AIRZONE

Easyzone Solution

THE PLUG&PLAY HVAC CONTROL SOLUTION FOR FLEXIBLE DUCTS


amazon alexa
works with the Google Assistant
Increase the temperature 2 degrees

Table of Contents

Company Profile

Airzone, a company owned by the Altra Business Corporation, was created in 1997 with the objective of developing and manufacturing a new zoning concept, **an innovative control system for ducted HVAC applications.**

Much more than a product

Airzone is committed to a model of technological research, industrial development and its own manufacturing **in order to innovate its solutions and guarantee the best services to its users.**

The company has its headquarters in Spain, is present in more than **20 countries and has its own offices in France, Italy and the United States.**

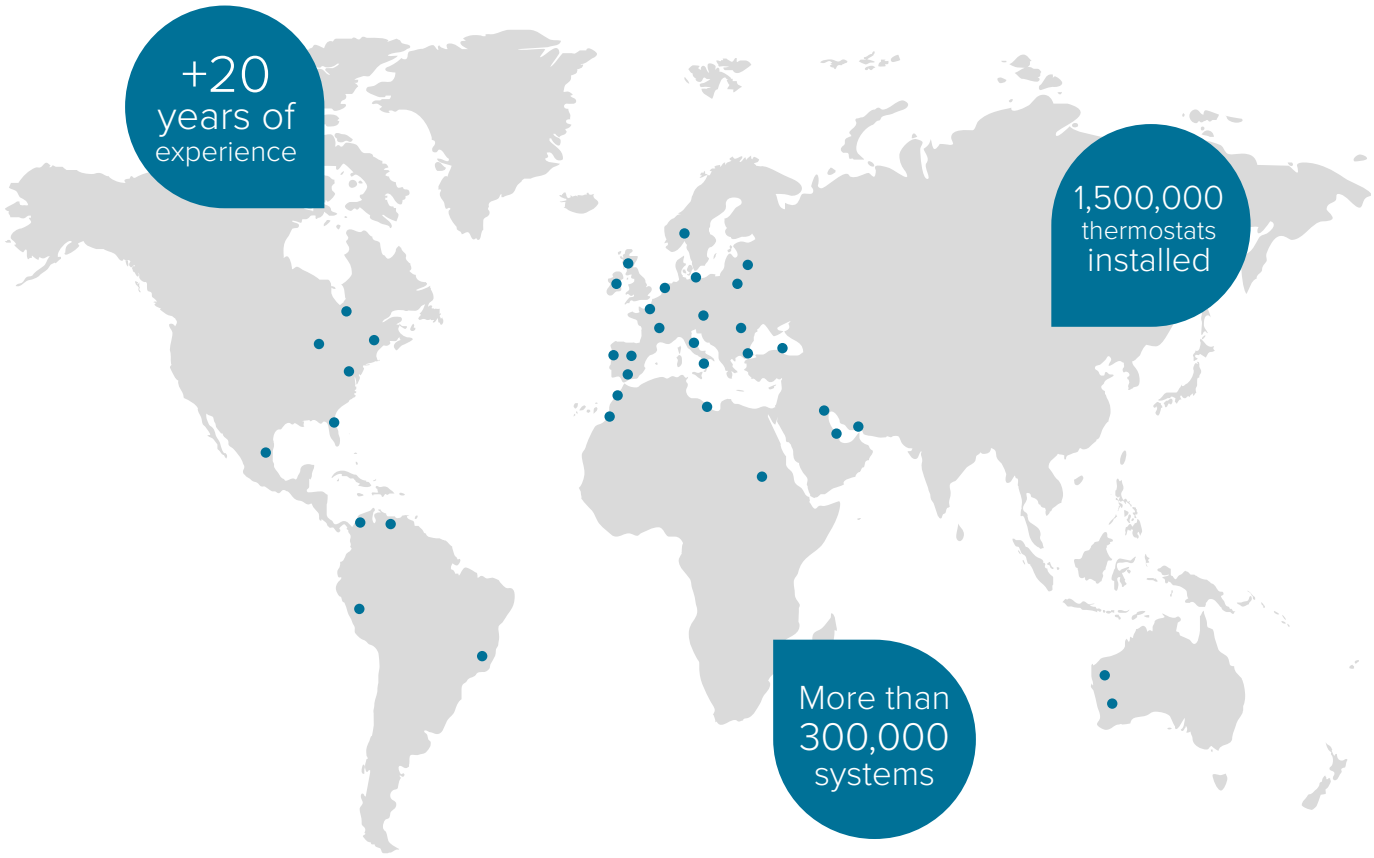
R&D+i

Technical Support service

Manufacturing

Quality

Projects



Why Choose Easyzone?

Easyzone offers a different approach to HVAC; one that is more economical, more efficient and with a more modern aesthetic. **The perfect alternative to the multisplit system.**

In buildings with different zones, multisplit air conditioning is the system currently chosen, i.e. one individual AC unit per zone.

This is the most common solution in detached homes and residential blocks due to the high level of comfort achieved in the areas where the AC units are installed.

Airzone proposes an alternative solution in which **a single ducted system is used to heat or cool several rooms at the same time** with an individual control in each of them.

Thus, even with the same level of comfort as that offered by the multisplit solution, the Airzone system is able to **improve the installation.**

Aspects improved

- **Adjustment of installed capacity:** The Airzone Easyzone system makes it possible to choose AC units by adjusting the simultaneous thermal load, as a result of which the installed AC units have lower power consumption.

- **Improved aesthetics:** The design of the new thermostats has a renewed and modern aesthetic, which combines well with any type of decoration. Multisplit indoor units are difficult to integrate into visual aesthetics. With ducted units, the desired layout can be achieved.

- **Fresh air**: With the multisplit system, a separate fresh air installation is required for air renewal in the building. The Airzone system, on the other hand, integrates air conditioning and fresh air in the same ductwork.

- **A single interface:** Air conditioning and radiant heating integrated through the same thermostat.

- **Acoustic comfort:** The multisplit system generates noise disturbances since the indoor AC units are inside the rooms. These disturbances can be avoided by installing a single ducted unit in which the AC indoor unit is further away from the room.

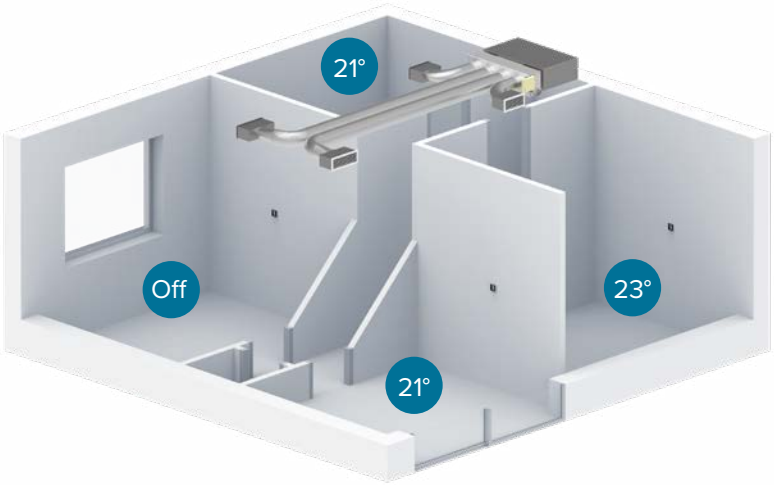
- **Installation:** With the multisplit solution there are more indoor units, resulting in higher installation costs and a higher amount of circulating refrigerant than with the use of a single ducted AC unit. In addition, a single AC unit requires only one drainage system.

- **Power consumption:** As the multisplit system has more installed power, it is logical that it consumes more than a ducted AC unit.

Easyzone, the Perfect Solution

The solution proposed by Airzone as an alternative to a multisplit system.

The solution consists of a ducted AC unit, a plenum with motorized dampers and a controller for each room. The motorized dampers and controllers ensure that the desired temperature is reached in each zone and the unoccupied zones are kept switched off.



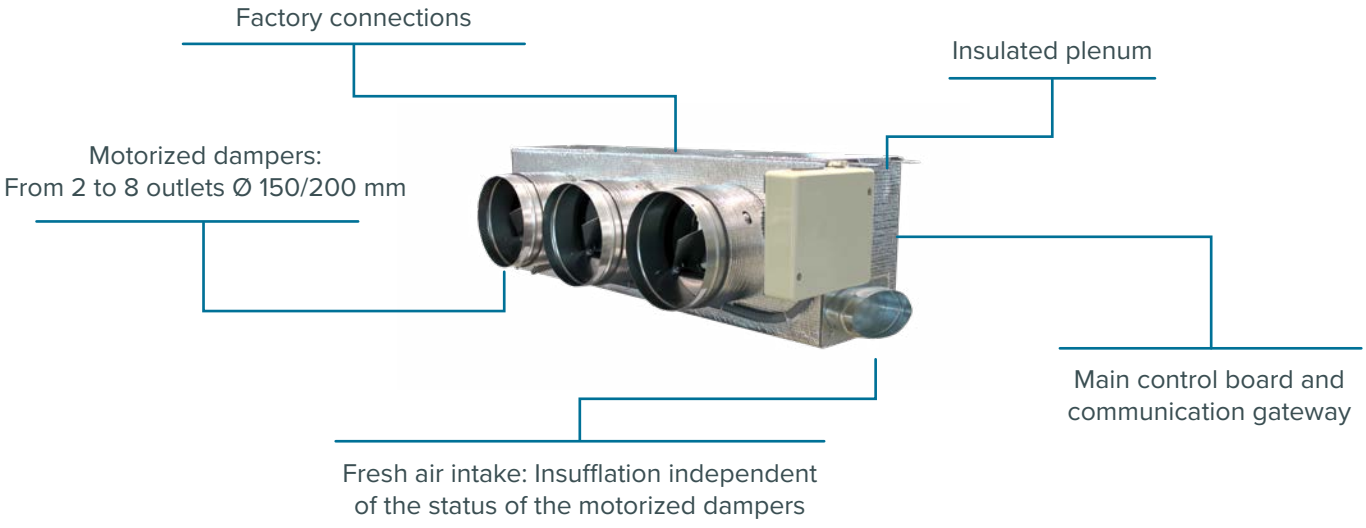
Ducted AC units

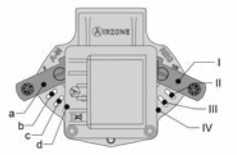
- **Compatible with** 1 x 1 ducted, multisplit, VRF and fancoil AC units.
- Efficient control of the AC unit can save up to **53% on energy consumption.**

AERMEC · atlantic · AIRCALO · BAXI · BOSCH · Carrier · CIAT · CLIVET · DAIKIN · DencoHappel · De Dietrich · FUJITSU · Fuji Electric · Galletti · glatsu · GENERAL · GREE · Haier · HEIWA · HITACHI · HIYASU · HTW · Kaysun · LG · Midea · MITSUBISHI ELECTRIC · MITSUBISHI HEAVY INDUSTRIES LTD. · OLIMPIA SPLENDID · Panasonic · SABIANA · SAMSUNG · systemair · TOSHIBA · TRANE · VIESMANN

Motorized plenum

The whole control system is assembled and integrated in a single industrial unit.
The plenum is designed for different models of indoor unit.

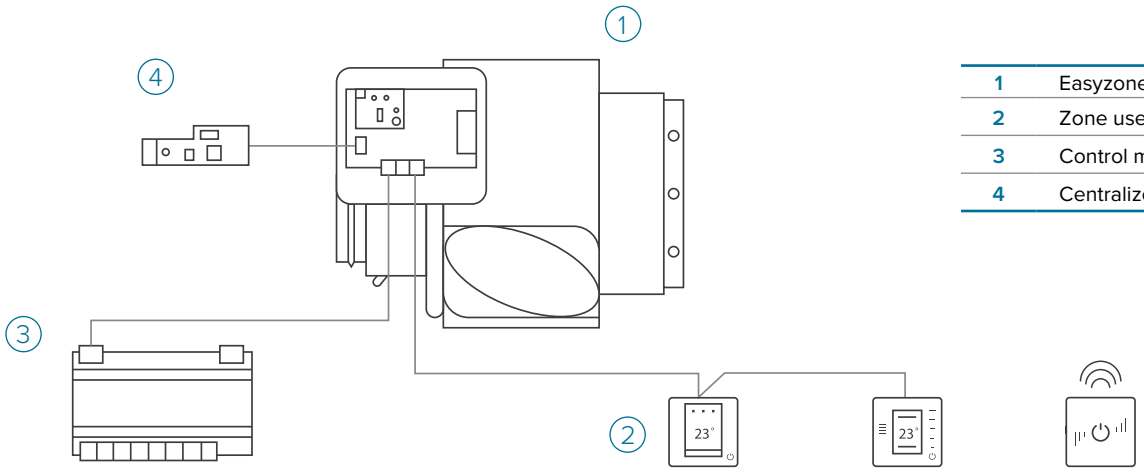




The motorized dampers have **manual regulation to adjust the airflow to each room.** Furthermore, maximum closure can be regulated so that a minimum air supply is maintained, even when the zone is not in use.

System architecture

Bus or star connection with wired and wireless communication with elements. The use of the Airzone bus cable is mandatory to ensure the proper operation of the control system.



1	Easyzone motorized plenum
2	Zone user interfaces
3	Control modules
4	Centralized controllers

AIRZONE BUS CABLE

Standard ⊕ CMV

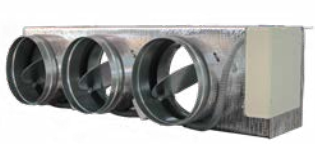
- Dampers: Ø 200 mm
- CMV inlet: Ø 150 mm
- Height (2 to 6 outlets): 300 mm
- Height (7 to 8 outlets): 500 mm

Slim ⊕ CMV

- Dampers: Ø 150 mm
- CMV inlet: Ø 150 mm
- Height: 210 mm

Medium

- Dampers: Ø 200 mm
- Height: 250 mm



No. of dampers	Dimensions
Standard + CMV	
2/3	930 x 300 x 454
4	1,140 x 300 x 454
5	1,425 x 300 x 454
6	1,638 x 300 x 454
7/8	1,425 x 515 x 454
Slim + CMV	
2/3	720 x 210 x 444
4	930 x 210 x 444
5	1,140 x 210 x 444
Medium	
2/3	930 x 250 x 454
4	1,140 x 250 x 454
5	1,425 x 250 x 454
6	1,638 x 250 x 454

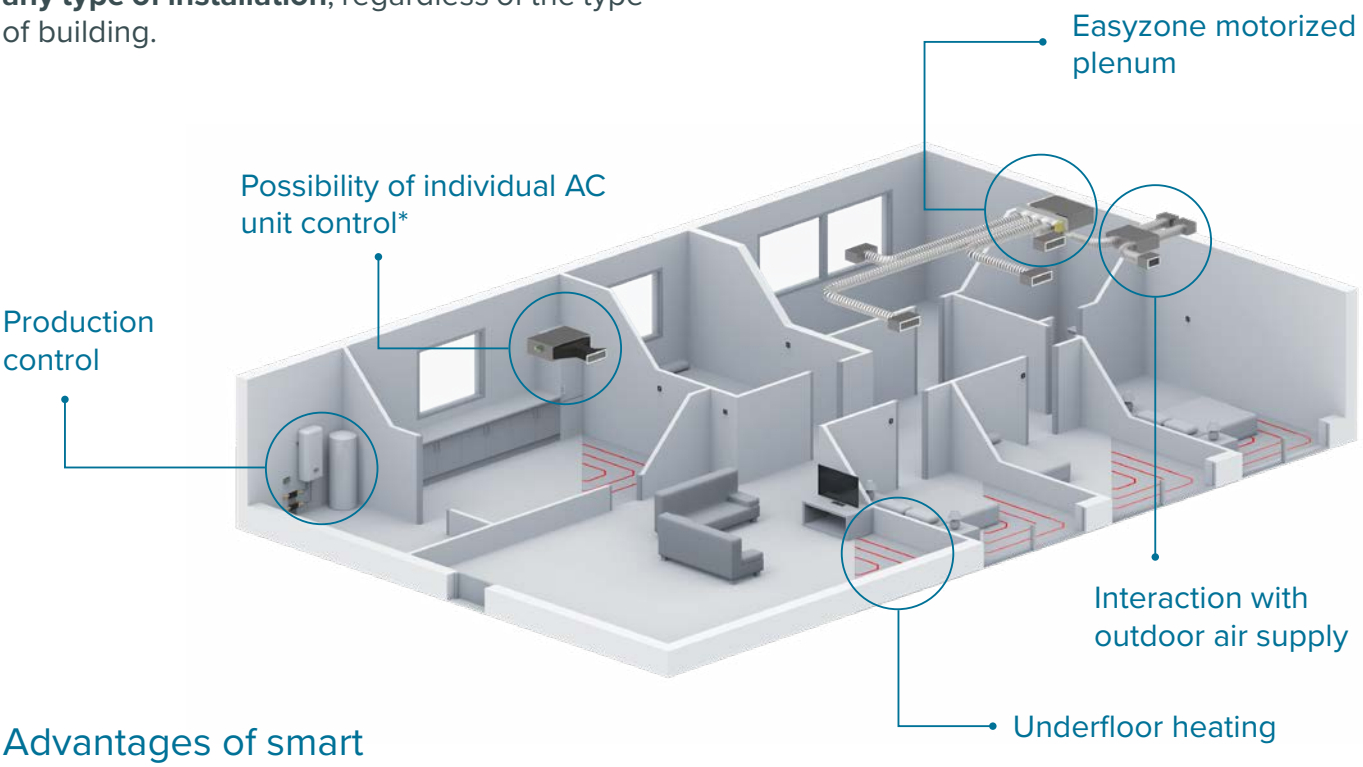
Dimensions in: L x H x W (mm).

See the Easyzone Packs configurator at
airzonecontrol.com/control_solutions/air-conditioning_zoning

CLICK

What Makes Airzone Stand Out?

Airzone solutions offer centralized control for **any type of installation**, regardless of the type of building.



Advantages of smart control solutions

- **Energy saving** and energy efficiency.
- Improvement of **thermal comfort** for users.
- Control of **all types of HVAC systems** from a single point.
- Unlimited control thanks to **Airzone Cloud.**
- Maximum **integration between all the elements** of the installation.

Airzone controls underfloor heating

The Airzone system allows the **control of the air stage and radiant stage to be integrated in a single thermostat**, as well as creating a combined stage between them.

Thus, it is not necessary to use two thermostats in the same room, which translates into energy savings and, moreover, **better aesthetics** in the decoration of the room.

*Available through the Airzone Acuazone solution, to learn more, visit:
myzone.airzonecontrol.com/airzone-products/product-range-2016/acuazone

Certifications

Airzone is committed to bringing to the market eco-friendly products, ensuring that from the origin of their development all the way to the shipping phase **a rigorous quality process backed by ISO 14001 and ISO 9001 certifications is followed.**

Achieving optimized thermal comfort for the end-user and enhancing the energy efficiency of the building are important aspects when applying for **energy certifications such as BREEAM, LEED and WELL.**

International recognition

At the same time we comply with other voluntary quality standards that highlight Airzone as an option for projects which pursue a high level of efficiency. An example of this is **eu.bac certification,** an association with a benchmark European certification system designed to determine the efficiency of the HVAC control systems.

215562

Integration

Airzone systems are **integrated with other home and building automation control systems** that currently exist in the facilities. The end-user has full control of their installation through the **new range of interfaces** or through the **Airzone Cloud Webserver** from their computer, smartphone or tablet.

For more information, consult the leaflet **Towards Sustainable Construction at airzonecontrol.com/projects**

What Makes Airzone Stand Out?

Airzone control interfaces

Airzone Blueface

A complete user experience.

- ✓ Turning any zone on/off.
- ✓ Remote access to other zones.
- ✓ Editing the name of the zones.
- ✓ Time scheduling for any zone.
- ✓ Set-point temperature for any zone.
- ✓ Reading room temperature and relative humidity.
- ✓ Sleep mode for scheduled switching-off of the zone.
- ✓ Operating mode*.
- ✓ Eco-Adapt function to improve the energy efficiency of the installation*.
- ✓ Access to weather information if the installation is connected to the Airzone Cloud Webserver.

Color: Connection: Wired

Airzone Think

Low consumption control.

- ✓ Turning any zone on/off.
- ✓ Remote access to other zones in the system.
- ✓ Set-point temperature for any zone.
- ✓ Reading room temperature and relative humidity.
- ✓ Sleep mode for scheduled switching-off of the zone.
- ✓ Operating mode*.
- ✓ Access to weather information if the installation is connected to the Airzone Cloud Webserver.

Color: Connection: Wired and wireless

*Available if the thermostat is configured as Master.

Airzone Lite

The perfect extension of control.

- ✓ Turning any zone on/off.
- ✓ Reading room temperature and relative humidity.
- ✓ Color codes that indicate the zone's operating mode and status.
- ✓ Control of the temperature of the zone in a range of ± 3°C with respect to that defined by the Blueface thermostat or the Webserver.

Color: Connection: Wired and wireless

Airzone Cloud

More than just remote control.

The Airzone Cloud Webserver completes the installation by offering the end-user a simple and intuitive experience. It allows remote control of all the **connected systems** through **the free Airzone Cloud application.**

- ✓ Turning all zones on/off.
- ✓ Remote access.
- ✓ Editing the name of each zone.
- ✓ Time schedules.
- ✓ Set-point temperature for any zone.
- ✓ Sleep mode for scheduled switching-off.
- ✓ Operating mode.
- ✓ Eco-Adapt function to improve the energy efficiency of the installation.
- ✓ Access to weather information and weather forecast.

Our **Technical Support team** can connect remotely to upgrade the system if necessary and provide support in the commissioning, operating parameters and in the troubleshooting of the installation.

Voice control

amazon alexa

works with the Google Assistant

Play Store App Store Demo

CLICK

For more information, visit our website:
airzonecontrol.com/support

What Makes Airzone Stand Out?

Communication gateways

Achieving a high level of comfort at the same time as reducing power consumption requires perfect communication between the control system and the AC unit. **The Airzone® communication gateway enables this two-way communication**, allowing the improved operation of the AC unit thanks to the following:

- Control of switching the AC unit on or off.
- Selection of the operating mode.
- Smart management of the temperature of the AC unit.
- Display of AC unit errors*.
- Energy consumption information on thermostats*.
- Anti-stratification function for heating mode.

Up to **53%** in savings

Compared to a non-zoned inverter unit.

AC unit optimization

The communication gateways adapt thermal power and airflow dynamically, therefore **optimizing the performance of the AC units.**

Technology in service to the user

The end-user can efficiently manage the operation of the AC units thanks to **Airzone's time schedules and energy efficiency algorithms.**

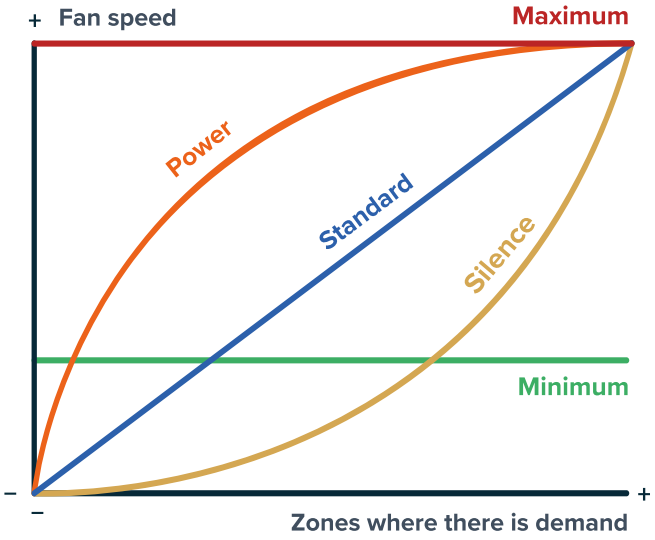
The Airzone® communication gateway is compatible with all the main manufacturers:

atlantic BAXI De Dietrich DAIKIN FUJITSU Fuji Electric GENERAL GREE Haier HITACHI Hisense
HIYASU Kaysun LG Midea MITSUBISHI ELECTRIC MITSUBISHI HEAVY INDUSTRIES, LTD. Panasonic SAMSUNG TOSHIBA VIESMANN

*Only on compatible AC units. Consult compatibility on **myzone.airzonecontrol.com**

Q-Adapt, airflow balance

Q-Adapt is a function that allows the end-user to select the fan speed of the zoned AC units depending on of the zones on demand. The result is that the solution is tailored to the particularities of the installation and the airflow needs in each zone.



Maximum
Always maintains the highest fan speed.

Power
Adjusts fan speed to drive increased airflow.

Standard
Chooses the speed in proportion to the number of zones that are on demand.

Silence
Adjusts the fan speed to reduce the noise level of the installation.

Minimum
Always maintains the lowest fan speed.

Eco-Adapt, energy efficiency

Eco-Adapt is a set of functions and algorithms that are oriented toward the improvement of HVAC systems, offering multiple benefits to the installer and the user.

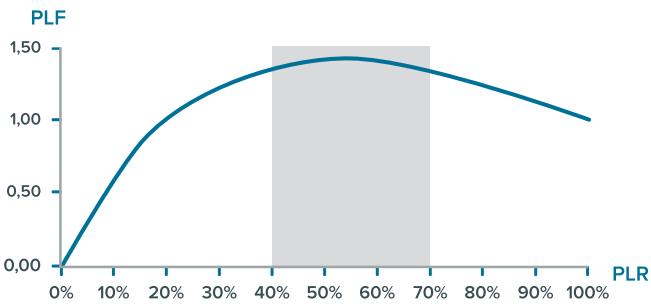
Airzone systems have a number of modes that allow the end-user to restrict the selectable minimum temperature in cooling mode and the maximum in heating mode. Using the Blueface thermostat or the Airzone Cloud Webserver the end-user can adjust the set-point temperature of each room to optimize savings and reduce their energy consumption.

MODES	TEMPERATURE (°C)	
	HEATING	COOLING
	-	-
A	22	24
A+	21.5	25
A++	21	26

Dynamic control of the Inverter/VRF unit's set-point temperature

In addition, Eco-Adapt consists of a set of algorithms **to improve the energy efficiency of HVAC installations.** It was developed to improve the partial load ratio (PLR) by modifying the set-point temperature of the AC unit in relation to the return temperature, improving the performance of the unit.

Range of operation for Eco-Adapt in an Inverter unit



PLR: Partial Load Ratio

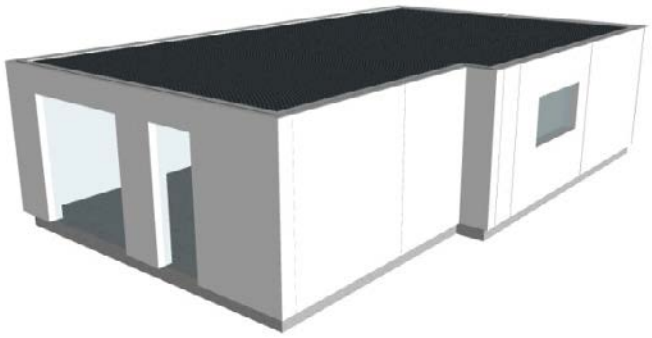
Easyzone Case Studies

Case study for residential use

The purpose of this document is to show, through a case study, the different technical and economic benefits that Airzone control solutions can bring to the residential building sector.

In order to do this, the Airzone Projects Department has carried out a study for a typical residential house (see the image below) with the following features:

- **Location:** Munich, Germany.
- **Altitude:** 519 m.
- **Climate:** Continental, temperate, mild, with cold winters and warm summers.
- **Total area:** 72.60 m².
- **Use:** Single family home.

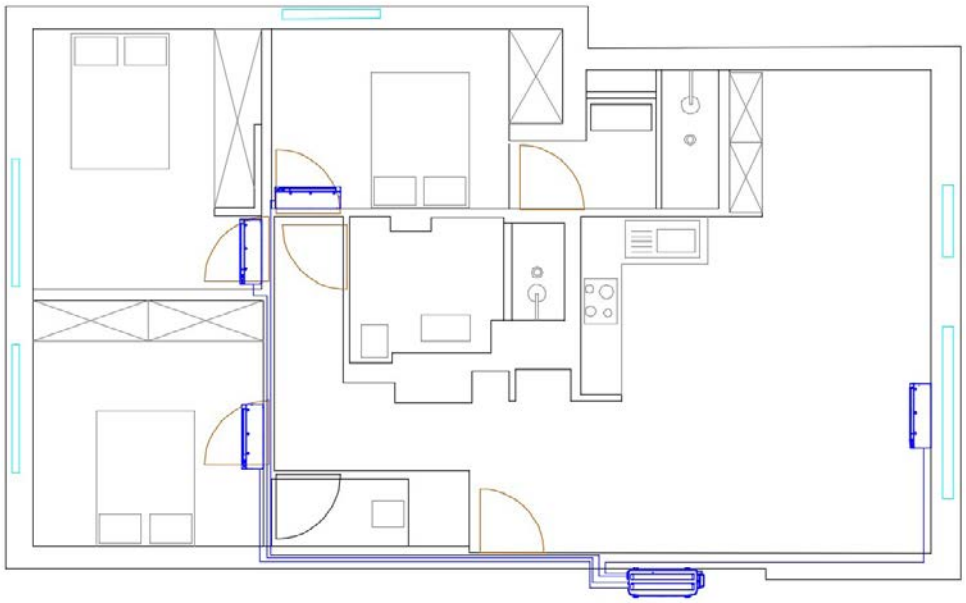


Generic solution: Multisplit

For this home, the solution generally adopted consists of the installation of a split type wall unit for each zone.
Disadvantages:

- Oversizing of indoor units
- Greater consumption due to installed power
- Higher installation cost
- Possibility of noise caused by fans
- Difficulty in the visual integration of the installation

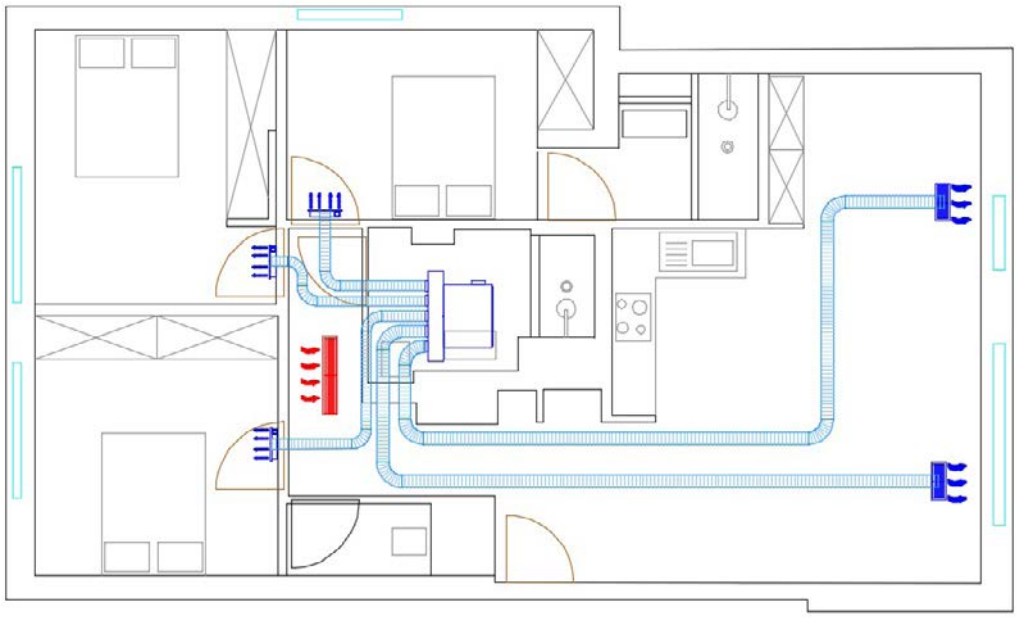
The plan illustrates the installation project for the indoor and outdoor units (e.g. cooling connections).



Airzone Easyzone solution

The Airzone HVAC solution has a motorized plenum. The demand for each zone is controlled by smart thermostats and in the plenum itself. **Advantages:**

- Installation adjusted to simultaneous thermal power
- Reduction in consumption due to installed power
- Simplicity in the installation and saving in refrigerant
- Noise abatement in heated/cooled zones
- Complete visual and aesthetic integration



Justification for choosing the Airzone HVAC solution

The choice of the Airzone HVAC solution, controlled by a Flexa 3.0 main control board integrated in the motorized plenum, is technically and economically justified according to the following criteria:

Technical criteria

- Single power supply
- Low consumption actuators
- Airzone communication gateway
- Increased energy efficiency
- Improved fluid dynamic behavior in the installation thanks to the airflow regulation mechanism
- Appropriate thermal power
- Acoustic comfort
- Centralized management of the operating mode and remote control of the installation
- Integration with home and building automation systems

Economic criteria

- Savings in installation and starting up time of the system
- Savings in maintenance
- Savings in installation costs
- Savings in operating costs

Easyzone Case Studies

Comparison of solutions

The two solutions can be compared, taking into account the particular characteristics of each, in order to determine which is the most appropriate. First of all, we can budget the project in relation to the AC units and the installation, leaving aside the cost of labor.

COMPARISON OF TOTAL INITIAL EXPENSES*

COMPONENTS	MULTISPLIT SOLUTION (€)	AIRZONE EASYZONE ZONING SOLUTION (€)
INDOOR UNIT	3,380.00	1,670.00
OUTDOOR UNIT	3,870.00	2,095.00
MANUFACTURER'S THERMOSTAT	135.00	135.00
AIRZONE EASYZONE CONTROL	-	3,035.00
MANUFACTURER'S CENTRALIZED CONTROL	650.00	-
AIRZONE CLOUD WEBSERVER	-	295.00
GRILLE	-	700.00
FLEXIBLE DUCTS	-	115.00
PIPES	1,050.00	120.00
TOTAL COST (€)	**9,085.00**	**8,165.00**

The Airzone HVAC solution saves around **45% in initial investment** in AC units and **saves around 9% in total initial investment**

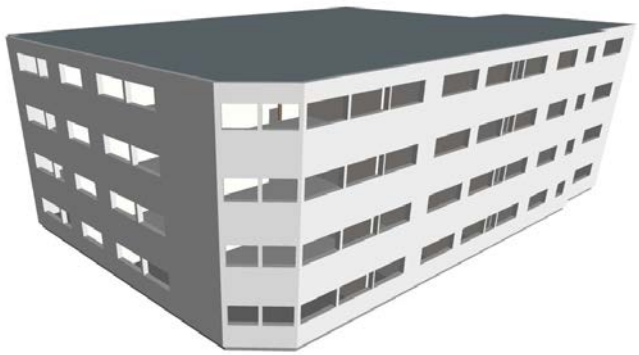
- **Installed thermal power:**
  The Airzone HVAC solution reduces the installed thermal power (21%).
- **Refrigerant quantity:**
  The Airzone HVAC solution represents a 52% decrease in the amount of refrigerant needed.
- **Consumption savings with Eco-Adapt algorithm:**
  The Airzone HVAC solution can reduce annual energy consumption by up to 50%.

Prices subject to change according to market fluctuations (labor not included).

*Average prices; generic calculations based on Central European prices.

Case study for light commercial use

The purpose of this document is to show, through a case study, **the different technical and economic benefits** that Airzone control solutions can bring **to the tertiary building sector.**



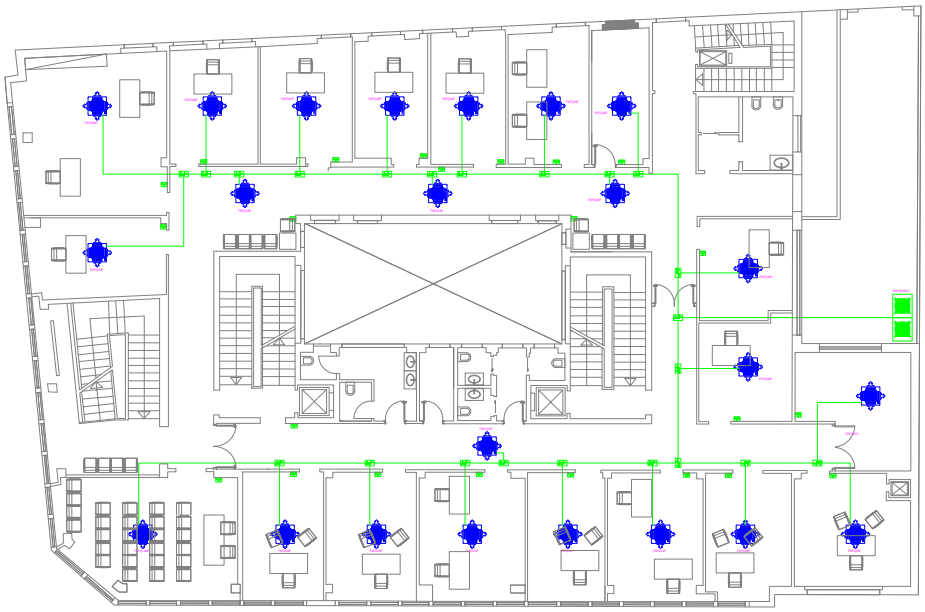
In order to do this, the Airzone Projects Department has carried out a study for a typical office building, with the following features:

- **Location:** Frankfurt, Germany.
- **Altitude:** 112 m.
- **Climate:** Oceanic climate, mild, no pronounced drought, hot summers.
- **Total area:** 1,345 m² (4 floors).
- **Use:** Offices.

Generic solution: Cassettes

In the initial plan you can see a 2-pipe VRF system. The most frequently chosen solution on the market is the installation of one VRF cassette indoor unit per treated zone and several units when the zones are larger. **Disadvantages:**

- Oversizing of the cassettes
- Greater consumption due to installed power
- Higher installation cost
- Increased use of refrigerants
- Possibility of noise caused by fans
- Possibility of condensation in work areas
- Difficulty in the visual integration of the installation

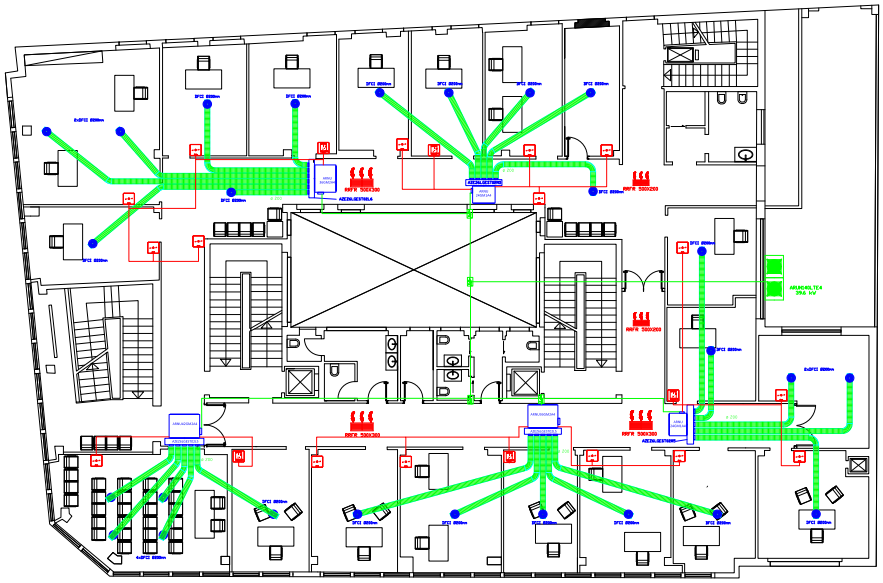


Easyzone Case Studies

Airzone Easyzone solution

The solution that Airzone proposes has ducted indoor units zoned **by means of an Easyzone motorized plenum, all integrated through the Airzone Cloud Webserver.** This solution is best suited for up to eight zones using variable refrigerant volume technology.
Advantages:

- Installation adjusted to simultaneous thermal power
- Reduction in consumption due to installed power
- Savings in AC units and installation costs
- Lower refrigerant consumption in the installation
- Noise abatement in heated/cooled zones
- Condensation outside work areas
- Complete visual and aesthetic integration



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Technical criteria

- Single power supply
- Low consumption actuators
- Airzone communication gateway
- Increased energy efficiency
- Improved fluid dynamic behavior in the installation thanks to the airflow regulation mechanism
- Appropriate thermal power
- Acoustic comfort
- Centralized management of the operating mode and remote control of the installation
- Integration with home and building automation systems

Economic criteria

- Savings in maintenance
- Savings in installation and starting up time of the system
- Savings in installation costs
- Savings in operating costs

Comparison of solutions

Without forgetting the different requirements, **the two solutions can be compared in order to determine which is the most appropriate**. First of all, we can compare the total investment in the project in relation to the AC units and the installation, leaving aside the cost of labor.

COMPARISON OF TOTAL INITIAL EXPENSES*

COMPONENTS	VRF CASSETTE SOLUTION (€)	VRF AIRZONE EASYZONE ZONING SOLUTION (€)
INDOOR UNIT	144,000.00	41,300.00
OUTDOOR UNIT	49,390.00	46,850.00
MANUFACTURER'S THERMOSTAT	10,800.00	2,700.00
AIRZONE EASYZONE CONTROL	-	67,100.00
MANUFACTURER'S CENTRALIZED CONTROL	1,550.00	-
AIRZONE CLOUD WEBSERVER	-	1,460.00
GRILLE	-	10,470.00
FLEXIBLE DUCTS	-	3,000.00
PIPES	20,000.00	7,000.00
TOTAL COST (€)	**225,740.00**	**179.880,00**

The Airzone HVAC solutions help you to cost control and **save around 55% in initial installation** and equipment and **20% long term**

- **Installed thermal power:**
  The Airzone HVAC solution reduces the installed thermal power (27%).
- **Refrigerant quantity:**
  The Airzone HVAC solution represents a 38% decrease in the amount of refrigerant needed.
- **Consumption savings with Eco-Adapt algorithm:**
  The Airzone HVAC solution can reduce annual energy consumption by up to 50%.

Prices subject to change according to market fluctuations (labor not included).

*Average prices; generic calculations based on Central European prices.

More than Just a Product

Airzone Control

Academy

The online training platform that allows professionals to view upcoming courses, manage their training or complete different modules. Three types of training are also offered: online courses, webinars and face-to-face sessions.

Projects

Our team of engineers specializing in HVAC and control projects **will offer advice during every phase of the project.** They can provide our own certified energy studies to ensure you find the most viable and efficient option for the control of your installation.

Tools

Airzone is integrated into different **engineering programs and has developed its own in-house software** to facilitate projects that incorporate its control solutions. One example is Ductzone, a calculation and design software package for HVAC installations.

Support

A team of Airzone product specialists is ready to **provide personalized technical assistance and ensure you have an optimal experience**. Working with clients, they will make all the necessary arrangements for any requests regarding warranty and returns.

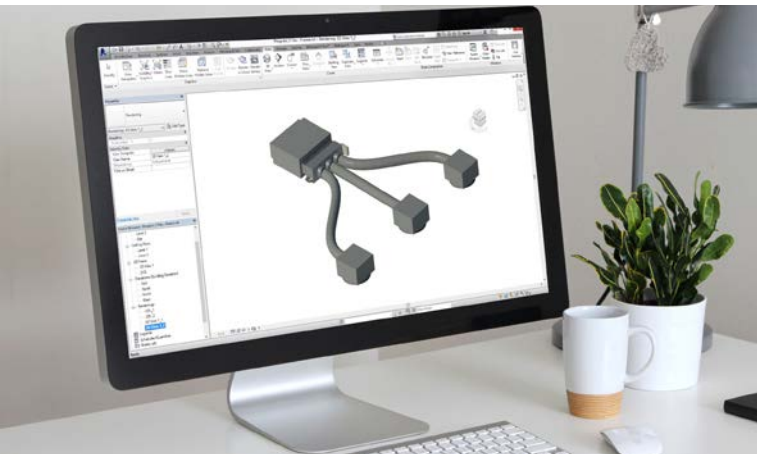
Visit **airzonecontrol.com** and find out all about our services and tools.

Ductzone

Our own software for the design and the calculation of HVAC installations in function of the building type. Accuracy and simplicity come together to facilitate the work of designers and installers that recommend Airzone control solutions.

- Sizing of the AC unit.
- Sizing and calculation of the ductwork.
- Recommendation of the most optimal control solution in function of the HVAC technology available.

DUCTZONE
HVAC SOFTWARE



Building Information Modeling (BIM)

We provide architecture, engineering and construction professionals with **our 3D modeled products so you can integrate Airzone into your BIM project.**

You can access our BIM products on the **BIMobject and BIM&CO** platforms.

BIM

Download our tools and software from **airzonecontrol.com/projects**

Airzone References

Clitrofa Medical Center

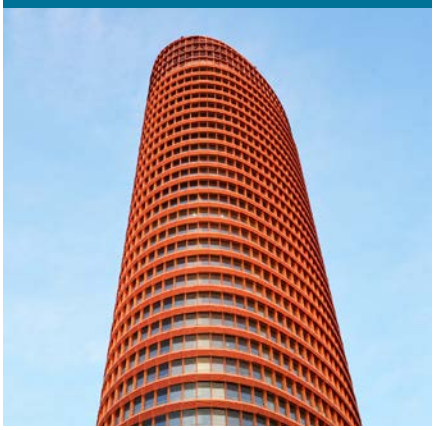
Trofa, Portugal

Zenit Palace Hotel

Budapest, Hungary

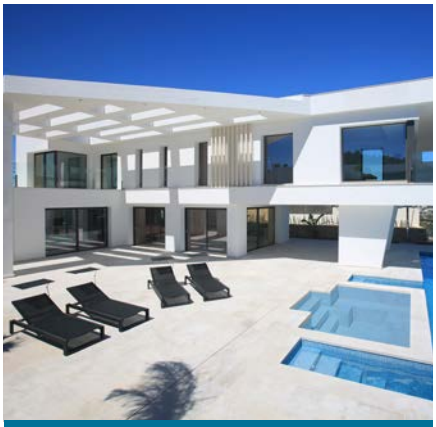
Torre Sevilla Offices

Seville, Spain



Crédit Agricole

Grenoble, France



Villa Demeter Moraira

Alicante, Spain

Yves Rocher Shop

Barcelona, Spain

La Santa Resort Club

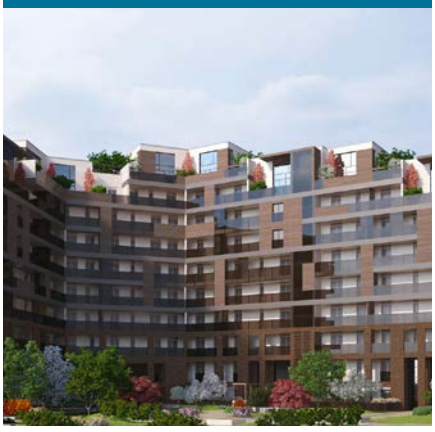
Lanzarote, Spain

Varandas de Moser

Estoril, Portugal

Residential Buildings

Milan, Italy



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Rome, Italy

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Parque Tecnológico de Andalucía
Marie Curie, 21 · 29590 Málaga (Spain)

+34 900 400 445

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