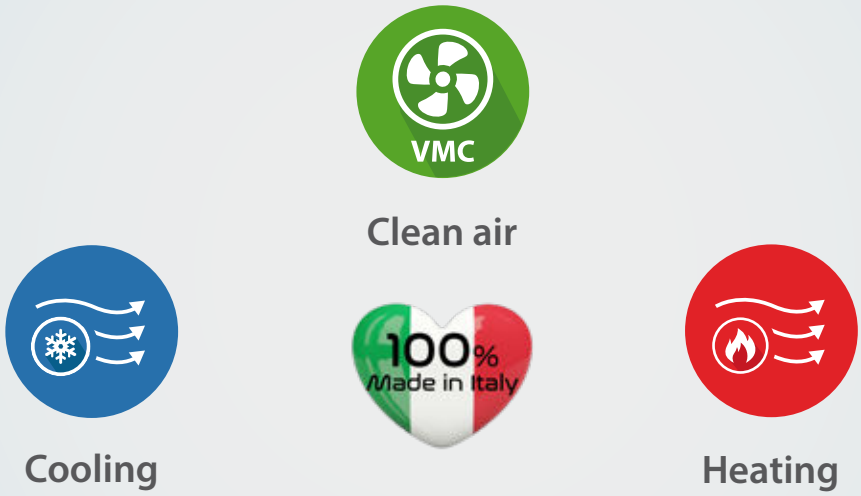
# Very High Energy Efficiency
# Complete Air Conditioning system




Octopus is a heat recovery and an air treatment unit that allows you to heat, condition, dehumidify and renew the air of the whole building.

A solution that gathers in one unit, all the demands of a newly designed housing!

# 8 advantages that only OCTOPUS System can offer

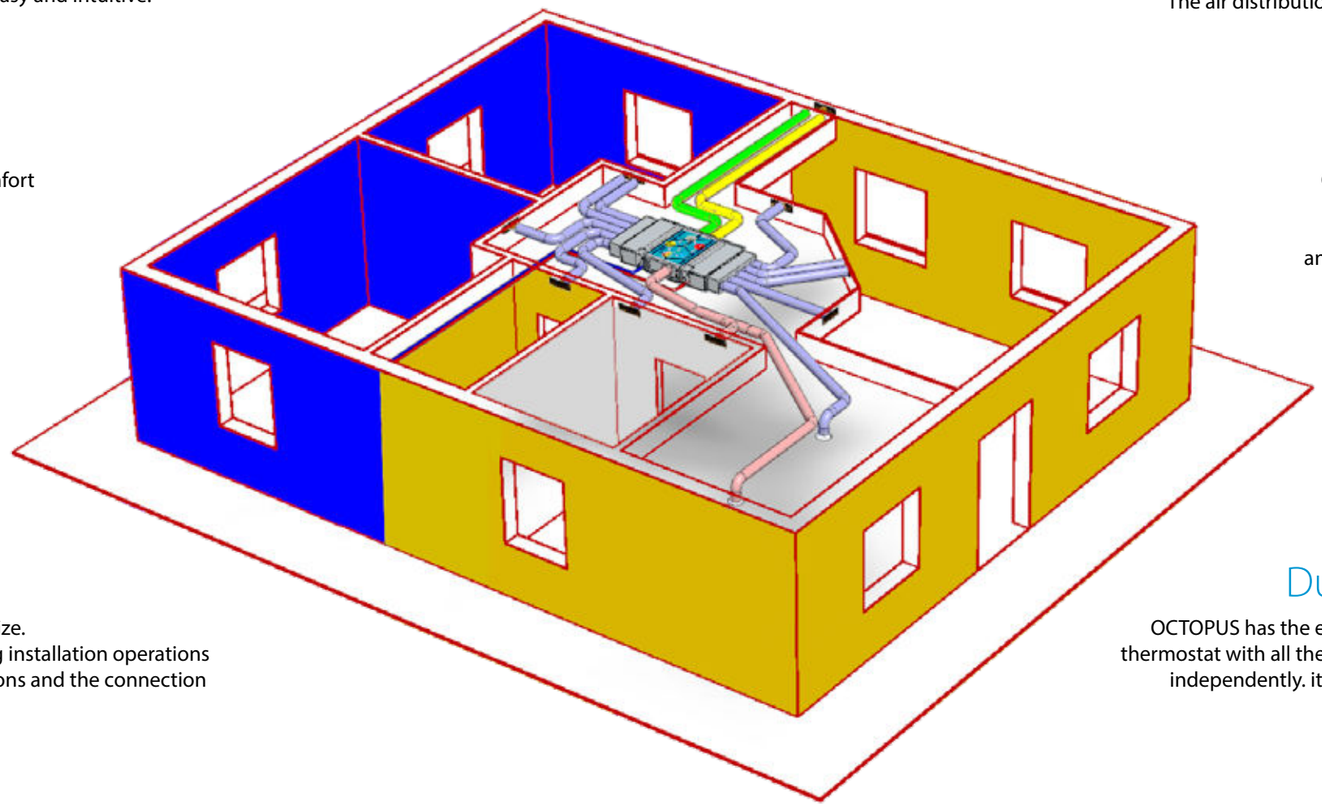
## Quick and easy installation

OCTOPUS air handling unit.
All accessories useful for installation are supplied.
The system is managed directly by the two zone controls, easy and intuitive.

## 3 functions in one system

OCTOPUS System is a system that gives you maximum comfort thanks to its 3 integrated solutions:

- Heating
- Cooling
- VMC - Ventilation Mechanically Controlled



## A turnkey system

OCTOPUS System is a calculated system for homes of any size.
The system offers all the necessary components, facilitating installation operations which are reduced to the assembly of 4 hydraulic connections and the connection of flexible hoses for the iimmition and extraction of air.

## Discreet

OCTOPUS System is there, but you can't see it or hear it. Ultra silent operation, attention to the acoustic aspects, both in terms of insulation and technological solutions allows to reduce the noise.
The system is installed entirely in the false ceiling to the delight of the most demanding and occupying architects reduced spaces thanks to the thickness of only 24 cm.

## No need for classical ducts

OCTOPUS does not need expensive projects of duct system in false roof, nor the ducts selves and their laborious installation and expensive construction.
The air distribution is assured by tubular pipes fixed to the ceiling with plastic fasteners for an easy and fast installation.

## Antibacterial ducts

OCTOPUS system connects the internal ventilation unit with different environments to be conditioned through a system of antibacterial ducts Sanitized certificated, isolated, anticondensation, anti-mold and anti noise with very low flow resistance due to their smooth internal profile.

## Dual zone controls and Domotics

OCTOPUS has the exclusive easy and intuitive control , Dual Zone, a dual digital thermostat with all the functions simply indicated to manage the area Day & Night independently. it also offers the WIFI predisposition, so it alows to control the system remotely.

## Maximum energy savings

It fits with all heat pump or boiler in the market

# 8 advantages that only OCTOPUS System can offer

## 1. HEATING

The system heats the rooms ensuring maximum comfort starting from the cooling power of the outdoor unit that is carried out and stored by the indoor unit Thron.

## 2. COOLING

The system cools the environment and ensures maximum comfort thanks to the heat power of the external unit carried out and stored by the internal module of Thron.

## 3. HOT WATER

Adaptable to any heat pump or boiler.

## 4. VMC DUAL FLOW

Built-in Octopus. The essential characteristics of a system of double flow is to drive new air to a temperature close to that of the indoor environment allowing energy savings in winter as in summer. The system uses the heat of the air extracted to heat the incoming fresh air. Its use provides a great economic benefit and is currently the ideal solution for those homes that require a high level of energy efficiency.

## 5. RECOVERY EXHAUST AIR

Note that the stale air is always extracted from wet rooms like kitchen and bathroom, in this way the exhaust air is not extended throughout the house.
The stale air is recovered, filtered out and passed through a heat exchanger where it gives its heat to the new air. In this process there is not air exchange, but heat exchange. The stale air is expelled outside after the process.

## 6. FRESH AIR INTAKE

The new incoming air is filtered in order to ensure an improvement of the health of the occupants.

## 7. CONTROL DUAL ZONE

The system manages two different zone temperatures, Day and Night independently, to offer maximum comfort. You can also put in function only one zone with the consequent energy savings.

## 8. WIFI PREDISPOSITION

The Smart Home function can be integrated in the climate system, and thanks to a dedicated APP can control the system from any Smartphone or Tablet with both IOS and Android protocol.

# The main components of the system

## OCTOPUS

### Ventilation, heat-recovery and filtering unit

- Cooling/Heating/Energy Recovery/Filtration
- EC motors for low consumption
- 10 independent ducts
- Balanced heat distribution: each room/environment gets the needed thermic energy
- Air distribution variable upon the need of each room /environment.
- VMC system with crossed air flow granting 200m3/h of renovating air: Mold elimination
- Replaceable air filters, with G3 and M5 efficiency class for optimal air quality in the rooms
- Invisible ducts. Fast installation, antibacterial Sanitized certified, isolated, anti-condensation and anti-noise with very low air pressure loss
- Simple installation (reduced mounting time compared to traditional ducts)
- Very silent air flow in the ducts

## DUAL ZONE



### Dual Zone Control

- Dual Zone Independent Day & Night Control
- 2 independent thermostats
- Selection of the room temperature
- Mode:Heating/Cooling/Ventilation
- 3 speed LOW-MED-HIGH with AUTO/Manual control
- On/Off Timer
- Weekly program with 4 daily periods
- Clock
- It detects and displays the room temperature

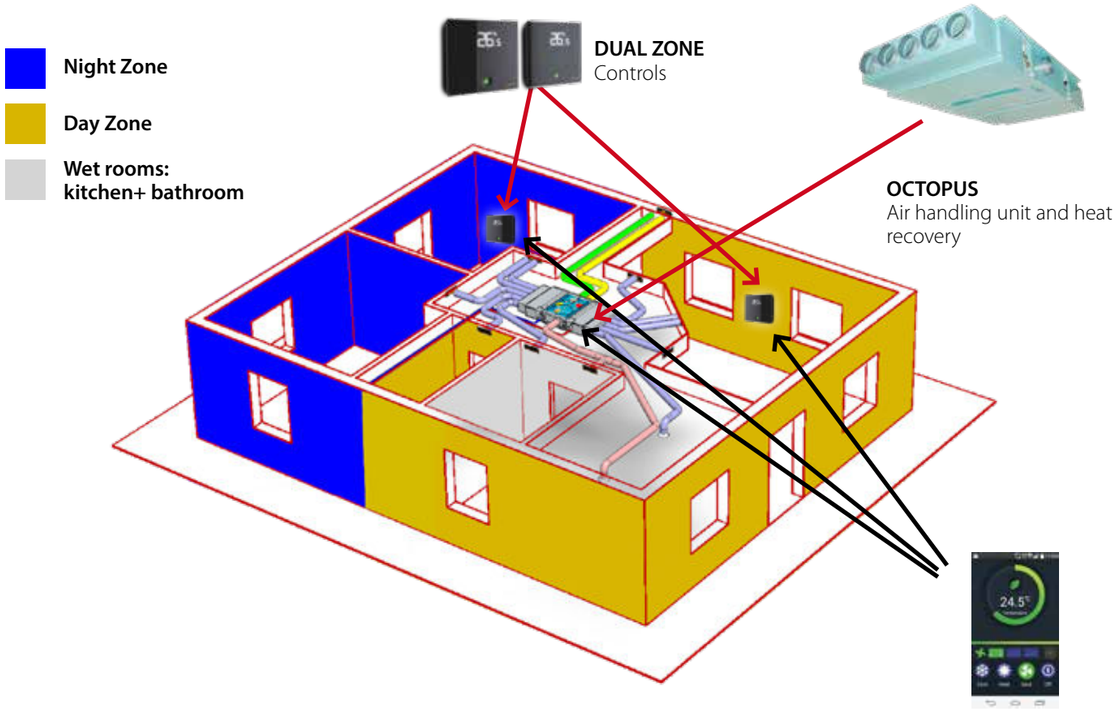
## DOMOTIC

### Control system via Tablet or Smartphone

- Domotic is a system that controls all the functions of each thermostat
- All the device like Smartphone o Tablet with Android or IOS protocol, could comunicate using dedicated APP, that allows to control the system remotely.

# How OCTOPUS works

When the OCTOPUS air conditioning system is activated, the outdoor unit starts the compressor or the boiler which begins its cycle. The circuit water is sent to the ventilation unit at the selected temperature, depending on the mode chosen by the user COOLING or HEATING. The ventilation unit passes the water through a heat exchange battery which is crossed by the air moved by the fans and which is pushed towards the interior of the premises.
Before being introduced into the ducts, it was previously filtered by the VMC to ensure a flow of clean air into the environment, while the stale air extracted is conducted outside.




**Filtered air intake + fresh air**

**Recovery stale air from wet environments**

**Inlet air from outdoor and filtration**

**Expelled stale air outside**

# OCTOPUS Air handling units and heat recovery

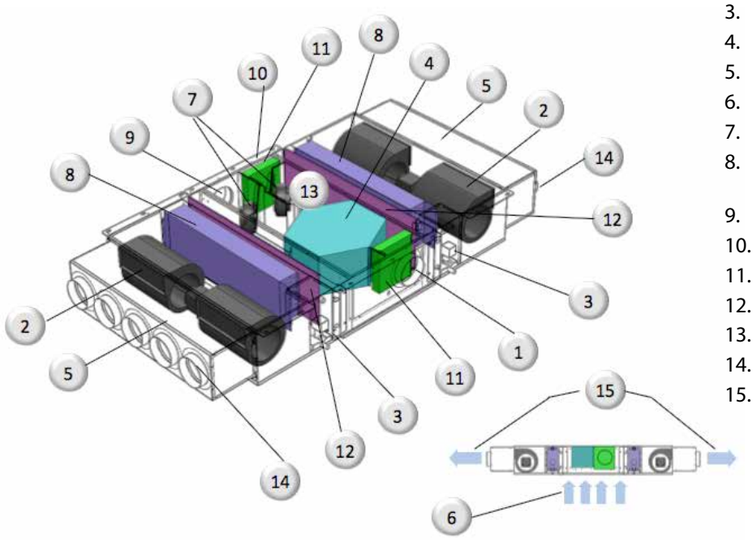
## Recovery unit with 90% efficiency and renewal

Octopus is an air handling unit with built-in a heat recovery and air renewal system.

Its thermal power is 10 kW in hot and 10 kW in cold modulated from 0 to 100%.

The maximum efficiency of the system is achieved thanks to EC type and DC Inverter fans with low-power consumption; heat exchangers with 4 rows and a heat recovery of high quality.

## Components of Octopus

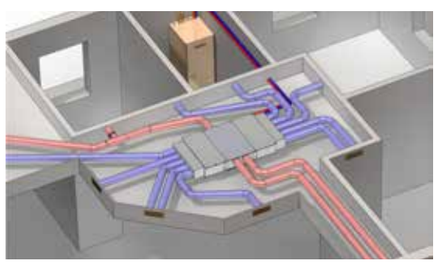



1. Exhaust air suction
2. Fans EC with low consumption
3. 2 way valve
4. Heat-recovery with high efficiency
5. Plenum for airsupply into rooms
6. Air suction from low
7. Fans DC with low consumption
8. 4 row water/air high efficient heatexchanger
9. Expulsion of exhaust air
10. External clean air inlet
11. Acrilic filter efficiency M5
12. Filter G3
13. Internal by-pass
14. 5 circular spigots with diameter 125mm
15. Treated air to rooms

## OCTOPUS technical data

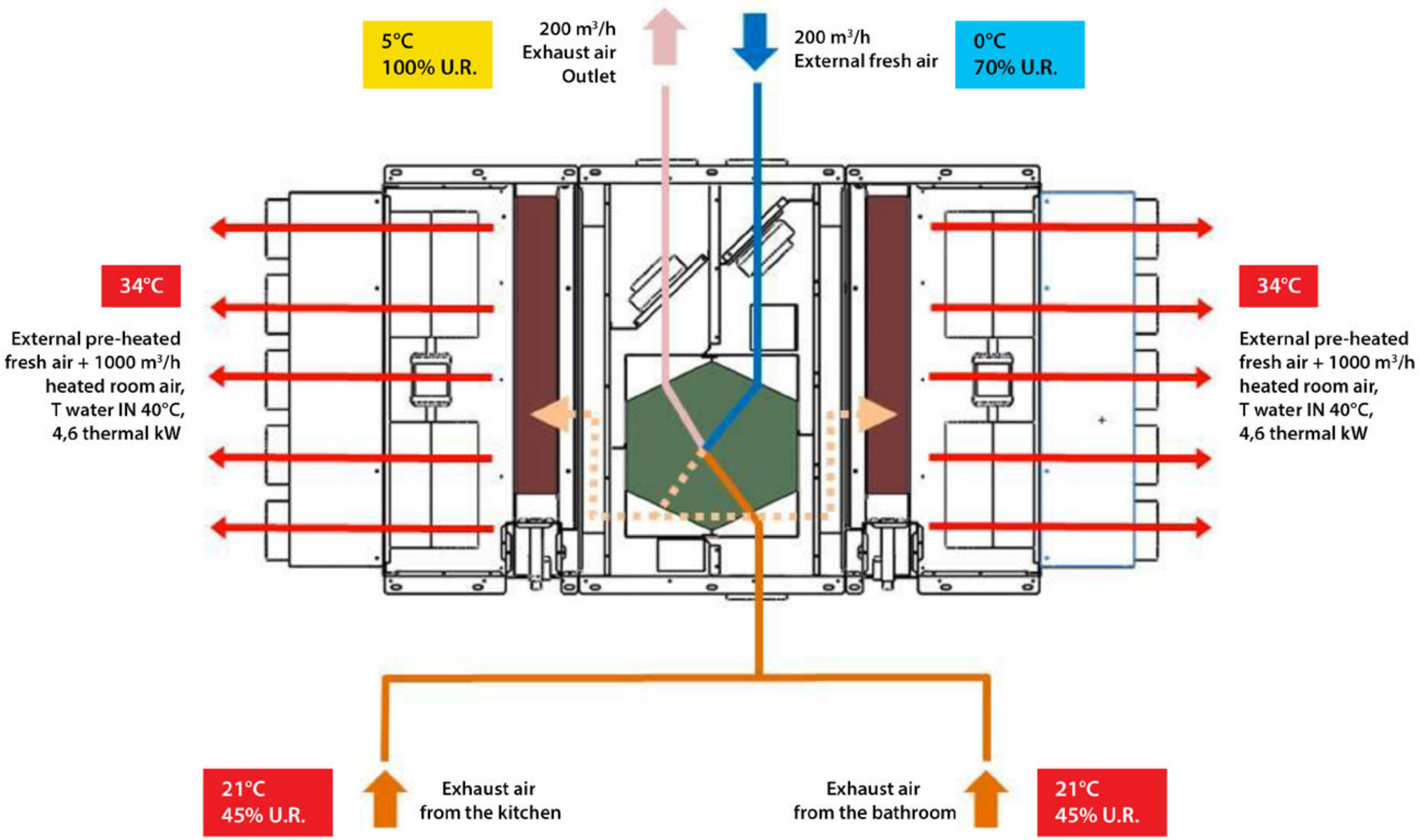
| Dimension | Mod. | OCTVMC 5 | OCTVMC 10 |
|---|---|---|---|
| Length | mm | 1160 | 1808 |
| Depth | mm | 939 | 939 |
| Height | m | 240 | 240 |
| Weight | kg | 49 | 77 |

## Quick installation

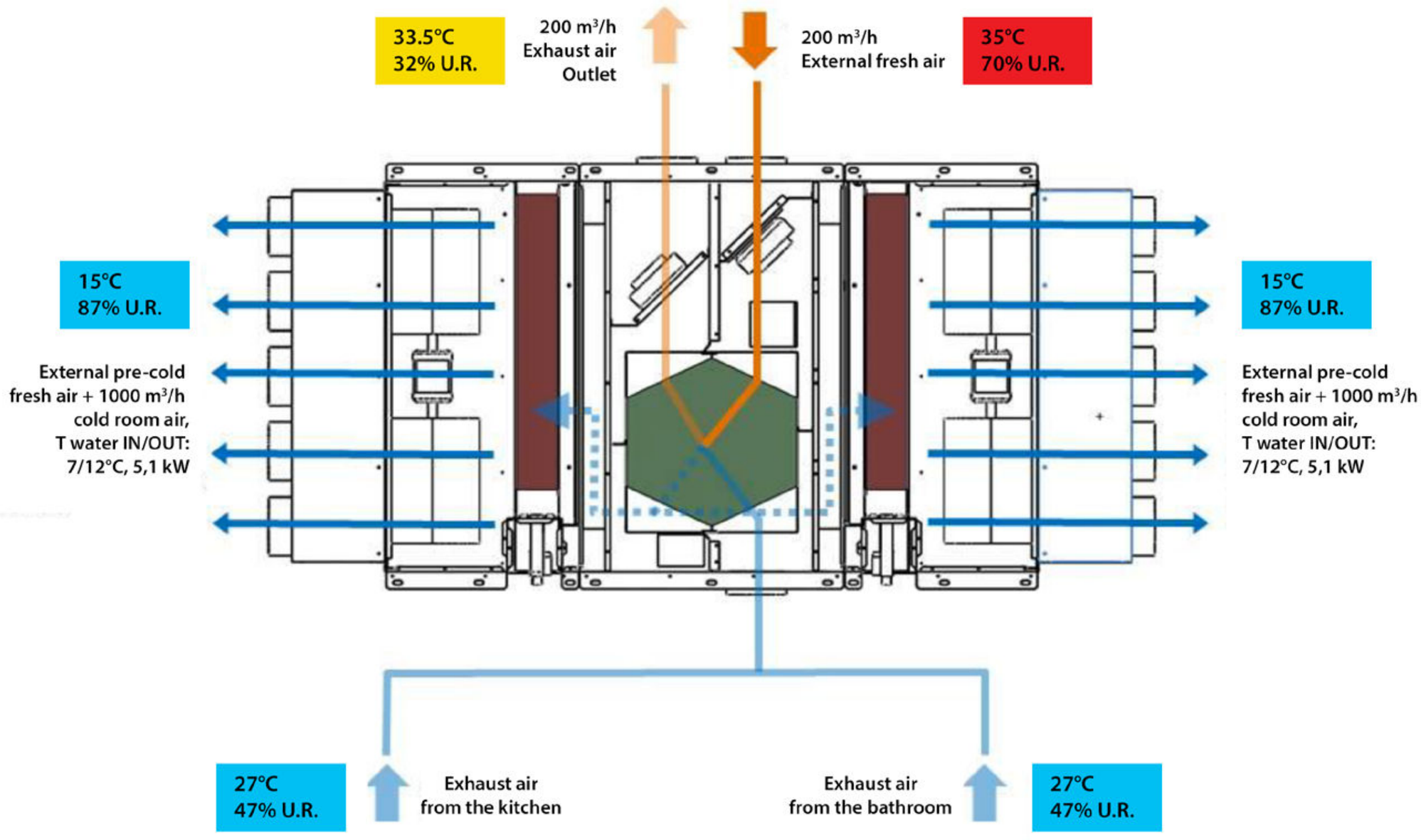


# The results with OCTOPUS

# Octopus operation sketch for winter heating with heat recovery



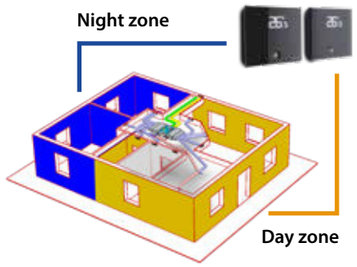
# Octopus operation sketch for summer cooling with heat recovery



# DUAL ZONE **Controls**

## Day & Night areas Independent control

- 2 independent thermostats
- Temperature: Selection of room temperature
- Mode: Heating / Cooling / Ventilation
- Speed: LOW-MED-HIGH with AUTO/Manual control
- On / Off timer
- Programmable 7 days - 4 periods
- Clock
- Room temperature always visible




## More comfort

The independent control of the zones Day and Night is an exclusive function offered by OCTOPUS thanks to its advanced technology.

The ability to control the temperature separately provides a greater degree of comfort to the user because it gives the possibility to adjust the climate of his rooms according to his actual needs.

Energy saving

## Greater energy savings

The possibility to activate the climate control of a single zone promotes **energy savings.** This option is another of the exclusive benefits of Octopus, possible to its advanced technology.


# DOMOTIC **Control**

## Control system for Tablet or Smartphone

DOMOTIC is a system that controls all the functions of the two thermostats

It integrates an electronic control unit inside that communicates through a dedicated App with a Smartphone or Tablet, both with IOS or Android Protocol.

Devices become remote controls

The installed unit enables the management of other smart features that can be installed later depending on the user's needs.

Clima

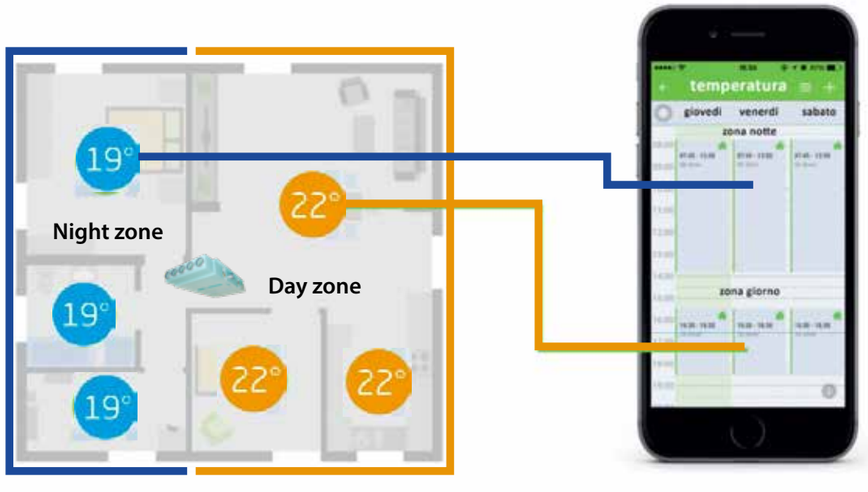
## More control- greater pleasure

The App is easy to use and allows the user to manage his system from remote.

He can control the system so to optimize consumptions using only the necessary energy, without waste.

He can decide when to heat or cool the premises and only if it is necessary, even not being at home.

From remote he can manage the two zones, Day and Night, independently selecting the temperature. Both zones at maximum comfort and with the lowest consumption grace to DOMOTIC.



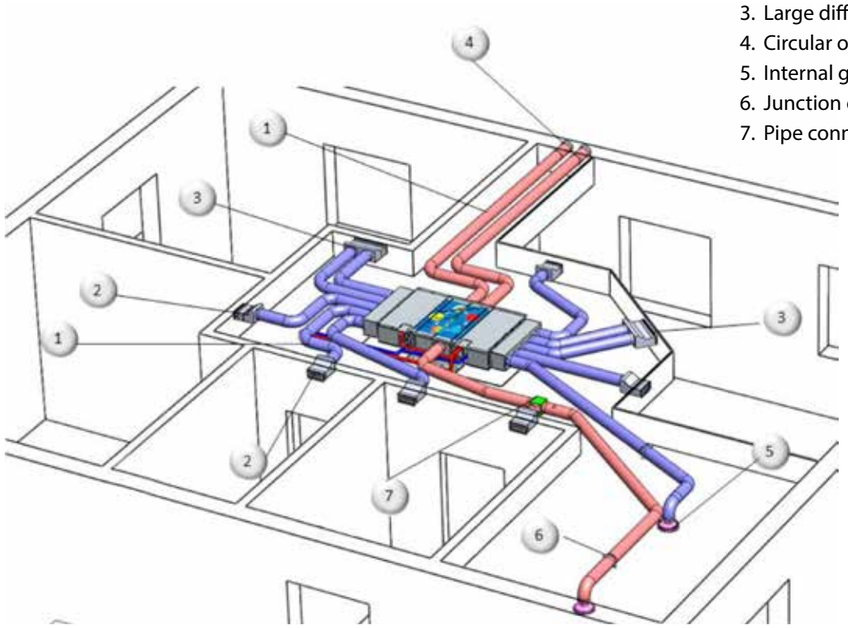

## Other available functions

Many other functions can be controlled through DOMOTIC, the board built-in your air conditioning system. Depending on the user's needs it is possible to configure other alternatives manageable by your devices.

Energy saving · Lighting · Audio · Alarm · Curtains-Shutters · Other functions

# A wide range of accessories for easy installation

1. Flexibile pipe SANI-PIPE
2. Small diffusion grill
3. Large diffussion grill
4. Circular outdoor grill
5. Internal grid Coanda effect
6. Junction coupling pipes
7. Pipe connection T




## 1. Flexible antibacteria duct SANI-PIPE

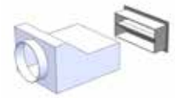

### Benefits of SANI-PIPE

- No need to design the channels
- Low flow resistance thanks to the circular anti-turbulence and smooth internal profile
- Antibacterial and anti-mold treatment
- No bacterial proliferation in the ducts
- No external condensation even with low air temperatures
- Quick and easy to install
- Convenient both in purchasing and installation
- Excellent stability
- Product SANITIZED certified

Flexible duct made with exclusive technology.
Ducts made with:

- Made of polyolefin resins film added with anti-bacterial and anti-mold master
- Insulating coating cross-linked polyethylene and anti-condensate closed-cell foam
- External protection with polyolefin resin film
- Built-in harmonic steel spiral
- The assembly of the components at the end of the flexible pipe does not provide for the use of chemical agents, adhesives or glues.
- Inside diameter 125 mm
- Light gray
- Pack with 10 linear meters of pipe
- Operating temperature - 40 ° C / + 100 °C
- Minimum radius of average curvature 150 mm
- Reaction to fire: Class 1 ( DM 26/6/84)
  Class M1
  Class EN B-s1,do (13823:2010)

## 2. Small distribution grid 21.5 x 11 cm

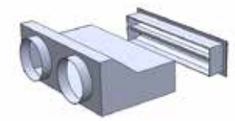


- External dimensions frame 21.5 x 11 cm
- Made from extruded aluminum profiles anti- oxidation
- Available colors, anodized aluminum or painted white RAL 9010
- Adjustable wings to direct the air flow
- It is used both as a delivery grill and recovery grill
- The grill is provided with its plenum isolated for the connection of a SANI PIPE tube 125 mm in diameter

### Air distribution Winter Heating

### Air distribution Summer Cooling

## 3. Large diffusion grid 43 x 11 cm



- External dimensions frame 43 x 11 cm
- Made from extruded aluminum profiles anti- oxidation
- Available colors, anodized aluminum or painted white RAL 9010
- Adjustable wings to direct the air flow
- It is used both as a delivery grille and recovery grille
- The grill is provided with its plenum isolated for the connection of a SANI PIPE tube 125 mm in diameter

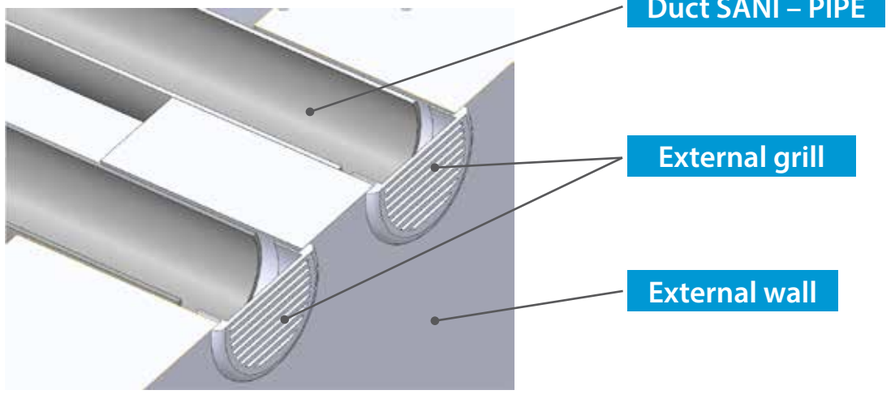
### Air distribution Winter Heating

### Air distribution Summer Cooling

## 4. Circular exterior grill Ø 140 mm

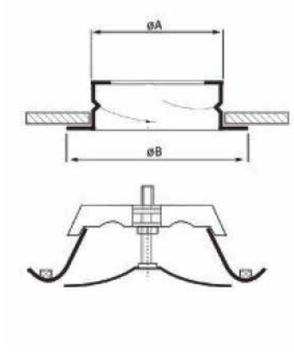
- External dimensions frame Ø 140 mm
- Hole diameter Ø 125-130 mm
- Made of ABS plastic
- Available colors white RAL 9010
- Fixed fins
- It can be used both for the suction of fresh air as the expulsion of stale air.

### Recommended installation




## 5. Inner Grill Koanda effect

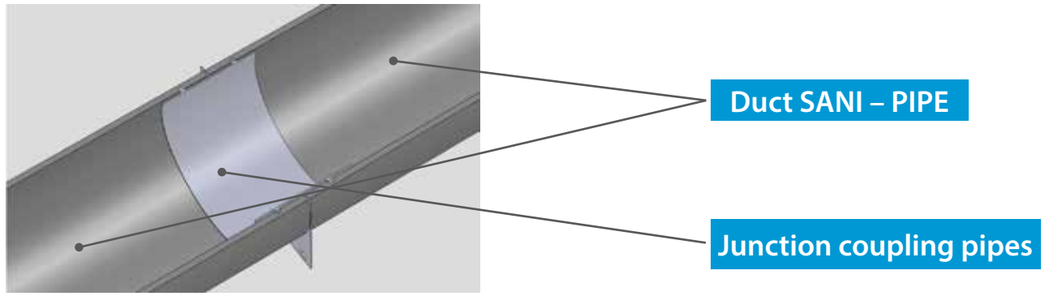
- Made of galvanized steel
- Color white RAL 9010
- Section of the adjustable channels to increase and decrease the output to create the Koanda effect
- Ø A …The grill is supplied with an adapter for junction to the tube SANI-PIPE of Ø 125mmm
- Ø B = 164 mm
- Ø A = 125 mm



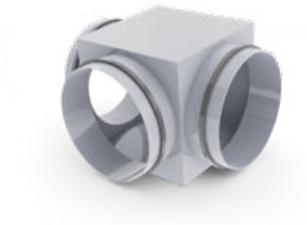



## 6. Grafting pipes

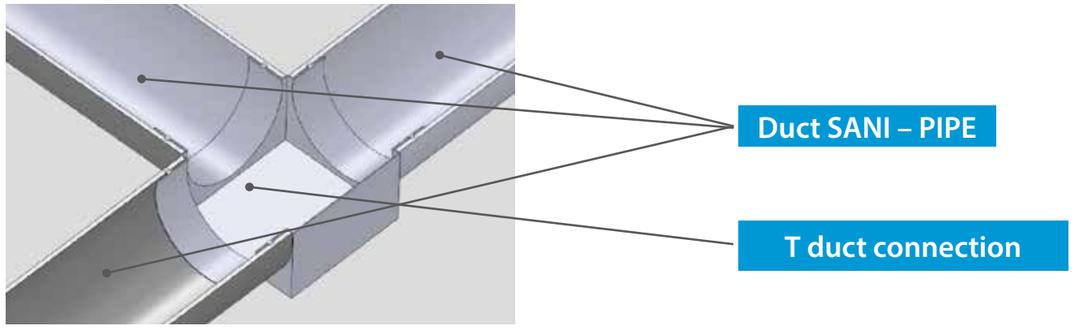
- Made of galvanized steel
- Completed with seal on the side tubes for better grip
- It is used to splice the SANI-PIPE endings to get a longer length.




## 7. T pipe connection

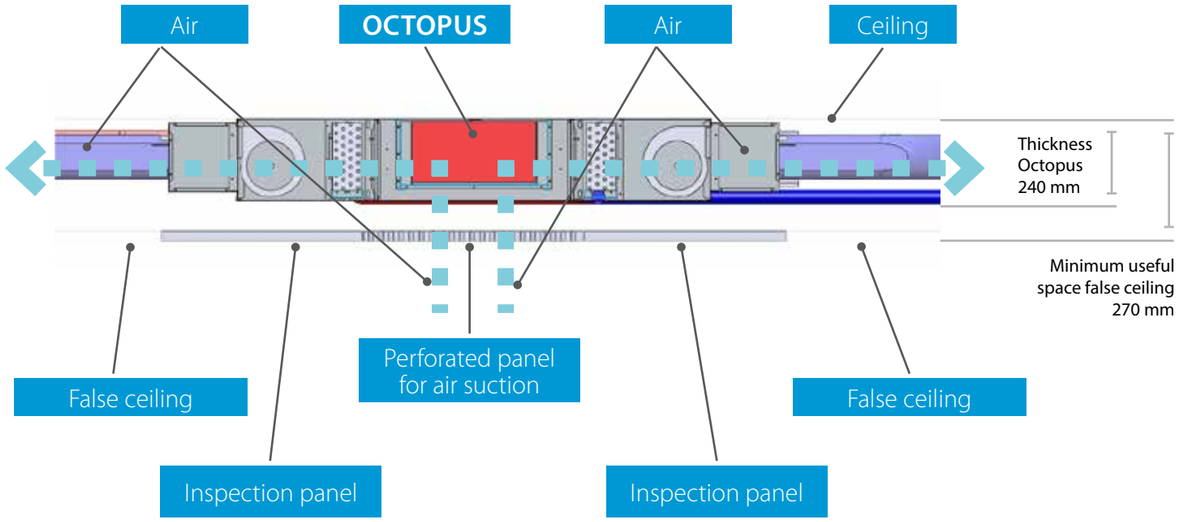


- Made of galvanized steel
- EPDM seal on the side tubes for better grip
- It is used to splice the SANI-PIPE hose in the exhaust side of the Octopus VMC unit.




**Additional accessories are also available on request.**

# 8. Suction panel and inspection

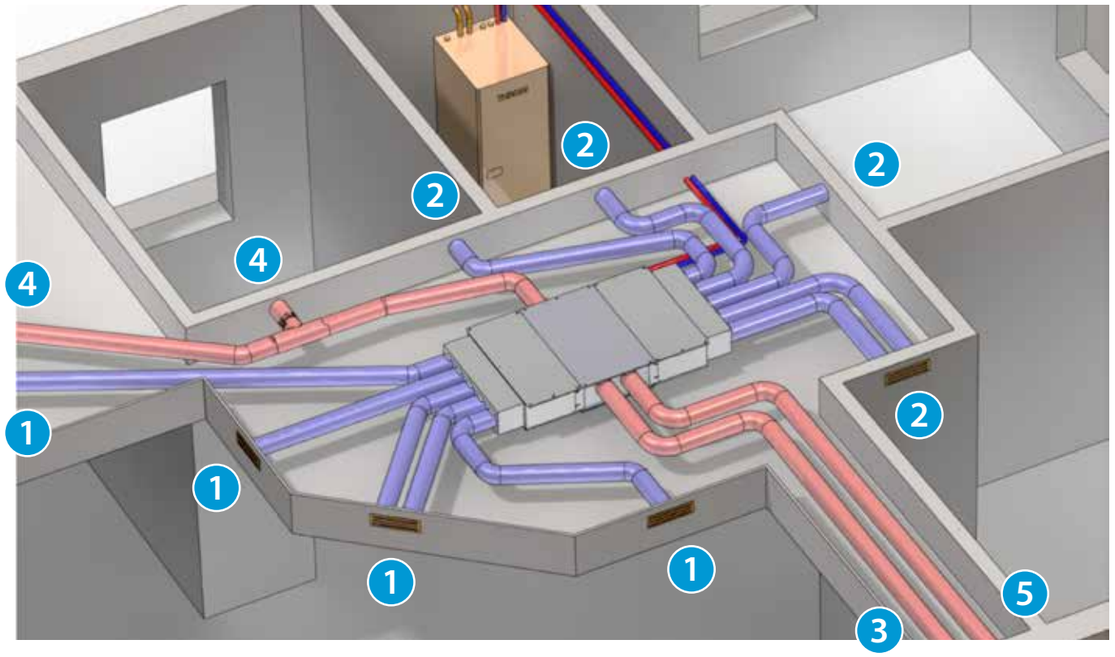



## MDF Suction pannel

- It allows the suction of the unit placed above
- Size 1050 x 590 x 19 mm
- The panel, thanks to the special sliding guides, is adaptable to any false ceiling thickness that ranges from a minimum of 270 mm finished to a maximum of 350 mm.
- Thanks to KEKU system, easily removal of the panel to clean the filters
- The panel can be painted according to the requirements of the environment

## MDF Suction pannel

- The two panels are used for the unit inspection in case of extraordinary maintenance
- Full panel without drilling
- Size 1050 x 390 x 19 mm
- The panels, thanks to the special sliding guides, are adaptable to any false ceiling thickness that ranges from a minimum of 270 mm finished to a maximum of 350 mm.
- The panels can be painted according to the requirements of the environment




1. Fresh and treated air to the room (living area)
2. Fresh and treated air delivery into the room (sleeping area)
3. Fresh air intake from outside
4. Return dirty air inlet
5. Dirty air expulsion

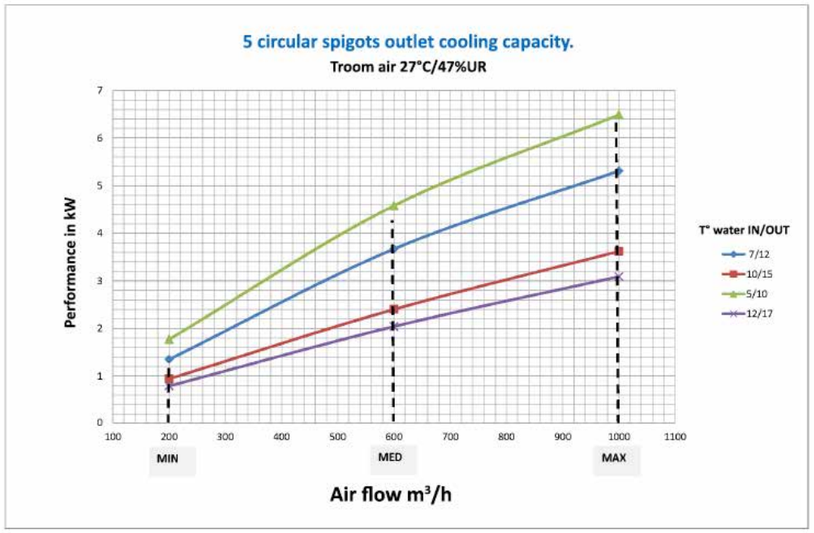
# Technical data OCTOPUS

## Summer conditioning from 12.8 to 1.6 kW thermal capacity
## Winter Heating from 14.5 to 1.6 kW thermal capacity

| OCTOPUS | | OCTVMC 5 | OCTVMC 10 |
|---|---|---|---|
| **Total cooling capacity (Water) (7°-12°C) (1)** | KW | 5,31 | 10 kW (5,31 kW x 2 ) |
| **Sensible cooling capacity (Water) (7°-12°C) (1)** | KW | 3,98 | 8 kW (3,98 kW x 2) |
| **Total cooling capacity (Water) (12°-16°C) (2)** | KW | 3,09 | 6 kW (3,09 kW x 2) |
| **Sensible cooling capacity (Water) (12°-16°C) (2)** | KW | 3,09 | 6 kW (3,09 kW x 2) |
| **Total heating capacity (Water) (50°C) (1)** | KW | 7,4 | 14,5 kW (7,4 kW x 2) |
| **Total heating capacity (Water) (45°-40°C) (3)** | KW | 6 | 12 kW (6 kW x 2) |
| **Total heating capacity (Water) (40°-35°C) (3)** | KW | 4,65 | 9,1 kW (4,65 kW x 2) |
| **Total heating capacity (Water) (35°-30°C) (3)** | KW | 3,26 | 6,5 kW(3,26 kW x 2) |
| **Minimum airflow** | m3/h | 200 | 200 + 200 |
| **Maximum air flow (ducts of 6 meters)** | m3/h | 1000 | 1000 + 1000 |
| **Fresh air flow rate** | m3/h | 100 | 200 |
| **Water volume** | L | 1,56 liter | 1,56 liter x 2 |
| **Fans of cooling/heating unit** | | EC brushless | 2 x EC brushless |
| **Fans of ventilation unit** | | 2 x EC brushless | 2 x EC brushless |
| **Efficiency heat recovery unit** | | 90% | 90% |
| **By-pass function** | | SI | SI |
| **Filters of Ventilation unit** | | M5 Acrilic | M5 Acrilic |
| **Filters of Cooling/heating unit** | | G3 | G3 |
| **Valves** | | 3 ways / 4 doors | 3 ways / 4 doors |
| **Water connections** | | 3/4" | 3/4" |
| **Max electric absorption** | W - A | 270 Watt / 3,3 Amp | 450 Watt / 3,3 Amp |
| **Min electric absorption** | W - A | 120 Watt / 0,5 Amp | 150 Watt / 0,7 Amp |
| **Power supply** | V-Ph-Hz | 230-1-50 | 230-1-50 |
| **Length** | mm | 1160 | 1808 |
| **Depth** | mm | 939 | 939 |
| **Height** | mm | 240 | 240 |
| **Weight** | kg | 49 | 77 |

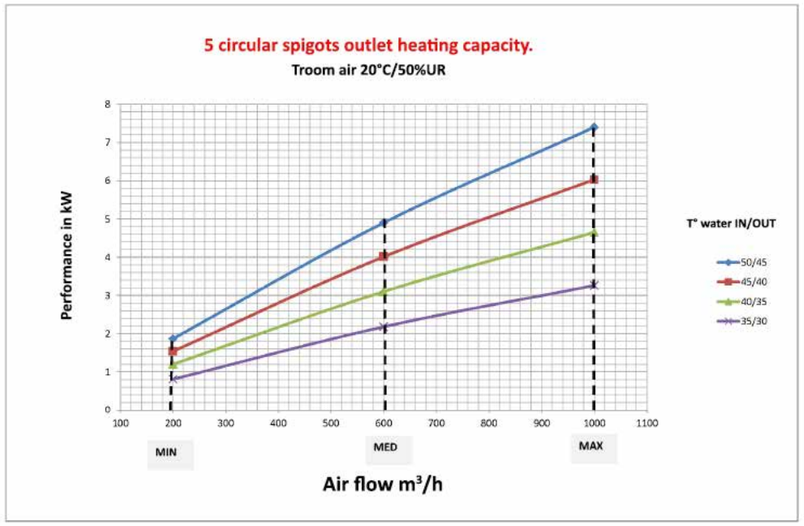
Legend
(1) Test conditions according to Eurovent / EN14511
(2) Room air temperature 27°C/47%U.R.
(3) Room air temperature 20°C

# Octopus table performances



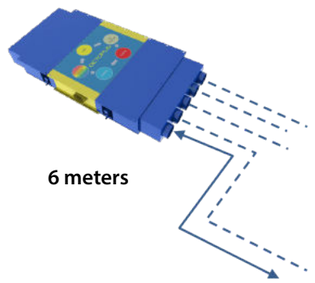

## Cooling mode from 1.6 to 12.8 kW

Important Note: The graph shows the value for n.5 circular spigots and 6 meters length pipe, for having the total unit performance, double the indicate value.




## Heating mode from 1.6 to 14.5kW

Important Note: The graph shows the value for n.5 circular spigots and 6 meters length pipe, for having the total unit performance, double the indicate value.




## Single pipe length 6 m

The graphs reported here refer to a single section of the Octopus, so to n.5 circular spigots section with a length of 6m pipes each.

In case of 6m longer pipe, the performances must be reduced of 10% for each meter and increased of 10% for each reduction of one meter.

Octopus clima system

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