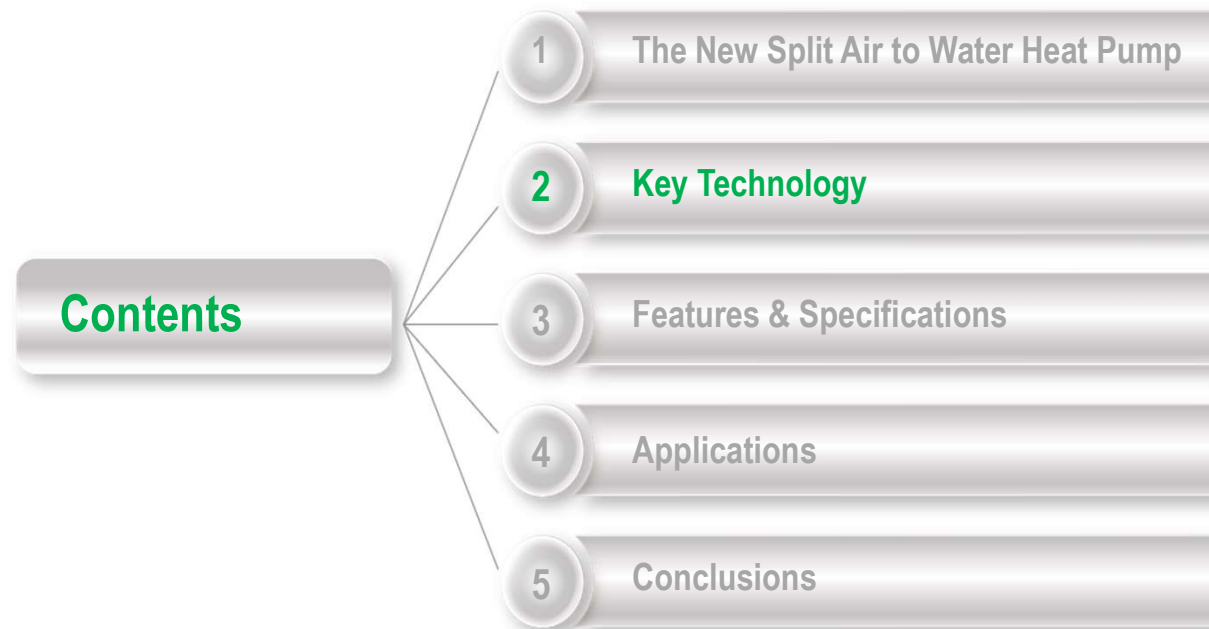
- **More value for Money**
- **WiFi Connection**
- **Dedicated APP**
- **Smart Grid Function** management of the power supply fro the photovoltaic and the power supply
- **Greater versatility** two DHW available tank **190** and **250 litres**
- **Small Dimensions** the foot print of the indoor unit is only **600 x 600** mm
- **Completed system** integrated dirth magnetic strainer and space expansion vessel.
- **40 litres Buffer tank** (Accessory)
- **Longer refrigerant line up to 30 m** and precharge ready **until to 15 m**

SPHERA EVO : What is new?

SYSTEM COMBINATION

SPHERA EVO		2.1	3.1	4.1	5.1
Heating Capacity	Air 7 °C – Water 35°C	4,49 kW	6,32 kW	8,37 kW	10,3 kW
Indoor Units	MDAN-YMi	2.1	3.1	4.1	5.1
					
Outdoor Units	SRHME	A - 190 l (190 litres DHW tank and pump with max 70 kPa)			
		A - 250 l (250 litres DHW tank and pump with max 100 kPa)			
					

SPHERA EVO



INNOVATIVE TECHNOLOGY

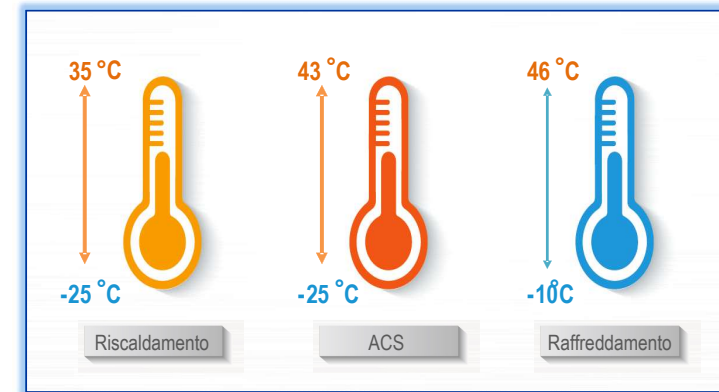
SPHERA EVO the new generation of residential heat pumps :

- **Wide power range with R-32**, widest range heat pump and DHW production from 4 to 10 kW.
- **DC Inverter technology**, ideal for the operation at partial load.
- **DHW integrated production**, it provides heating, cooling but Domestic Hot Water also, thanks to two different tank volume 190 litres and 250 litres
- **High performances heat exchanger**, it permits to increase the performances and the operation limits also
- **Connectivity** the **WiFi** connection is standard to manage the heat pump by the new dedicated **APP**

WIDE OPERATING RANGE

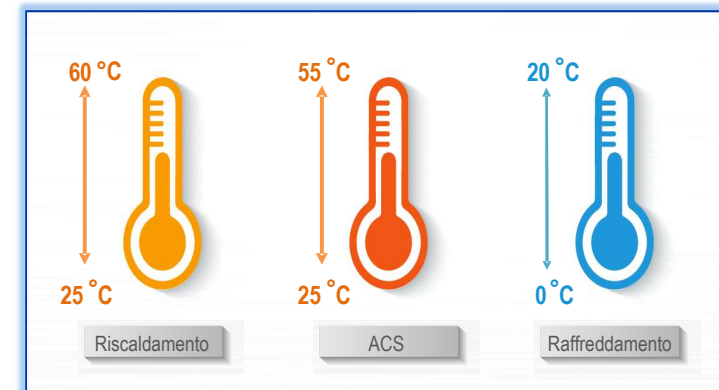
- **Outdoor air temperature operating range**

SPHERA EVO 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



- **Leaving water temperature range**

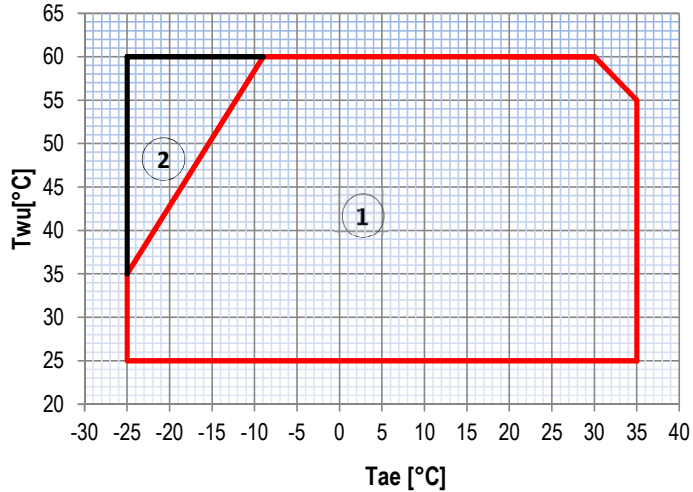
SPHERA EVO can supply a minimum water temperature in cooling mode of 5°C and a maximum leaving temperature in heating mode of **60°C**.*. *



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

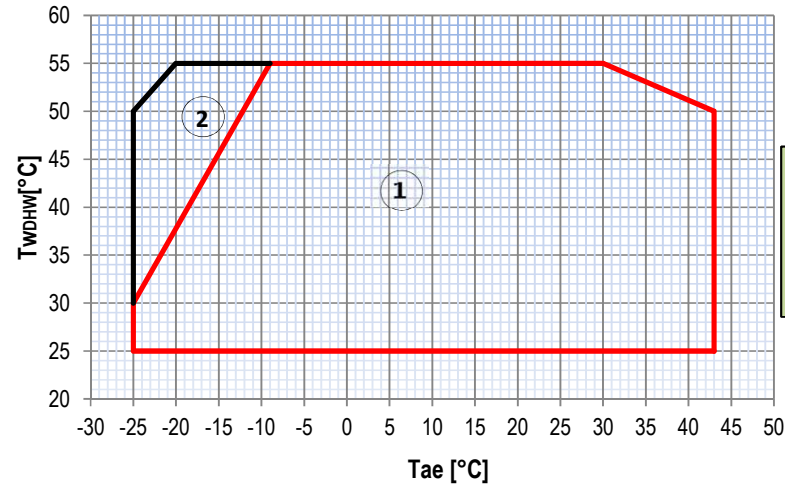
WIDE OPERATING RANGE

Heating



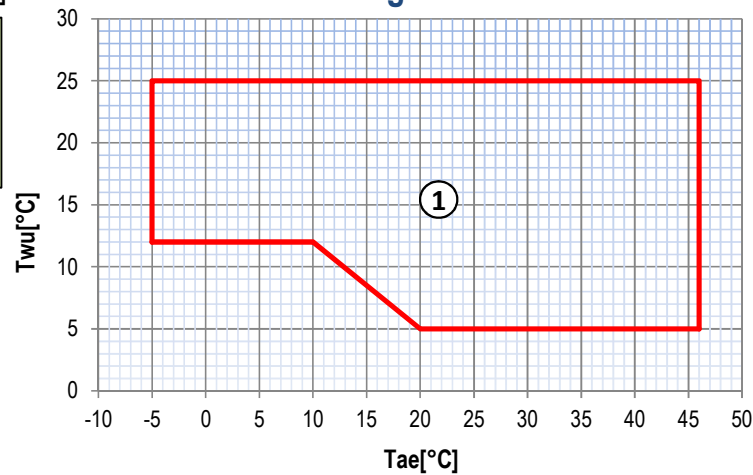
Hot water production down to **-25°C** air temperature!

DHW



DHW at **55°C** from **-9°C** to **30°C** of air temperature!

Cooling



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

T_{wDHW} [°C] = Domestic hot water temperature

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

① = Normal operating range

③ = Operating range with only back-up heater* or additional heating source

* Back-up heater supplied as a separate option

CERTIFICATIONS



Eurovent Certification



Keymark
End Nov 2019



The Certification Mark for Onsite Sustainable Energy Technologies

MCS
2nd quarter 2020



WRAS
2nd quarter 2020



EKO SKLAD
1st quarter 2020

SPHERA EVO

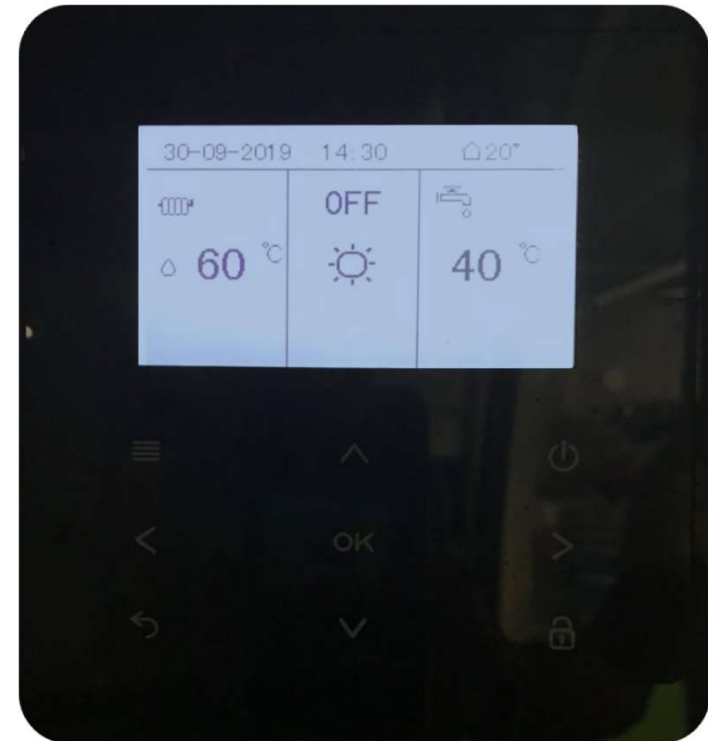


FEATURES & SPECIFICATIONS

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
- Time setting: 12H/24H
- Timer ON/OFF setting, Day/Weekly
- Display space heating/cooling and DHW set temperature
- Water tank temperature
- Display components status
- Query, malfunction Code, Parameter
- **Modbus connection**
- **WiFi connection**
- Management by **ELFOCONTROL3**



FEATURES & SPECIFICATIONS

Two zone control (High and low temperature)

The unit manages **two different set-point**

- **Zone A** High temperature managed by the thermostat (by customer)
- **Zone B** High temperature managed by the thermostat (by customer)

The kit is composed by :

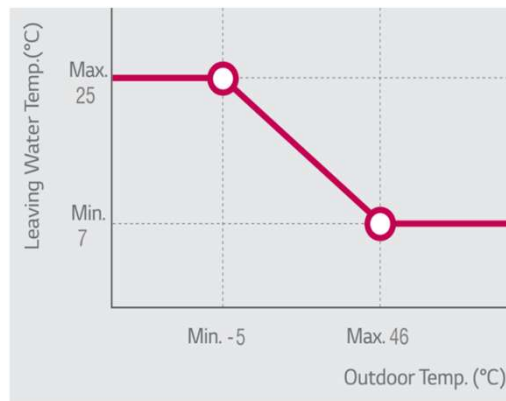
- Thermostatic mixing valve
- Circulating pump for zone A and B (managed by the unit)



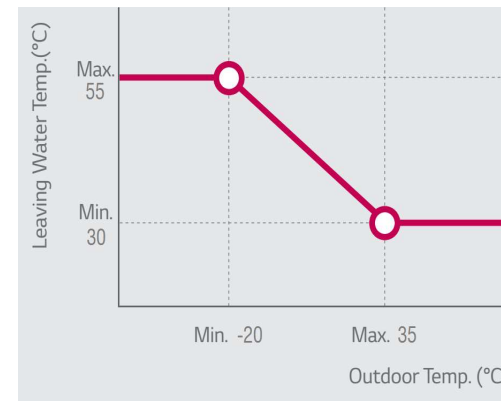
Features & Specifications

Climatic compensation with outdoor air temperature

In cooling/heating mode, the user can set the **desired climate correlation curve on 9 available** directly on the user interface. Then the system will set the outlet water temperature according to the outdoor ambient temperature automatically.



Cooling Operation



Heating Operation

- **Cooling operation:** if outdoor temperature increases, cooling capacity supplied will increase automatically in order to keep comfortable cooling performance.
- **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 **35°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 **35°C**) **can be set on the User Interface automatically.**

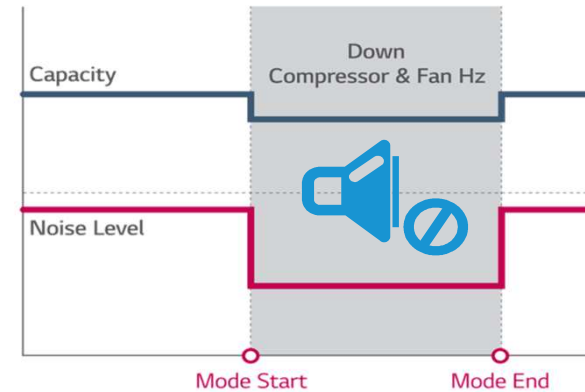


FEAUTURES & SPECIFICATIONS



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 **-4 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).



FEAUTURES & SPECIFICATIONS

DHW Mode

SPHERA EVO produces Domestic Hot Water up to **55°C**.

- The DHW will have **the first priority** and stop running any other mode.
- Integrated **3 way valve** .
- Integrated 2 kW Back-up electrical heater.
- Anti legionella function, guarantee all the tank on temperature.

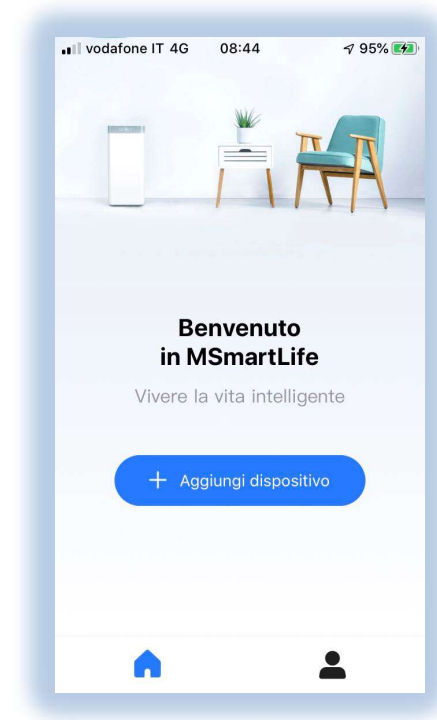


FEAUTURES & SPECIFICATIONS

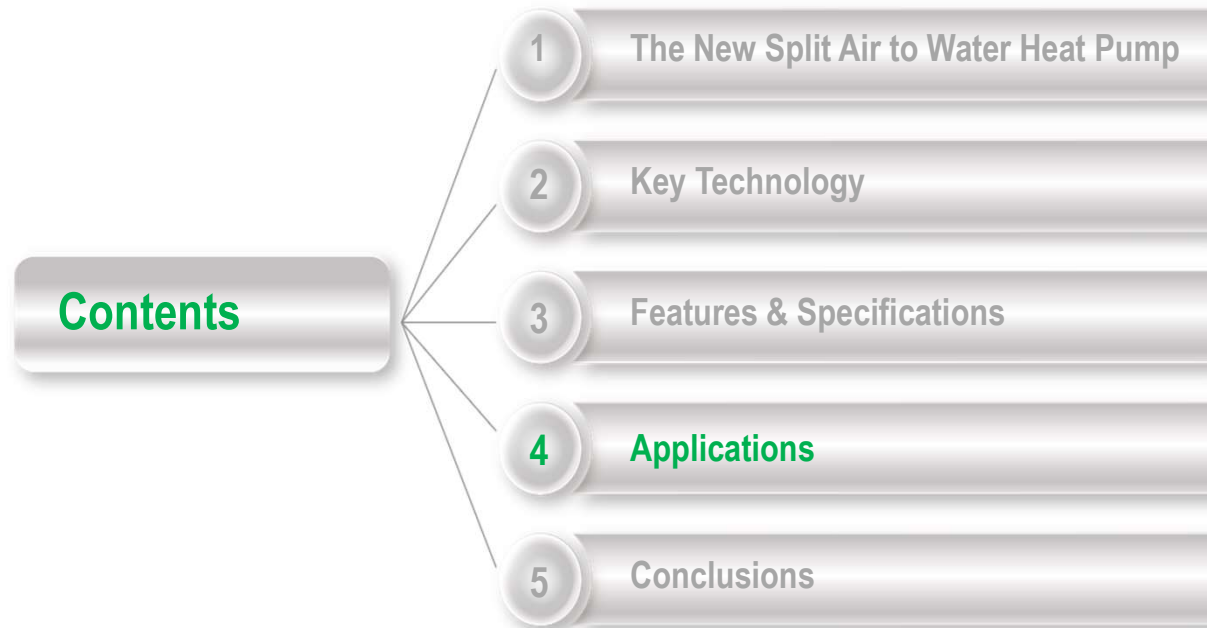
APP

SPHERA EVO Can be managed by the new **APP** on the main functions as

- Manage the set point for space heating and cooling.
- Manage the set point for DHW
- Scheduling for:
 - Space
 - DHW
 - ECO Mode
 - Silent Mode
- Fast recharge fo DHW
- Change mode



SPHERA EVO



CONFIGURATIONS

➤ Standard indoor unit

- Domestic Hot Water tank capacity **190 litres**

➤ Oversizes Indoor Unit 250l

- Domestic Hot Water tank capacity **250 litres**
- High pressure pump up to **100 kPa**

➤ Auxiliary electric heater

- Adjustable electric heater 2 or 4 kW
(Available from December 2019)



ACCESSORIES

➤ Solar connection kit

- The kit is composed by heat exchanger and DHW pump.



➤ Two zones control kit

- Separately kit to manage two zones with different setting temperature.

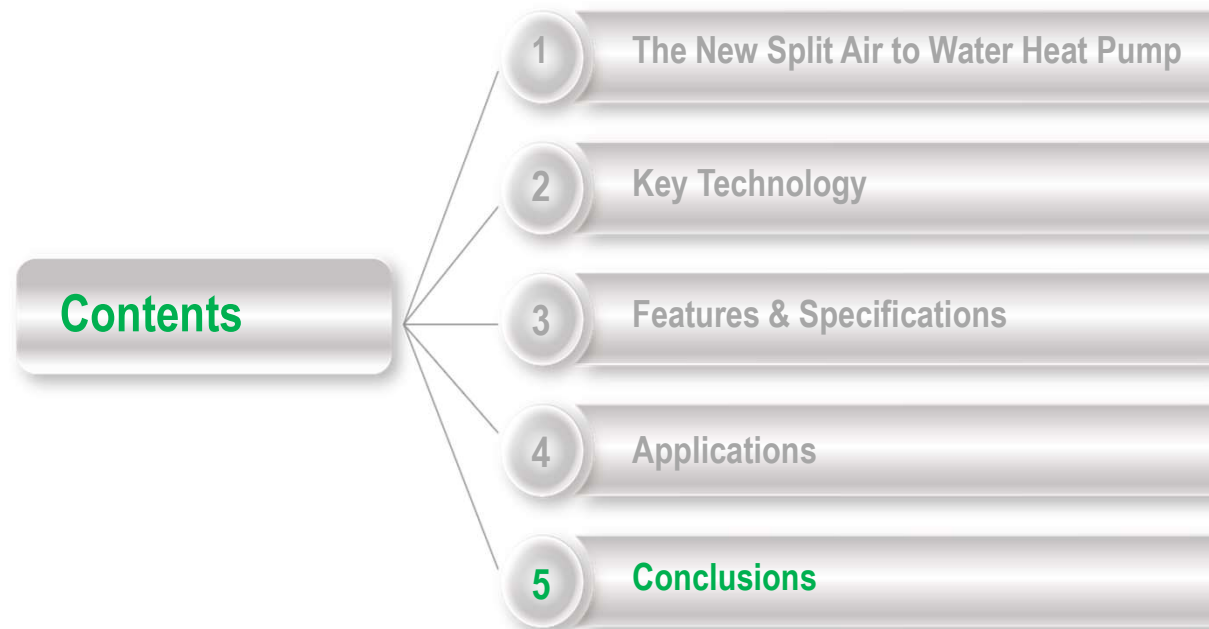


➤ Buffer Tank

- Space heating **40 litres** buffer tank, to install on the return side from the system. Studied to be positioned back to the unit.



SPHERA EVO



CONCLUSIONS



SPHERA EVO: The better features a residential heat pump

- **New refrigerant R-32**
- **4 capacity sizes** to cover every needed
- High seasonal efficiency
 - **Class A+++** on heating BT (LWT 35°C); η_s up to 199 %
 - **Class A++** on heating MT (LWT 55°C); η_s up to 140 %
 - **Class A+** on DHW
- **Advanced Full DC Technology**
- **Complete integrated system** with many accessories.
- **New functions and options** for a full comfort solution.
- **Dedicated APP** to managing the heat pump on the main functions



DC Inverter



Thank you!

www.clivet.com



A Group Company of

