THESAN

# Aircare ES

## FRESH AIR ON DEMAND

Ductless Controlled Mechanical Ventilation system with heat recovery.

# Aircare ES

## Single Room Controlled Mechanical Ventilation system

- Controls and assures the correct change of air in closed environments
- Filters up to 99.9% of pollutants
- Uses a heat exchanger to recover the thermal energy in the exhaust air

# Works for you 24/7:

## CHANGING INDOOR AIR

It protects you from hazardous but odourless and colourless pollutants by changing indoor air.
Except with clean air.

Aircare replaces indoor air in just 2 hours.

## FILTERING THE AIR IN YOUR HOME

If the outside air is harmful, it must be filtered before you breathe it.

Aircare is the most efficient filtration system capable of simultaneously stopping smog and noise to protect your health.

## SAVING HOUSEHOLD ENERGY

Opening the windows wastes energy without improving the air. Do you want clean air in your home without spending too much?

Aircare is the perfect appliance to make you feel healthy and well and keep energy consumption down.
It boosts your comfort but not your power bills.

# WHY CHOOSE AIRCARE ES?

Aircare ES is a sustainable choice

> It assures the correct air exchange flow in new and refurbished residential buildings, offices, hotels and schools.

> It keeps the quality of indoor air constant and controls the level of humidity.

> Improves the building's energy rating which increases its value.

> Low consumption and quiet operation.

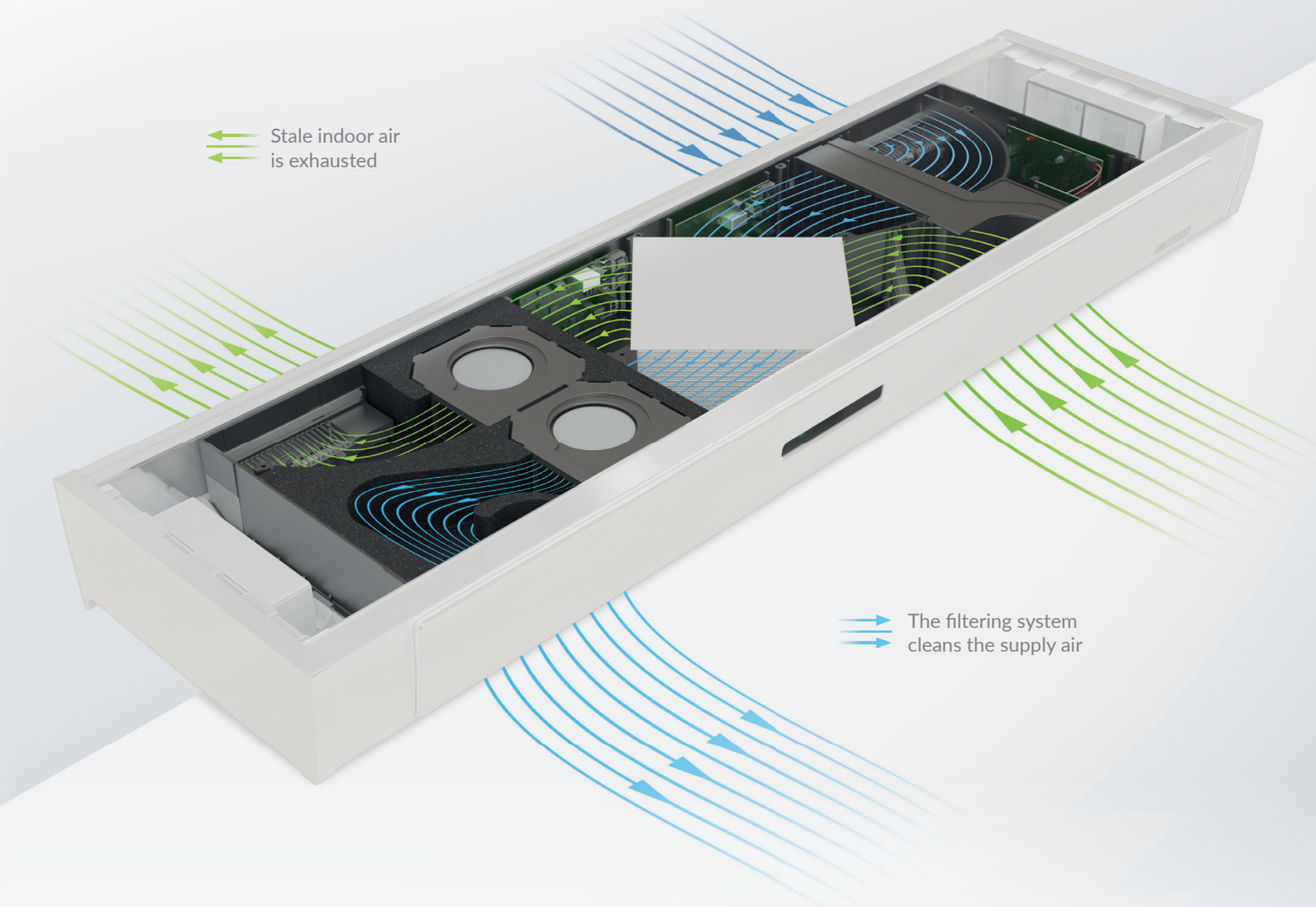
> No special maintenance required.

> It's discreet, elegant and easily disguised.

> It's perfect if you're not a fan of air-conditioning but you want to cool down rooms more naturally, particularly at night.

## AIRCARE GIVES YOU EVERYTHING YOU NEED

- complete change of indoor air in 2 hours
- humidity control
- high filtration levels - up to HEPA H13
- heat recovery of up to 82%
- App or remote controlled
- 5 speeds with automatic programme

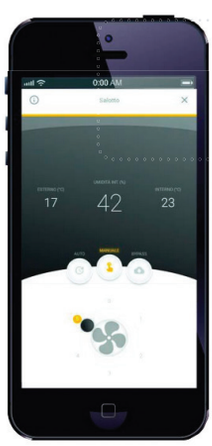


# POWER, SIMPLICITY AND CONTROL ARE ITS STRENGTHS.

Using and adjusting Aircare ES is a breeze.

The simple, convenient five-button remote control selects different speeds and controls functions:


- On/Off
- Automatic mode
- Pre-heating system start (if included)
- Increase/Decrease speed
- Enable/Disable BYPASS




DOWNLOAD THE APP (ANDROID AND IOS)

- Remotecontrolofallfunctions
- Personalised configuration
- Constant control of indoor temperature
- Control and management of indoor humidity

# NOTHING PROTECTS YOU LIKE AIRCARE

Aircare ES optimises wellbeing at home because it filters up to 99.9% of outdoor pollutants.

Indoor air is often much more polluted than outdoor air, and this can cause a lot of discomfort, in the form of headaches, lack of concentration and drowsiness, as well as breathing difficulties.

Advantages

- Simultaneously stops smog and noise.
- Constantly adjusts the levels of indoor humidity.
- Prevents growth of mould.
- Keeps rooms dry, healthy and uncontaminated.

## It protects you from hazardous but odourless and colourless pollutants by changing the indoor air. **Except with clean air.**

### 90%

The time spent indoors where pollution is created (home, workplace, school)[1]

### 20%

Buildings with one or more signs of dampness, as indicated in studies in several European countries, Canada and the United States[2]

### 2 mln

Premature deaths every year, in the world, from fatal diseases caused by indoor air pollutants[3]

### Radon

Second most common cause of lung cancer in the world[4]

### The air in homes, workplaces and schools is much more polluted than the air on the streets.

| OPEN WINDOWS | CLOSED WINDOWS |
|---|---|
| Too cold or too hot | Build-up of indoor pollution |
| Waste of energy | No air change |
| Draughts | Sealed building |
| Outside noise | High risk of mould |
| Possible break-ins | Persistence of unpleasant smells |
| No filtration of supply air | Sick building syndrome |

### How can we protect ourselves?

By changing the air with controlled mechanical ventilation.

According to the World Health Organization guidelines for indoor air quality (2009), a sufficient air change is necessary, to guarantee acceptable levels of comfort and to protect the occupants from adverse health effects caused by an excess level of indoor-generated pollutants.

**Aircare ES is perfect: it filters, cleans and returns the air to you "ready to breathe".**

1. Unione Europea - ECA report n°23 Ventilation, Good Indoor Air Quality and Rational Use of Energy
2. WHO - Guidelines for indoor air quality: dampness and mould - 2009
3. WHO - World Health Organization
4. WHO - Handbook on indoor radon - 2009

# AIRCARE ES FILTERS A LOT. FILTERS FOR A LONG TIME. FILTERS FOR REAL.

Aircare ES is the most efficient filtration system on the market that can simultaneously stop smog and noise to protect your health.

It is fitted with a multi-system filter that eliminates 100% of fine particles with a diameter of more than 10 microns, in addition to pollen, dust mites, spore and even bacteria.

Aircare ES helps to eliminate $CO_2$, as well as excess relative humidity indoors, VOCs and Radon.

The air supplied from outside is filtered and brought to the same temperature as the room, without causing sudden changes in temperature, to ensure a correct air change.


## INDOOR POLLUTION

- $CO_2$
- SMOKE
- MOULD AND CONDENSATION
- RADON
- DAMPNESS
- VOC

## OUTDOOR POLLUTION

- BACTERIA
- HYDROCARBONS (HC)
- POLLENS
- NOISE
- SMOG
- $CO_2$

$PM_{2,5}$ FINE PARTICLES

$PM_{10}$ FINE PARTICLES

# AIRCARE ES CONSTANTLY SAVES YOU MONEY

AIRCARE ES pays for itself-

it's the smart choice to drastically reduce:

> MAINTENANCE COSTS
Removing mould and dampness, repairing walls, painting walls.

> ENERGY COSTS
Lower heating and cooling/air-conditioning costs.

> PERSONAL COSTS
Medical examinations, tests and treatments for ailments caused by breathing polluted air.

In short, choosing Aircare ES is the right choice.

## CASACLIMA and TÜV guarantee the performance of Aircare ES

Aircare ES is:

> the first ductless mechanical DCV system to obtain the CasaClima Quality Label

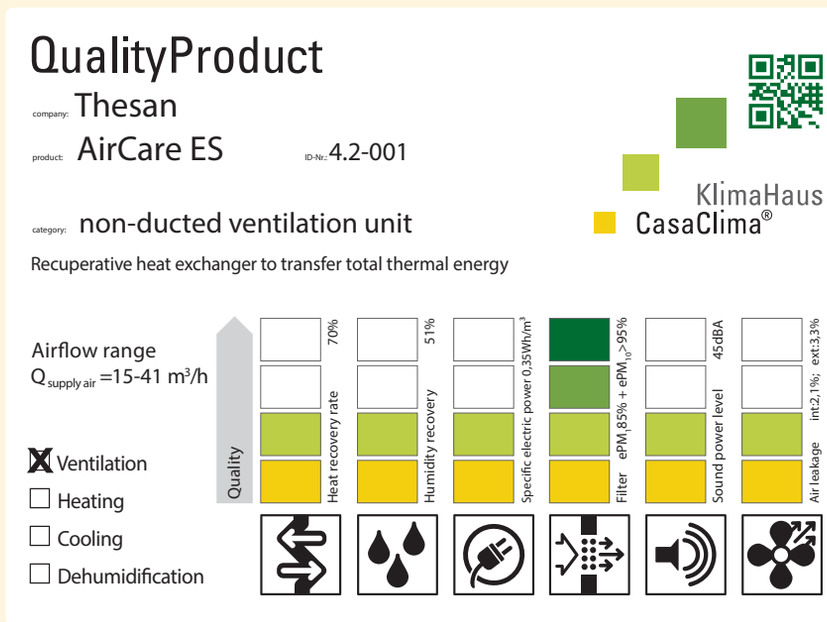
> TÜV certified according to test standard UNI EN 13141.

Quality Certification issued by an independent Body (TÜV) is the only thing that guarantees that the device will do what it promises, meeting all the provisions of applicable legislation.

The CasaClima Quality Label:

> selects the best systems in the DCV market

> clearly and transparently informs users and designers of the requirements that determine the quality of a DCV system.



## Aircare ES is the perfect appliance to generate wellbeing and **to minimise energy consumption.**

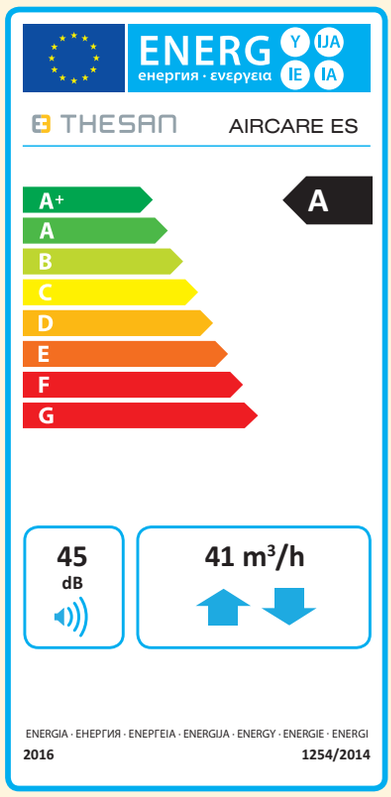
# ECODESIGN energy label

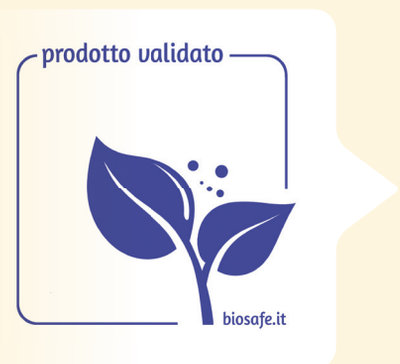
Commission Regulation (EU) No 1253/2014 and Commission Delegated Regulation (EU) No 1254/2014 supplementing Directive 2010/30/EU establish energy labelling requirements for ventilation units.
They encompass ecodesign requirements for systems with an electric power input of more than 30 W per air stream. Ventilation units (e.g. Single Room systems) with very low energy consumption are exempted from the labelling requirements.

Aircare ES does not require an energy label because it consumes no more than 20 W.

When Aircare ES is correctly sized for the home it is to be installed in, it assures the flow rate required by ISO 17772-1:2017 of 14.4 m3/h per person, with an excellent operating efficiency of 82%.
This performance level is extremely high for a single-point system; at the same time, it is fully compliant with the standard in terms of air change.

It is important to consider that, in order to achieve a higher level of efficiency, the correct air exchange required may be compromised, which in turn means not being compliant.




# BIO-SAFE® Validation Seal

Aircare ES obtained the Bio-Safe® endorsement stamp, a mark that guarantees indoor living health and comfort.

**Bio-Safe® certifies the health of rooms.**

The Certification of Environmental Health for residential skins is an important principle of prevention and protection of health.

We spend most of our time indoors and often we are unable to associate our daily ailments (headaches, drowsiness, irritability, insomnia, allergies or rhinitis just to name a few) with the suspicion that they may originate from the environment.

The products that received this validation were tested according to the Bio-Safe® protocol, as follows:

> laboratory tests conducted in test chambers (UNI EN 16000) to verify their emissions potential;

> environmental sampling (UNI EN 14412) to assess the level of indoor air purification achieved in the rooms equipped with the DCV system.

# AIRCARE ES
# DESIGN OBJECT

Aircare ES stands out for the streamlined, elegant design, that is typical of the unmistakeable Pininfarina style.
It seamlessly complements any architectural concept to become part of the decor.

pininfarina

## The almost invisible revolutionary resource

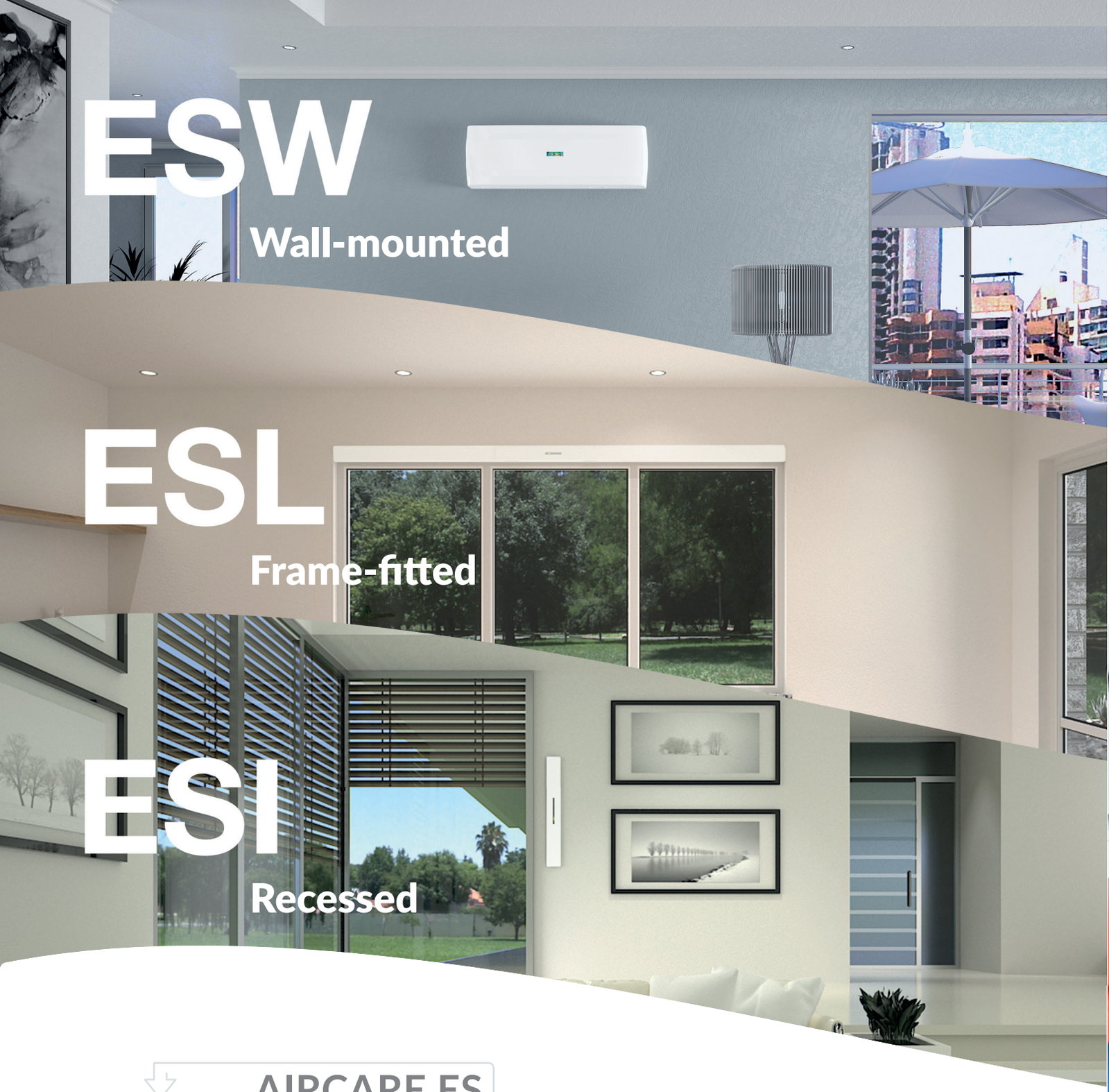
Aircare ES is almost invisible from the outside. Indoors it has a practical and pleasantly high-tech look.

It's perfect for:

> residential use (apartments, single-family homes, living areas or bedrooms)

> non-residential use (shops, bars, offices, hotels, patient rooms in health facilities and yachts).

Light and compact, Aircare ES is quick and easy to install, adapting to every need and every type of interior decor.



# ESW
## Wall-mounted

# ESL
## Frame-fitted

# ESI
## Recessed



## AIRCARE ES
## ADAPTS TO YOUR NEEDS. ALL OF THEM

Choose your aircare.

More versatile than any other system.
Shall we bet on that?

# ANY OF OUR AIRCARE VERSIONS YOU WILL CHOOSE, THE PRODUCT WILL BE:

## Versatile

with different installation modes

## Compact

with an excellent ratio between machine dimensions and air exchange capacity

## Customizable

with a wide choice of air vents positioning and colours

# AIRCARE ES
## PERFECT BALANCE

82%
THERMAL EFFICIENCY

100%
AIR CHANGE

## AIRCARE ES
## AIR CHANGE WITHOUT COMPROMISING

Aircare ES is equipped with an enthalpy heat exchanger, which enables latent and sensible heat recovery.

The heat exchanger guarantees:
> Maximum thermal efficiency (82%)
> > Total change of the air in 2 hours.

With enthalpy heat exchange technology, it would be possible to increase the efficiency rate to 90% but this would compromise the correct air change.

Aircare ES prioritises the correct air change ratio (as required by legislation), settling on an optimal energy efficiency rate of 82%.

Aircare ES integrates perfectly with all heating and climate control systems already present or planned.

Aircare ES is super easy to control, use and service.

# Everything you need to know about AIRCARE ES

Measurements taken in compliance with EN 13141-11

## Sound pressure

LPA27dB at 3 m
in free-field conditions
(less than the background
noise in a library)

## Sound insulation

Dnew = 53 dB
with hoods open

Dnew = 55 dB
with hoods closed

sound insulation of a very
efficient window
Dnew = 45 dB

## Thermal transmittance

Max 0,3 W/m²K
(1.5 W/m2K for an
efficient window)

## Humidity conditions

No water drainage
required

## Power supply

110-230V / 50 - 60 Hz

## Safety class

II

## Degree of protection

IPX4

## Acceptable operating temperature

Min -20°
Max 50°

# The real comparison comes into play here:

| (*) Speed | (*) Flow rate [m³/h] | (*) Sound Power Level LwA [dBA] | (**) Sound Pressure $L_p$ (at 3 m under free-field conditions) [dBA] | (***) Sound pressure $L_p$ (estimated for a normalised environment) [dBA] | (*) Thermal efficiency % | Power consumption [W] |
|---|---|---|---|---|---|---|
| 1 | 15 | 37 | 19 | 30 | 82 | 4,6 |
| 2 | 20 | 40 | 22 | 33 | 79 | 5,8 |
| 3 | 30 | 45 | 27 | 38 | 74 | 10,3 |
| 4 | 35 | 48 | 30 | 41 | 72 | 14,6 |
| 5 | 41 | 51 | 33 | 44 | 69 | 20,6 |

(*) Measurements taken in compliance with EN 13141-8
(**) Data provided to enable comparison with the declarations of competitors

(***) This evaluation refers to measurements taken in the middle of a room in a normalised environment. Here, a normalised environment has a reverberation time of 0.05 seconds.

# Aircare AE

## Remove humidity and unpleasant smells

### AE
**Recessed and frame-fitted**

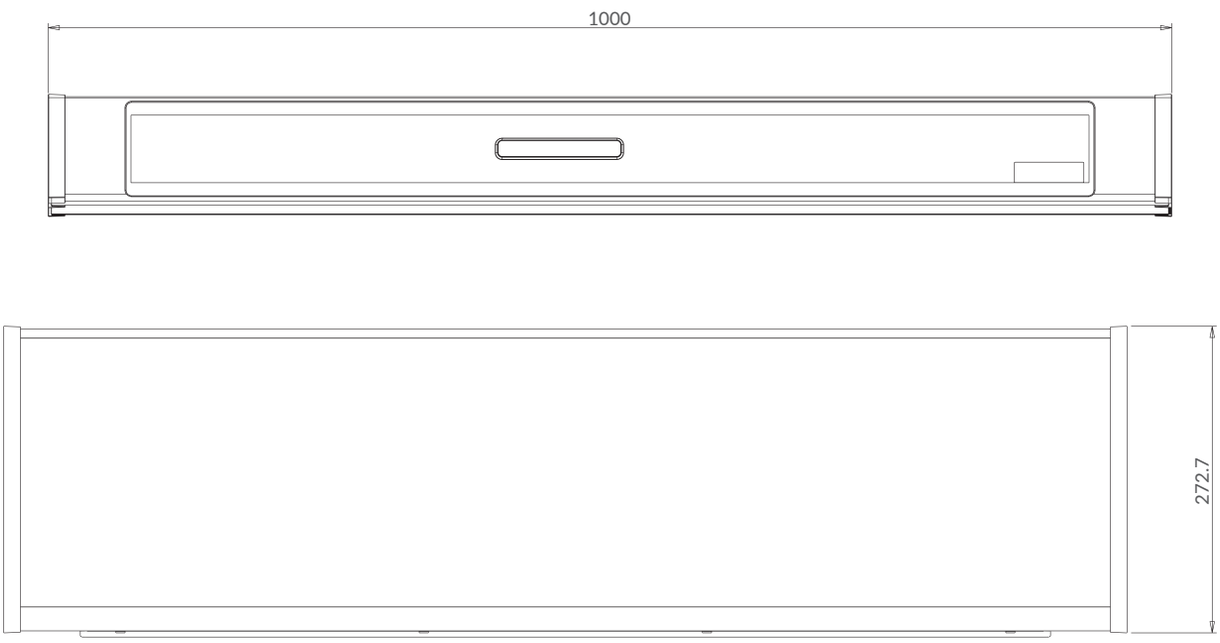
For profiles with tickness up to 170 mm.
The recessed and frame-fitted solution, to be built into the wall or, depending on the space available, even inside box or monoblocs.

### AEW
**Wall mounted**

The perfect solution when you don't expect neither the replacement of the windows and doors nor any building work. Aircare AEW is easily applied through a Ø 100 mm hole in the wall.

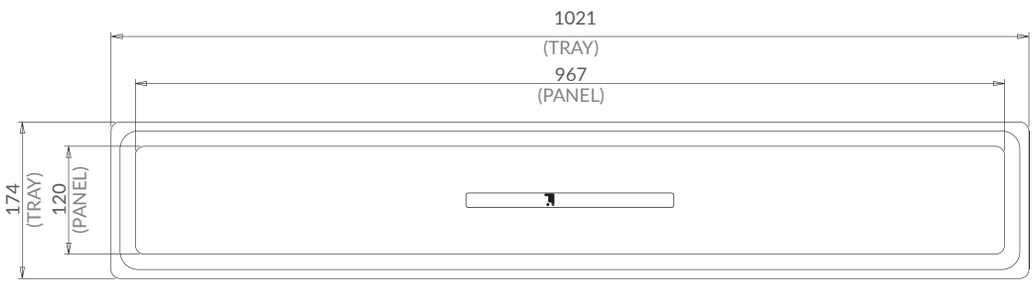
## The perfect complement to Aircare ES...

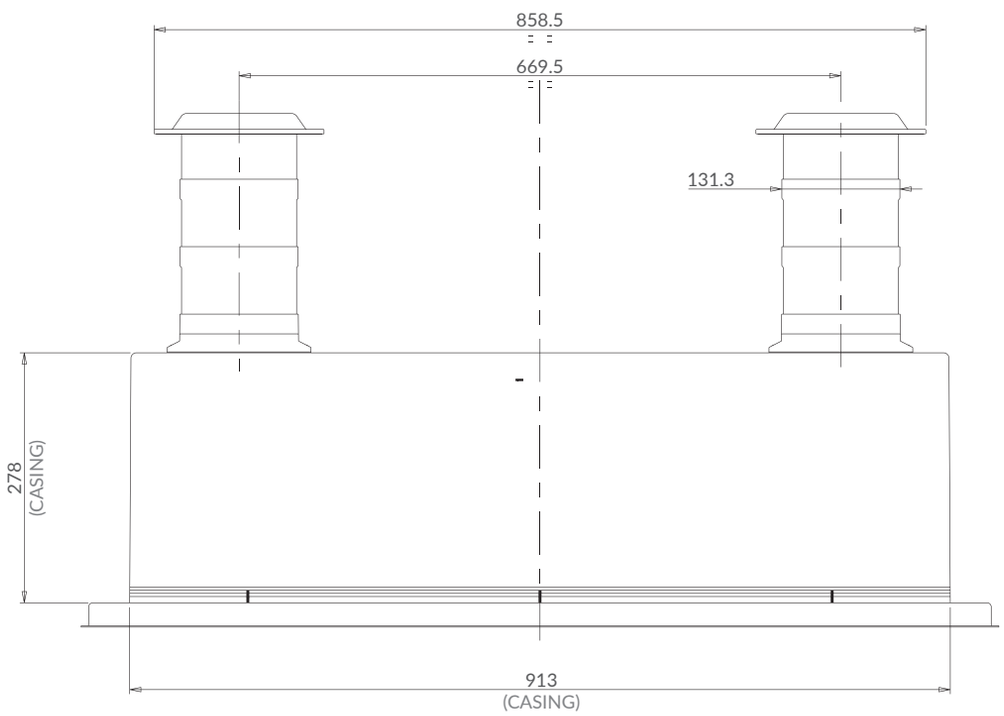
# AIRCARE ESL (FRAME-FITTED)



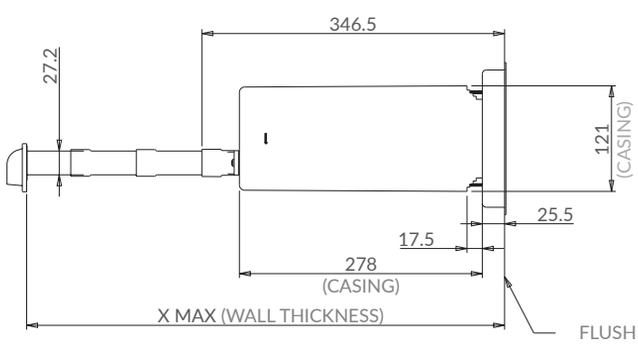

Minimum width of frame (1 m).
For profiles of up to 170 mm thick.

# AIRCARE ESI (RECESSED)
## Horizontal with flush panel



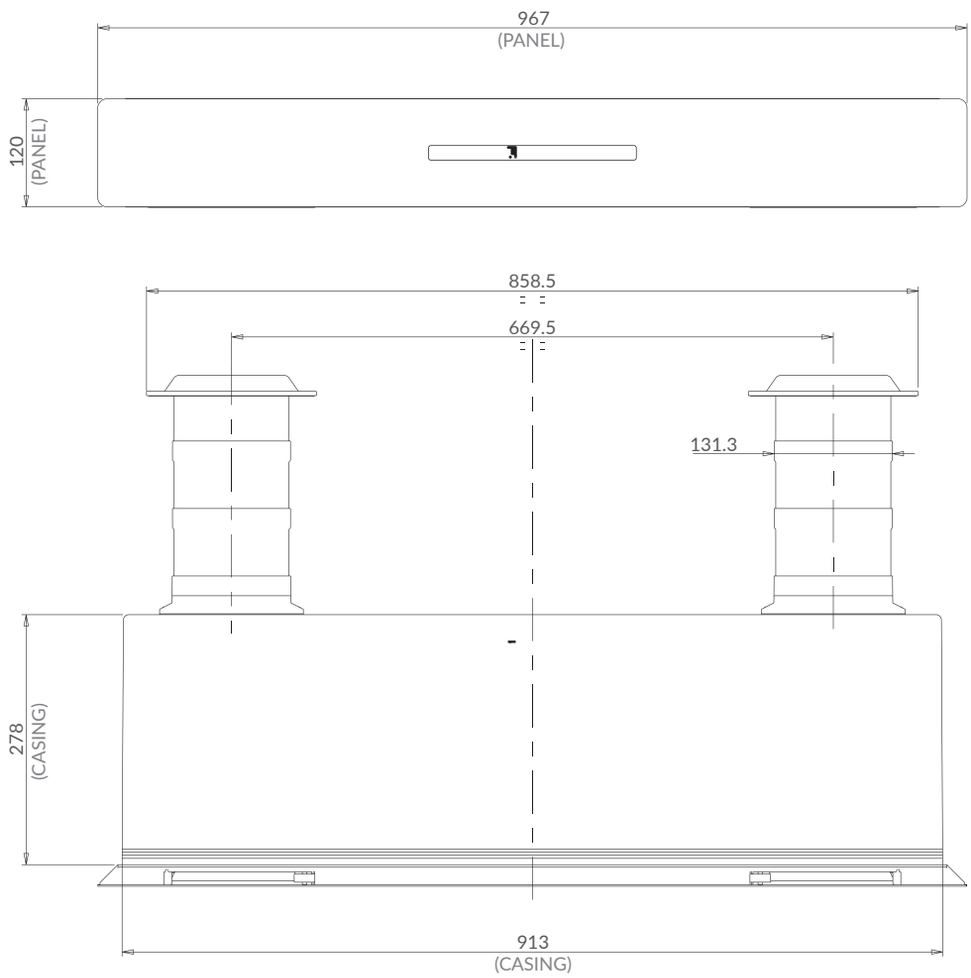

| X MAX mm | PORT L = 70 mm | EXTENSION L = 75 mm |
|---|---|---|
| 396 | 1 + 1 | NO |
| 471 | 1 + 1 | 1 + 1 |
| 546 | 1 + 1 | 2 + 2 |
| 621 | 1 + 1 | 3 + 3 |
| 696 | 1 + 1 | 4 + 4 |
| 771 | 1 + 1 | 5 + 5 |
| 846 | 1 + 1 | 6 + 6 |



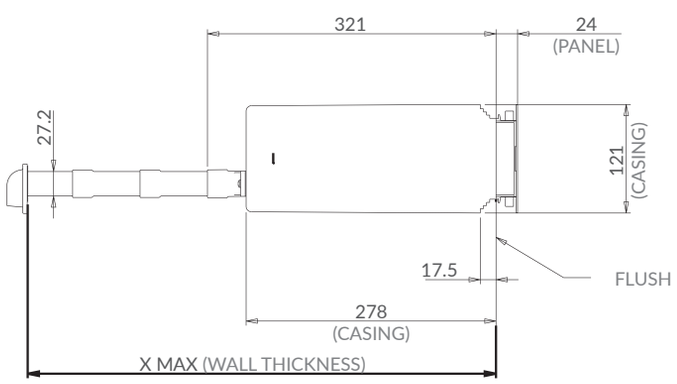

If the wall is thinner than the thicknesses in the table, just file down the extension or the port when installing.

Vertical installation also possible

# AIRCARE ESI (RECESSED)
## Horizontal with protruding panel



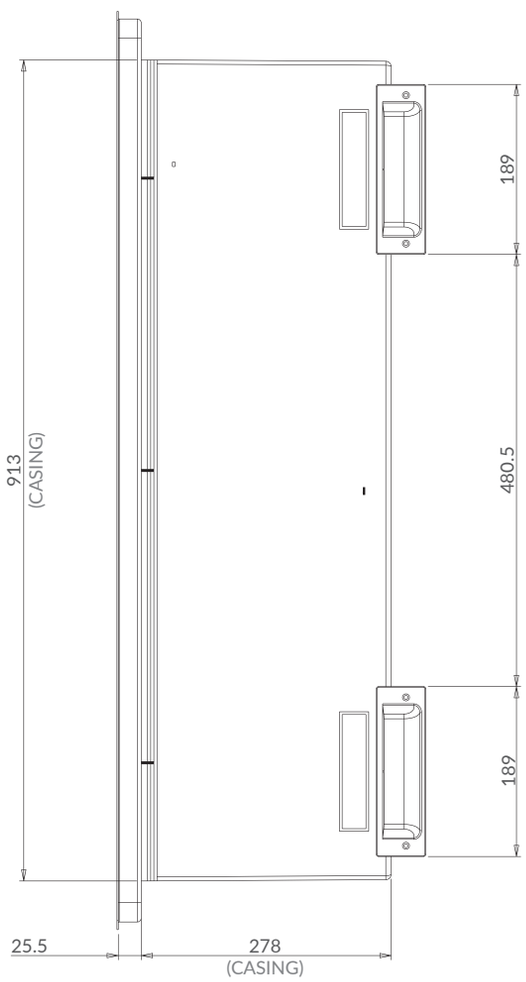

| X MAX mm | PORT L = 70 mm | EXTENSION L = 75 mm |
|---|---|---|
| 371 | 1 + 1 | NO |
| 446 | 1 + 1 | 1 + 1 |
| 521 | 1 + 1 | 2 + 2 |
| 596 | 1 + 1 | 3 + 3 |
| 671 | 1 + 1 | 4 + 4 |
| 746 | 1 + 1 | 5 + 5 |
| 821 | 1 + 1 | 6 + 6 |

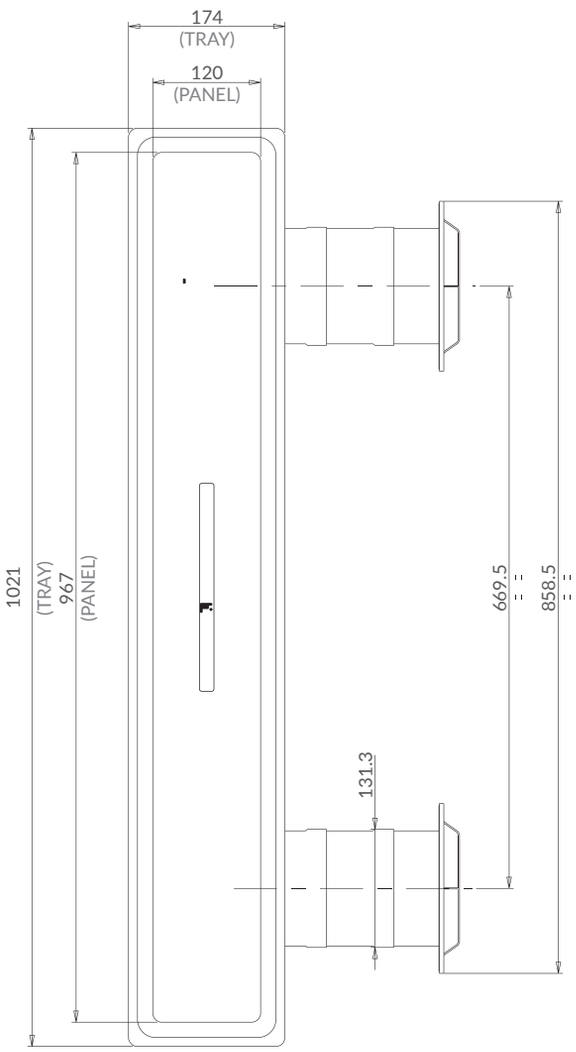


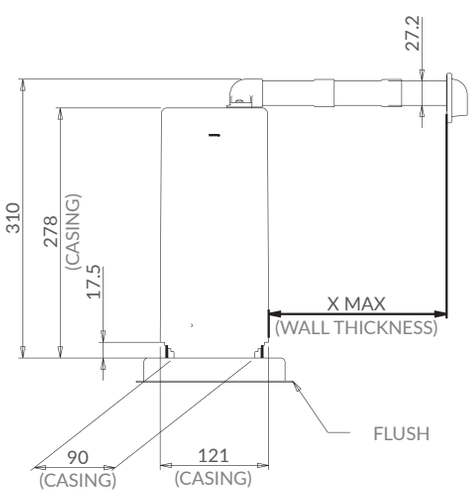

If the wall is thinner than the thicknesses in the table, just file down the extension or the port when installing.

Vertical installation also possible

# AIRCARE ESI (RECESSED)
## Vertical with flush panel



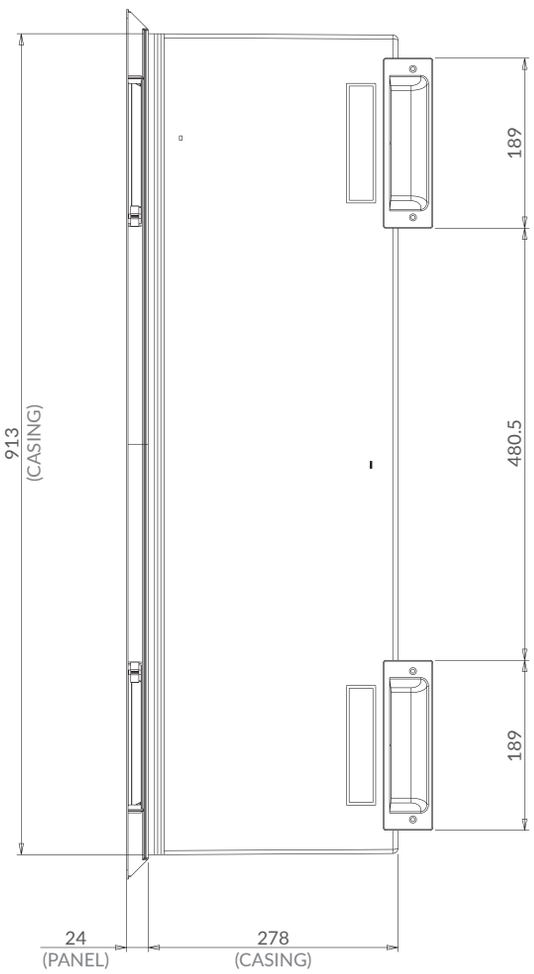



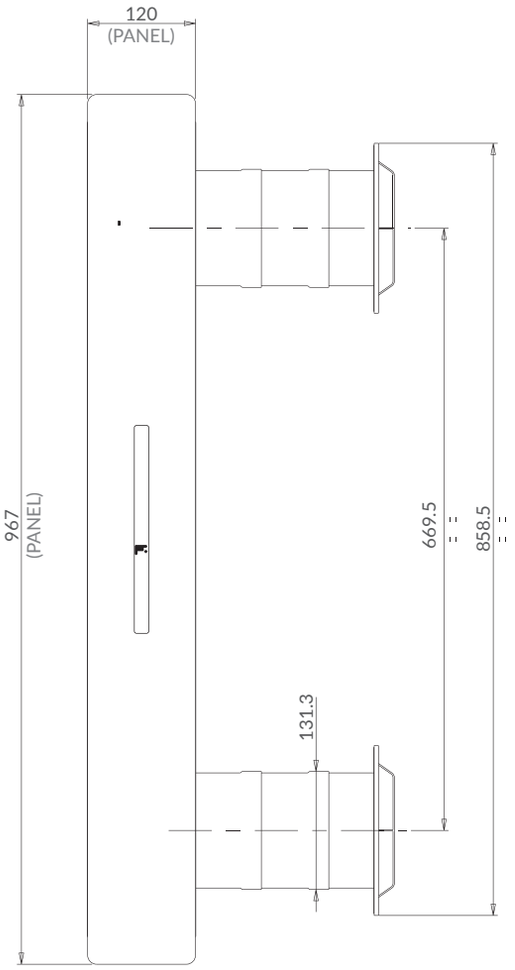




| X MAX mm | PORT L = 70 mm | EXTENSION L = 75 mm |
|---|---|---|
| 48 | 1 + 1 | NO |
| 123 | 1 + 1 | 1 + 1 |
| 198 | 1 + 1 | 2 + 2 |
| 273 | 1 + 1 | 3 + 3 |

If the wall is thinner than the thicknesses in the table, just file down the extension or the port when installing.

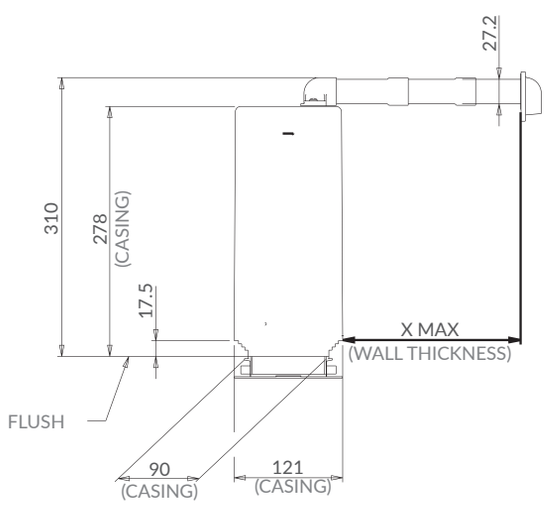
# AIRCARE ESI (RECESSED)
## Vertical with protruding panel



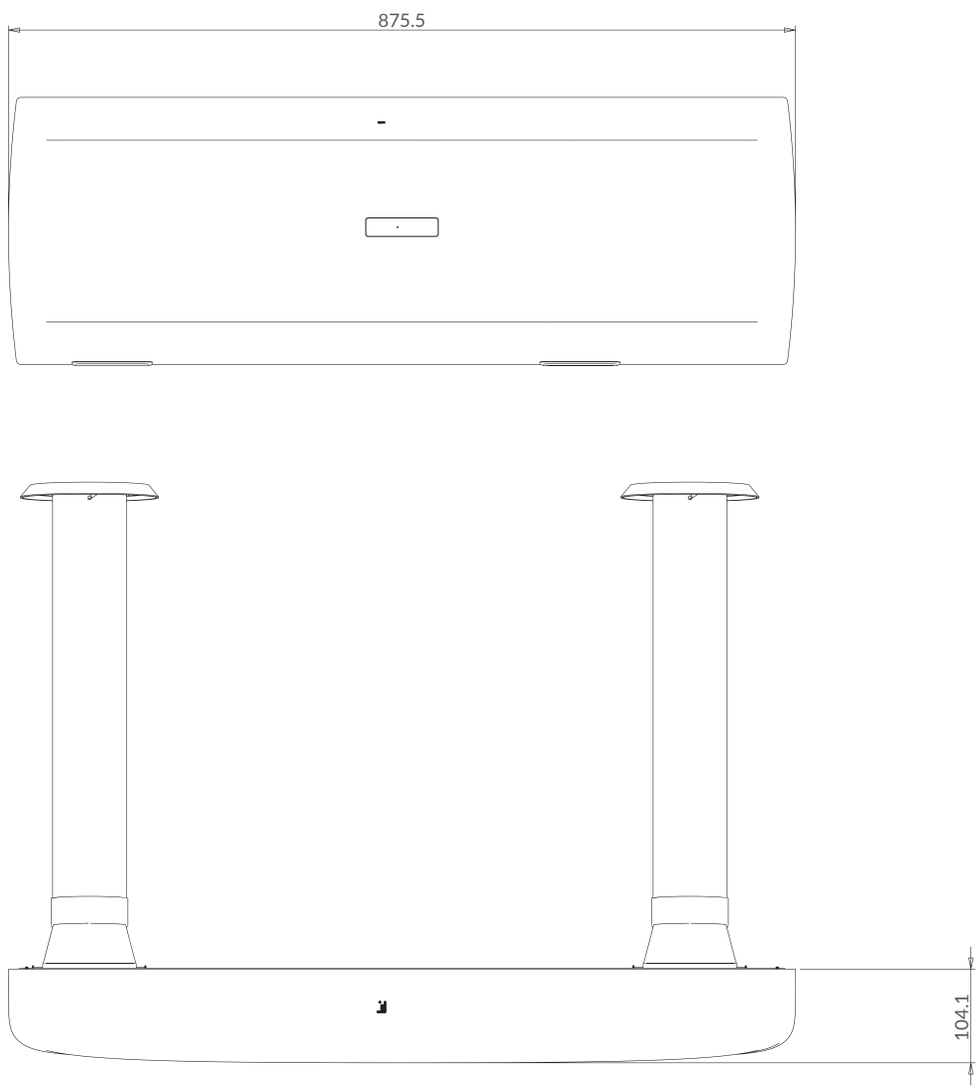




| X MAX mm | PORT L = 70 mm | EXTENSION L = 75 mm |
|---|---|---|
| 48 | 1 + 1 | NO |
| 123 | 1 + 1 | 1 + 1 |
| 198 | 1 + 1 | 2 + 2 |
| 273 | 1 + 1 | 3 + 3 |

If the wall is thinner than the thicknesses in the table, just file down the extension or the port when installing.

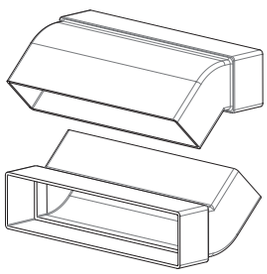


# AIRCARE ESW (WALL-MOUNTED)

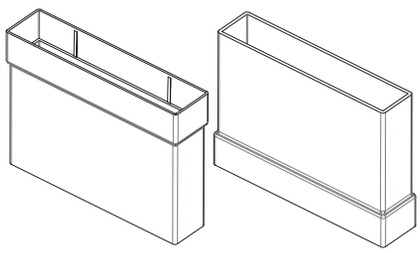


# Accessories and spare parts

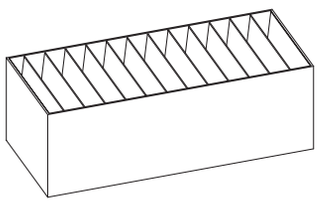
Complete line of accessories and spare parts, easy to use or replace,
handy to complete the correct installation of Aircare ES
or to adapt it to structural requirements.



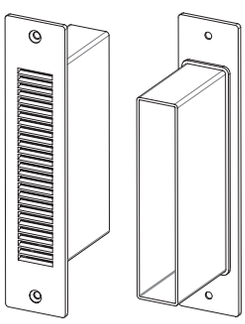
45° elbow
for ports



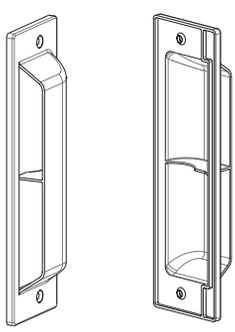
Extension
for ports



Dual layer HEPA H13
Air filter



External port
(for facade)



External port
cover

## DOWNLOAD AREA

Select and download all the information you might need
to find out more about world of Aircare ES, including
technical data and installation instructions.

www.thesan.com/en/download

# ES Product datasheet (ErP)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a | Supplier's name | SAVIO S.p.A. | | | | | |
| b | Model identifier (Code) | AIRCARE ES | | | | | |
| c | Specific energy consumption (SEC) | cold A+ -77 | average A -37 | warm E -14 | kWh/(m2*a) | | |
| d | Typology | ☒ RVU | ☐ NRVU | ☒ BVU | ☐ UVU | | |
| e | Type of drive installed or intended to be installed | ☐ single speed | ☐ 2-speed | ☒ multi-speed | ☐ VSD | ☐ installed | ☐ intended to be istal. |
| f | Type of heat recovery system | ☐ recuperative | | ☒ regenerative | | ☐ none | |
| g | Thermal efficiency of heat recovery $\eta_0/\eta_5$ | 74/70 | % | | | | |
| h | Maximum flow rate | 40.6 | $m^3/h$ | | | | |
| i | Electric power input of the fan drive | 20.8 | W | | | | |
| j | Sound power level (LWA) | 45 | dB[A] | | | | |
| k | Reference flow rate | 28.4 | m3/h | | | | |
| l | Reference pressure difference in Pa | 0 | Pa | | | | |
| m | SPI in W/(m3/h) | 0,35 | $W/(m^3/h)$ | | | | |
| n | Control factor and control typology | CTRL 0.65 | | MISC 1,21 | | X-Value 2 | |
| o | Declared maximum internal and external leakage rates (%) | 2.1% | internal | 3.3% | external | | |
| p | Mixing rate | 0.5% | indoor | 0.3% | outdoor | | |
| q | Position and description of visual filter warning | Front cover LED | | | | | |
| r | Installation instructions | See below | | | | | |
| s | Internet address with preassembly and disassembly instructions | http://www.thesan.com/download.php | | | | | |
| t | Airflow sensitivity to pressure variations a +20 Pa and -20 Pa | 6.0 | % | | | | |
| u | Indoor/outdoor air tightness | 1,6 | $m^3/h$ | | | | |
| v | Annual electricity consumption (AEC) | cold 2.0 | average 2.0 | warm 2.0 | kWh/a | | |
| w | Annual Heating Saving (AHS) | cold 82.5 | average 42.2 | warm 19.1 | kWh/a | | |

# AE Product datasheet (ErP)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a | Supplier's name | SAVIO S.p.A. | | | | | |
| b | Model identifier (Code) | AIRCARE AE | | | | | |
| c | Specific energy consumption (SEC) | cold DG -19 | average F -6 | warm - 1 | kWh/(m2*a) | | |
| d | Typology | ☒ RVU | ☐ NRVU | ☐ BVU | ☒ UVU | | |
| e | Type of drive installed or intended to be installed | ☐ single speed | ☐ 2-speed | ☒ multi-speed | ☐ VSD | ☐ installed | ☐ intended to be istal. |
| f | Type of heat recovery system | ☐ recuperative | | ☐ regenerative | | ☒ none | |
| g | Thermal efficiency of heat recovery $\eta_0/\eta_5$ | NA | % | | | | |
| h | Maximum flow rate | 61 | $m^3/h$ | | | | |
| i | Electric power input of the fan drive | 16.7 | W | | | | |
| j | Sound power level (LWA) | 40.4 | dB[A] | | | | |
| k | Reference flow rate | 36 | m3/h | | | | |
| l | Reference pressure difference in Pa | 0 | Pa | | | | |
| m | SPI in W/(m3/h) | 0,23 | $W/(m^3/h)$ | | | | |
| n | Control factor and control typology | CTRL 1 | | MISC 1,21 | | X-Value 2 | |
| o | Declared maximum internal and external leakage rates (%) | NA | internal | 3.3% | external | | |
| p | Mixing rate | NA | indoor | NA | outdoor | | |
| q | Position and description of visual filter warning | Front cover LED | | | | | |
| r | Installation instructions | See below | | | | | |
| s | Internet address with preassembly and disassembly instructions | http://www.thesan.com/download.php | | | | | |
| t | Airflow sensitivity to pressure variations a +20 Pa and -20 Pa | 6.0 | % | | | | |
| u | Indoor/outdoor air tightness | 12 | $m^3/h$ | | | | |
| v | Annual electricity consumption (AEC) | cold 3.2 | average 3.2 | warm 3.2 | kWh/a | | |
| w | Annual Heating Saving (AHS) | cold 27.3 | average 14.0 | warm 19.1 | kWh/a | | |

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