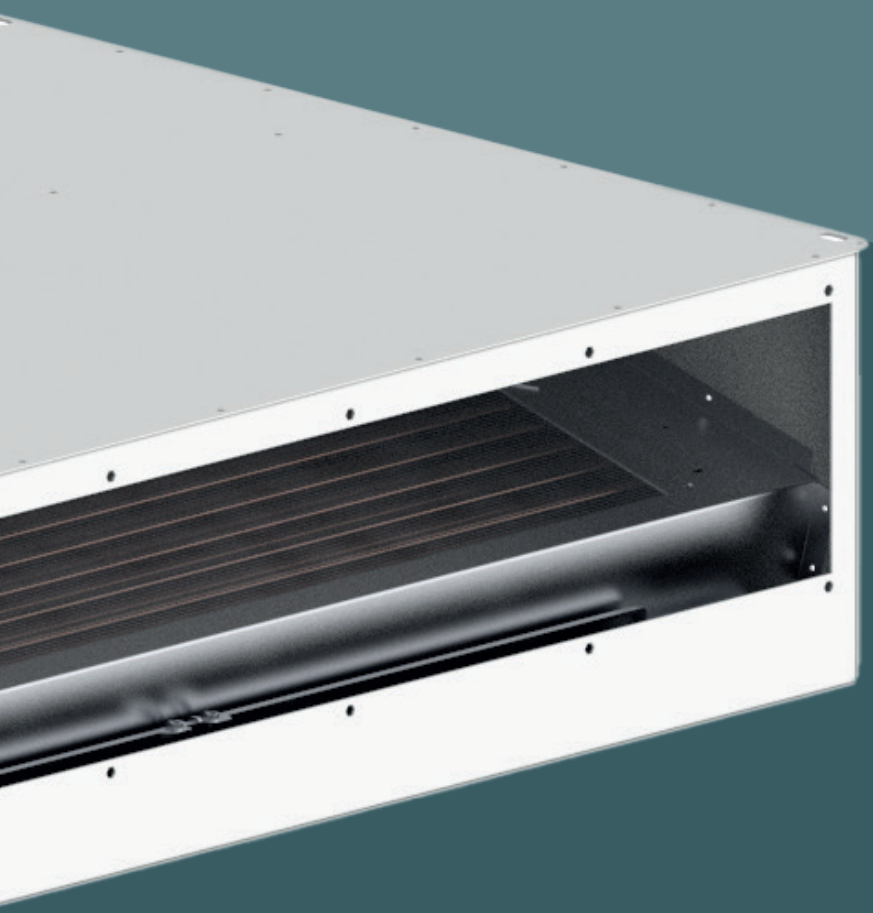
innova

# DUCTO
# DUCTO MULTI

The ductable fancoils



**Variable speed,**
**constant air flow.**

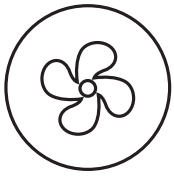
SLC+

# DUCTO - DUCTO MULTI

## Ductable fancoils for top comfort and advanced silence thanks to the intelligent flow that modulates speed depending on air resistance.

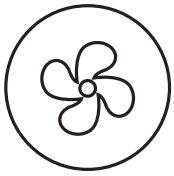
Ducto is the INNOVA ductable fancoil , intelligent and silent for horizontal and vertical built-in installation.

DUCTO MULTI is the new integrated multi-zone ductable fancoil. A highly efficient product which, thanks to the integrated multi-zone management and the use of BLDC BRUSHLESS multi-fans, guarantees a constant air flow and maximum comfort.



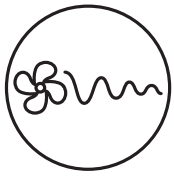
## AUTOADAPTIVE FAN SPEED

For DUCTO: fans that are self-adaptive to the length of the ducts. “Intelligent” fans with a constant flow rate independently reduce or improve their speed according to the pressure drop in the ducts, guaranteeing the exact air flow rate.



## BRUSHLESS FANS

For DUCTO MULTI: double inlet centrifugal fans with high efficiency BLDC motor. The motor is controlled through punctual modulation according to the comfort requirements of the individual zone.



## MODULATED AIR FLOW

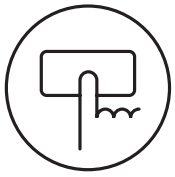
Whilst standard “on off” products alternate silly air flows to complete stops, with DUCTO and DUCTO MULTI the air flow is at the same time effective and imperceptible.

## ETHERNET / DOMOTICS

DUCTO and DUCTO MULTI can be integrated with the most complex and modern systems of remote management, thanks to its electronic boards that can be easily integrated with the most diffused building management system.

### DC INVERTER

Thanks to this newest technology, DUCTO and DUCTO MULTI have extremely low electrical consumption and perfect stability of functioning.



### CONTROLS

Smart Touch controls of the highest aesthetic and functional level. Possibility of management through the INNOVA App, also remotely, via WiFi.


### TWO VERSIONS

There are two control versions of DUCTO and DUCTO MULTI: Pi logic and modulating speed with WiFI or Modbus thermostat, speed control 0-10 V.

### NOISELESS

The continuous modulating fan is progressively reducing the speed whilst reaching the set point, so to guarantee the perfect silence of operation.

# DUCTO

## The ductable fancoil

**SIMPLICITY OF INSTALLATION**
Centrifugal fan with constant flow rate that automatically adapts to the pressure drops of the channels.

**DC INVERTER**
Maximum comfort with lower consumption.

**MODULATED AIR FLOW**

**SILENT OPERATION**
Centrifugal fan with single motor impeller

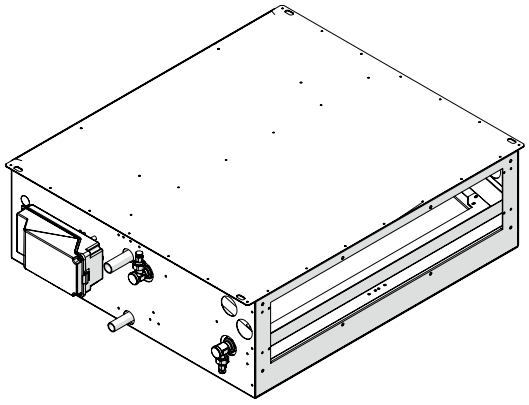
# DUCTO,
# the smart fancoil

DUCTO (SLC) is the INNOVA high-efficiency ductable fancoil that automatically controls fan speed to guarantee a constant air flow and consequently constant comfort over time.

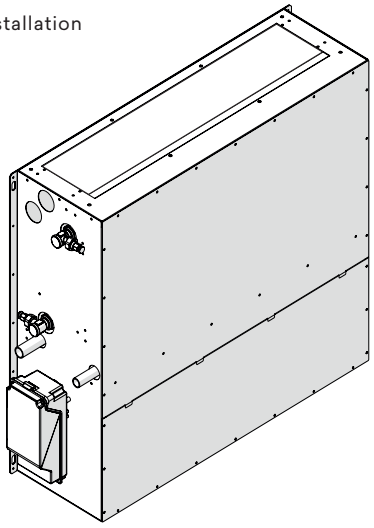
The fancoil perfectly fits into any wall or false ceiling with horizontal and vertical installation. The extremely quiet operation makes it the ideal model for any type of home.

**A single product,
two installations**

Horizontal installation



Vertical installation



2

**Configurations
0-10 V or modulating
control**

5

**Sizes**

1,9-6

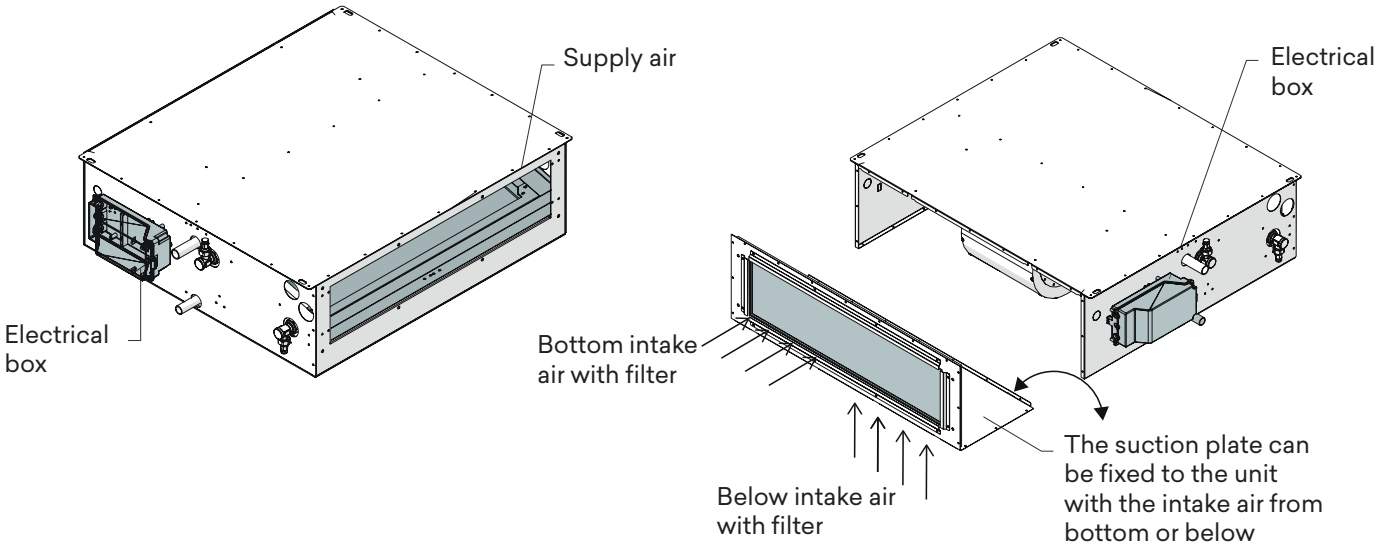
**Cooling capacity
(kW)**

90-
140

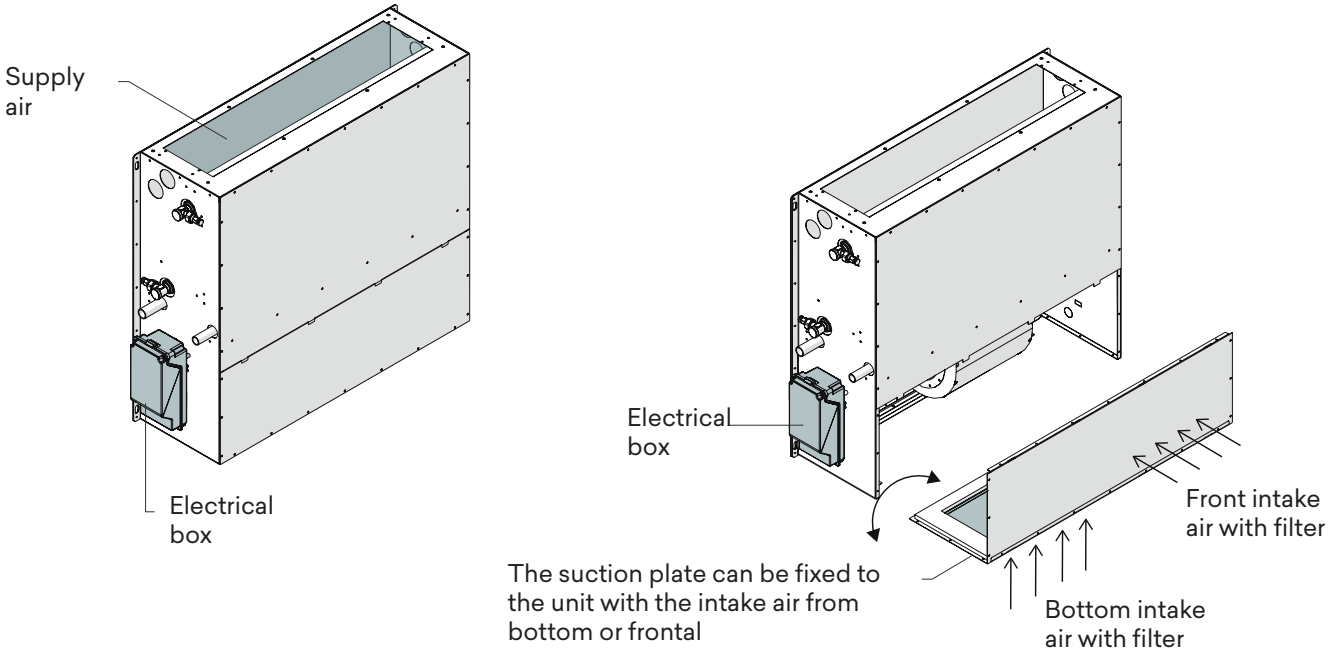
**Useful pressure
(Pa)**

# A single product suitable for any installation.

## HORIZONTAL INSTALLATION




## VERTICAL INSTALLATION



1

### Fans

The unit is equipped with single motor centrifugal fans for each impeller. Low consumption DC inverter motor and integrated control that guarantees a constant flow rate.

2

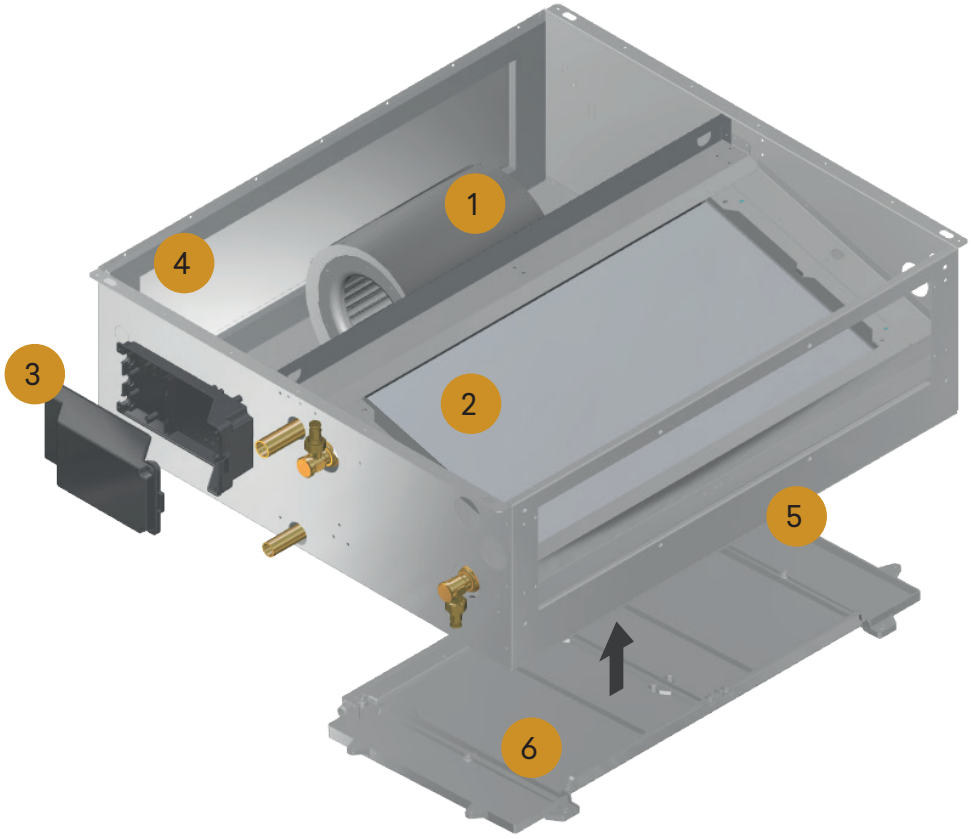
### Heat exchanger

Copper aluminium Water to air heat exchanger with hydrophilic treatment fins.

3

### Electrical box

Electrical box excluded from the air flow, with electronic main board control.




4

### Reversibile suction plate with air filter

The suction plate can be fixed to the unit with the intake air from bottom or below. Filtration class ISO Coarse 80%.

5

### Vertical Condensate tray

Allows the collection of condensate if the unit is installed vertically.

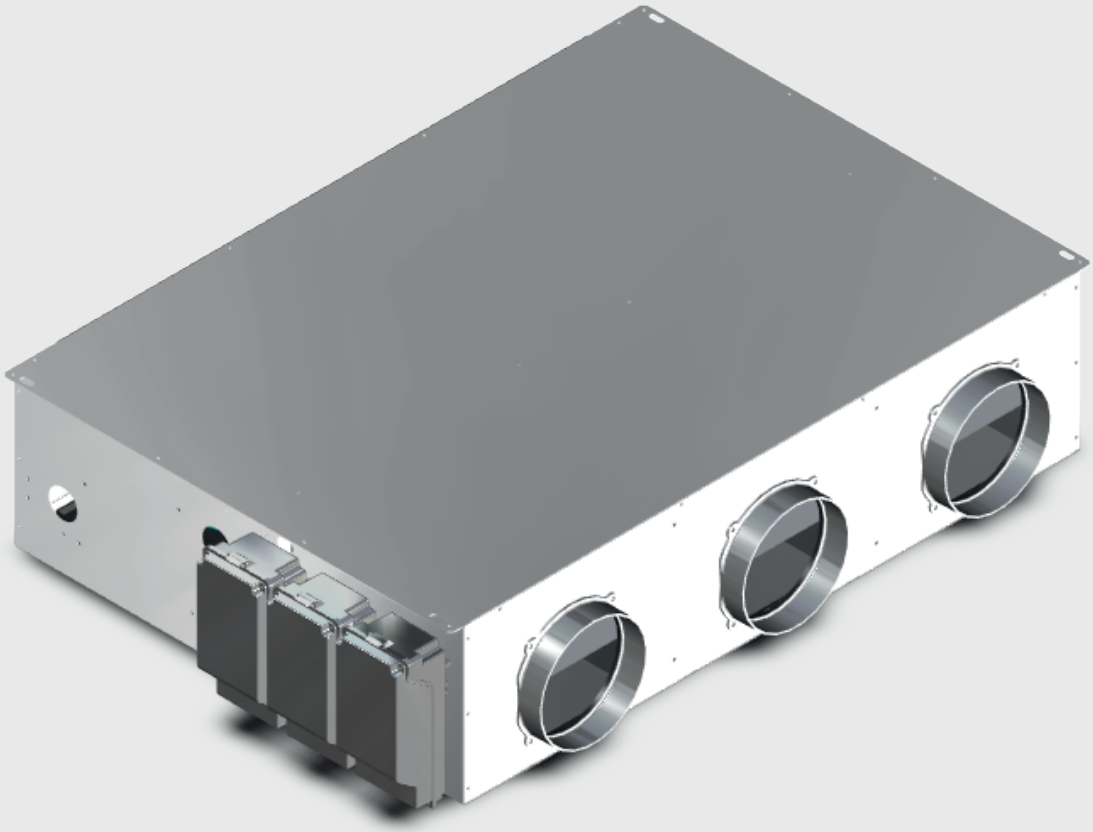
6

### Horizontal Condensate tray

Allows the collection of condensate if the unit is installed horizontally.

# DUCTO MULTI

## The integrated multi-zone ductable fancoil



**SIMPLICITY OF INSTALLATION**
Centrifugal fans with a constant flow rate that automatically adapts to the pressure drop in the channels.

**DC INVERTER**
Maximum comfort with minimum consumption.

**MULTI-ZONE CONTROL**

**QUIET OPERATION**
Centrifugal fan with motor integrated in the impeller

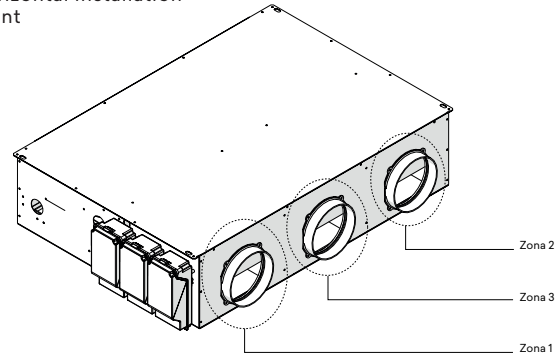
# DUCTO MULTI,
# the intelligent fancoil with integrated multi-zone management.

DUCTO MULTI (SLC+) is the new high-efficiency ductable fancoil which, through integrated multi-zone management and the use of specific BLDC Brushless multi-fans for each zone, allows the independent management of the different thermal zones.

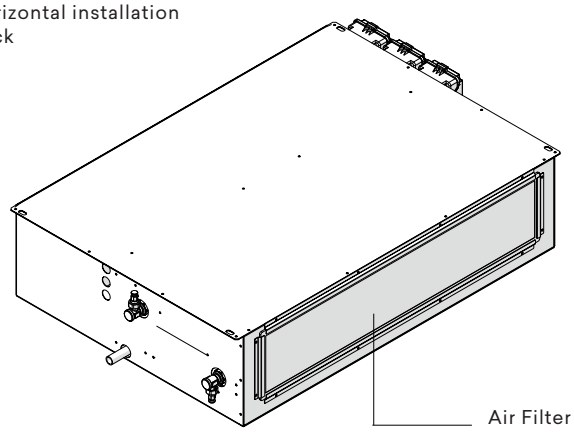
Differently from traditional zoning systems, DUCTO MULTI works with direct control over the air flow rate of individual rooms, which translates into advantages in terms of efficiency, comfort and noisiness.

**A single product,
for the management of
multi-zone comfort**

Horizontal installation
Front




Horizontal installation
Back




2

**Configurations
0-10 V or modulating
control**

4

**Sizes**

3-8

**Cooling capacity
(kW))**

100

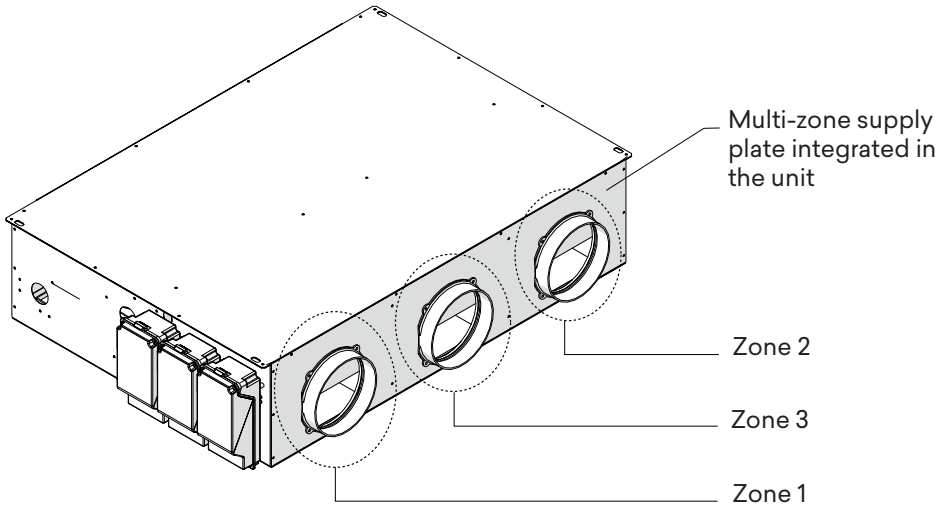
**Useful pressure
(Pa)**

2-5

**Number of zones**

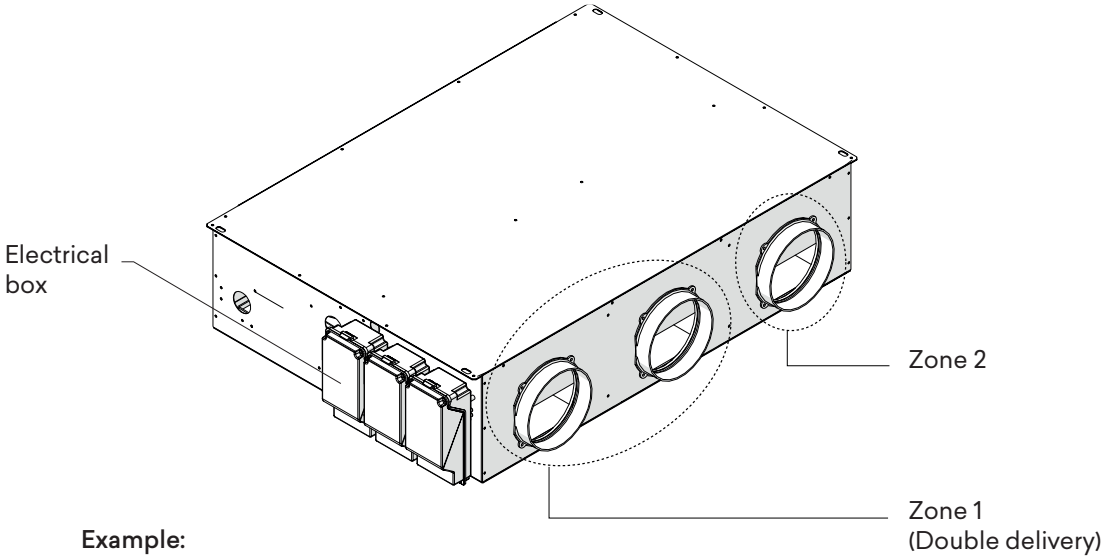
# DUCTO MULTI a single product for multi-zone comfort management.

## INSTALLATION WITH SINGLE OUTPUT ZONE COMBINATION



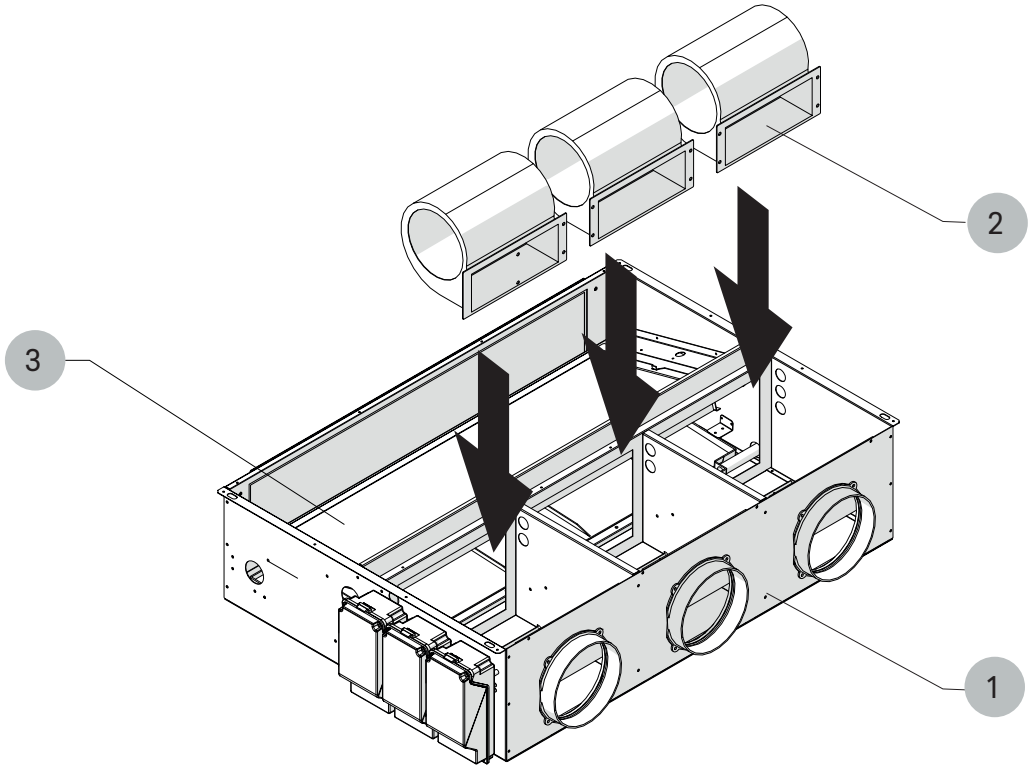

**Example:**
3 sends for 3 separate zones

## INSTALLATION WITH MULTIPLE OUTLET ZONE COMBINATION




**Example:**
**3 sends for 2 separate zones.**
**Zone 1 with dual channel**
**Zone 2 with single channel**

DUCTO MULTI works with direct control over the air flow in individual rooms, which results in advantages in terms of efficiency, comfort and silence.
Less vibration, more silence.




1

## Delivery plate

Delivery plate connected to the standard unit, no. of inlets depending on size.

**No. of inlets depending on size:**

SLC+ 600: 2 connections DN 160 mm
SLC+ 800: 3 connections DN 160 mm
SLC+ 1000: 4 connections DN 160 mm
SLC+ 1200: 5 connections DN 160 mm

2

## Fans

Integrated multi-fans for independent management of the different zones.

3

## Horizontal Condensate tray

Allows the collection of condensate if the unit is installed horizontally.

# DUCTO MULTI

1

### Fans

The unit is equipped with single motor centrifugal fans for each impeller. Low consumption DC inverter motor and integrated control that guarantees a constant flow rate.

2

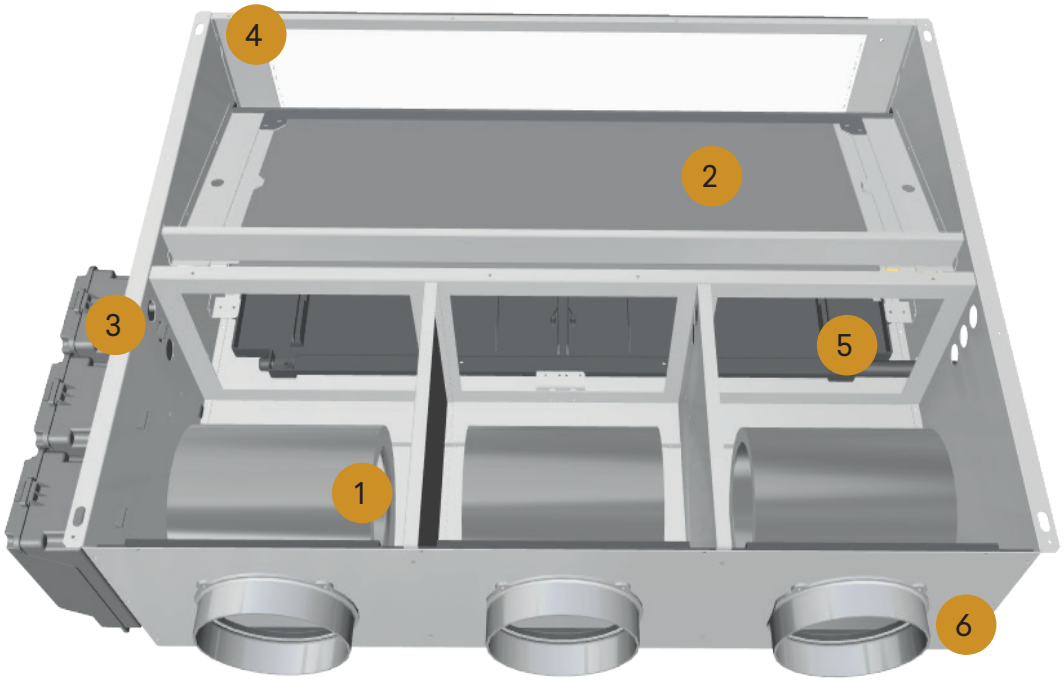
### Heat exchanger

Copper aluminium Water to air heat exchanger with hydrophilic treatment fins.

3

### Electrical box

Electrical box excluded from the air flow, with electronic main board control.




4

### Suction plate whit ai filter

The suction plate can be fixed to the unit with the intake air from bottom or below. Filtration class ISO Coarse 80%.

(Accessory to be ordered separately).

5

### Condensate tray

Allows the collection of condensate through the plastic tray.

6

### Integrated supply plenum with circular outlets

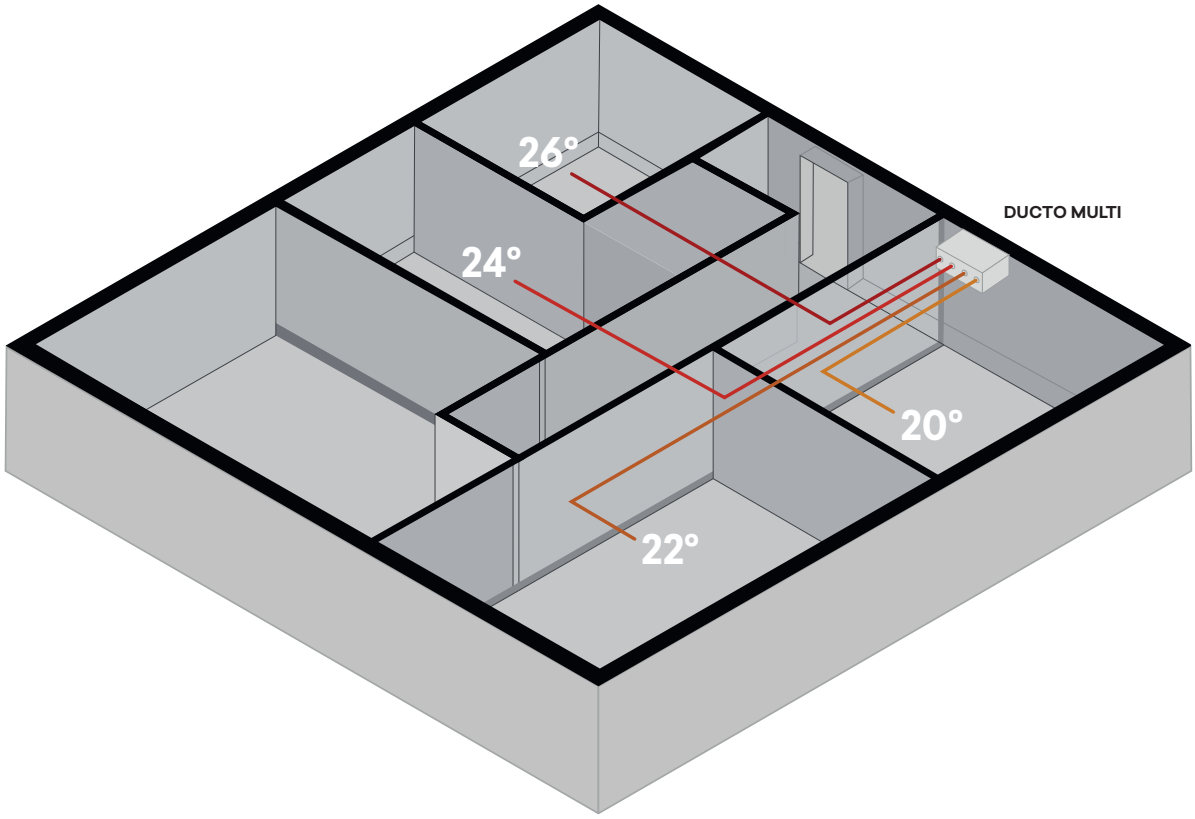
Circular discharge outlets DN 160, facilitate installation and simplify air connections.

# Multi-fans for multi-zone management.

## THERMALLY INDEPENDENT ZONES

DUCTO MULTI thanks to its multi-fans allows constant and precise regulation of the room temperature in several rooms/areas.

- Each zone/fan can be controlled by a wall control (with WiFi management via App) or by an external 0-10 V signal from thermostats or domotic systems.
- It is possible to control several fans by a single wall control or a single signal in the case of the need to provide ample zone coverage or higher heating/refrigeration requirements.



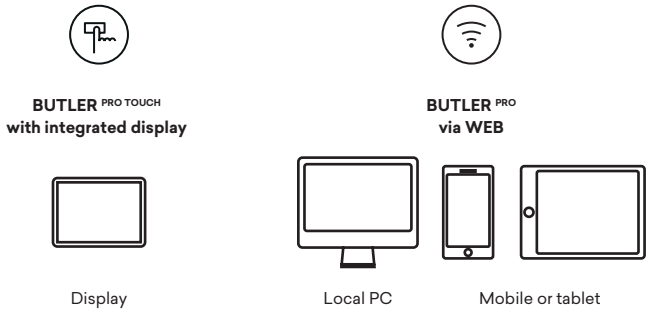
# BUTLER PRO,
# il controllo evoluto dell'impianto.

The BUTLER PRO web server is the system that INNOVA has developed to control an entire winter and summer air conditioning system from a local and remote network.
BUTLER PRO allows you to connect the heat pump, controlled mechanical ventilation system, fan coils and all the other system elements via a serial connection.
BUTLER PRO is complete, simple and intuitive at the same time: you can configure a weekly calendar with time zones, create specific zones and change the settings so your home is at the right comfort level for your needs.

## TWO VERSIONS

BUTLER PRO
**settings and display via smartphone / tablet / computer only with internet connection. Installation on a 35 mm DIN rail in the electrical cabinet of the heat pump or in the electrical cabinet of the house.**

BUTLER PRO TOUCH
settings and display via the integrated 10" touch screen. Can be connected to the internet remotely via smartphone / tablet / computer. Recessed wall installation. The pre-installation box is supplied separately.

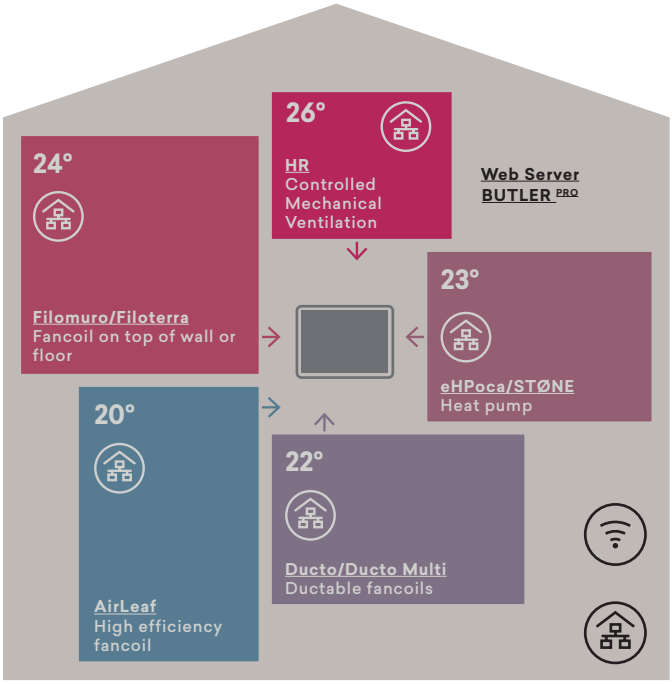



## ROOM-BASED CONTROL

You can control each room with BUTLER by configuring a weekly calendar with time zones, creating settings for each room or area, modifying the settings so your home is at just the right comfort level for your needs.

## TOTAL CONTROL

The advantage of choosing a complete INNOVA system is that, for any need, we are the only reference both for routine maintenance and for assistance purposes. A complete and high quality service.



## PRINCIPALI FUNZIONI

- **Supervision and control through local network or remotely**
  The system can be managed through a smartphone, tablet or computer
- **Summer and winter personalised programming**
  Different programmes can be set for each season
- **Setting of three temperature levels on the INNOVA fan coil network**
  For each room or zone it is possible to select 3 different work temperatures, which can be modified at any time
- **Weekly time programming**
  In each room it is possible to set different operating times
- **Etwork interface like the one on PCs**
  Once the bus network between the heat pump and the fan coils has been made, the connection with the Web server is the same as that of a normal computer
- **Remote assistance**
  With the user's consent, BUTLER can automatically access the INNOVA cloud for diagnostics and assistance in case of need


## REMOTE ASSISTANCE

With the user's consent, BUTLER can automatically access the INNOVA cloud for diagnostics and assistance in case of need.
Thanks to the Internet connection, it is possible to verify remotely the correct operation of INNOVA products connected to the BUTLER. Any operating anomalies can be transmitted automatically from the BUTLER to the assistance centre which can in-tervene by modifying the functional parameters or decide to physically intervene by providing a quick and timely service.


**A** WEEKLY SCHEDULING

**B** DOMESTIC HOT WATER SETTINGS

# Electronic controls.

## DUCTO

### Electronic board with continuous modulation for Smart Touch wall control connection

(Control installed and tested at the factory)

PI logic
Touch interface
Modulating speed
Controls up to 30 units
RS485 modbus port for BUTLER or BMS connection

cod:
**EEA649II**

cod:
**EEB649II**

cod:
**EFA649II**

cod:
**EFB649II**

<u>To be ordered separately</u>

There is a programmable digital input for window contact or remote summer/ winter switching

### For connection of 0-10V remote inputs

(Control installed and tested at the factory)

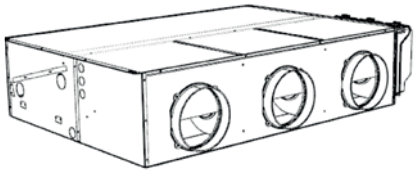
thermoregulation and control are managed by an external device (not supplied)

the fan speed is managed proportionally through the 0-10V signal

Analog input 0-10V

# DUCTO MULTI

MULTI-ZONE MANAGEMENT



## Electronic board with continuous modulation for Smart Touch wall control connection

(Control installed and tested at the factory)

PI logic
Touch interface
Modulating speed
Controls up to 30 units
RS485 modbus port for BUTLER or BMS connection

**Order as many remote controls as zones (maximum 5 zones)**

cod:
**EEA649II**

cod:
**EEB649II**

cod:
**EFA649II**

cod:
**EFB649II**

To be ordered separately

There is a programmable digital input for window contact or remote summer/winter switching

## For connection of 0-10V remote inputs

(Control installed and tested at the factory)

thermoregulation and control are managed by an external device (not supplied)

the fan speed is managed proportionally through the 0-10V signal

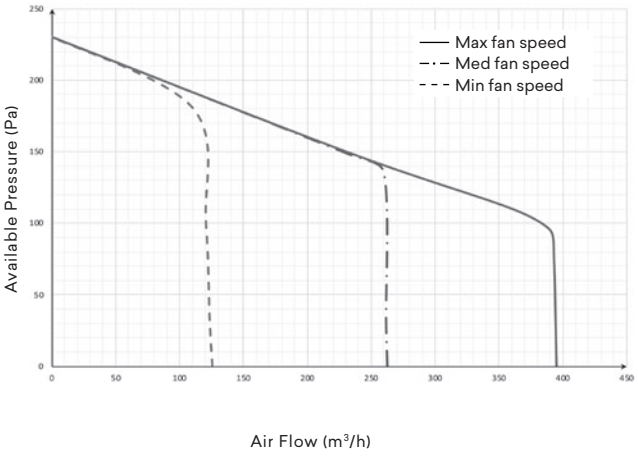
**Provide as many 0-10 V inputs as zones (maximum 5 zones)**

Analog input 0-10V

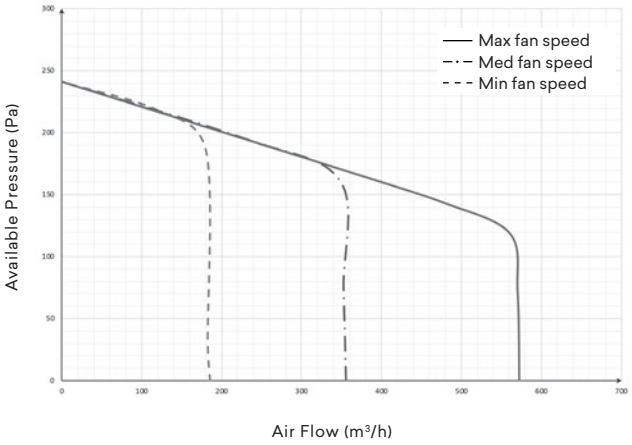
# Fan performances.

## DUCTO

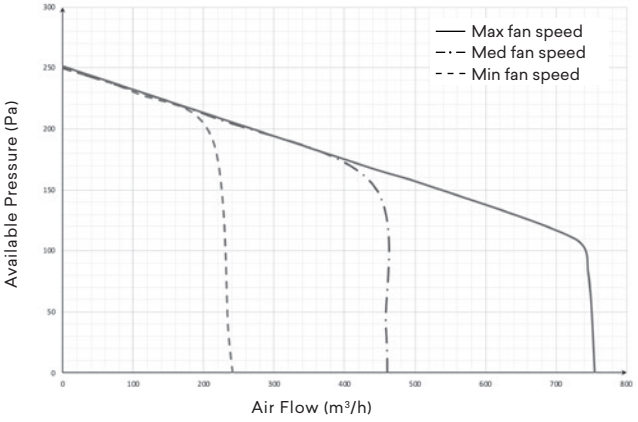
### 400



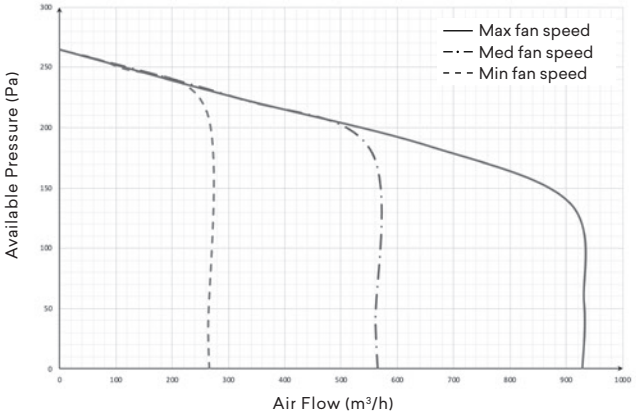

### 600



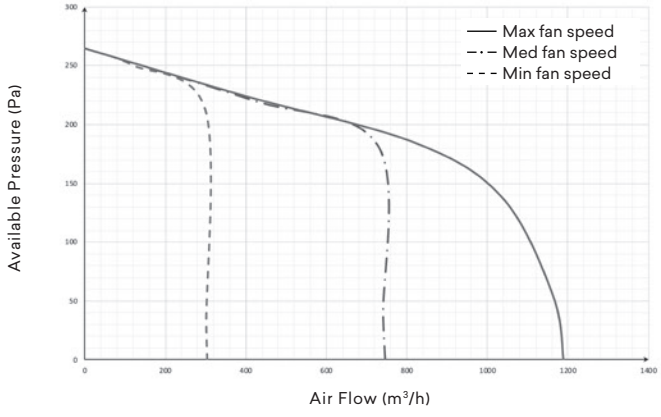

### 800




### 1000



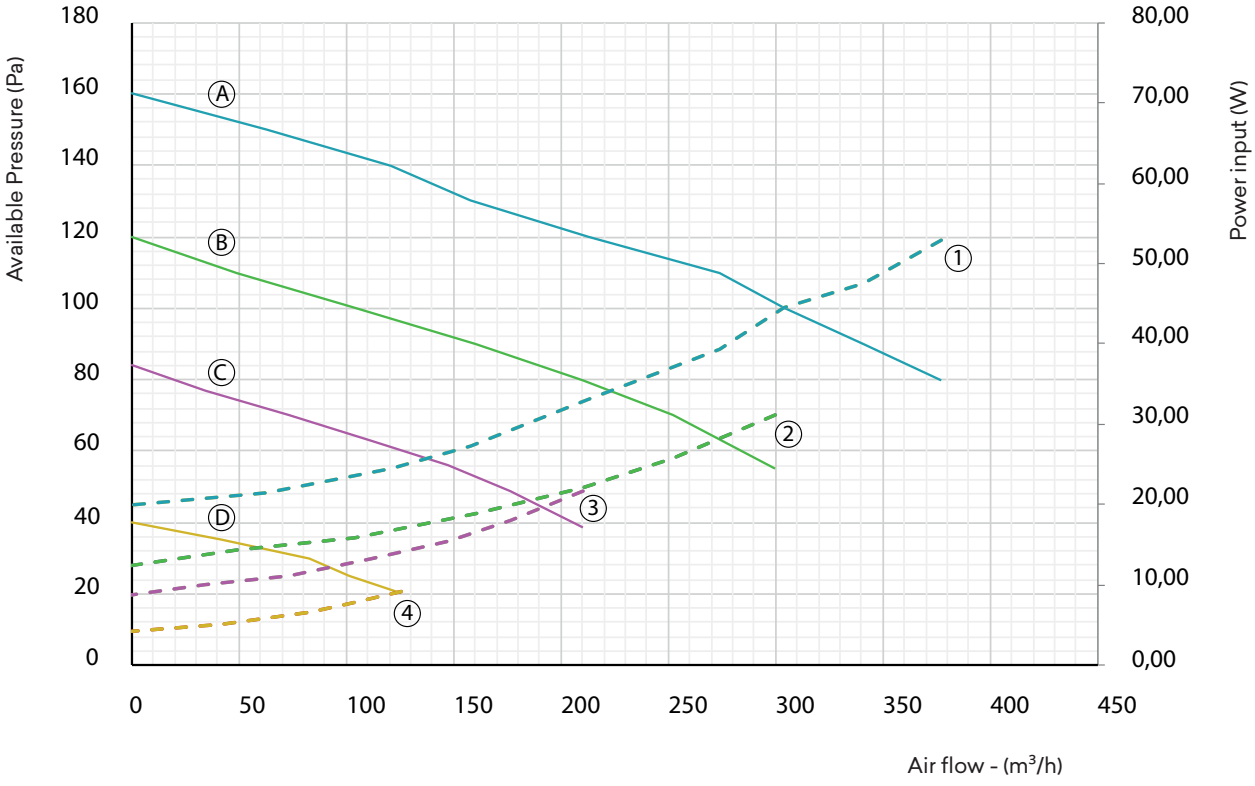

### 1200




Note: Usable static pressure net of internal pressure drop

# DUCTO MULTI

## Single fan curve



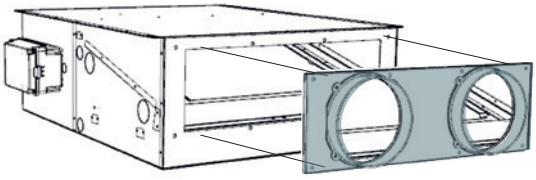

| | |
|---|---|
| ① Single fan consumption curve at maximum speed | Ⓐ Single fan flow rate-static pressure characteristic curve at maximum speed |
| ② Single fan consumption curve at medium speed | Ⓑ Single fan flow rate-static pressure characteristic curve at medium speed |
| ③ Single fan consumption curve at automatic speed | Ⓒ Single fan flow rate-static pressure characteristic curve at automatic speed |
| ④ Single fan consumption curve at minimum speed | Ⓓ Single fan flow rate-static pressure characteristic curve at minimum speed |

# Installation accessories.

### Air supply plate for DUCTO (for DUCTO MULTI it is already integrated in the unit)

**Description**

Air supply plate, for DUCTO (SLC) model, with circular inlets DN 160 mm. The inlets depend on the size of the unit, from 2 inlets for size 400 to 7 for size 1200.



**Codes**

**GR1100II -** plate with 2 inlets for SLC 400
**GR1101II -** plate with 3 inlets for SLC 600
**GR1102II -** plate with 4 inlets for SLC 800
**GR1103II -** plate with 6 inlets for SLC 1000
**GR1201II -** plate with 7 inlets for SLC 1200

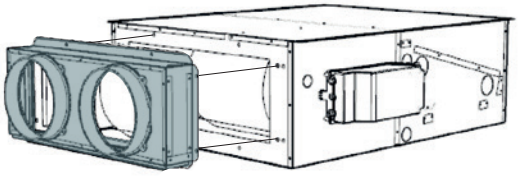
---

### Air intake plate

**Description**

Air intake plate, for DUCTO (SLC) model, with circular inlets DN 160 mm. The inlets depend on the size of the unit, from 2 inlets for size 400 to 7 for size 1200.

Air intake plate, for DUCTO MULTI (SLC+) model with circular inlets DN 160 mm. The inlets depend on the size of the appliance, from 2 inlets for size 600 to 5 for size 1200.



**Codes**

**GR1104II -** plate with 2 inlets for SLC 400
**GR1105II -** plate with 3 inlets for SLC 600
**GR1106II -** plate with 4 inlets for SLC 800
**GR1107II -** plate with 6 inlets for SLC 1000
**GR1200II -** plate with 7 inlets for SLC 1200

**GR1233II -** plate with 2 inlets for SLC+ 600
**GR1234II -** plate with 3 inlets for SLC+ 800
**GR1235II -** plate with 4 inlets for SLC+ 1000
**GR1236II -** plate with 5 inlets for SLC+ 1200

---

### Aspiration grid

**Description**

Aluminium suction grid with removable filter, colour white. Dimensions 450x225 mm

**Codes**

**GR1120II -** for SLC and SLC+

### Delivery grille

**Description**

Aluminium delivery grille with double row of orientable fins, colour white.
Dimensions: 450x225 mm

**Codes**

**GR1119II -** for SLC and SLC+

---

### Replacement filters

**Description**

Replacement filters

**Codes**

**GR1226II -** for SLC 400
**GR1227II -** for SLC and SLC+ 600
**GR1228II -** for SLC and SLC+ 800
**GR1229II -** for SLC and SLC+ 1000
**GR1230II -** for SLC and SLC+ 1200

### Alufonic insulated hose

**Description**

Alufonic insulated hose DN 160 mm. Microperforated to reduce air passage noise. Polyester fibre heat insulating coating. External protection in aluminised film.

**Codes**

**GR0945II -** for SLC and SLC+

---

### Universal insulated steel plenum for one box system

**Description**

Insulated plenum for supply/return with 2 inlets DN 160 mm, 1 plug DN 160 mm and grid connection.
Dimensions: 450x175x175 mm

**Codes**

**GR1118II -** for SLC and SLC+

---

### Motor connection cable for moving hydraulic connections

**Description**

Hydraulic connection reversal kit

**Codes**

**BB0646II -** for SLC and SLC+

---

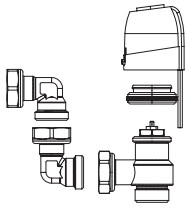
### Hydraulic units and fittings

**Description**

2-way valve unit (inlet valve and lockshield) with thermoelectric motor.

**Codes**

**V20139II -** for SLC and SLC+



---

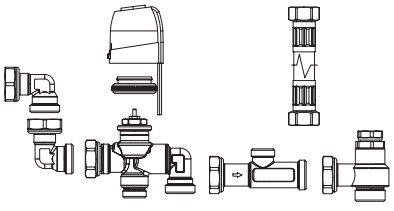
### Hydraulic units and fittings

**Description**

3-way deviator valve unit with thermoelectric motor (complete with 3-way inlet valve and lockshield).

**Codes**

**V30361II -** for SLC and SLC+



---

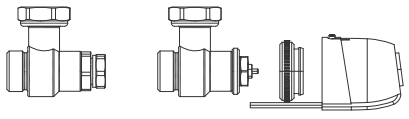
### Hydraulic units and fittings

**Description**

Manual 2-way valve unit

**Codes**

**I20205II -** for SLC and SLC+



# Technical data sheets

| Models | | u.m. | DUCTO 400 | DUCTO 600 | DUCTO 800 | DUCTO 1000 | DUCTO 1200 |
|---|---|---|---|---|---|---|---|
| **COOLING PERFORMANCES (W 7/12 °C; A 27 °C)** | | | | | | | |
| Total cooling capacity | (1) | kW | 1,88 | 2,14 | 2,97 | 3,48 | 5,90 |
| Sensible cooling capacity | (1) | kW | 1,42 | 2,20 | 2,83 | 3,60 | 4,20 |
| Water flow | (1) | L/h | 330 | 520 | 605 | 760 | 1000 |
| Pressure drop | (1) | kPa | 4,0 | 11,0 | 21,0 | 14,0 | 16,0 |
| **HEATING PERFORMANCES (W 45/40 °C; A 20 °C)** | | | | | | | |
| Heating capacity | (2) | kW | 1,98 | 2,54 | 3,45 | 4,46 | 6,20 |
| Water flow | (2) | L/h | 392 | 555 | 673 | 910 | 1100 |
| Pressure drop | (2) | kPa | 7,5 | 11,4 | 22,3 | 16,0 | 19,0 |
| **HEATING PERFORMANCES ( A 20 °C; W 35 °C)** | | | | | | | |
| Heating capacity | | kW | 0,96 | 1,89 | 2,61 | 3,21 | 3,60 |
| Water flow | | L/h | 166 | 328 | 453 | 556 | 620 |
| Pressure drop | | kPa | 2,7 | 4,5 | 10,0 | 7,0 | 9,0 |
| **HYDRAULIC DATA** | | | | | | | |
| Battery water content | | L | 0,80 | 1,13 | 1,46 | 1,80 | 2,14 |
| Maximum operating pressure | | bar | 10 | 10 | 10 | 10 | 10 |
| Hydraulic connections | | “ EK | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| **AERAULIC DATA** | | | | | | | |
| Air flow at maximum speed | (3) | $m^3/h$ | 390 | 560 | 730 | 905 | 1150 |
| Air flow at medium speed | | $m^3/h$ | 260 | 350 | 440 | 550 | 750 |
| Air flow at minimum speed | | $m^3/h$ | 120 | 180 | 240 | 260 | 280 |
| Maximum available static pressure | | Pa | 90 | 130 | 110 | 140 | 140 |
| **ELECTRICAL DATA** | | | | | | | |
| Power supply | | V/ph/Hz | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 |
| Power input at minimum speed | | W | 22 | 38 | 42 | 45 | 50 |
| Power input at maximum speed | | W | 75 | 95 | 170 | 230 | 260 |
| Maximum current consumption | | A | 0,70 | 1,30 | 1,30 | 1,50 | 1,90 |
| **SOUND DATA** | | | | | | | |
| Maximum sound power | | dB(A) | 58 | 58 | 57 | 58 | 60 |
| Sound pressure level at maximum air flow | (4) | dB(A) | 43 | 46 | 48 | 49 | 50 |
| Sound pressure at medium air flow | (4) | dB(A) | 37 | 39 | 41 | 43 | 45 |
| Sound pressure at minimum air flow | (4) | dB(A) | 30 | 31 | 34 | 37 | 38 |
| **PRODUCT DIMENSIONS AND WEIGHTS** | | | | | | | |
| Total width | | mm | 590 | 790 | 990 | 1190 | 1440 |
| Total height | | mm | 240 | 240 | 240 | 240 | 240 |
| Total depth | | mm | 690 | 690 | 690 | 690 | 690 |
| Net weight | | kg | 32,0 | 42,0 | 46,0 | 54,0 | 65,0 |

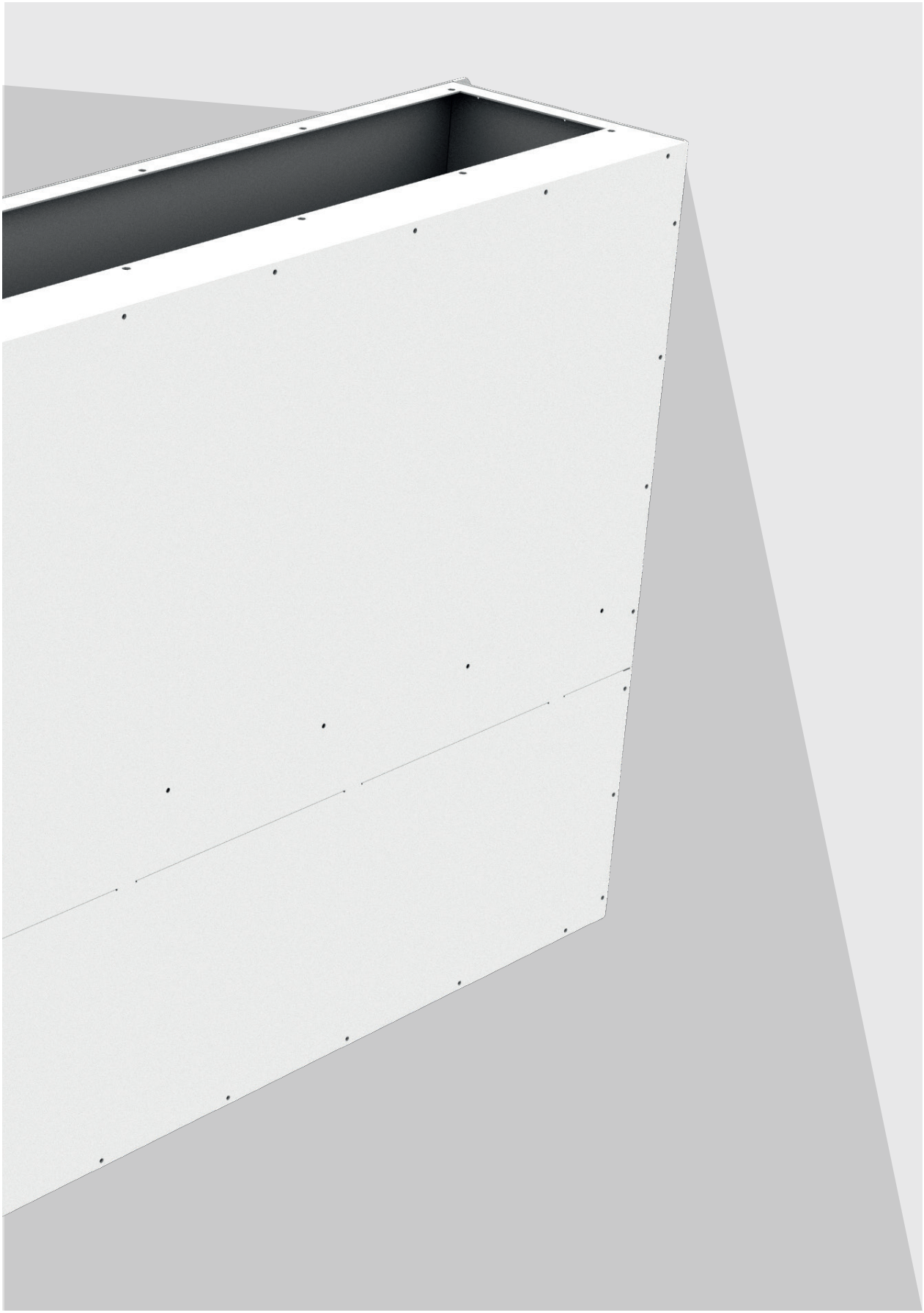
(1) Water temperature at battery inlet 7 °C, Water temperature at battery outlet 12 °C, Ambient air temperature 27 °C b.s. and 19 °C b.u. (according to EN 1397)
(2) Water temperature at battery inlet 45 °C, Water temperature at battery outlet 40 °C, Ambient air temperature 20 °C b.s. and 15 °C b.u. (according to EN 1397)
(3) Air flow measured with clean filters
(4) Sound pressure measured at a distance of 1 metre according to ISO7779

# Technical data sheets

| Models | | u.m. | DUCTO MULTI 600 | 800 | 1000 | 1200 |
|---|---|---|---|---|---|---|
| **COOLING PERFORMANCES (W 7/12 °C; A 27 °C)** | | | | | | |
| Total cooling capacity | (1) | kW | 3,80 | 5,50 | 7,20 | 8,10 |
| Sensible cooling capacity | (1) | kW | 2,70 | 3,90 | 5,10 | 6,10 |
| Water flow | (1) | L/h | 600 (2) | 950 (2) | 1200 (2) | 1400 (2) |
| Pressure drop | (1) | kPa | 29,0 | 21,0 | 19,0 | 11,0 |
| **HEATING PERFORMANCES (W 45/40 °C; A 20 °C)** | | | | | | |
| Heating capacity | (3) | kW | 3,90 | 5,70 | 7,42 | 9,00 |
| Water flow | (3) | L/h | 610 | 980 | 1300 | 1570 |
| Pressure drop | (3) | kPa | 29,0 | 22,0 | 21,0 | 12,0 |
| **SINGLE ZONE PERFORMANCE (4)** | | | | | | |
| Total cooling capacity | (1) | kW | 2,10 | 2,10 | 2,10 | 2,10 |
| Sensible cooling capacity | (1) | kW | 1,50 | 1,50 | 1,50 | 1,50 |
| Heating capacity | | kW | 2,20 | 2,20 | 2,20 | 2,20 |
| **HYDRAULIC DATA** | | | | | | |
| Battery water content | | L | 1,13 | 1,46 | 1,80 | 2,14 |
| Maximum operating pressure | | bar | 10 | 10 | 10 | 10 |
| Hydraulic connections | | “ EK | 3/4 | 3/4 | 3/4 | 3/4 |
| **AERAULIC DATA** | | | | | | |
| Maximum air flow rate | (5) | $m^3/h$ | 600 | 900 | 1200 | 1500 |
| Useful pressure | | Pa | 100 | 100 | 100 | 100 |
| Air flow at maximum speed | (6) | $m^3/h$ | 300 | 300 | 300 | 300 |
| Air flow at medium speed | (6) | $m^3/h$ | 205 | 205 | 205 | 205 |
| Air flow at minimum speed | (6) | $m^3/h$ | 60 | 60 | 60 | 60 |
| **ELECTRICAL DATA** | | | | | | |
| Power supply | (7) | V/ph/Hz | 230/1/50 | 230/1/50 | 230/1/50 | 230/1/50 |
| Power input at minimum speed | (7) | W | 13 | 13 | 13 | 13 |
| Power input at maximum speed | (7) | W | 190 | 280 | 370 | 460 |
| Maximum current consumption | (7) | A | 0,70 | 1,40 | 2,10 | 2,80 |
| **SOUND DATA** | | | | | | |
| Maximum sound power | | dB(A) | 60 | 61 | 62 | 64 |
| Sound pressure level at maximum air flow | (8) | dB(A) | 46 | 48 | 49 | 51 |
| Sound pressure at medium air flow | (8) | dB(A) | 37 | 39 | 41 | 43 |
| Sound pressure at minimum air flow | (8) | dB(A) | 28 | 30 | 32 | 34 |
| **PRODUCT DIMENSIONS AND WEIGHTS** | | | | | | |
| Total width | | mm | 790 | 990 | 1190 | 1440 |
| Total height | | mm | 240 | 240 | 240 | 240 |
| Total depth | | mm | 690 | 690 | 690 | 690 |
| Net weight | | kg | 43,0 | 47,0 | 56,0 | 67,0 |

(1) Water temp. at battery inlet 7 °C, Water temp. at battery outlet 12 °C, Ambient air temp. 27 °C b.s. and 19 °C b.u. (according to EN 1397)
(2) Consider the measures required to supply the terminal with the specified capacity.
(3) Water temp. at battery inlet 45 °C, Water temp. at battery outlet 40 °C, Ambient air temp. 20 °C b.s. and 15 °C b.u. (according to EN 1397)
(4) The performance of a single zone refers to a single working fan.
(5) Air flow measured with clean filters.
(6) Referring to individual zone.
(7) Data for all fans in operation.
(8) Sound pressure measured at a distance of 1 metre according to ISO7779.

SLC



SLC+

SLC

**CREDITS**

Graphic

INNOVA

Photography

Ottavio Tomasini

Special thanks to:

Akira Nishikawa

Ideas that become reality.

innova

**INNOVA s.r.l.**
Via 1° Maggio, 8
38089 Storo (Tn)
Tel. +39 0465 670104
Fax: +39 0465 674965
info@innovaenergie.com

**www.innovaenergie.com**

Edition 2023/0