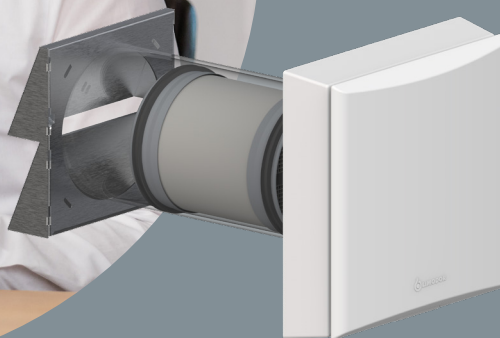




LIMODOR
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AIRODOR

Compact domestic ventilation with
high performance and energy efficiency



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AIRODOR

Decentralized room ventilation with heat recovery

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Why decentralised domestic ventilation with heat recovery?

Dense construction and noise protection

Decentralised domestic ventilation is characterised by the fact that the necessary supply and exhaust air volumes, as well as the positioning of the required ventilation elements, are specifically adapted to a living space or, if several elements are combined, to an entire flat. The air volumes exchanged depend on the structural situation and planned room utilisation.

Individually configurable control systems in combination with customised components ensure an optimal and energy-efficient ventilation result. Residential ventilation with controlled exhaust and supply air is also justified by the very tight building envelope in modern construction.

However, protection against noise or pollutants are further bonus points in favour of this system, particularly in urban areas or along traffic routes.

Allergies reduce quality of life

Nowadays, many people suffer from respiratory diseases or react to pollen with an allergy. This makes it all the more important to have clean indoor air at a pleasant temperature in your own living space. Appropriate filtering of the supply air ensures this.

The frustrating choice of 'windows closed - bad air' or 'windows open - noise and pollutants' becomes obsolete with decentralised domestic ventilation.

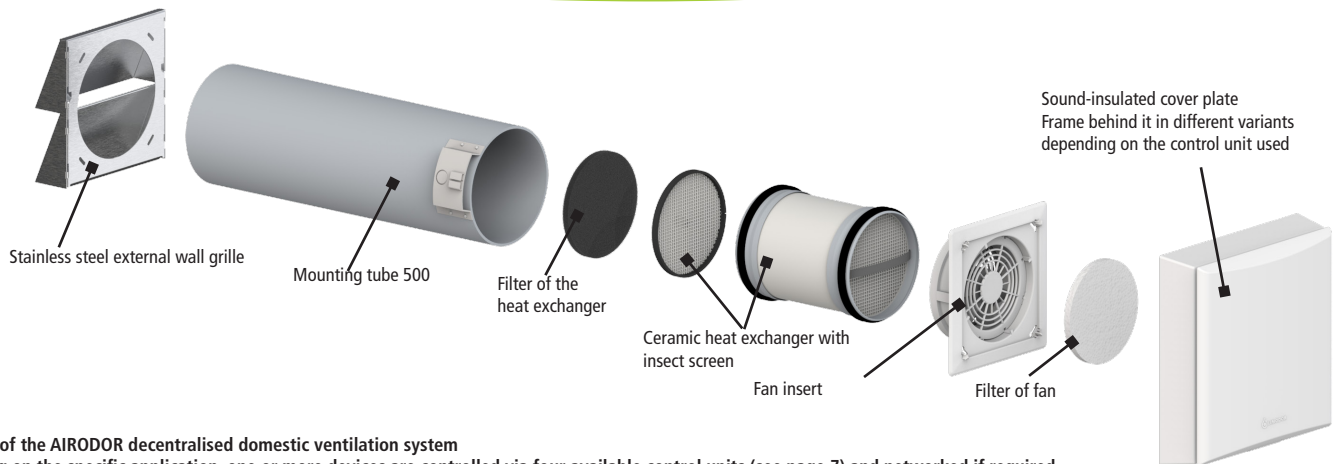


Good reasons for AIRODOR

- Thanks to the integrated heat transfer unit and optimised air flow, the energy contained in the extract air can be transferred to the incoming outside air in a highly efficient manner. This energy recovery can achieve values of up to 97%. This is easy on the wallet and reduces heat loss enormously, especially in winter.
- All AIRODOR variants have two class G3 filters as standard (separately on the supply and extract air side). This ensures a high filter effect for the outside air. Class F7 fine dust filters are also available as an option. This provides a high level of protection against dust and insects as well as allergens and germs.
- The AIRODOR is primarily intended for common rooms. Noise levels have therefore been minimised by design. With a self-noise level of 24 dB(A), based on a volume flow of 10 m³/h, it is the quietest wall-mounted ventilator in its class.
- Small space requirement and unobtrusive integration in the living room.
- The standard version of the AD-G/CO₂ control unit has an integrated WLAN function for integration into a smart home solution. Alternatively, the desired configuration can be carried out via a WLAN network using an app on a smartphone.
- In some control unit variants, several device types can also be operated in combination: up to 3 AIRODOR units are possible with the AD-UP control unit, and even up to 16 with the AD-UV control unit.
- In the AD-G/CO₂ and Basic variants, the desired settings can be configured directly on the device frame using a proximity or finger pressure sensor.
- A combination of one or more AIRODOR units with LIMODOR F/M single-pipe fans, e.g. in bathrooms and toilets, is easily possible in various control variants.
- Three air volume levels ensure the optimum mix of high ventilation performance and maximum energy efficiency.

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Decentralized room ventilation with heat recovery



Structure of the AIRODOR decentralised domestic ventilation system

Depending on the specific application, one or more devices are controlled via four available control units (see page 7) and networked if required.

Structure of AirOdor domestic ventilation unit

A light grey mounting pipe with an outer diameter of 160 mm, available in two different lengths, serves as the system casing for the AirOdor.

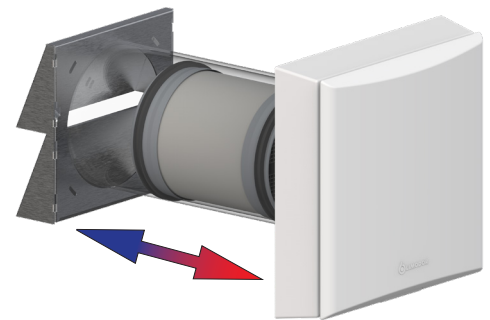
A highly efficient ceramic heatexchanger with included filter and the fan insert are integrated into this casing. This fan insert consists of a structure-borne sound-insulated fan unit with an energy-saving motor, an exhaust air filter and a sound-insulated cover plate.

A stainless steel weather protection grille is fitted to the outer façade as standard. The AIRODOR has a cover that closes the supply and exhaust air openings when the ventilation unit is switched off.

Function:

Polluted room air is filtered and discharged to the outside via the ceramic heat exchanger. This absorbs the heat energy from the exhaust air and heats up as a result.

After the set cycle time of 45 or 60 seconds (can be set on the control unit), the fan changes direction of rotation. Fresh air is drawn in from outside, filtered and brought into the room at the correct temperature via the previously heated ceramic heat exchanger.



Individual operation in the living space

The control system switches the AIRODOR alternately to extract or supply air mode. This creates a slight negative or positive pressure in the ventilated living space.

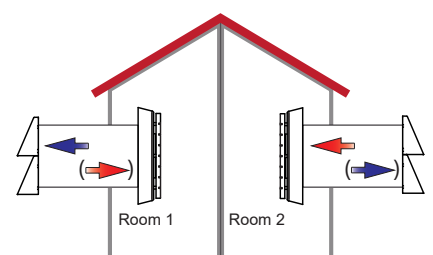
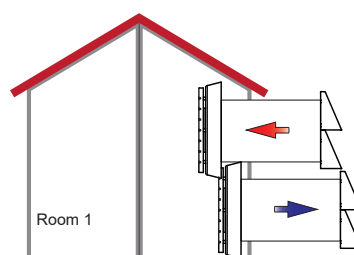
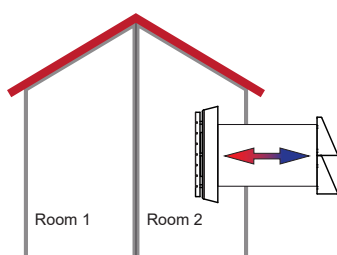
Pair operation: Two AIRODOR per living space

The control system synchronises the volume flows of the two AIRODOR units. One unit extracts indoor air, while the second draws in the same amount of fresh air. There is no underpressure or overpressure.

Paired operation: Two AIRODOR for two living spaces

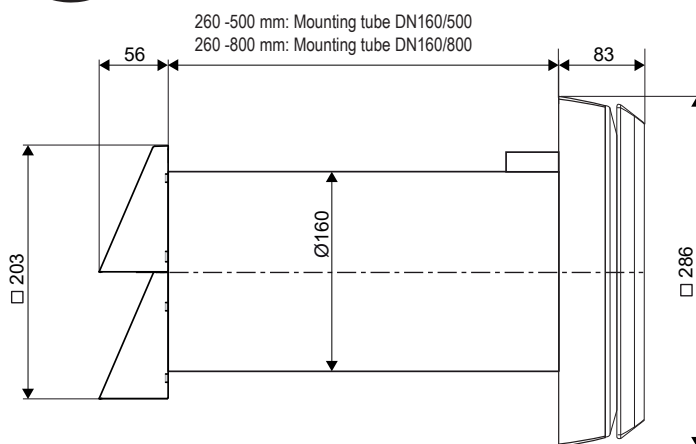
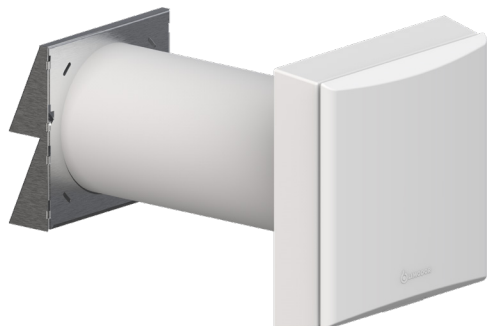
The control system synchronises the volume flows and air directions of the two AIRODOR units in the respective living space. There is no underpressure or overpressure.¹⁾

¹⁾ Sufficient overflow possibilities between the rooms (e.g. door gap min. 1 cm) or alternatively a separate overflow element are necessary for this variant.





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Technical data and dimensions

Supply voltage	12 VDC
Power consumption ¹⁾	0,2 A
Control input	PWM-Signal
Volume flow ¹⁾	10 / 20 / 40 m³/h
Max. degree of heat provision according to DIBt	97 / 81 / 77 %
Degree of heat provision according to EN 13141-8	up to 87%
Power consumption - including transformer ¹⁾	4,3 / 4,2 / 8,3 W
Specific input power (SEL) ¹⁾	0,4 / 0,2 / 0,2 W/m³/h
Energy efficiency class (low wind)	A
Sound power LWA ²⁾	32 / 36 / 45 dB
Sound pressure level LA ^{2), 4)}	24 / 28 / 37 dB (A)
Sound reduction index Rw ^{2), 3)}	22 dB at A = 0,02 m²
Standard sound level difference Dnew ³⁾	49 dB
Filter class supply/exhaust air	ISO Coarse ≤45% (G3)
Operating temperature	-20 to 50°C
Weight	3,5 kg
Minimum installation length	260 mm
Protection class	IP22
Housing material (cover)	ABS
Housing colour (cover)	white (similar to RAL9016)

¹⁾ Data for two wall fans including control unit and transformer (pair operation)

²⁾ Version with AirOdor cover (averaged for supply / extract air operation)

³⁾ Specification dependent on outer wall / wall-mounted fan design

⁴⁾ Sound pressure level according to enveloping surface method (hemisphere) at a distance of 1 m

Overview of controls

Control AD-G



- Operation via frame sensors
- An additional AIRODOR can be controlled
- Sound insulation included
- Humidity, temperature, CO₂ program
- WLAN integrated (standard)
- Central control prepared
- Timer function

Control AD-UP



- External operation (e.g. switch)
- Maximum controllable AIRODOR: 3
- Operating functions can be coded
- Installation: flush-mounted (switch box)
- Interaction with LF/M fans possible

Control Basic



- Operation via frame sensors
- Sound insulation included
- Checking the temperature difference inside - outside limits the entry of excessively cold outside air
- Interaction with LF/M ventilators possible

Control AD-UV



- External operation (e.g. switch)
- Maximum controllable AIRODOR: 8 (16)
- Interaction with fans LF/M possible
- Operating functions can be coded
- Mounting: Top-hat rail (switch cabinet)
- Serial interface: RS485

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Decentralized room ventilation with heat recovery

Control AD-UP

The AD-UP control unit enables the control of a maximum of three AIRODOR sets without integrated control in single or pair operation. In addition, single or two-stage single-pipe fans of the type Limodor F/M (with built-in auxiliary relay C-EK for external control) can also be integrated. The control unit is designed for installation in a flush-mounted box with a minimum depth of 75 mm. It has a time-controlled filter change indicator with reset function.

Possible functions in consideration of switching priorities:

- Three fan speeds (Min, Med and Max)
- Base load Min (switchable or codable)
- Supply/exhaust air mode with fan speed Med and Max
- Adjustment of volume flow fan stages Med and Max
- Time-controlled acoustic filter display

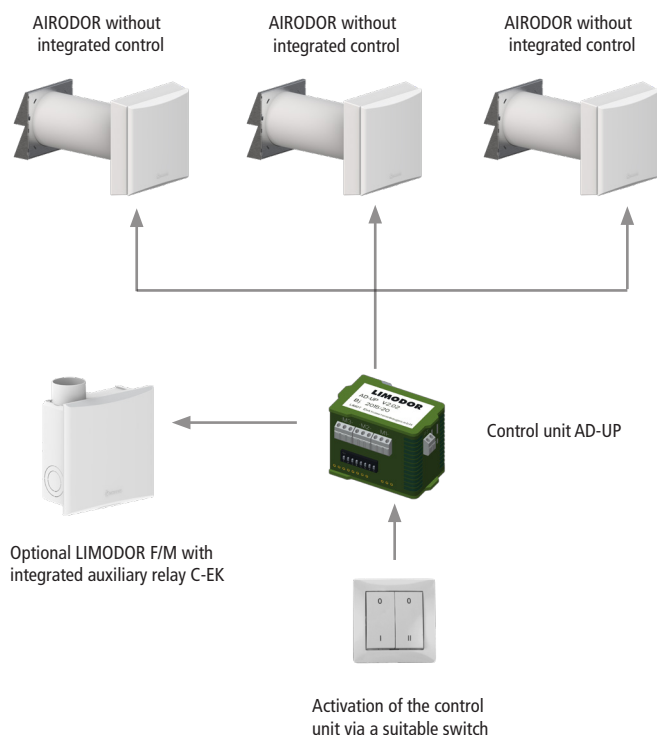
Control AD-UV

With the AD-UV control unit, up to 8 (16) AIRODOR sets without integrated control can be controlled with a PWM control signal in single or pair operation. It is also possible to integrate LIMODOR F/M single-pipe fans (with built-in C-EK auxiliary relay for external control). The control unit is designed for installation in a switch cabinet.

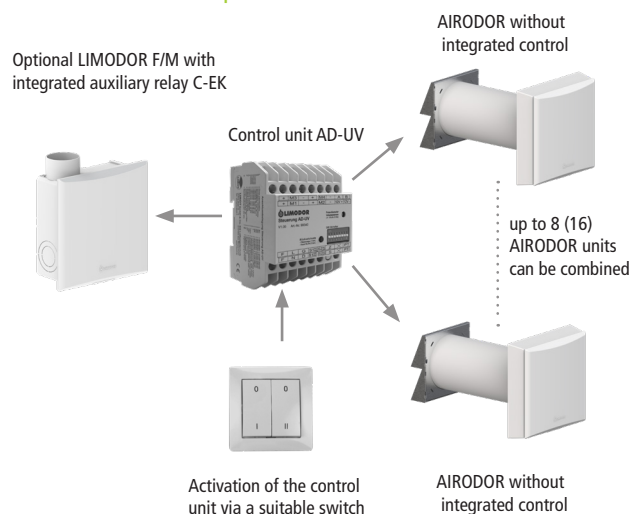
Possible switching functions taking switching priorities into account

- Three fan speeds (Min, Med and Max)
- Base load Min (switchable or codable)
- Supply air/ventilation mode with fan speed Med and Max
- Adjustment of volume flow fan stages Med and Max
- Time-controlled acoustic filter display
- Optionally controllable via RS485 serial interface

Realisation example with control unit AD-UP



Realisation example with control unit AD-UV



Accessories for control unit AD-UV

The LSM control module (art. no. 55016) enables power supply when cascading / switching a maximum of 16 AIRODOR units. It is mounted on the top-hat rail in the control cabinet.



Combined operation AIRODOR and LIMODOR F/M

A combination of AIRODOR decentralised domestic ventilation and LIMODOR FM single-pipe ventilation system, as shown in the examples above, offers many ventilation options. The AD-UP and AD-UV control units thus enable energy-saving ventilation in living areas combined with pure odour and moisture extraction, e.g. in bathrooms or toilets.

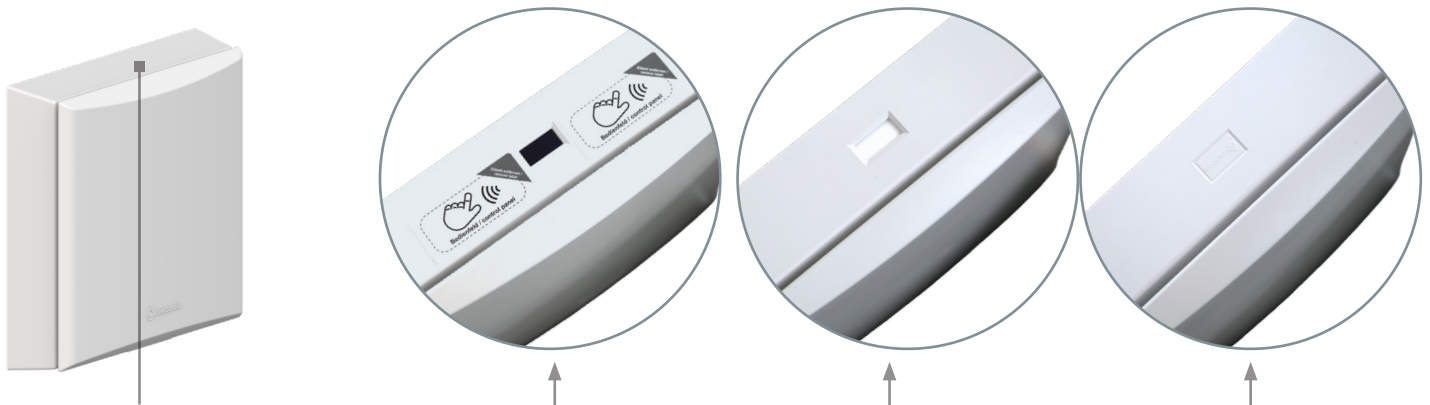
The AirOdor Plus and LIMODOR FM set can be combined exclusively with the following fan inserts:

- Fan-insert LF/M 100/30E (Art.Nr.: 22067)
- Fan-insert LF/M 60/30E (Art.Nr.: 22068)
- Fan-insert LF/M 60/40E (Art.Nr.: 22069)
- Fan-insert LF/M 60E (Art.Nr.: 22070)



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AIRODOR sets: Frame controls detailed view



AIRODOR Plus AD-G/CO₂
Integrated AD-G/CO₂ control unit (sticker can be removed)
Proximity sensor and app control



AIRODOR Basic
Integrated Basic control unit. Control at the touch of a button

AIRODOR without control
Without integrated control. Externally controlled via AD-UV, AD-UP or combined with AD-G/CO₂

Set AIRODOR Plus AD-G/CO₂

The AD-G / CO₂ control unit integrated in the frame can control another AIRODOR without integrated control. A display indicates the selected fan function or setting. The device or programme is operated via the contactless sensors on the frame or via the app. Timer and WLAN function, as well as warm-up function, are integrated as standard in all versions of the AD-G/CO₂ series control units.

Functions possible

- Three fan speeds (Min, Med and Max)
- Selectable/adjustable fan functions
- Timer function ('Sleep/mute')
- 'Priority' setting for centralised control
- Time-controlled filter control indicator on the display
- Four selectable programmes: humidity and / or temperature, CO₂ and timer

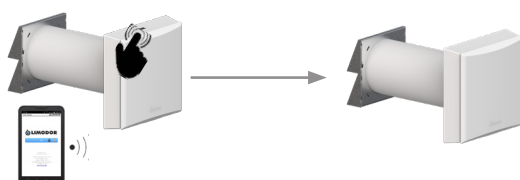
The AIRODOR sound-insulated cover consists of a mounting frame with AD-G control board and an attachment frame with display and cover plate. Power supply (12 V DC) via external power supply unit (included in the set)

Realisation example master fan - secondary fan

The AIRODOR Plus AD-G acts as a master fan that also controls a secondary fan (AirOdor set without control). Its frame control or the app is therefore used to set its own configuration or automatic operation via humidity, temperature or CO₂ mode as well as to control the operation of the secondary fan to match the master fan.

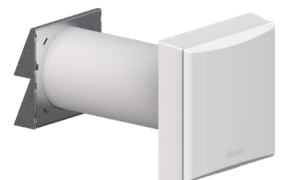
Masterfan
Set AIRODOR Plus AD-G

Secondary Fan
Set AIRODOR without control



Set AIRODOR without control

The set consists of fan insert, heat exchanger, mounting pipe, filters, sound-insulated cover plate and stainless steel outer wall grille, but without integrated control unit. It is intended as an auxiliary fan for an AIRODOR Plus AD-G/CO₂ set or for operation with the AD-UP or AD-UV control units available as accessories.



Set AIRODOR without control

Set AIRODOR Basic

The Basic control unit integrated in the frame can also control one or more LIMODOR F/M single-pipe fans (with integrated C-EK auxiliary relay for external control). LED lights indicate the selected fan function or setting. The device or programme is operated via the push-button control on the frame. The power supply unit (12 V DC) is built into the frame.

Functions possible

- Three fan speeds (Min, Med and Max)
- Selectable/adjustable fan functions
- Control option for LIMODOR F/M

Realisation example master fan and bathroom fan

An AIRODOR set without integrated control unit acts as a partner here, activated in the living area by a LIMODOR F/M – which switches on in the bathroom or toilet, for example – to ensure a supply of air at the correct temperature.

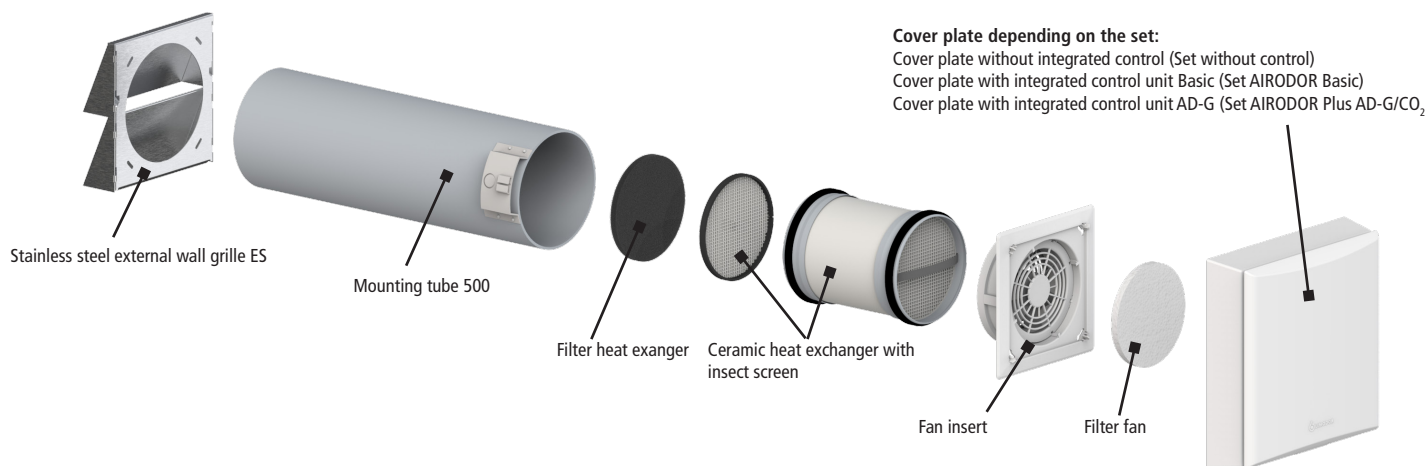
Set AIRODOR Basic or AIRODOR
without control

LIMODOR F/M with integrated
C-EK auxiliary relay



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Decentralized room ventilation with heat recovery



Summary and technical data AIRODOR - Sets

Set	Art. Nr.	Description
Set AIRODOR Basic Components as set AIRODOR without control, but with integrated control unit Basic in cover plate	45219	Control unit Basic installed in cover plate Volume flow: 10 / 20 / 40 m ³ /h Power consumption: 2,15 / 2,1 / 4,15 W Voltage: 230V~, 50Hz Sound pressure level Lp: 24 / 28 / 37 dB(A) at a distance of 1m
Set AIRODOR Plus AD-G/CO₂ Components as set AIRODOR without control, but with integrated control unit AD-G/CO ₂ in cover plate	45220	Control unit AD-G/CO ₂ installed in cover plate Volume flow: 10 / 20 / 40 m ³ /h Power consumption: 2,15 / 2,1 / 4,15 W Voltage: 230V~, 50Hz Sound pressure level Lp: 24 / 28 / 37 dB(A) at a distance of 1m
Set AIRODOR without control	45221	Without integrated control unit in cover plate. As a second unit for the AIRODOR Plus AD-G/CO ₂ set or for operation with AD-UP or AD-UV control unit (select from accessories)
Components:		
Fan insert AIRODOR Plus (including filter)	42010	Volume flow: 10 / 20 / 40 m ³ /h Power consumption: 2,15 / 2,1 / 4,15 W Voltage: 230V~, 50Hz Sound pressure level Lp: 24 / 28 / 37 dB(A) at a distance of 1m
Heat exchanger AIRODOR (including filter)	45035	Ceramic heat exchanger
Mounting tube AIRODOR 500	45031	Mounting tube for wall thicknesses up to 500 mm
Cover plate AIRODOR without control	23027	Soundproofed design
External wall grille AIRODOR ES	70067	Stainless steel grille DN160

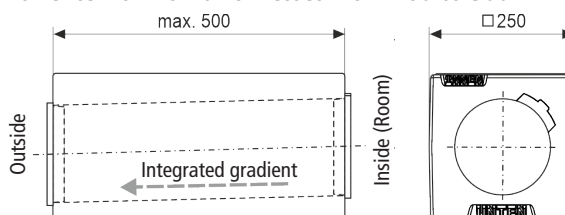
Accessories, controls and spare parts

Accessories



Mounting body AIRODOR Art.Nr. 45222

For rough mounting in masonry. The mounting body made of polystyrene foam (EPS) securely holds the AIRODOR 500 mounting pipe including cable connection box. It can be shortened and used for external wall thicknesses from 260 to 500 mm.



Mounting tube AIRODOR 800, Art.Nr. 45032

Shortenable plastic installation pipe for wall thicknesses up to 800 mm.

Controls



Control AD-UV, Art.Nr. 45036

With the AD-UV control unit, up to 8 (16 with LSM control module) AIRODOR without integrated control can be controlled with a PWM control signal in single or pair operation. It is also possible to integrate single-tube fans of type LIMODOR F/M with built-in auxiliary relay C-EK for external control.



Control LSM, Art.Nr. 55016

The LSM control module (item no. 55016) enables power supply when cascading / switching a maximum of 16 AIRODOR without integrated control when using the AD-UV control unit. It is mounted on the top-hat rail.



Control AD-UP, Art.Nr. 45033

For controlling a maximum of three AIRODOR without integrated control in single, dual or trio operation and for integrating LIMODOR F/M single-pipe fans with integrated C-EK auxiliary relay. Details on pages 5 and 6.

Spare parts



Plug-in terminal AIRODOR, Art.Nr. 56023

For the electrical connection.



Filter G3, Art.Nr. 60017

Coarse dust filter G3 (left) for particles > 10 µm (e.g. sand, dust, grass seeds) and as insect protection



Filter F7, Art.Nr. 60022

Fine dust filter F7 for particles from 1-10 µm such as pollen, fungal spores, diesel soot, germs, bacteria. Use requires replacement of the AIRODOR cover plate with LF/M-Premium, Art. No. 23015.

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Decentralized room ventilation with heat recovery

Example: Ventilation with AIRODOR and LIMODOR F/M combined

In the house shown on the right, the living room and two children's rooms as well as a sanitary room with bathroom and WC are to be ventilated in an energy-saving and efficient manner. The solution chosen is a combination of three AIRODOR sets without integrated control in the living room and children's room area and a LIMODOR F/M with integrated C-EK auxiliary relay for external control for the sanitary room.

The AD-UP control unit, which is concealed in a flush-mounted box and activated via a switch, is the ideal control unit for this.

Ventilation with heat recovery in the living room

The AIRODOR units in the living area can be operated in three ventilation levels depending on the setting selected on the control unit. For example, they run in permanent energy-saving base load mode and thus always ensure pleasantly fresh air at the right temperature thanks to the built-in heat exchanger. For increased loads, for example due to raclette eating, smoking or a party with many visitors, a significant increase in the volume flow to the 'Med' or 'Max' levels quickly ensures that the odour-, pollutant- and moisture-laden air is extracted and replaced by preheated, clean outside air. In principle, the AIRODOR units used can be controlled in single, pair and triple operation (shown in the example), in which the devices interact with each other in a coordinated manner.

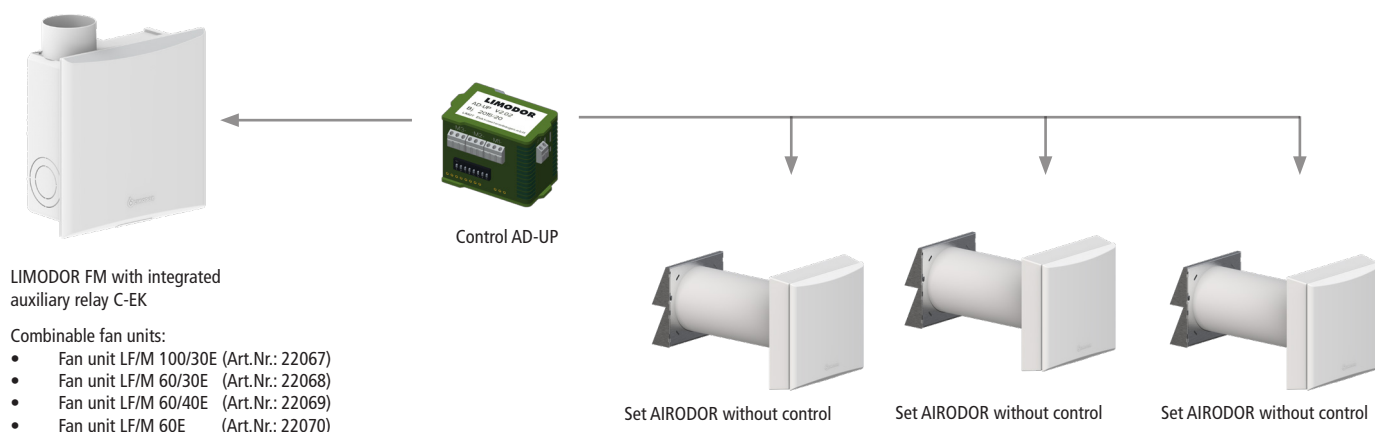
When the LIMODOR F/M extract air unit in the sanitary area is switched on, the AIRODOR units also automatically provide sufficient supply air, which is particularly important in modern, very airtight building envelopes.

The AIRODOR units are in supply air mode for the entire running time of the extract air unit. As soon as this is switched off, the AIRODORs run again as before in alternating supply and extract air mode. It would be possible to integrate further LIMODOR F/M units in the house without any problems. The principle always remains the same with the AD-UP control unit used: From the moment one or more extract air units are running, the AIRODOR units switch to supply air mode and remain in this state until they are switched off, before switching back to their alternating supply or extract air mode for ventilating the living spaces.

AD-UV control also possible

If the AD-UV control unit is used instead of the AD-UP control unit shown below, up to 8 AIRODOR sets (or even 16 if the LSM control module is also used) can be controlled.

In addition, one or more LIMODOR F/M with integrated auxiliary relay C-EK can also be integrated here. This ensures maximum flexibility in ventilation planning with high energy efficiency.



Customised variations

The ventilation arrangement shown serves as a simple explanatory example. Even for this simple realisation, the available control systems and any additional switches allow a large number of variants that are optimally adapted to the respective ventilation requirements. For example, individual configura-

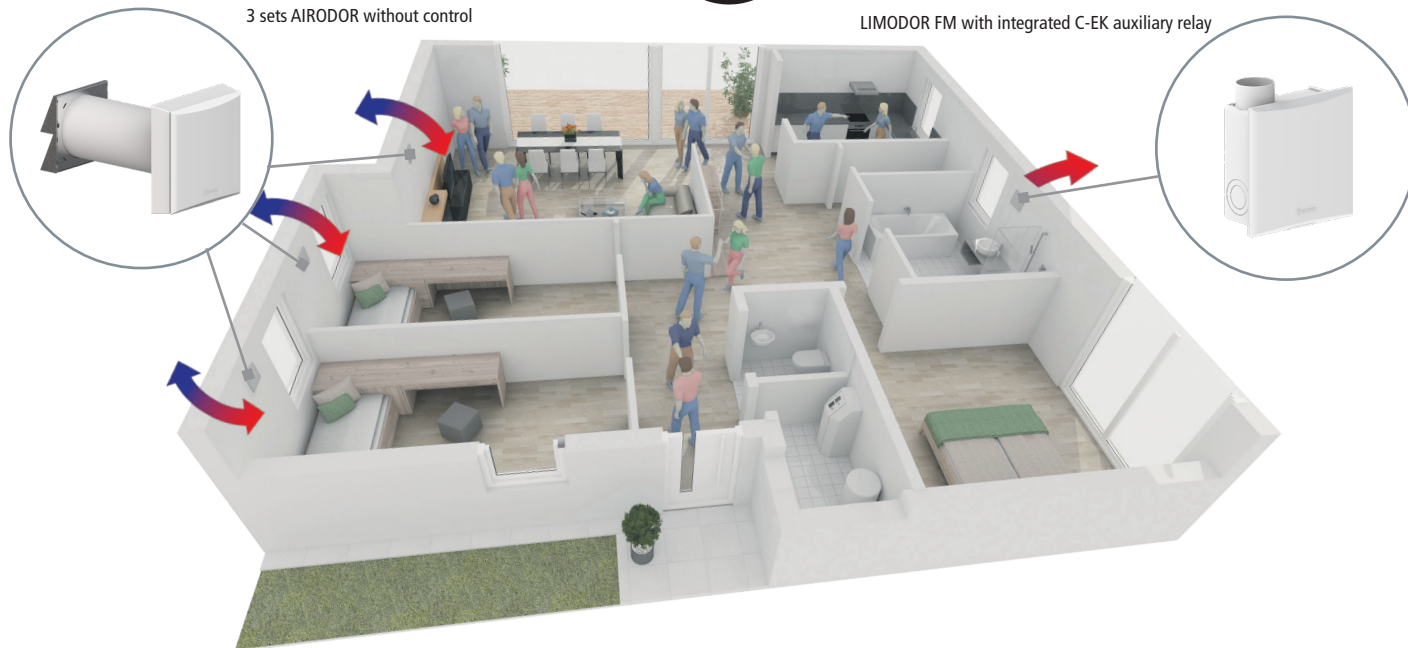
tions of the installed AIRODOR systems are easily possible for a highly frequented living room with a correspondingly high air exchange requirement and, in comparison, children's rooms or bedrooms used by a small number of people with a lower ventilation requirement.



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3 sets AIRODOR without control

LIMODOR FM with integrated C-EK auxiliary relay



LIMODOR FM in the bathroom

60 m³/h

LIMODOR FM in the bathroom

20 m³/h

AIRODOR in the children's room 1

20 m³/h

AIRODOR in the children's room 2

20 m³/h

LIMODOR FM in the bathroom

off 0 m³/h

AIRODOR in the living room

20 m³/h

AIRODOR in the children's room 1

10 m³/h

AIRODOR in the children's room 2

10 m³/h

Example: Bathroom fan working

The AD-UP control unit switches the three AIRODOR sets to supply air and leaves them in this state until the LIMODOR F/M bathroom fan switches off.

Example: Bathroom fan switched off

The AD-UP control unit switches the three AIRODOR sets in living rooms and children's rooms to alternating supply and extract air operation.

Comparative overview of the main control options

Model	AIRODOR AD-G/CO ₂	AIRODOR Basic	AIRODOR without integrated control	
Art.No.:	45227	45219	45221	
Name of control	AD-G/CO ₂	Basic	combineable with	
			AD-UP	AD-UV
Position of control	internal integrated in device	internal integrated in device	external integrated in switch box	external integrated in switch cabinet
Operating the control	directly on device	directly on device	by switch	by switch
Combinability with other AIRODOR devices	max. 1 Set AIRODOR without integrated control	NO	max. 3 Sets AIRODOR without integrated control	max. 8 Sets AIRODOR without integrated control (with LSM Art.Nr. 55016 up to 16)
Combinability with the LIMODOR F/M exhaust unit	NO	YES also possible with multiple exhaust units	YES also possible with multiple exhaust units	YES also possible with multiple exhaust units
Humidity program	YES	NO	NO	NO
Temperature program	YES	NO	NO	NO
CO ₂ - program	YES	NO	NO	NO
WLAN integrated	YES (currently only Android)	NO	NO	NO
Timer function integrated	YES	NO	NO	NO
External timer function	YES	YES	YES	YES
Filter display integrated	YES	YES	YES	YES



Quality from Austria

-  **Central Ventilation Systems**
-  **Decentralized Room Ventilation**
-  **Exhaust Systems**
-  **Air Supply Systems**
-  **Accessories and Spare Parts**



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