

fitt agix®

Designing wellness

PVC plenums and compact control systems for air distribution in HRV and air conditioning systems

FITT Agix Easy  
FITT Agix Regolo e Regolo Plus  
FITT Agix AirMix



fitt® / Airplast





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# fitt and airplast

## Since 2022, Airplast has been part of the FITT Group

Already a leader in the ventilation and air distribution market, Airplast joins the FITT Group: a partnership that completes the offer with the aim of ensuring technological and sustainability excellence.

### The company

Airplast was founded in 1992 with the aim of offering the best technology in the field of heat recovery ventilation and air distribution.

Airplast stands out for its ability to combine innovative functional solutions with high aesthetic standards, offering reliable products characterised by market-leading technologies.

Always committed to innovation and a leader in the field of air diffusion, Airplast is able to offer a complete range of products, including custom made, capable of satisfying any technical and construction requirement, in extremely short times.

### The philosophy

The challenge has always been to invest in internal and external “know-how”, differentiating itself from the competition by not being a simple “box moving company”, designing and building highly professional solutions/systems and offering a first-class service, together with constant search for technology and innovation.

Solutions that can be adapted to any site requirement, designed to facilitate installation in compliance with current regulations.



### **The products**

The products are manufactured with the utmost respect for the environment, only using recyclable materials and taking special care not to leave any waste for disposal during the installation cycle.

PVC is the main element of the product range: this material does not produce condensation, is anti-corrosive, does not generate noise, is light, is fireproof, can be coloured, does not absorb energy, and is therefore ideal and recommended in rooms with high energy efficiency class.

Airplast is a unique interlocutor, able to respond to any request with maximum environmental sustainability.

### **Certifications**

Airplast is ISO 9001 certified for the management and quality of the design, production and marketing of aeronautical products and accessories for air distribution and heat recovery ventilation; it also complies with the UNI EN 15780:2011 standard for the design/production and storage of materials, in order to ensure maximum cleanliness of the components.

Fitt, a leading global group established in Italy in 1969 - and today a benefit company - is a pioneer in the production and development of solutions for the transfer of fluids for domestic, professional and industrial applications.

### Ingenious for life

The mission of the FITT group is to improve the performance of its customers by providing pipes, hoses and systems for the transport of liquid, gaseous and solid substances, with products at the forefront of technology, design and sustainability.

### Ongoing progress

FITT, currently led by Alessandro Mezzalana, was founded in 1969 by his father Rinaldo. With headquarters in Sandrigo, in the province of Vicenza, FITT – an international reference point in its industry – currently has 14 production sites, 5 commercial branches and 15 logistic centres in Europe and worldwide.

#### FITT SOLUTIONS



Gardening Solutions



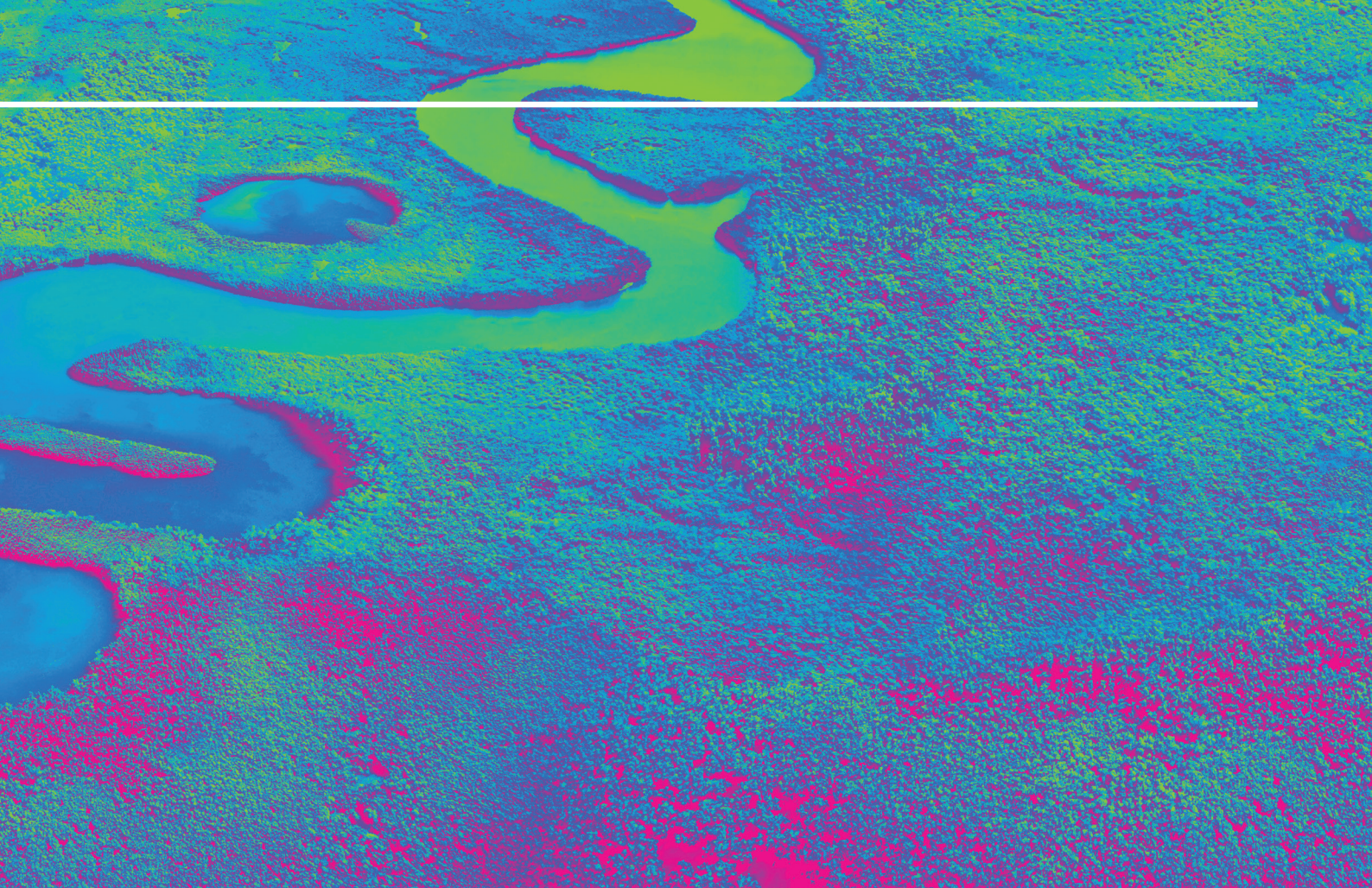
Industrial Solutions



Marine Solutions



Food & Beverage Solutions



### **Innovative and pioneering technology**

FITT strongly believes in Open Innovation and works with an international network of partners, universities and research bodies, taking advantage of external organisations for the validation of its own quality tests and protocols, defining the impact of its products.

### **Multiplant production and logistics**

Flexible logistics, automated and customised, capable of meeting the requests of the various sales channels served by our organisation: from large customers to the single individual purchasing on line.

The network of logistics centers of FITT, strategically located throughout Europe, allows to deliver in 48/72 h in the main European markets.

### **FITT Solutions**

FITT develops state of the art solutions for the handling of fluids, ensuring reliability, safety, performance and ease of use applicable to 9 dedicated and specialised business units.



Building Solutions



Pool & SPA Solutions



Ventilation Solution



Agriculture Solutions



Infrastructure Solutions

«the task that we are called to fulfil must contribute to make this world a better place, for us and for future generations»

Alessandro Mezzalira  
CEO

## THE RESPONSIBLE FLOW: FITT'S SUSTAINABILITY STRATEGY FOR 2030

### The FITT journey

In FITT's vision, being a responsible company means transforming its business model to achieve an ideal balance, with the objective of **creating economic value and having a positive impact on the planet and on people's lives.**

FITT is a “**Società Benefit**”, and in addition to the object of making a profit, it has added in its statute the public and official commitment of a positive impact on society and the biosphere, operating in a sustainable and transparent manner.

### Corporate responsibility

FITT is committed to producing state-of-the-art products, providing its customers with the best technologies in the field of fluid handling.

Investing in innovation, scientifically measuring the impact of its offering and adopting a supply chain approach that aims at minimising negative effects throughout the product life cycle, enables FITT to create an increasingly sustainable business model.

### THE 7 OBJECTIVES SELECTED BY FITT







## Environment:

FITT is engaged on two parallel fronts: the management of energy, water and waste, and the development of innovative products.

In the area of processes, the most important objective is **decarbonisation**, with the aim of setting **CO<sub>2</sub>e reduction** targets (scopes 1-2-3), to be reached by the FITT GROUP by 2025. With this in mind, in 2023 FITT has started measuring its **Carbon Footprint** in accordance with the ISO 14064 GHG inventory. As far as sustainable development is concerned, the aim is to make sure that by 2025 10% of our turnover is from innovative products with lower impact, producing 10% less Co<sub>2</sub>eq than their traditional equivalents.

## Social:

FITT is engaged again on two complementary fronts, one internal and one external.

The first includes the **creation of wellbeing, inclusion and security for the FITT People**. The second concentrates on support of social and environmental initiatives, both local and international, mainly in the fields of health, women, youth and people with special needs, creating partnerships with the stakeholders.

## Governance:

Act as a responsible company by rewriting a new business model that creates shared value, thus contributing to bring about a positive impact in the life of people and the environment.



# pvc-u plenum: breathe healthy air

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## FITT / Airplast

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**FITT / Airplast** manufactures its plenums for ducted units using PVC-U sheets; all the designs are proprietary and the result of the professionalism and dedication of our best technicians.

During all the processing stages, we use high-precision CNC machines. This allows us to assemble the products taking advantage of exclusive systems, without the addition of adhesives and/or chemicals, further safeguarding the non-contamination of the air flowing through the plenums.

The reduction of waste and the promotion of mechanical regeneration or recycling, make PVC-U an almost zero waste product; this material can be regenerated, thus reducing its environmental impact.

**Anti-condensation, anti-corrosion, anti-fungal:  
the future of air distribution is here!**



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## PVC-U

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Rigid non-plasticised polyvinyl chloride guarantees high performance in terms of thermal stability and chemical and mechanical resistance, due to the presence of chlorine in the molecule. It also has excellent fire resistance (self-extinguishing). PVC-U is the most versatile of all plastics and its use is popular in many industrial sectors: carpentry, food, chemical, medical. It is particularly suitable for aggressive environments, such as swimming pools or spas; the presence of chlorine allows the material to maintain its structure in these environments.

### Properties:

- Solving condensation problems and high insulation thanks to a good thermal conductivity: 0,16 W/m.K;
- Good resistance to ageing due to its basic chemical-physical properties;
- High resistance to combustion: flame ignition occurs at high temperatures and is only maintained under extreme conditions. Ignition temperature: 399°C; Oxygen index: 45%;  
UL Class 94: V0.
- Operating temperature -10°C to +60°C;
- Low oxygen permeability and reduced water absorption:
  - Moisture absorption in saturated air: <0.01% (DIN 53715);
  - Water absorption at saturation: <0.01% (DIN EN ISO 62).

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# pvc plenum for ducted systems

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## FITT AGIX EASY SERIES PLENUMS

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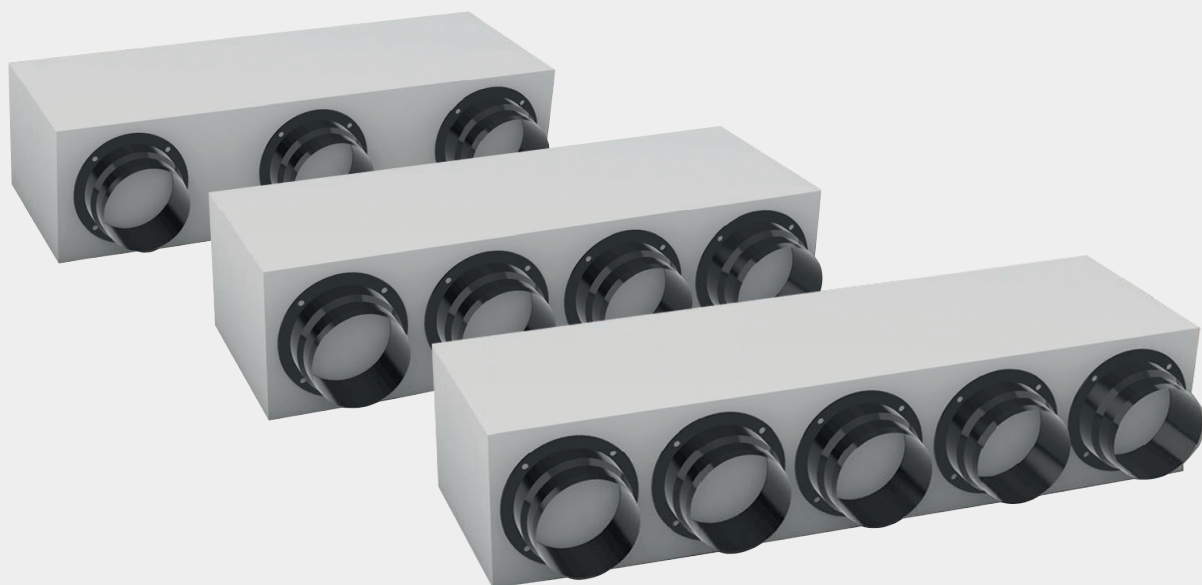
Made of 4mm thick PVC-U sheet, the **FITT Agix Easy series Plenums** for ducted indoor units can be connected to all the main models on the market. In fact, the special connection flange allows a perfect fit on the delivery of ducted units.

The plenum has a complete 3 mm thick external insulation, while on the side of the connection to the indoor unit a 10 mm thick gasket ensures the airtightness of the connection itself.

EASY plenums are split according to size and unit air flow:

- **Plenum FITT Agix Easy small**
- **Plenum FITT Agix Easy medium**
- **Plenum FITT Agix Easy large**

Each model allows for customisation of the air distribution outlets, so that the diameter and number of collars can be selected according to the pipelines used.



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### PLENUM FITT AGIX EASY SMALL

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Version with standard collars for quick connection to flexible pipelines, suitable for indoor units with a maximum of 3 zones (front).

**EASY Small** is the ideal solution for units up to 5kW. Its compact dimensions (750x240x320mm) ensure perfect positioning and easy installation.

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### PLENUM FITT AGIX EASY MEDIUM

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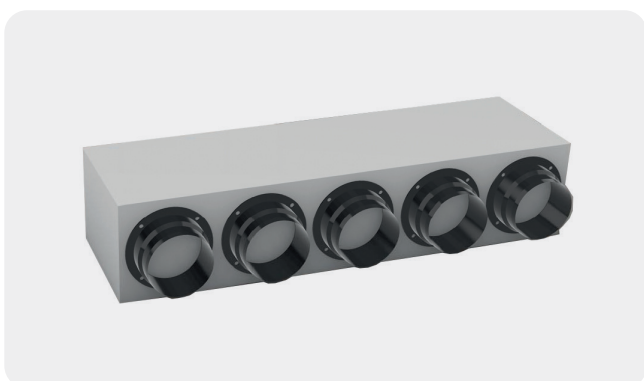
Version with standard collars for quick connection to flexible pipelines, suitable for indoor units with a maximum of 4 zones (front).

**EASY Medium** is the ideal solution for all units where multi-zone distribution is required. Its dimensions (950x240x320mm) ensure perfect installation even on indoor units with sizes exceeding 7kW.

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### PLENUM FITT AGIX EASY LARGE

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Version with standard collars for quick connection to flexible pipelines, suitable for indoor units with a maximum of 5 zones (front).

**EASY Large** has been designed for installation on large ducted units that allow many areas to be treated simultaneously. With its 1100 mm length and special sealing system, it provides a tight and secure connection between the plenum and the unit.

# temperature control systems

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## FITT AGIX REGOLO AND FITT AGIX REGOLO PLUS 2.0

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The **FITT Agix Regolo** and **FITT Agix Regolo plus 2.0** temperature control systems have been conceived and designed for maximum efficiency control of the temperature of the home in several zones from a single ducted indoor unit. The installation of these systems is extremely simple, as all the wiring and configurations required are carried out directly by the company, who will therefore supply a “plug&play” product.

### PVC-U

FITT / Airplast has always considered the maximum performance of construction materials - from the structure to the smallest accessory item -, to be of fundamental importance. This has led to selecting PVC-U as the most suitable material for use in air conditioning systems. In fact, thanks to its thermal stability and chemical and mechanical resistance, it ensures optimisation, avoiding the typical issues encountered with more standard materials.

### System composition

The REGOLO and REGOLO PLUS systems consist of the following components:

- PVC-U delivery plenum with direct connection to the indoor unit;
- New generation 2.0 electronic control board;
- Wired motorised dampers (Ø160, Ø200 and Ø250 mm available);

Wireless chronothermostats are available as an option, or the shutters can be controlled using any main brand wired thermostat available on the market. Complete freedom of control panel choice (dry contact logic required).



Zone motorised PVC-U plenum



Control unit  
FITT Agix Regolo 2.0



Control unit  
FITT Agix Regolo plus 2.0

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## SYSTEM DIAGRAM

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Wireless chronothermostat

# use of the agix regolo and regolo plus 2.0 fitt system

## FITT AGIX REGOLO 2.0

A ducted air conditioning system equipped with the **FITT Agix Regolo 2.0** system allows the control of several climate zones from a single indoor unit. The REGOLO 2.0 system can be combined with any ducted indoor unit and is EMC (Electromagnetic Compatibility) and EMF (ElectroMagnetic Fields) certified, guaranteeing safe and versatile operation in any application. The use in conjunction with the indoor unit requires a special contact (NO/NC) that allows switching on/off by zone (to be requested from the manufacturer of the indoor unit).

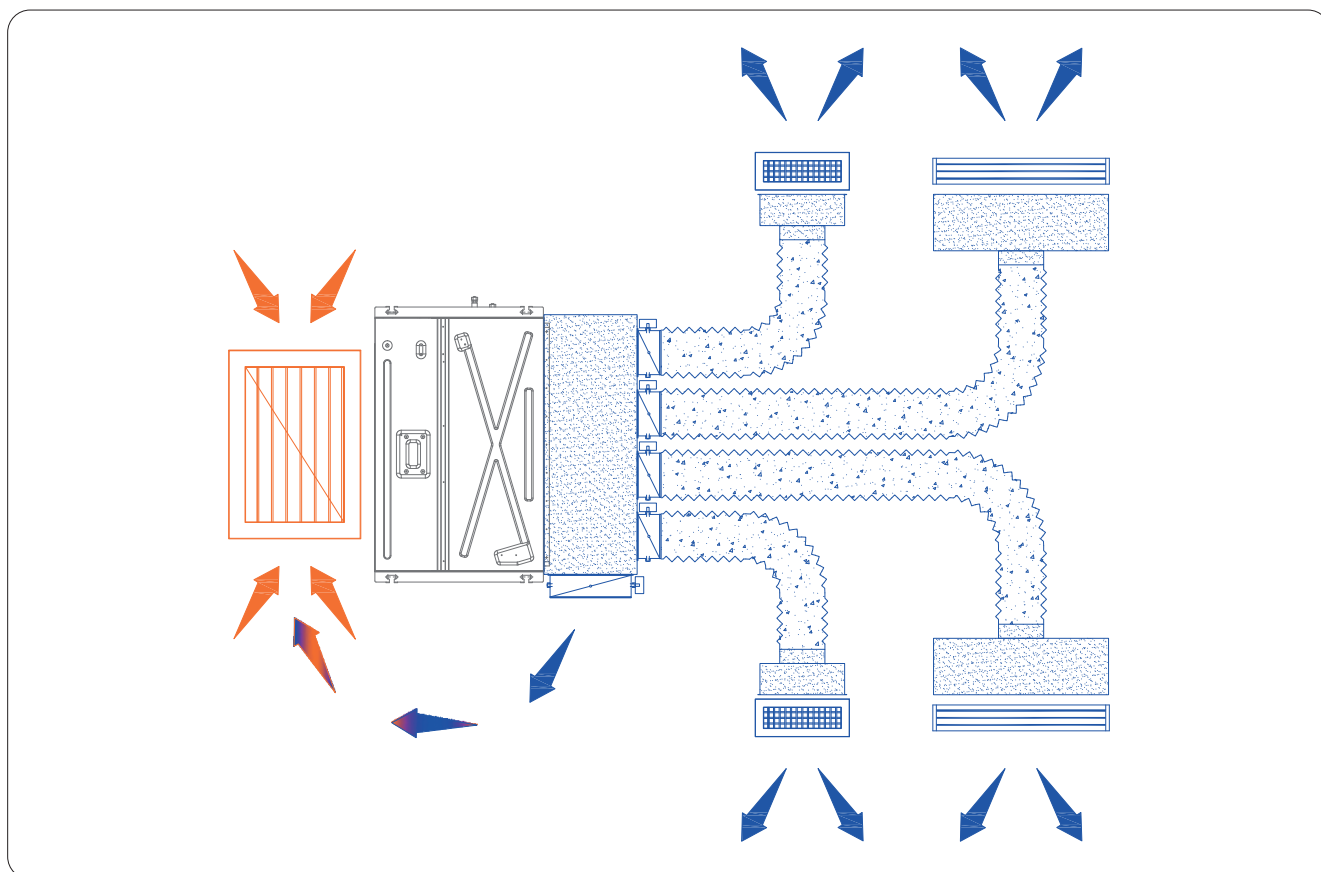
The FITT Agix Regolo 2.0 system allows the separate management of the zones created through the room thermostats: each time a damper receives a signal, it allows air to reach the zone of reference.

When the desired temperature (set on the thermostat) is reached, the damper closes, therefore preventing the air to reach the zone of reference.

### Motorised by-pass management

The motorised by-pass damper acts proportionally to the open/closed zones to remove excess air. The by-pass manages the air on the basis of the involved flow rate, therefore preventing the air from increasing system noise, whilst also ensuring the management of the active zones.

In combination with the indoor unit, the by-pass will vent excess air until the machine is completely shut down, in order to maintain a safe system over time.





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## FITT AGIX REGOLO PLUS 2.0

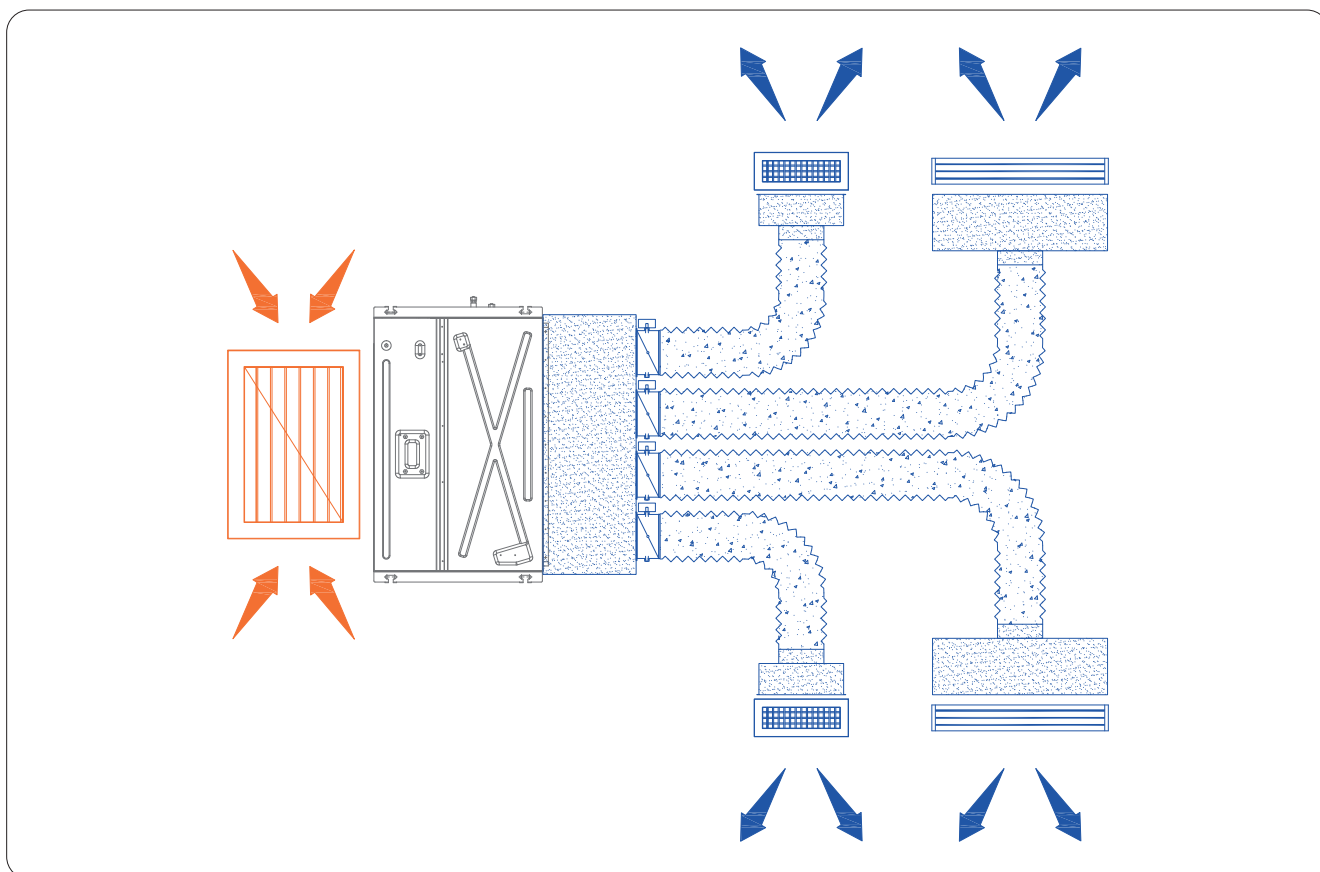
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The ducted air-conditioning system with **FITT Agix Regolo plus 2.0** system allows multiple climate zones to be controlled from one single indoor unit. When used with brushless EC (0-10V) fan coils, the system can operate in proportional mode, controlling the speeds of the fans according to the zones in demand mode. The REGOLO PLUS 2.0 system can be combined with any ducted indoor unit and is EMC (Electromagnetic Compatibility) and EMF (Electromagnetic Fields) certified, ensuring safe and versatile operation in any application. The use in conjunction with the indoor unit requires a special contact (NO/NC) that allows switching on/off by zone (to be requested from the manufacturer of the indoor unit).

The display found on the control unit helps the FITT Agix Regolo plus 2.0 system to optimise air control. The % opening of the individual zones can be programmed, and system calibration has never been so simple and functional, as upstream adjustment contributes to a drastic reduction of the sound impact of the air.

### Fan coil management (brushless EC)

All the control parameters can be viewed by the installer on the display. It is possible to set the minimum and maximum speed, and the air flows can be adjusted according to the design setting. This will ensure that the system will modulate automatically, balancing itself and guaranteeing the configured settings.



# hrv and air conditioning distribution plenums

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## FITT AGIX AIRMIX SMART AND REGOLO

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**FITT Agix AirMix** is a plenum that allows the mixed distribution of air from a ducted air conditioning unit and from the heat recovery unit of the HRV system; the air is mixed in the air pipelines that go to the different rooms of the house.

A single delivery distribution channel ensures a smaller footprint during installation and a single distribution outlet for both systems.

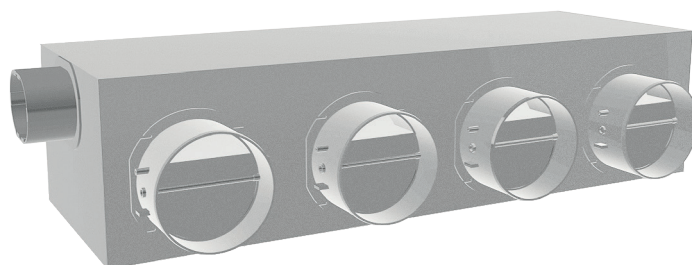
AirMix is made of PVC-U and has an internal flow separator (HRV and CLIMA), as well as a collar (of selectable diameter) for the air coming from the HRV system.

The plenum can be fitted with gravity (AirMix SMART) or motorised (AirMix REGOLO) dampers for each duct going to the zones of reference.

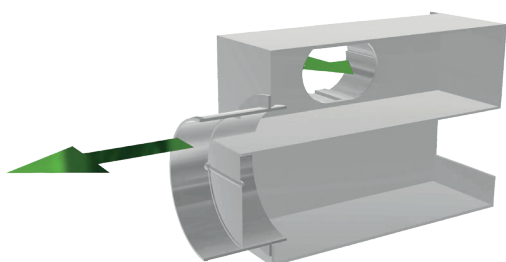
This particular damper is sectioned and closes (when the unit is not in operation) the portion carrying the conditioned air in order to prevent the return of fresh air from the HRV system. The flow separator also ensures that the fresh air continues to flow without being conditioned by the air coming from the ducted indoor unit, therefore ensuring constant air renewal.

The following models are available for each plenum:

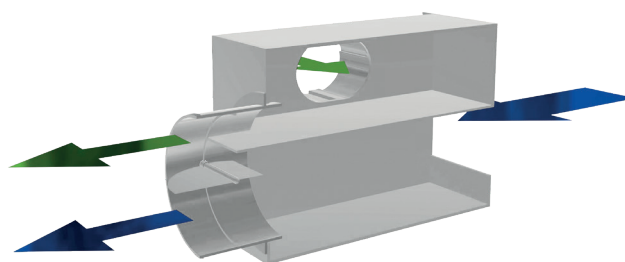
- **FITT Agix AirMix smart**
- **FITT Agix Regolo 2.0**
- **FITT Agix Regolo plus 2.0**



PVC-U plenum with flow separation chamber



HRV operation plenum section



HRV + CLIMA operation plenum section

## AirMix SMART

The **FITT Agix AirMix smart plenum** is a special PVC-U plenum with a flow separator and a collar (of selectable diameter) for the air coming from the HRV system.

This system with gravity dampers is the most economical and the simplest possible solution when there is no need to independently adjust each zone: the ON/OFF commands are given using the control panel of the ducted unit.

## AirMix REGOLO 2.0

The **FITT Agix AirMix Regolo 2.0 plenum** is a special PVC-U plenum with a flow separator and a collar (of selectable diameter) for the air coming from the HRV system, and motorised dampers that open and close based on the demands of the thermostats installed in the various zones of the home.

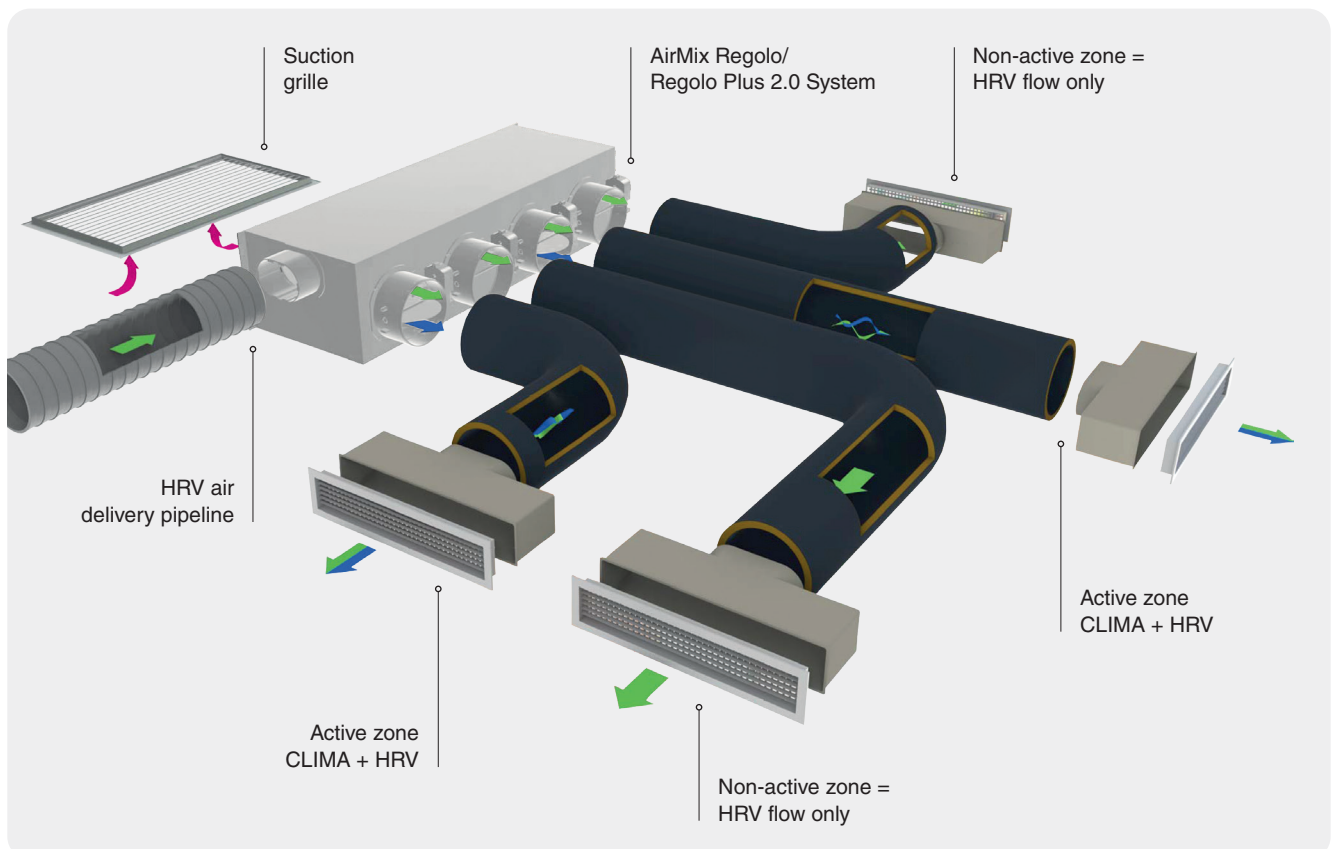
A by-pass also ensures the partialization of excess air from the ducted unit: when not all the zones are in demand mode, the by-pass allows the excess air to flow without creating excess pressure inside the plenum. On the other hand, the air from the HRV unit will continue to flow through the various zones without being affected by the conditioned air.

## AirMix REGOLO PLUS 2.0

The **FITT Agix AirMix Regolo plus 2.0 plenum** has been specially designed for fan coils with EC fans.

This advanced version allows the modular control of the fans according to the number of active zones present in the plenum, guaranteeing lower electrical consumption of the fan coil unit. If necessary, the advanced REGOLO PLUS electronic board can also be set by the installer with custom fan speed setpoint percentages, ensuring the adaptation of each system to the actual home in which it is installed. Thanks to the possibility of modular fan control, the by-pass damper is no longer necessary.

## FITT AGIX AIRMIX SYSTEM DIAGRAM WITH REGOLO/REGOLO PLUS 2.0 SYSTEM



# air distribution

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## FITT AGIX EASY KIT

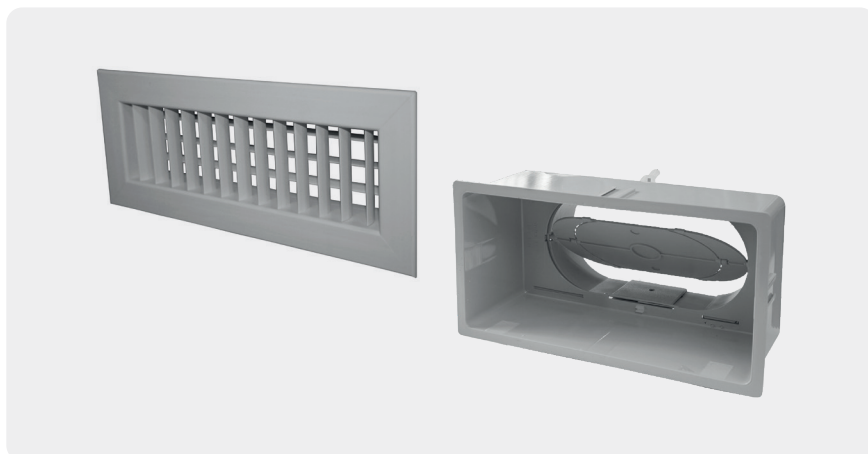
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The experience gained over the last thirty years has led to the development of the **EASY KIT systems**. These systems have been conceived by our technicians for quick and precise design of the air distribution system based on the existing (or desired) reference zones.

All the EASY KIT products ensure extremely healthy air:

- The **PVC-U plenums** ensure protection against condensation, are fungus-proof, hygienic and easy to clean;

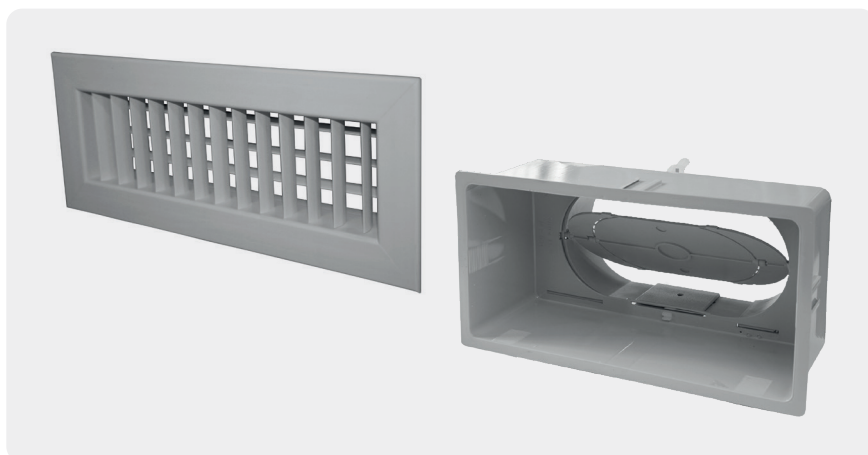
- The **air distribution pipelines** are made of polyolefin resin film with additives and have an embedded harmonic steel wire spiral, and 17 mm thick 11kg/m<sup>3</sup> density polyester fibre thermoinsulating coating;
- The **air vents** and the **intake grille** are made of PVC, which guarantees a completely healthy system.



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PVC 300x150 / 400x150 double-wire delivery air vent with CLIP fastening and rear connection plenum complete with damper (DN 160-200 selectable).

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PVC 400x150 / 500x150 double-wire delivery air vent with CLIP fastening and rear connection plenum complete with damper (DN 160-200 selectable).

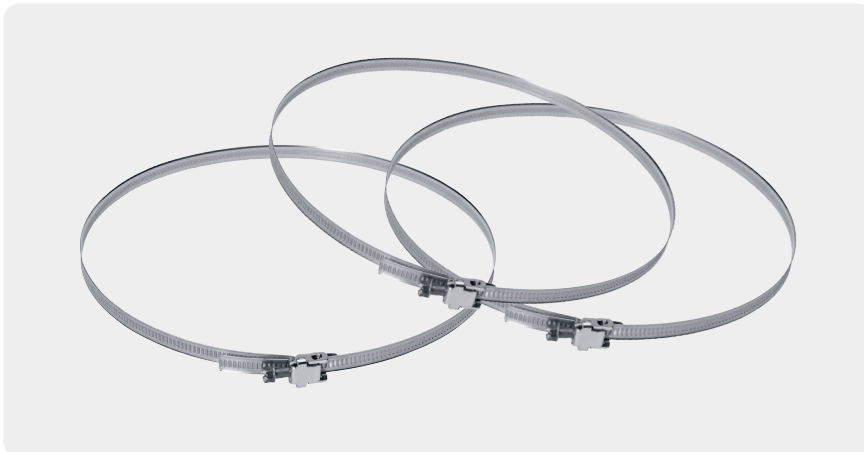
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Flexible pipeline made of 60 micron thick polyolefin resin films with additives, embedded harmonic steel wire spiral and 17 mm thick 11kg/m<sup>3</sup> density polyester fibre thermoinsulating coating. External vapour barrier in polyolefin resin with additives - DN 160/200mm.

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Hose clamps.

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Inspectable intake grille complete with filter frame and filter.

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## **FITT VENTILATION SOLUTIONS**

This is the business area of the FITT Group that develops professional solutions, manufacturing complete HRV (Heat Recovery Ventilation) and air distribution systems for the air quality of residential environments, for energy saving and the comfort of people.

For more information:

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**Airplast S.r.l. is a company of the FITT Group**