

## Intelligent and systematic residential ventilation

Ventilation units, duct systems, diffusers and accessories





A great feeling all-round: to be able to **enjoy clean fresh air** at any time in your own home – while saving valuable energy every day!

Allow your customers to experience this extra quality of life: with intelligent residential ventilation systems from Systemair. Using the latest technology, reassuringly safe, reliable, powerful and energy efficient. What's more, you will be ideally prepared for trouble-free and safe installation.

Right from the start, this allows you too to experience just what your customers value so much about Systemair: **a great feeling all-round.**



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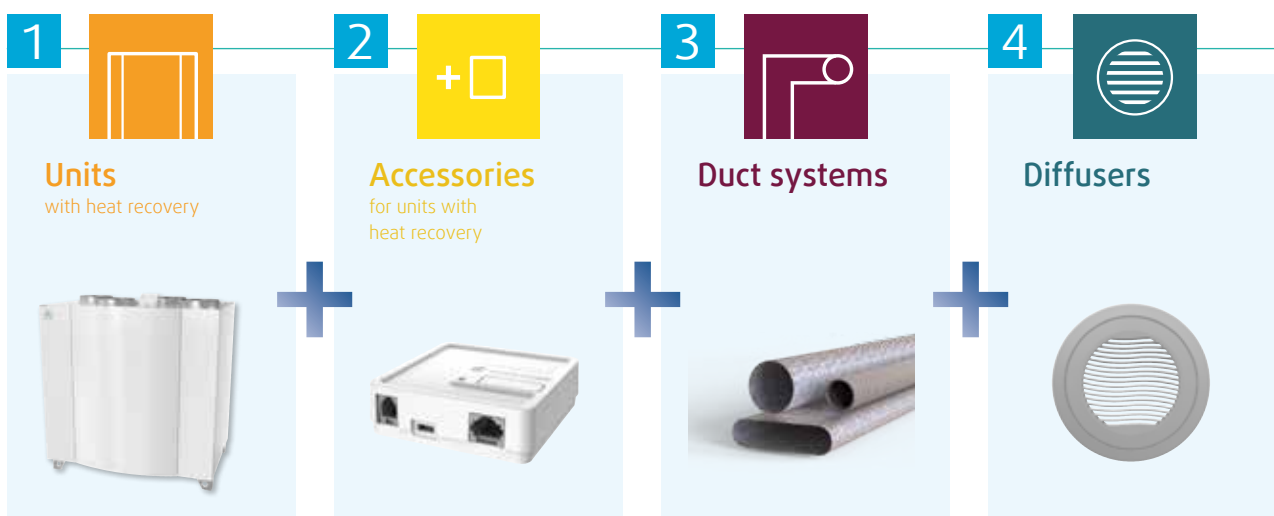
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# Everything that efficient residential ventilation needs. >>

A high-performance, technologically mature ventilation unit is the core of every advanced residential ventilation system. But function, sustainability and therefore continued user satisfaction are always a product of the overall system.

It is the optimum interaction of the ventilation unit, the right accessories (e.g. intelligent control), the duct system and the diffuser components which, at the end of the day, achieves the decisive advantage in efficiency and performance. At Systemair, and in this catalogue, you will find all the components you need – with the best quality, thoroughly tested and perfectly attuned to each other. Systematic excellence!





## Contemporary living – with intelligent ventilation!

The desire to save energy and the high-performance insulation needed to achieve this have made our houses and apartments increasingly airtight. Time for new solutions!

A natural exchange of air is almost impossible with modern windows, walls, façades and doors. On the one hand, this is a good thing – from an energy-saving perspective. On the other hand, it's not so good in terms of air quality and quality-of-life of the inhabitants. Poorly-ventilated rooms have a higher risk of developing mould and palpably stale air is a real hindrance to well-being.

A potential solution: ventilation via the windows, carefully planned and implemented. However, in practice this usually proves to be difficult

to do and also counter-productive in terms of energy savings. The significantly more comfortable, more sustainable and therefore more modern option is controlled residential ventilation, generally with heat recovery.

**The basic principle: stale air is extracted and fresh air is brought in from outside.** The fresh air is cleaned by filters and preheated via heat exchangers (which take heat from the extracted air). The exchange of air occurs continuously; the need to open all the windows

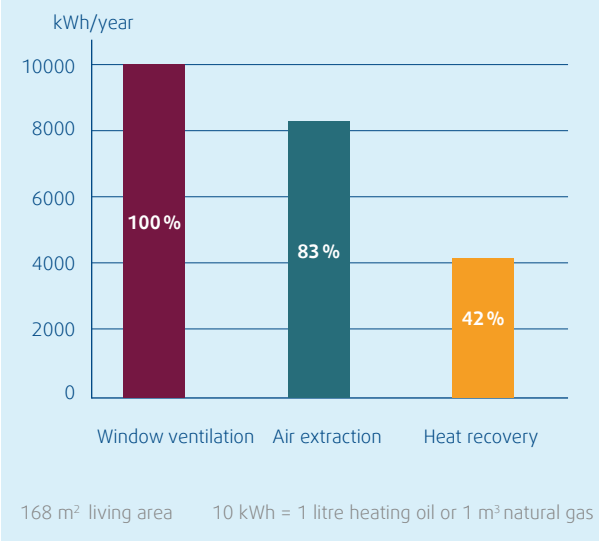
wide at frequent intervals becomes a thing of the past. **The result: a consistently perfect indoor climate – at the desired temperature!**

That's the theory. There are a few differences in practice. Firstly, attention must be paid to the quality and function of the components used. And, just as important to you as a planner or installer: getting comprehensive expert advice and support. Before, during and after installation of the system.



It is always good to have a partner at your side who doesn't think only in terms of individual products, but who is able to take a broader view. Someone who doesn't just deliver technical components, but a functioning system. This is the pledge we live by. As our name suggests.

### Quality-of-life: Up – Heating costs: Down



Source: Hessian Ministry of Economics, Transport, Urban and Regional Development

# Systematic satisfaction: Residential ventilation with Systemair

With Systemair, planners, installers – and of course users – can all profit from our more than 40 years of experience in ventilation engineering.

The result: thoroughly tested, technically mature systems and components which have been ideally attuned to each other by our experts. Powerful and energy-efficient, with well-thought-out details which make all the difference when they interact with each other. Such as the integrated humidity sensor, which perfectly adjusts the fan and rotor speed to the needs of the inhabitants. Or the selectable filter quality which enables adaptation to local conditions. And that's just two examples.

Since we don't only want to make life more pleasant for those using our products, but also to make life easier for all the professionals on-site, we have taken care to keep our technology manageable, i.e. easy to install. For trouble-free installation according to plan.

Whether for a single dwelling or an apartment block, with heat recovery or without: in our product portfolio you are certain to find the optimum solution which not only

completely fulfils the building requirements but also the demands of your customer. And that's for sure.

But advanced technology isn't everything. It is just the central feature of an attractive overall package – consisting of personal consultation, (on request) active, CAD-based, support during the planning phase, as well as quote generation right through to commissioning. Our excellent Logistics team ensures that everything arrives on time and in perfect condition – as a complete or partial delivery, depending on your needs.

This special package is rounded off by prompt and obliging service. **Trust invested in the right place – that's Systemair.**



#### Airplan is your plan:

Find the most suitable ventilation concept in just a few minutes! Our free software tool Airplan will help you configure your ventilation systems.

Find out more at  
[www.systemair.de](http://www.systemair.de)



Create ventilation concepts easily and in accordance with DIN 1946-6.



Airplan suggests the appropriate overall product solution.





Every day, we consume 4 kg food and drink, and inhale around 12,000 litres (15 kg) of air. Around 90 % of this is indoor air. Despite this, the quality requirements for food and drink are much higher than those for the air which we breathe.

## Breathe easy with a clear conscience

SAVE control monitors and regulates the indoor air quality. SAVE control is our new, highly intelligent control system which is child's play to operate. A gentle tap of the unique touch display is sufficient for precise control. Just like using a smartphone. All residential ventilation units (SAVE) are equipped with the SAVE control feature.

SAVE control is literally "smart" and is able to learn. The system optimises the indoor air and saves energy at the same time. And that's not all it's capable of. The SAVE control mobile app provides more detailed control. Also available: Smart Home integration. SAVE control monitors and regulates the indoor air quality.

Nobody home? Then select the "Away" mode when you leave home. Press "Refresh" when you come back and wish to freshen up the air quickly. Having guests around? The "Crowded" intensive ventilation function is handy

when there are more people than usual in your home. The "Fireplace" setting makes it easier to light an open fire and a smoky room is avoided. SAVE control offers a function for households with a central vacuum cleaner system, measures humidity and, with the appropriate accessories, also measures CO<sub>2</sub> and odours. It gives a clear signal if the condition of the indoor air ought to be improved. You'll be on the safe side with SAVE control!



## SAVE control

All you need to know at a glance: the display's homepage gives you information about air quantity, temperature, air quality and shows active functions. Whether on the wall or as an app for your smartphone, SAVE control is simple to install and easy to operate.



Did you know, that by insulating the building shell – and particularly by replacing windows and doors – the natural exchange of air is often reduced by up to 40 times? This means the risk of mould formation, dust mites and stale air in general also increases considerably. The right solution: a ventilation system with heat recovery.

## Systemair residential ventilation with heat recovery

It's smart to use fresh room air to save energy at the same time – via heat recovery. Systemair equipment also offers decisive advantages over pure extraction systems and is available with either **rotary or counter flow heat exchangers**.

In a rotary heat exchanger, heat from the extract air is used to warm the incoming cool supply air, and to transfer some of the moisture content to the supply air. This enables your customers to achieve up to 85 % heat recovery efficiency. Only a counter flow heat exchanger can offer more, with up to 90 %.

Considering the many advantages of both systems, your customers' decision shouldn't be whether to use heat recovery or not, but just: which type to use.



# The right solution for every requirement. What wo



## Single-family house Systems **with** heat recovery



» Page 14

### Genius is simply brilliant

Are controlled ventilation, an optimum indoor climate and heat recovery still not enough? This energy-efficient central building services unit combines heating, cooling, hot water and ventilation.

**Find out more from page Page 114**



Save energy, enjoy optimum indoor air, improve thermal comfort and be equipped for the future? The solution for all these demands: heat recovery systems from Systemair. Ventilation systems with heat recovery offer a high degree of living comfort thanks to preheated, temperature-controlled, clean air.

In addition, there are huge energy savings to be made: ventilation heat losses are low, thanks to a high level of heat recovery.

The only decision still to make is whether to use a counter flow or a rotary heat exchanger.

OR



## Single-family house Systems **without** heat recovery

Are you looking for an alternative with low maintenance costs and low power consumption? Even without heat recovery, the system has an advantage over conventional window ventilation. Just the controlled adjustability significantly reduces ventilation heat loss.

» Page 140



# ould you like to do?



## Apartment block

### Systems **with** heat recovery



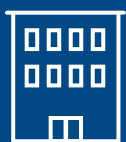
centralised  [Page 132](#)

decentralised  [Page 136](#)

Decentralised for individual dwellings or centralised for the entire apartment block – Systemair can deliver the right solution for the situation and the property. Because in apartment blocks too, heat recovery systems can ensure considerable energy

efficiency, along with high indoor air quality and thermal comfort. A reduced need for heating, simple maintenance and easy cleaning lower the operating costs even further.

OR



## Apartment block

### Systems **without** heat recovery

Centralised for individual apartments or decentralised for the entire apartment block, the extract air system is an alternative with low maintenance costs and low power consumption. Even without heat recovery, the system has an advantage over conventional window ventilation.

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# Systems with heat recovery

## for single-family houses



Whoever builds, buys or renovates a house is investing in the future. A healthy living environment, energy efficiency and the "smart home" play an important role here.

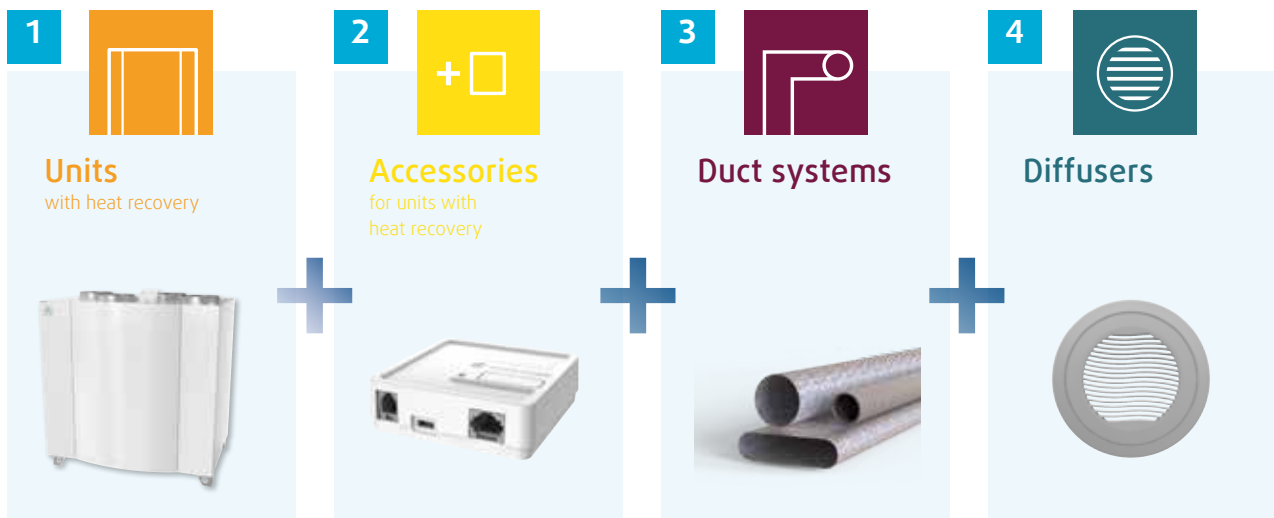
### How does ventilation with heat recovery work?

The cold outdoor air is filtered, meets the warm extract air in the heat exchanger and then continues into the house as supply air. The used extract air is removed from the house as exhaust air. SAVE control, the highly-intelligent control system from Systemair, monitors and optimises the indoor air.

Subjects which we at Systemair focus on and unite in our solutions. Therefore, there are good arguments for using ventilation systems with heat recovery:

- Retain and increase property value
- Energy efficiency, e.g. due to lower heating requirement
- Thermal comfort thanks to temperature-controlled supply air
- No mould formation due to continuous exchange of air
- Permanent removal of harmful substances
- Guaranteed clean and fresh air in the house
- Hygienic air conditions, whatever the weather

## 4 components for the right solution



Which unit best fits your requirements?

Living area	Type of installation	Heat exchanger Explanation Page 17	Max. air volume at 120 pa	Dimensions (B x H x D)	Product	
to 100 m <sup>2</sup>	Wall	Rotary	220 m <sup>3</sup> /h	596 x 762 x 465 mm	SAVE VTR 150/K	<b>Page 38</b>
to 100 m <sup>2</sup>	Ceiling	Rotary	250 m <sup>3</sup> /h	596 x 672 x 368 mm	SAVE VTR 150/B	<b>Page 36</b>
to 120 m <sup>2</sup>	Ceiling	Rotary	160 m <sup>3</sup> /h	1108 x 570 x 300 mm	SAVE VSR 150/B	<b>Page 28</b>
to 180 m <sup>2</sup>	Wall	Counter flow	260 m <sup>3</sup> /h	660 x 824 x 594 mm	SAVE VTC 200	<b>Page 20</b>
to 180 m <sup>2</sup>	Wall	Rotary	270 m <sup>3</sup> /h	598 x 850 x 490 mm	SAVE VTR 250/B	<b>Page 40</b>
to 240 m <sup>2</sup>	Wall	Rotary	340 m <sup>3</sup> /h	762 x 842 x 492 mm	SAVE VTR 300/B	<b>Page 42</b>
to 240 m <sup>2</sup>	Ceiling, Floor	Rotary	340 m <sup>3</sup> /h	1150 x 395 x 505 mm	SAVE VSR 300	<b>Page 30</b>
to 300 m <sup>2</sup>	Wall	Counter flow	410 m <sup>3</sup> /h	762 x 839 x 615 mm	SAVE VTC 300	<b>Page 22</b>
bis 400 m <sup>2</sup>	Wall	Counter flow	420 m <sup>3</sup> /h	880 x 845 x 615 mm	SAVE VTC 500	<b>Page 22</b>
to 400 m <sup>2</sup>	Ceiling, Floor	Rotary	600 m <sup>3</sup> /h	1150 x 645 x 595 mm	SAVE VSR 500	<b>Page 32</b>
to 400 m <sup>2</sup>	Wall	Rotary	600 m <sup>3</sup> /h	920 x 845 x 584 mm	SAVE VTR 500	<b>Page 44</b>
to 700 m <sup>2</sup>	Floor	Rotary	960 m <sup>3</sup> /h	1170 x 1213 x 860 mm	SAVE VTR 700	<b>Page 46</b>
to 600 m <sup>2</sup>	Floor	Counter flow	880 m <sup>3</sup> /h	1170 x 1213 x 860 mm	SAVE VTC 700	<b>Page 26</b>

# Units with heat recovery

for single-family houses



SAVE control  
Touch-Display

An ideal combination: residential ventilation units from Systemair combine excellent comfort and a high level of heat recovery with a filtered air supply and considerable energy savings.



Heat recovery units are ideal for use in houses, small offices and similar spaces – with an optimum exchange programme: the ventilation unit guides air extracted from the kitchen and bathroom to the outside. Fresh outdoor air is drawn into the unit via the pipe system. The heat from the extract air is transferred to the supply air via a heat exchanger, which is then supplied back to the living and sleeping quarters.

Ventilation systems with heat recovery offer users a high degree of living comfort thanks to temperature-controlled and clean air. Here, important criteria are cleanliness, heating and humidity. Systemair has an eye on the future too: the potential for energy-saving exceeds even future requirements.

Considering the many advantages, your customers' decision shouldn't be whether to use heat recovery or not, but just which type of heat recovery to use.

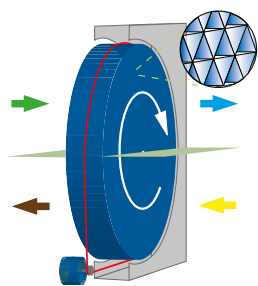
A perfect exchange and a perfect indoor climate – the most important advantages of units with heat recovery



- Thermal comfort
- Lower heating requirement
- Lower ventilation heat losses
- Preheating of the supply air
- Considerable energy-saving potential

## The right choice made easy

### High-efficiency residential ventilation with **rotary heat exchangers**



A rotary heat exchanger ensures both heat and moisture recovery. The constant turning of the rotor enables heat to be transferred continuously. In winter, the heat from the extract air is transferred to the cold filtered outdoor air. In

summer, the reverse effect is used: the warm outdoor air is cooled by the colder extract air and the heat stays outside. A rotor can achieve sensible efficiencies of more than 85 per cent, and performs most strongly in climates down to around  $-20\text{ }^{\circ}\text{C}$ . Here it is able to generate maximum heat recovery without any frost protection at all. Thanks to moisture recovery, the rotary heat exchanger also ensures perfect room humidity and an optimum indoor climate at any time of year – not too humid and not too dry.

### High-efficiency residential ventilation with **counter flow heat exchangers**



A counter flow heat exchanger is for transferring heat.

The filtered supply air and the used extract air are completely separated from each other. Therefore, moisture is not transmitted and must be removed.

A counter flow heat exchanger can make best use of its high efficiency – up to 90 per cent – if the outside temperature does not fall (or falls only briefly) below its specific frost point ( $-3\text{ }^{\circ}\text{C}$  at 90% efficiency). Then, frost protection is unnecessary and, due to the mild climate (not colder than around  $-3\text{ }^{\circ}\text{C}$ ), the indoor climate does not become too dry, even without the transfer of moisture. Additional frost protection is required at temperatures of less than  $-3\text{ }^{\circ}\text{C}$ . This can be implemented using a brine-geothermal heat exchanger or an electric preheater.

A detailed explanation of the heat exchangers can be found on Page 172.



## SAVE control – the intelligent controller with touch display and smartphone-feel

### Ventilation on demand

5 fan levels are provided for the manual ventilation function. "On demand" means either time-dependent or sensor-actuated volumetric flow, humidity and temperature control. With sensor-actuated ventilation, a control range is defined for the flow rate, instead of switching the fan levels. The operating point moves continuously within this range, depending on current requirements. This enables the system to adjust itself to the optimum operating point, depending on energy-savings and indoor air quality.

To do this, all our units are equipped with a humidity sensor in the extract air as standard. This enables moisture levels to be controlled automatically right from the start. Humidity control means either increasing

the air volume over a short period to remove indoor air moisture and/or to reduce the rotor speed in order to transfer less moisture as needed (useful for small dwellings and new properties). Of course, other sensors which can be used to automatically control operation are also available as accessories, e.g. CO<sub>2</sub>, moisture and presence sensors – installed either centrally, in zones or in rooms. Connection to a building control system or a smart home solution enables operation to be controlled externally using other building parameters as well.



### More comfort, less energy consumption

Numerous user functions enable the operating mode of a Systemair ventilation system to adapt to changing situations in the home. According to predefined situations, these default settings – easily activated on a touch display or smartphone – vary the system function via the total volumetric flow range of the fans, the specific options for temperature adjustment (heat recovery, heating and cooling) and the parameter "time".

Additional energy savings are possible in summer, thanks to a freely-programmable night-time cooling function. More intensive ventilation in the cooler night-time hours enables the heat collecting in the building on hot days to be removed to the outside. Those who already have active cooling installed can even use our heat recovery technology for cooling in the summer, in a similar way to heating in winter. The warm outside air is simply cooled before it enters the rooms – using the extract air from the air-conditioned building. This significantly reduces the power consumption for cooling.

### SAVE control mobile app

Users can change the ventilation system operating mode remotely via an app, or use the app just to check if the temperature, humidity, CO<sub>2</sub> content etc. are all OK. Faults can be spotted straight away, and the manufacturer can be given direct access to the control system so that the service department can remedy the fault without delay.

It is also possible to install software updates directly via the cloud. This means you can easily access new functions and gadgets to keep your system up to date at all times. There are various options for connecting to the cloud or the BEMS: Modbus, the cable network or Wi-Fi.

## SAVE control offers many possibilities

1

On-demand control for more comfort and less energy consumption.

2

Intuitive operation via touch display or smartphone (app).

3

Predefined user modes make controlling the indoor air quality easier.

4

Smart home – simple connection to the building control system.

5

Controlled heat and moisture recovery thanks to speed-controlled rotor.

6

Summer mode: cold recovery and free cooling (night-time cooling).

7

Season-recognition for automatic heating/cooling support (extra energy-saving).

SAVE control makes monitoring the indoor air quality in your home easy.

Operation is just like on a smartphone. All SAVE

## SAVE control

units are delivered with the SAVE touch-controller. With the accessories for internet access, the unit can connect to our SAVE control mobile app.

# SAVE VTC 200



Residential ventilation unit with high-efficiency counter flow heat exchanger and intelligent SAVE control. It has an integrated extract air / exhaust air bypass, as well as low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made of galvanised sheet steel (painted white), with an interior of expanded polypropylene (EPP). A preheater and reheater are available as accessories.

The humidity sensor (installed as standard) controls the flow rates of the energy-saving fans. The residential ventilation unit also has an automatic defrost control function. This is achieved by reducing the speed of the supply air fan. A preheater is required for continuous operation at low outside temperatures.

The SAVE VTC 200 can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system. A comprehensive range of accessories is available for the compact residential ventilation unit.



## Features of the SAVE VTC 200 – characteristics and advantages at a glance

- Up to 92% heat recovery efficiency
- Designed for living areas up to 180 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air

Technical data		
Item no.	88281 (left version) 88280 (right version)	
Energy efficiency class	Standard unit A with accessories A+	
Installation	Vertical design	
Material	Galvanized steel, white	
Voltage / frequency	V / 50Hz	230
Power consumption per fan at operating point	W	22
		190 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s	0,287
Input power, fan motor	W	2 x 68
Recommended fuse	A	10
Filter class	Supply air	G4 / Coarse 65% (*F7 / ePM1 55%)
	Exhaust air	G4 / Coarse 65%
Weight	kg	47

\* available as accessory

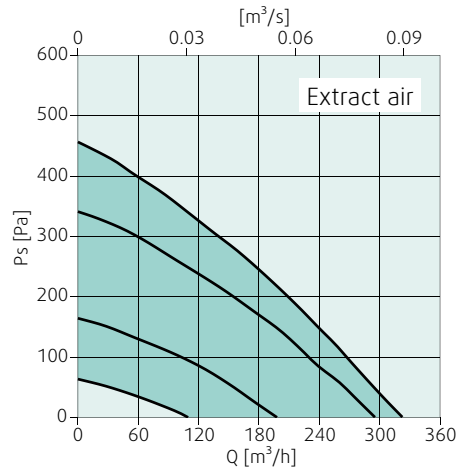
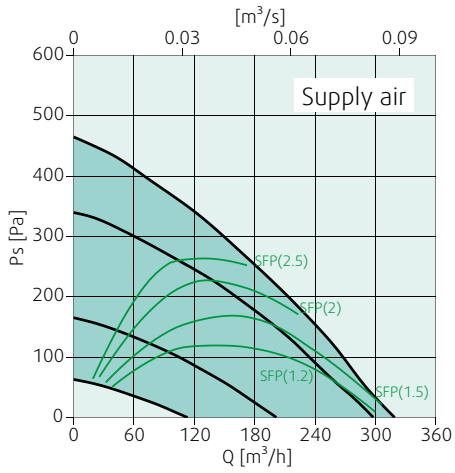
SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire unit

Mid-frequency range, Hz									
L <sub>WA</sub> dB(A)	<b>Tot</b>	63	125	250	500	1k	2k	4k	8k
Supply air	<b>59</b>	70	63	61	57	54	50	41	34
Extract air	<b>51</b>	67	55	55	49	43	34	22	23
Surroundings	<b>45</b>	45	46	43	43	41	36	25	21

The table shows the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).



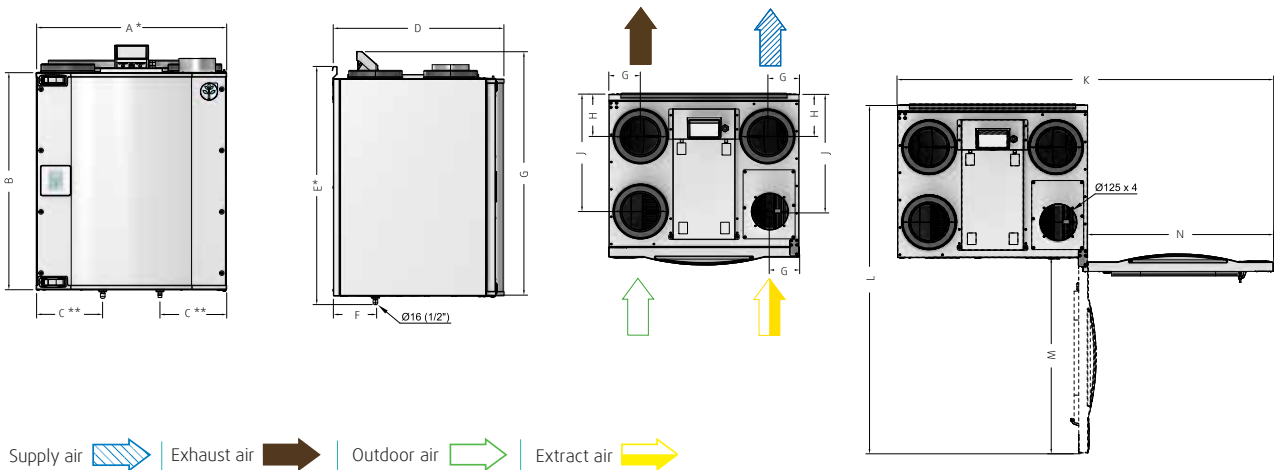
## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions

### Right version

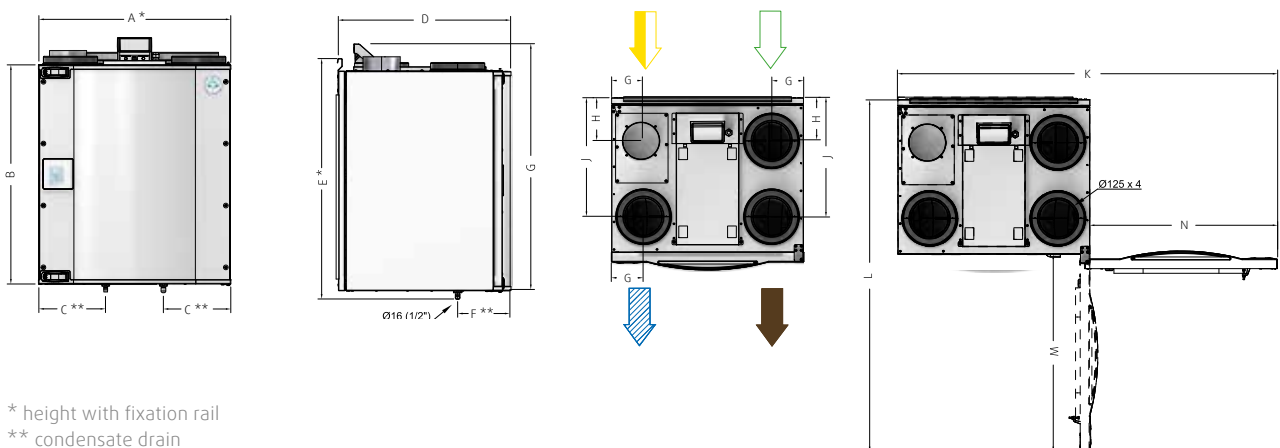


Supply air Exhaust air Outdoor air Extract air

A	B	C	D	E	F	G	H	J	K	L	M	N
660	750	230	594	824	145	110	145	405	1300	1205	675	645

Dimensions in mm

### Left version



\* height with fixation rail  
\*\* condensate drain

# SAVE VTC 300



Residential ventilation unit with high-efficiency counter flow heat exchanger and intelligent SAVE control. It has an integrated outdoor air / supply air bypass, as well as low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made of galvanised sheet steel (painted white), with an interior of expanded polypropylene (EPP). A preheater and reheater are available as accessories.

The humidity sensor (installed as standard) controls the flow rates of the energy-saving fans. The residential ventilation unit also has an automatic defrost control function. This is achieved by reducing the speed of the supply air fan. A preheater is required for continuous operation at low outside temperatures.

The SAVE VTC 200 can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system. A comprehensive range of accessories is available for the compact residential ventilation unit.

## Features of the SAVE VTC 300 – characteristics and advantages at a glance

- Up to 86% heat recovery efficiency
- Designed for living areas up to 300 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air

Technical data	
Item no.	88381 (left version) 88380 (right version)
Energy efficiency class	Standard unit A with accessories A
Installation	Vertical design
Material	Galvanized steel, white
Voltage / frequency	V / 50Hz 230
Power consumption per fan at operating point	W 40 270 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s 1,06
Input power, fan motor	W 2 x 85
Recommended fuse	A 10
Filter class	Supply air G4 / Coarse 65% (*F7 / ePM1 55%) (*M5 / ePM10 60%) Exhaust air G4 / Coarse 65% (*F7 / ePM10 60%) (*M5 / ePM10 60%)
Weight	kg 72

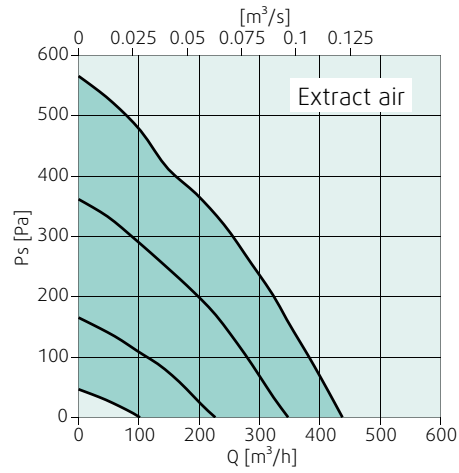
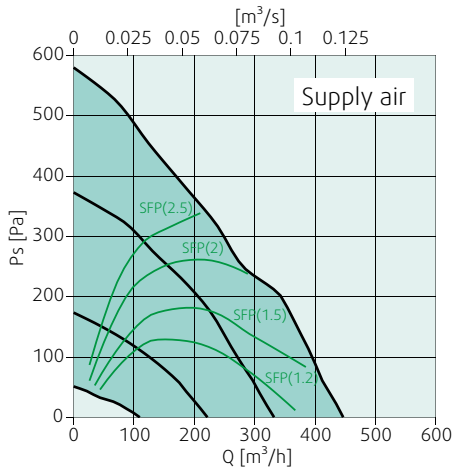
\* available as accessory

SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire

Mid-frequency range, Hz									
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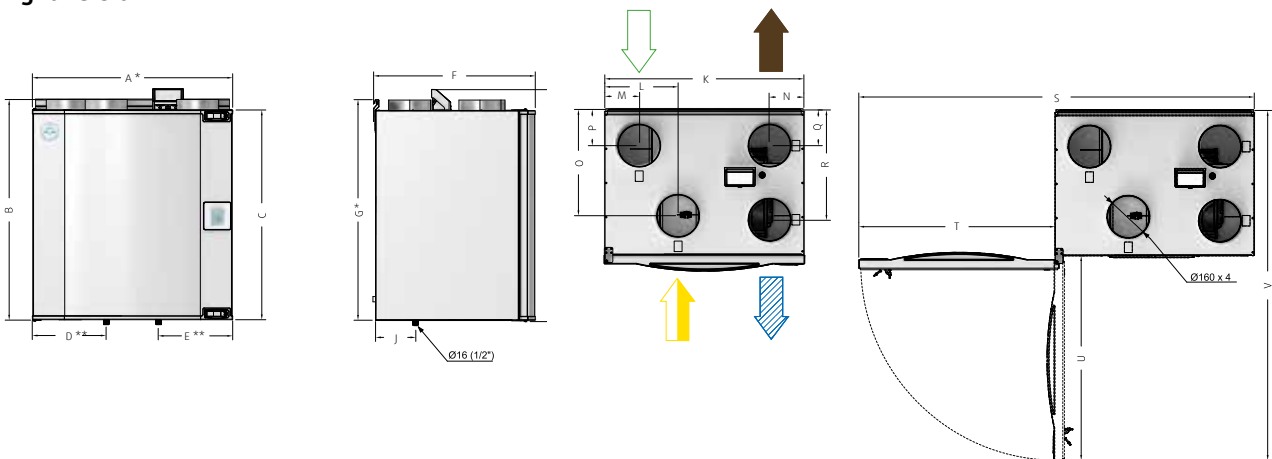
## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions

### Right version

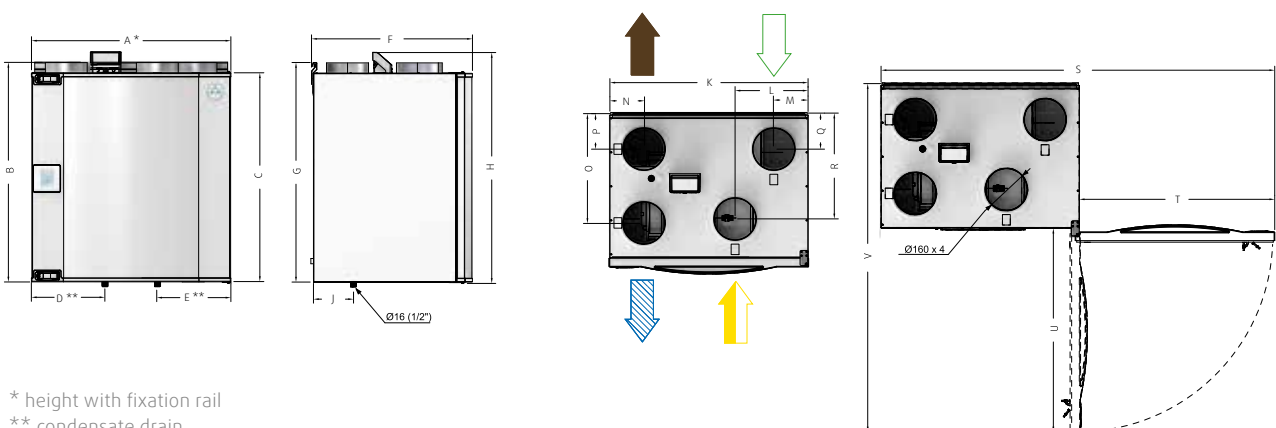


Supply air | Exhaust air | Outdoor air | Extract air

A	B	C	D	E	F	G	J	K	L	M	N	O	P	Q	R	S	T	U	V
762	838	800	280	280	615	839	253	758	280	131	131	420	138	138	405	1505	747	778	1332

Dimensions in mm

### Left version



\* height with fixation rail  
 \*\* condensate drain

# SAVE VTC 500



SAVE VTC 500 is a top connected high efficiency aluminum counter flow unit designed for installation on the wall in laundry rooms, storerooms etc. in a home with a ventilated area of up to approx. 400 m<sup>2</sup>. VTC 500 is white painted, double skinned, fully insulated and comes with control panel with complete control functionality. CAV kit is the new accessory that consists of a double-point pressure transmitter, which is mounted directly on the Main Board. Pressure tapping and tubes are available inside the unit from the factory. The unit automatically regulate the recovery of heating / cooling by the built in damper and has automatic defrosting function. The option for connecting one or more external control panels is available as well as access over internet with the internet access module (IAM) or Modbus via RS-485. The new touch display makes it easy to install and use all unit functions.

## Features of the SAVE VTC 500 – characteristics and advantages at a glance

- Up to 84% heat recovery efficiency
- Designed for living areas up to 400 m<sup>2</sup>
- The CAV-kit allows volume flow constant operation without accessories
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Heating coil (into device mountable) available as accessories
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air

Technical data	
Item no.	92717 (left version) 92716 (right version)
Energy efficiency class	Standard unit A with accessories A
Installation	Vertical design
Material	Galvanized steel, white
Voltage / frequency	V / 50Hz 230
Power consumption per fan at operating point	W 73 420 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s 0,344
Input power, fan motor	W 2 x 170
Recommended fuse	A 10
Filter class	Supply air F7 / ePM1 60% (*F8 / ePM1 70%)
	Exhaust air M5 / ePM10 50%
Weight	kg 82

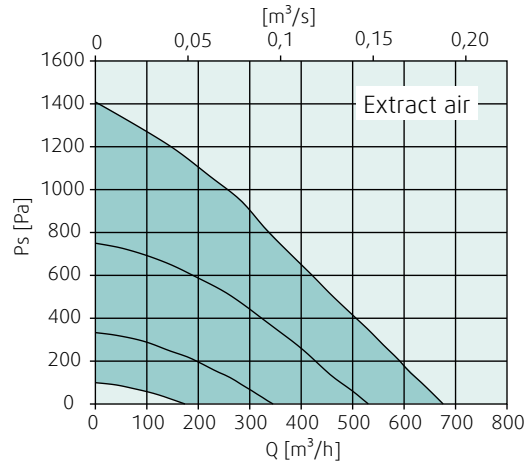
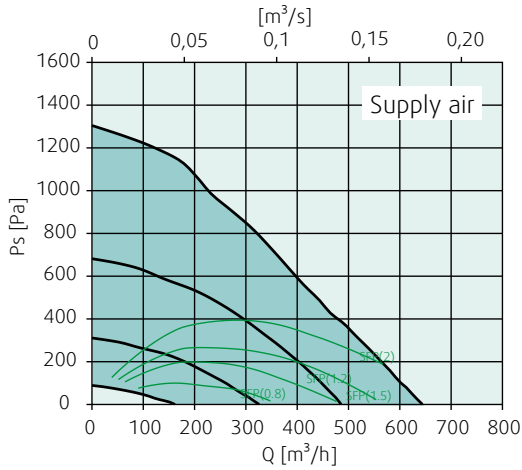
\* available as accessory

SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire

Mid-frequency range, Hz									
L <sub>WA</sub> dB(A)	Tot	63	125	250	500	1k	2k	4k	8k
Supply air	62	72	71	67	66	63	57	49	38
Extract air	51	67	63	51	52	47	39	28	22
Surroundings	40	49	50	48	41	35	31	24	21

The table shows the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).

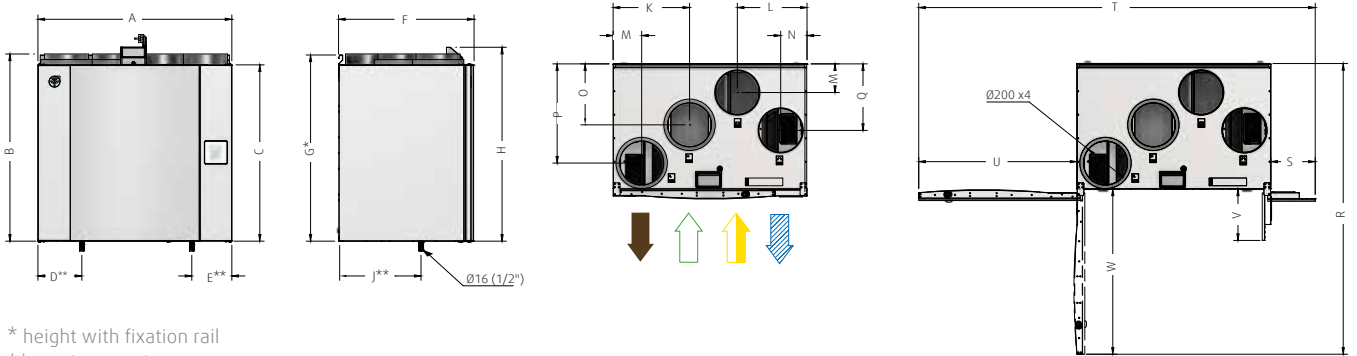
## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions

### Right version



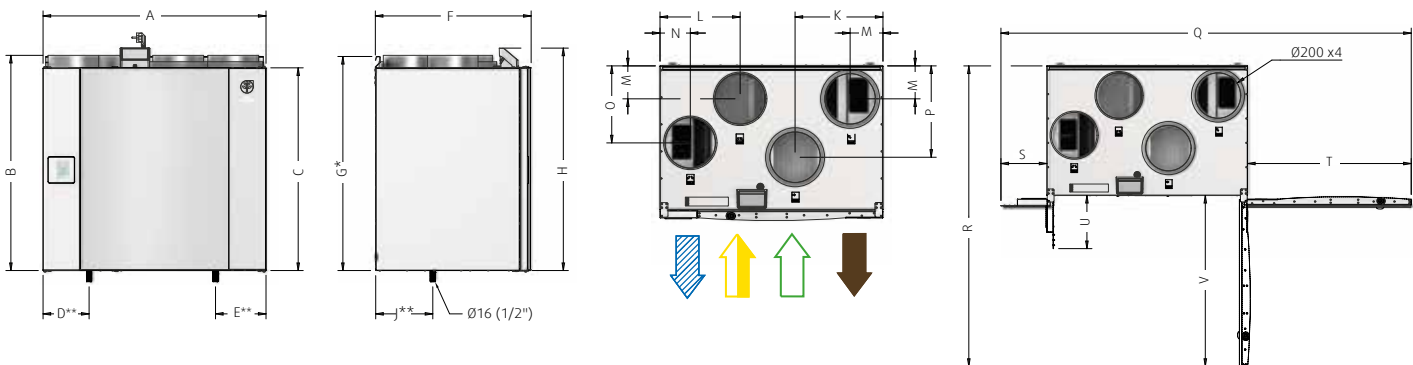
\* height with fixation rail  
 \*\* condensate drain

Supply air | Exhaust air | Outdoor air | Extract air

A	B	C	D**	E**	F	G*	H	J**	K	L	M	N	O	P	Q	R	S	T	U	V	W
880	849	800	182	199	615	845	878	373	347	316	130	120	277	450	302	1319	201	1799	718	233	233

Dimensions in mm

### Left version



\* height with fixation rail  
 \*\* condensate drain

A	B	C	D**	E**	F	G*	H	J**	K	L	M	N	O	P	Q	R	S	T	U	V
880	849	800	182	199	615	845	878	255	347	316	130	120	304	361	1799	1318	202	718	233	750

Dimensions in mm

# SAVE VTC 700



Residential ventilation unit with high-efficiency counter flow heat exchanger and intelligent SAVE control. It has an integrated outdoor air / supply air bypass, as well as low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made of galvanised sheet steel (painted white), with an interior of expanded polypropylene (EPP). A preheater and reheater are available as accessories.

The humidity sensor (installed as standard) controls the flow rates of the energy-saving fans. The residential ventilation unit also has an automatic defrost control function. This is achieved by reducing the speed of the supply air fan. A preheater is required for continuous operation at low outside temperatures.

The SAVE VTC 700 can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system. A comprehensive range of accessories is available for the compact residential ventilation unit.

## Features of the SAVE VTC 700 – characteristics and advantages at a glance

- Up to 83% heat recovery efficiency
- Designed for living areas up to 600 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air

Technical data	
Item no.	88781 (left version) 88780 (right version)
Energy efficiency class	Standard unit A with accessories A+
Installation	Vertical design
Material	Galvanized steel, white
Voltage / frequency	V / 50Hz 230
Power consumption per fan at operating point	W 66 630 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s 0,75
Input power, fan motor	W 2 x 170
Recommended fuse	A 10
Filter class	Supply air M5 / ePM10 60% (*F7 / ePM1 55%) Exhaust air M5 / ePM10 60% (*F7 / ePM10 60%)
Weight	kg 160

\* available as accessories

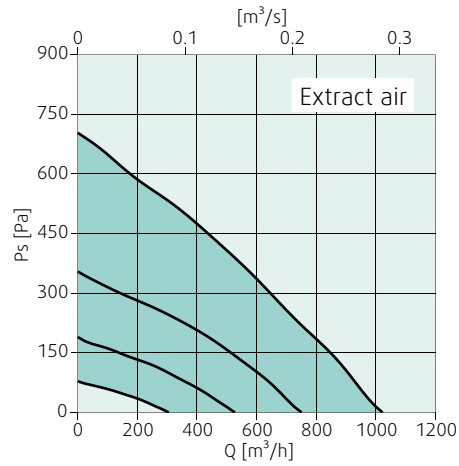
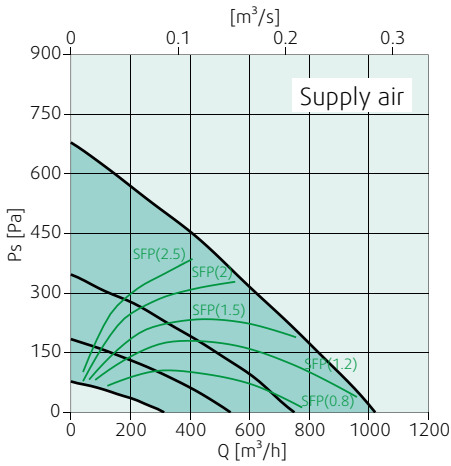
SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire unit

Mid-frequency range, Hz									
L <sub>WA</sub> dB(A)	Tot	63	125	250	500	1k	2k	4k	8k
Supply air	59	70	63	61	57	54	50	41	34
Extract air	51	67	55	55	49	43	34	22	23
Surroundings	45	45	46	43	43	41	36	25	21

The table shows the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).



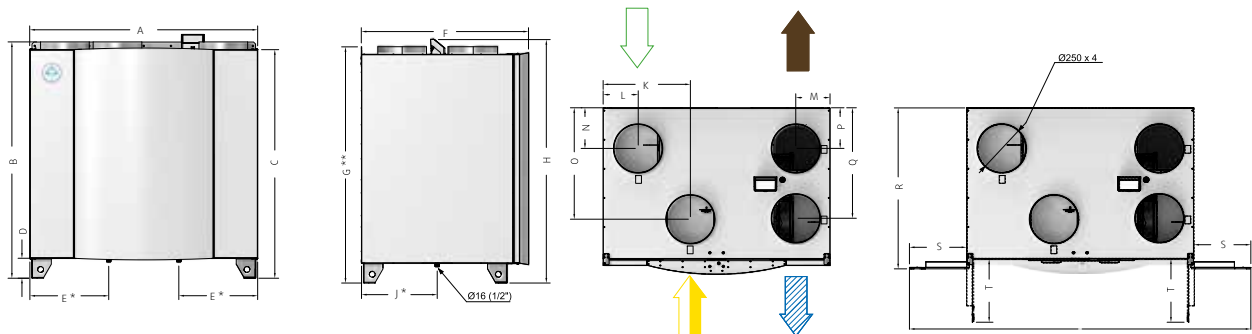
## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions

### Right version

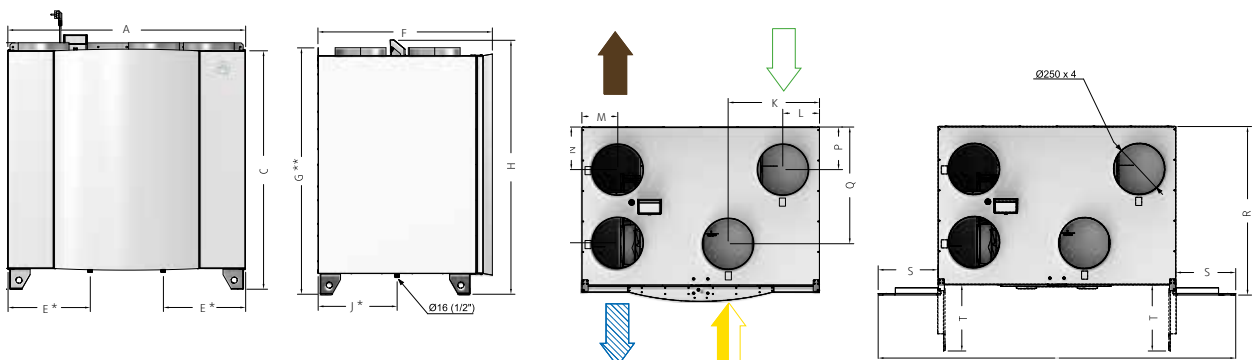


Supply air | Exhaust air | Outdoor air | Extract air

A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T
1170	1215	1175	100	405	860	1213	1250	390	450	180	176	210	570	210	575	830	295	325

Dimensions in mm

### Left version



\* height with fixation rail  
\*\* condensate drain

# SAVE VSR 150/B



Residential ventilation unit with high-efficiency dual rotary heat exchanger and intelligent SAVE control. Driven by low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made from double-skinned galvanised sheet steel. The unit has an integrated electric reheater, as well as a separate connection for Systemair extractor hoods.

The humidity sensor (installed as standard) does not only control the flow rates of the energy-saving fans via speed control of the rotor, but also the transfer of moisture if necessary.

The SAVE VSR 150/B can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system. The compact residential ventilation unit features a pleasingly comprehensive range of accessories. A Systemair extractor hood can be connected to the unit.

## Features of the SAVE VSR 150/B – characteristics and advantages at a glance

- Up to 80% heat recovery efficiency
- Designed for living areas up to 120 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air
- Connection for Systemair extractor hood

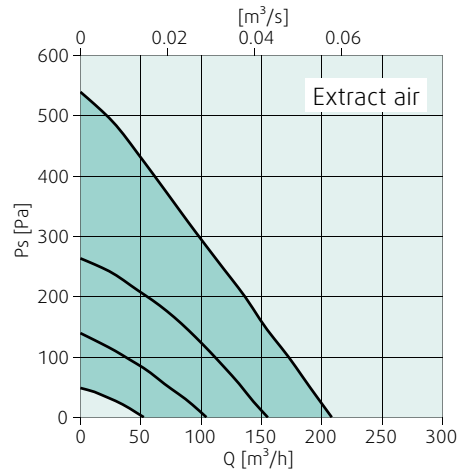
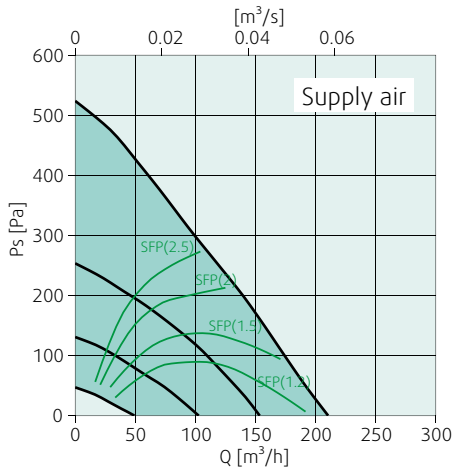
Technical data	
Item no.	88199
Energy efficiency class	Standard unit A with accessories A
Installation	blanket
Material	Galvanized steel
Voltage / frequency	V / 50Hz 230
Power consumption per fan at operating point	W 17 120 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s 1,02
Input power, fan motor	W 2 x 37
Electric reheater	W 500
Recommended fuse	A 10
Filter class	Supply air F7 / ePM1 55% Exhaust air M5 / Coarse 50%
Weight	kg 58

SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire unit

Mid-frequency range, Hz									
L <sub>WA</sub> dB(A)	Tot	63	125	250	500	1k	2k	4k	8k
Supply air	57	72	59	58	55	48	47	45	32
Extract air	45	65	53	49	45	30	25	18	21
Surroundings	38	44	37	44	31	23	21	15	18

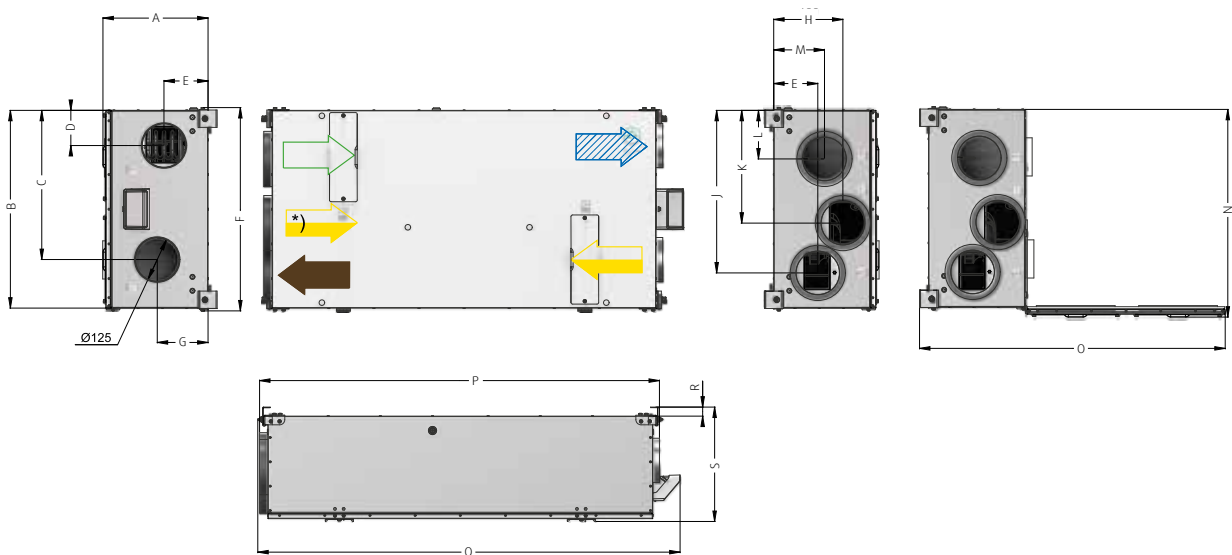
The table shows the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).

## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions



Supply air | Exhaust air | Outdoor air | Extract air

A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S
303	570	430	101	127	586	416	199	469	325	140	146	599	881	1150	1215	26	329

Dimensions in mm.

\*) connection for extractor hood

# SAVE VSR 300



Residential ventilation unit with high-efficiency rotary heat exchanger and intelligent SAVE control. Driven by low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made from double-skinned galvanised sheet steel. The unit has an integrated electric reheater.

The humidity sensor (installed as standard) does not only control the flow rates of the energy-saving EC fans via speed control of the rotor, but also the transfer of moisture if necessary.

The SAVE VSR 300 can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system. A comprehensive range of accessories is available for the compact residential ventilation unit.

## Features of the SAVE VSR 300 – characteristics and advantages at a glance

- Up to 85% heat recovery efficiency
- Designed for living areas up to 240 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air

Technical data	
Item no.	88350
Energy efficiency class	Standard unit A with accessories A
Installation	Vertical design, blanket
Material	Galvanized steel
Voltage / frequency	V / 50Hz 230
Power consumption per fan at operating point	W 37 260 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s 1,03
Input power, fan motor	W 2 x 83
Electric reheater	W 1670
Recommended fuse	A 10
Filter class	Supply air F7 / ePM10 80% ** (*F7 / ePM1 60%)
	Exhaust air G3 / Coarse 60% ** (*F7 / ePM10 50%)
Weight	kg 65

\* available as accessories

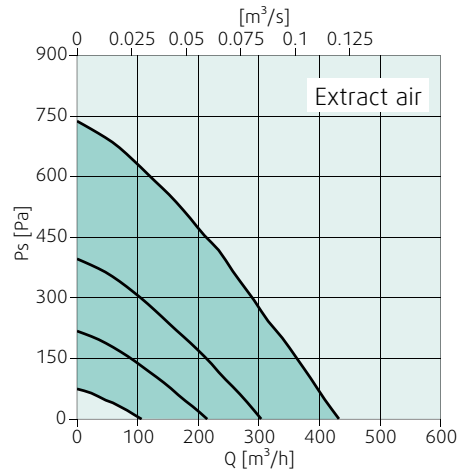
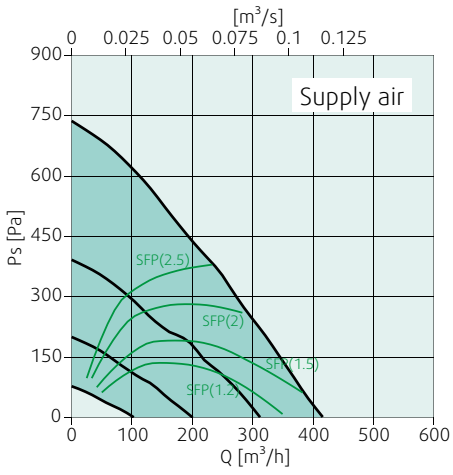
\*\* Filterset PHI available as accessories

SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire unit

Mid-frequency range, Hz									
L <sub>WA</sub> dB(A)	Tot	63	125	250	500	1k	2k	4k	8k
Supply air	62	69	66	66	58	55	54	47	41
Extract air	53	62	54	59	51	39	35	26	23
Surroundings	42	44	48	48	39	33	29	21	26

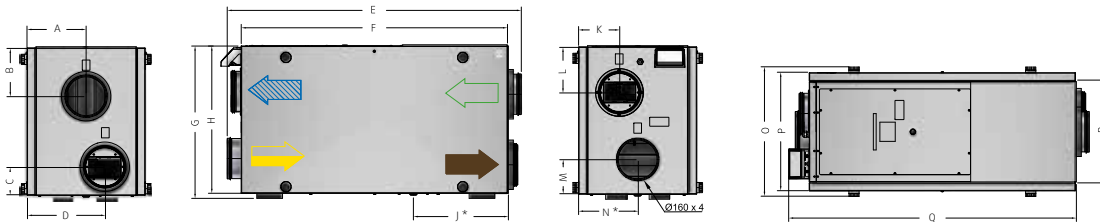
The table shows the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).

## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions



Supply air | Exhaust air | Outdoor air | Extract air

A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R
230	188	112	303	1150	1040	595	575	368	160	178	137	231	505	460	1122	410

Dimensions in mm  
\*Condensate drain

# SAVE VSR 500



Residential ventilation unit with high-efficiency rotary heat exchanger and intelligent SAVE control. Driven by low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made from double-skinned galvanised sheet steel. The unit has an integrated electric reheater.

The humidity sensor (installed as standard) does not only control the flow rates of the energy-saving EC fans via speed control of the rotor, but also the transfer of moisture if necessary.

The compact residential ventilation unit also features a pleasingly comprehensive range of accessories. The SAVE VSR 500 can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system.



## Features of the SAVE VSR 500 – characteristics and advantages at a glance

- Up to 85% heat recovery efficiency
- Designed for living areas up to 400 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air

Technical data	
Item no.	88550
Energy efficiency class	Standard unit A with accessories A
Installation	Vertical design, blanket
Material	Galvanized steel
Voltage / frequency	V / 50Hz 230
Power consumption per fan at operating point	W 74 450 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s 1,15
Input power, fan motor	W 2 x 169
Electric reheater	W 1670
Recommended fuse	A 13
Filter class	Supply air F7 / ePM10 80% (*F7 / ePM1 60%) Exhaust air G3 / Coarse 60% (*F7 / ePM1 60%)
Weight	kg 77

\* available as accessories

\*\* Filterset PHI available as accessories

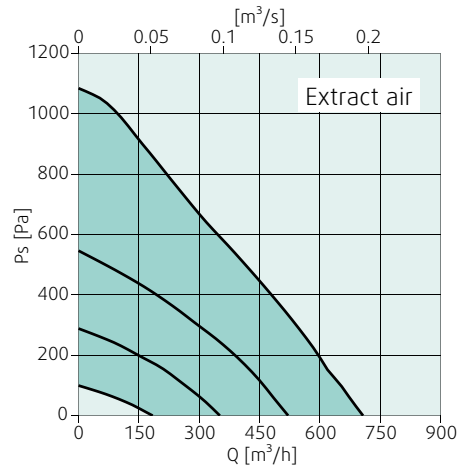
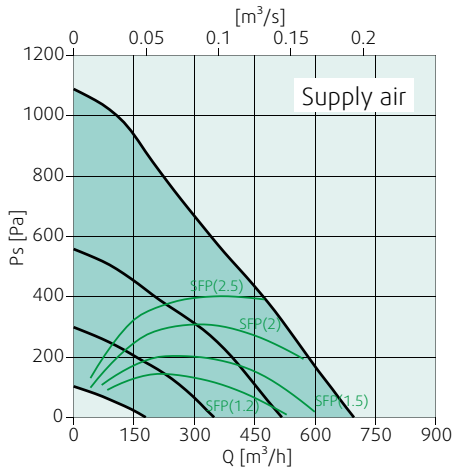
SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire unit

Mid-frequency range, Hz	
L <sub>WA</sub> dB(A)	Tot 63 125 250 500 1k 2k 4k 8k
Supply air	72 75 71 69 71 65 65 60 57
Extract air	63 80 62 65 65 52 47 38 30
Surroundings	50 56 56 51 53 41 37 29 29

The table shows the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).

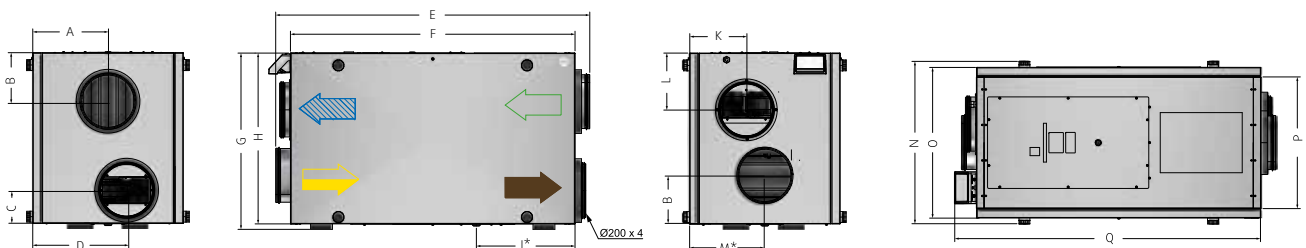


## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions



Supply air | Exhaust air | Outdoor air | Extract air

A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q
276	178	122	345	1150	1040	645	625	360	208	208	275	595	551	482	1120

Dimensions in mm  
\* Condensate drain

# SAVE VTR 100/B



Residential ventilation unit with high-efficiency rotary heat exchanger and intelligent SAVE control. Driven by low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made from double-skinned galvanised sheet steel. The unit has an integrated electric reheater, as well as a separate connection for Systemair extractor hoods.

The humidity sensor (installed as standard) does not only control the flow rates of the energy-saving EC fans via speed control of the rotor, but also the transfer of moisture if necessary.

The compact residential ventilation unit also features a pleasingly comprehensive range of accessories. The SAVE VTR 100/B can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system.



## Features of the SAVE VTR 100/B – characteristics and advantages at a glance

- Up to 84% heat recovery efficiency
- Designed for living areas up to 80 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Installation in kitchen cupboard possible
- Unit can be adapted for both right and left versions
- Startup wizard
- Integrated humidity sensor in extract air
- Connection for the Systemair extractor hood

Technical data	
Item no.	98080
Energy efficiency class	Standard unit A with accessories A
Installation	Vertical design, blanket
Material	Galvanized steel
Voltage / frequency	V / 50Hz 230
Power consumption per fan at operating point	W 13 80 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s 1,15
Input power, fan motor	W 2 x 35
Electric reheater	W 250
Recommended fuse	A 10
Filter class	Supply air M5 / ePM10 50% (*F7 / ePM1 60%) Exhaust air M5 / ePM10 50% (*M5 / Coarse 70%)
Weight	kg 39

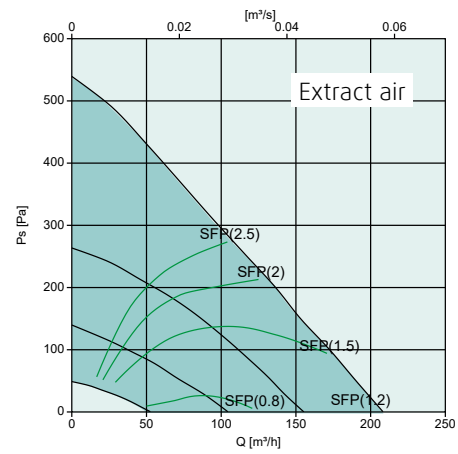
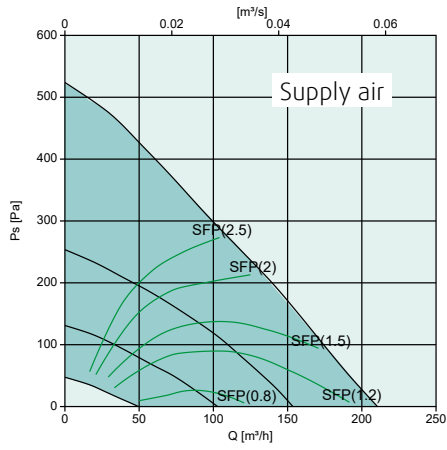
\* available as accessories

SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire unit

Mid-frequency range, Hz									
L <sub>WA</sub> dB(A)	<b>Tot</b>	63	125	250	500	1k	2k	4k	8k
Supply air	<b>59</b>	77	65	62	55	54	46	40	24
Extract air	<b>54</b>	73	62	57	52	40	23	17	20
Surroundings	<b>37</b>	54	38	40	37	28	17	12	12

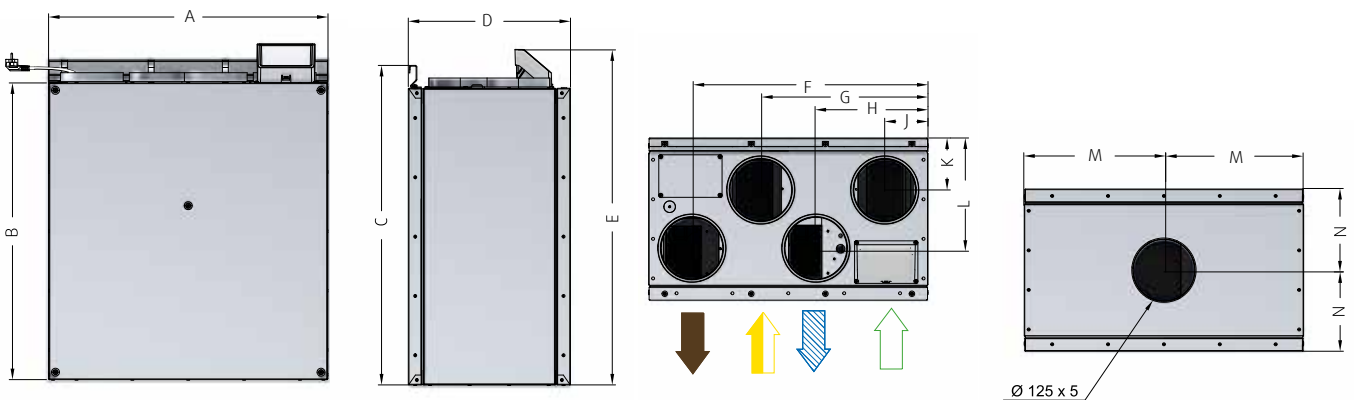
The table shows the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).

## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions



Supply air | Exhaust air | Outdoor air | Extract air

A	B	C	D	E	F	G	H	J	K	L	M	N
561	600	646	322	679	478	338	227	88	102	220	283	161

Dimensions in mm.

The unit can be converted from supply air right (Standard unit) to supply air left.

# SAVE VTR 150/B



Residential ventilation unit with high-efficiency rotary heat exchanger and intelligent SAVE control. Driven by low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made from double-skinned galvanised sheet steel. The unit has an integrated electric reheater, as well as a separate connection for Systemair extractor hoods.

The humidity sensor (installed as standard) does not only control the flow rates of the energy-saving EC fans via speed control of the rotor, but also the transfer of moisture if necessary.

The compact residential ventilation unit also features a pleasingly comprehensive range of accessories. The SAVE VTR 150/B can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system.

## Features of the SAVE VTR 150/B – characteristics and advantages at a glance

- Up to 80% heat recovery efficiency
- Designed for living areas up to 100 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air
- Connection for the Systemair extractor hood

Unit versions	left	right
500 Watt	96157	96156
1000 Watt	96155	96154

Technical data			
Energy efficiency class		Standard unit B with accessories A	
Installation		Vertical design	
Voltage / frequency		V / 50Hz	230
Power consumption per fan at operating point		W	22
		125 m <sup>3</sup> /h bei 50 pa	
SFP		kW/m <sup>3</sup> /s	1,26      1,32
Input power, fan motor		W	2 x 83
Recommended fuse		A	10
Filter class	Supply air	M5 / ePM10 60% (*F7 / ePM1 55%)	
	Exhaust air	M5 / ePM10 60%	
Weight		kg 46	

\* available as accessories

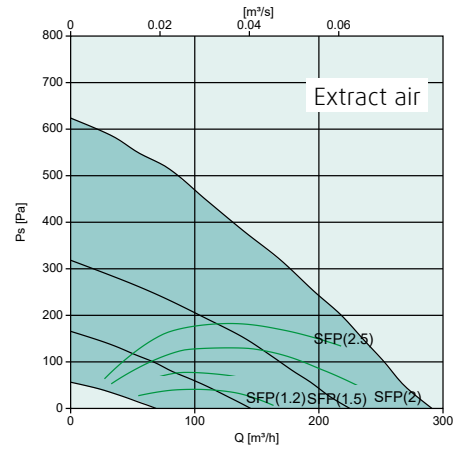
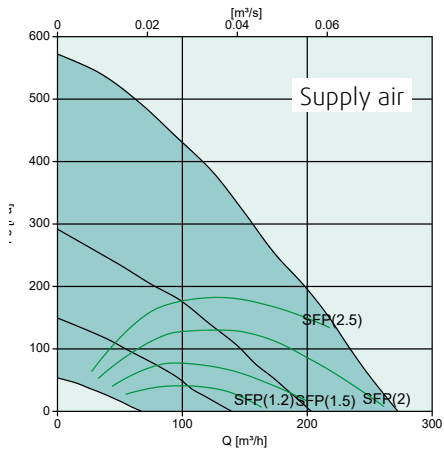
SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire unit

Mid-frequency range, Hz (SAVE VTR 150/B R)									
L <sub>WA</sub> dB(A)	Tot	63	125	250	500	1k	2k	4k	8k
Supply air	61	68	70	66	59	53	50	41	31
Extract air	52	63	62	58	50	35	25	16	19
Surroundings	38	44	44	42	38	24	22	13	15

Mid-frequency range, Hz (SAVE VTR 150/B L)									
L <sub>WA</sub> dB(A)	Tot	63	125	250	500	1k	2k	4k	8k
Supply air	61	72	67	65	59	54	52	42	34
Extract air	53	70	63	58	48	37	28	17	20
Surroundings	38	49	43	43	34	25	24	16	19

The table shows the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).

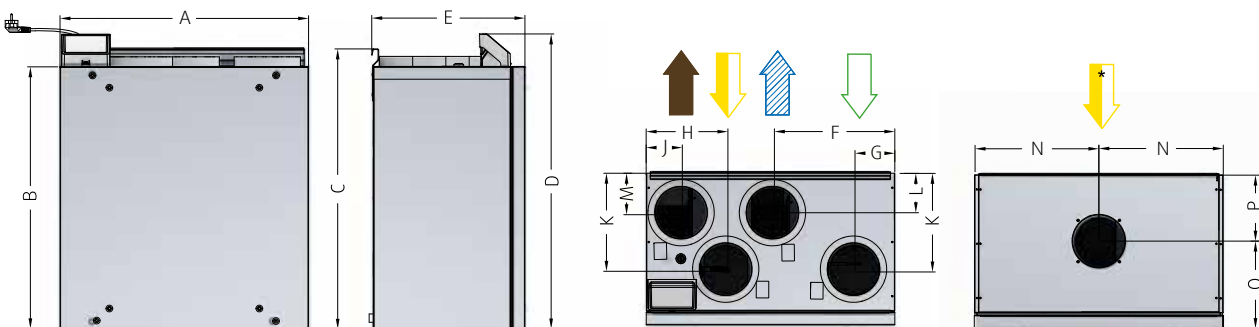
## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions

### Right version



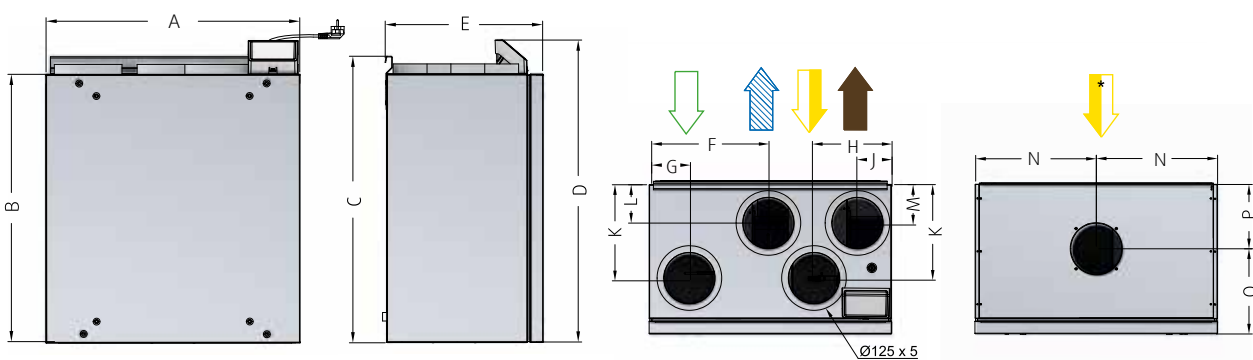
Zuluft Fortluft Außenluft Abluft

A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
596	630	672	707	368	293	100	190	84	230	95	94	298	209	159

Dimensions in mm.

\* connection for extractor hood

### Left version



# SAVE VTR 150/K



Residential ventilation unit with high-efficiency rotary heat exchanger, intelligent SAVE control and an integrated extractor hood for installation in the kitchen above the oven. Driven by low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made from double-skinned galvanised sheet steel (stainless steel or painted white). The unit has an integrated electric reheater.

The humidity sensor (installed as standard) does not only control the flow rates of the energy-saving EC fans via speed control of the rotor, but also the transfer of moisture if necessary.

The compact residential ventilation unit also features a pleasingly comprehensive range of accessories. The SAVE VTR 150/K can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system.



## Features of the SAVE VTR 150/K – characteristics and advantages at a glance

- Up to 80% heat recovery efficiency
- Designed for living areas up to 100 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air
- Integrated extractor hood

The tables show the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).

Unit versions, Front	left	right
500 Watt, white	88157	88156
1000 Watt, white	88155	88154
500 Watt, Stainless steel	88148	88149
1000 Watt, Stainless steel	88159	88158

Technical data		
Energy efficiency class	Standard unit B with accessories A	
Installation	Vertical design	
Voltage / frequency	V / 50Hz	230 230
Power consumption per fan at operating point	W	23 24
		125 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s	1,26 1,32
Input power, fan motor	W	2 x 86 2 x 86
Electric reheater	W	500 / 1000 500 / 1000
Recommended fuse	A	10 10
Filter class	Supply air	M5 / ePM10 60% (*F7 / ePM1 55%)
	Exhaust air	M5 / ePM10 60%
Weight	kg	61 61

\* available as accessories

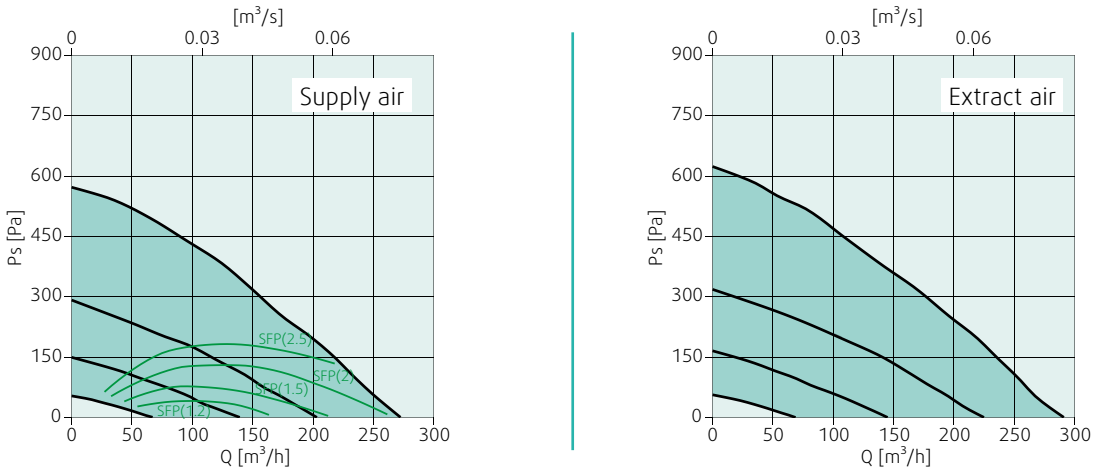
SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire unit

Mid-frequency range, Hz (SAVE VTR 150/K R)									
L <sub>WA</sub> dB(A)	Tot	63	125	250	500	1k	2k	4k	8k
Supply air	61	68	70	66	59	53	50	41	31
Extract air	52	63	62	58	50	35	25	16	19
Surroundings	38	44	44	42	38	24	22	13	15

Mid-frequency range, Hz (SAVE VTR 150/K L)									
L <sub>WA</sub> dB(A)	Tot	63	125	250	500	1k	2k	4k	8k
Supply air	61	72	67	65	59	54	52	42	34
Extract air	53	70	63	58	48	37	28	17	20
Surroundings	38	49	43	43	34	25	24	16	19



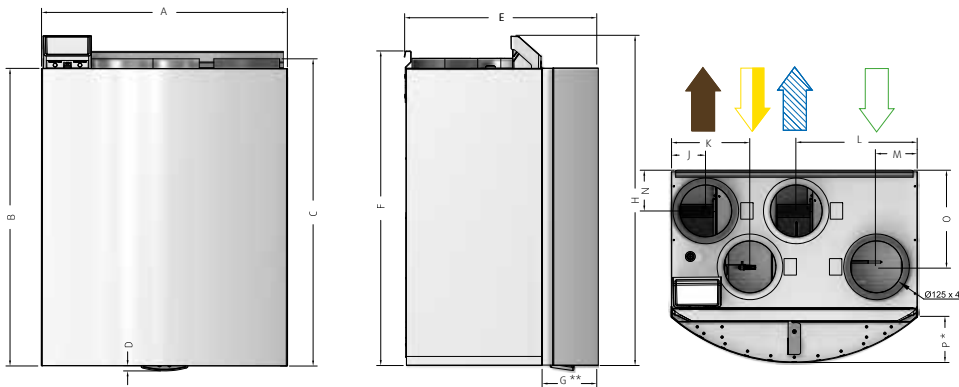
## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions

### Right version

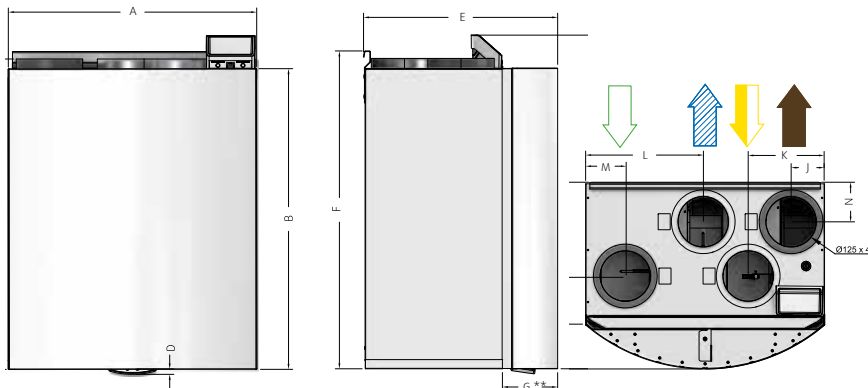


Supply air Exhaust air Outdoor air Extract air

A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
596	720	745	12	465	762	135	800	84	191	293	99	99	234	110

Dimensions in mm

### Left version



\* curved access panel  
 \*\* access panel

# SAVE VTR 250/B



Residential ventilation unit with high-efficiency rotary heat exchanger and intelligent SAVE control. Driven by low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made of double-skinned galvanised sheet steel (painted white). The unit has an integrated electric reheater, as well as a separate connection for Systemair extractor hoods.

The humidity sensor (installed as standard) does not only control the flow rates of the energy-saving EC fans via speed control of the rotor, but also the transfer of moisture if necessary.

The compact residential ventilation unit also features a pleasingly comprehensive range of accessories. The SAVE VTR 250/B can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system.

## Features of the SAVE VTR 250/B – characteristics and advantages at a glance

- Up to 80% heat recovery efficiency
- Designed for living areas up to 220 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air
- Connection for the Systemair extractor hood

Unit versions	left	right
500 Watt	88253	88252
1000 Watt	88251	88250

Technical data		
Energy efficiency class	Standard unit A with accessories A	
Installation	Vertical design	
Voltage / frequency	V / 50Hz 230	
Power consumption per fan at operating point	W 36	215 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s 1,1	
Input power, fan motor	W 2 x 83	
Electric reheater	W 500 / 1000	
Recommended fuse	A 10	
Filter class	Supply air	F7 / ePM1 55%
	Exhaust air	G3 / Coarse 50% (*M5 / ePM10 50%)
Weight	kg 56	

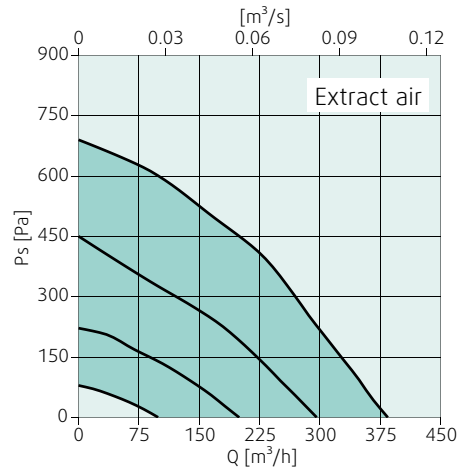
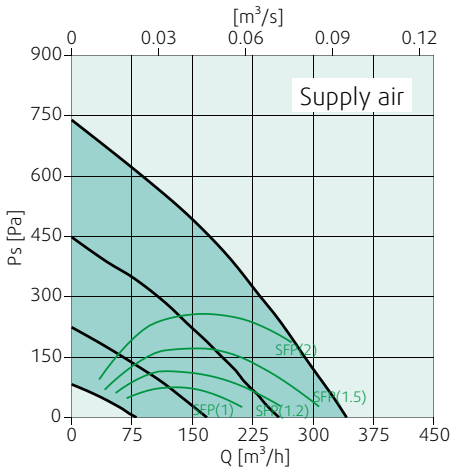
\* available as accessories

SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire unit

Mid-frequency range, Hz									
L <sub>WA</sub> dB(A)	Tot	63	125	250	500	1k	2k	4k	8k
Supply air	<b>62</b>	72	68	58	62	55	50	41	29
Extract air	<b>56</b>	66	59	63	48	40	33	22	21
Surroundings	<b>40</b>	49	47	40	38	34	28	21	8

The table shows the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).

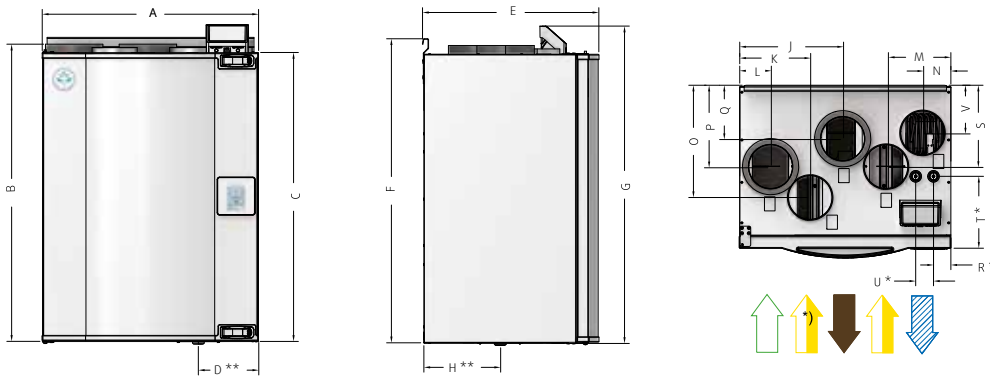
## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions

### Right version

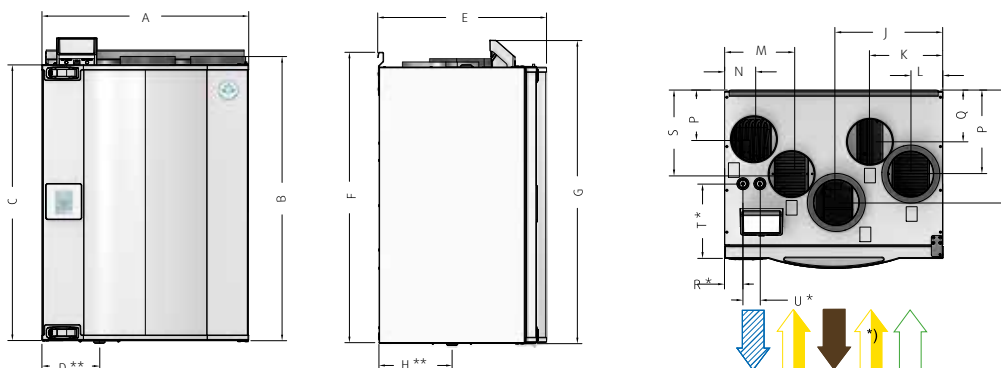


Supply air | Exhaust air | Outdoor air | Extract air

A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V
598	800	823	167	490	850	880	212	292	200	88	184	80	325	230	152	50	230	204	50	135

Dimensions in mm

### Left version



\* Water heating coil

\*\* condensate drain

\*\*\* connection for water-heating element

\*) connection for extractor hood

# SAVE VTR 300/B



Residential ventilation unit with high-efficiency rotary heat exchanger and intelligent SAVE control. Driven by low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made of double-skinned galvanised sheet steel (painted white). The unit has an integrated electric reheater, as well as a separate connection for Systemair extractor hoods.

The humidity sensor (installed as standard) does not only control the flow rates of the energy-saving EC fans via speed control of the rotor, but also the transfer of moisture if necessary.

The compact residential ventilation unit also features a pleasingly comprehensive range of accessories. The SAVE VTR 300/B can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system.

## Features of the SAVE VTR 300/B – characteristics and advantages at a glance

- Up to 85% heat recovery efficiency
- Designed for living areas up to 240 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air
- Connection for the Systemair extractor hood

Technical data	
Item no.	88301 (left version) 88300 (right version)
Energy efficiency class	Standard unit A with accessories A
Installation	Vertical design
Material	Galvanized steel, white
Voltage / frequency	V / 50Hz 230
Power consumption per fan at operating point	W 37 260 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s 1,02
Input power, fan motor	W 2 x 88
Electric reheater	W 1670
Recommended fuse	A 10
Filter class **	Supply air F7 / ePM10 80% (*G3 / Coarse 60%) (*F7 / ePM1 60%) Exhaust air G3 / Coarse 60% (*F7 / ePM1 60%)
Weight	kg 70

\* available as accessories

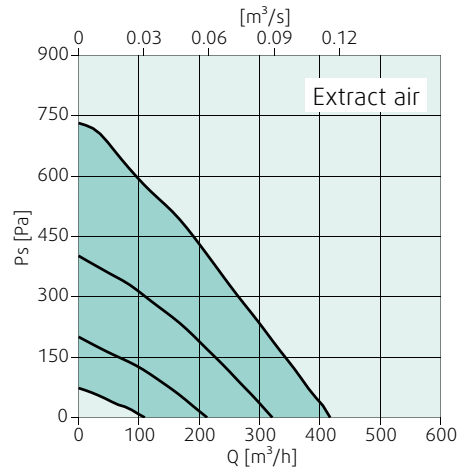
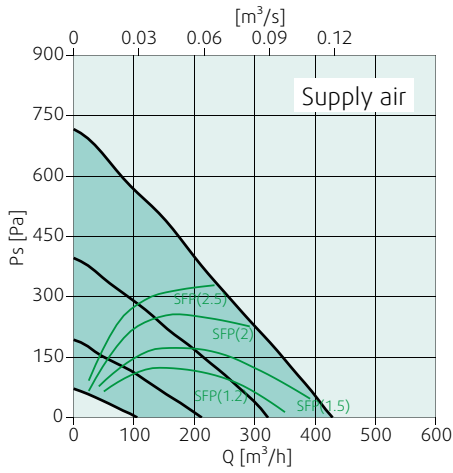
\*\* PHI Filterset available as accessories

SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire unit

Mid-frequency range, Hz									
L <sub>WA</sub> dB(A)	Tot	63	125	250	500	1k	2k	4k	8k
Supply air	63	66	65	65	59	54	56	48	41
Extract air	55	71	63	61	45	42	41	27	23
Surroundings	44	51	50	50	38	32	32	27	20

The table shows the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).

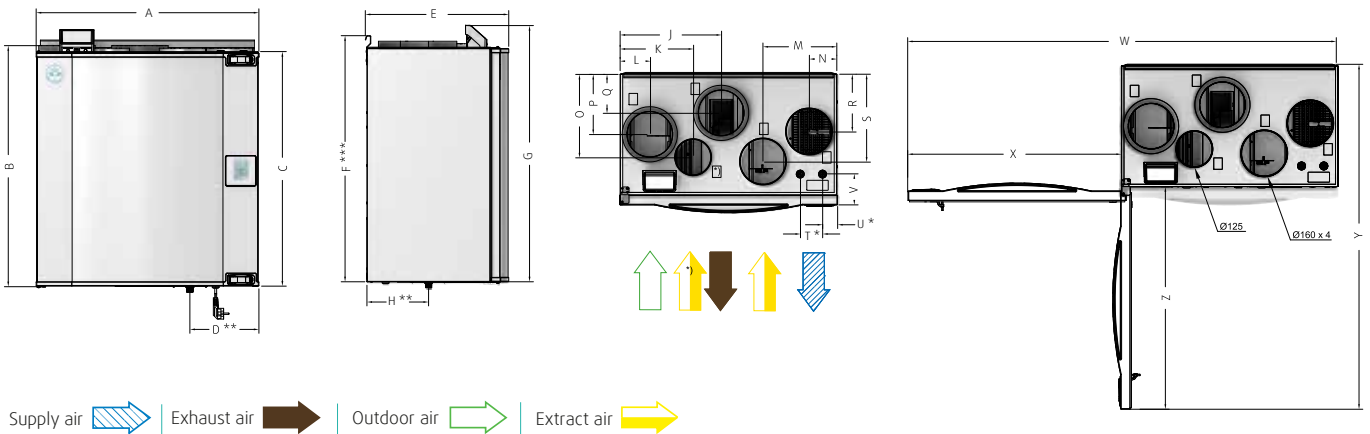
## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions

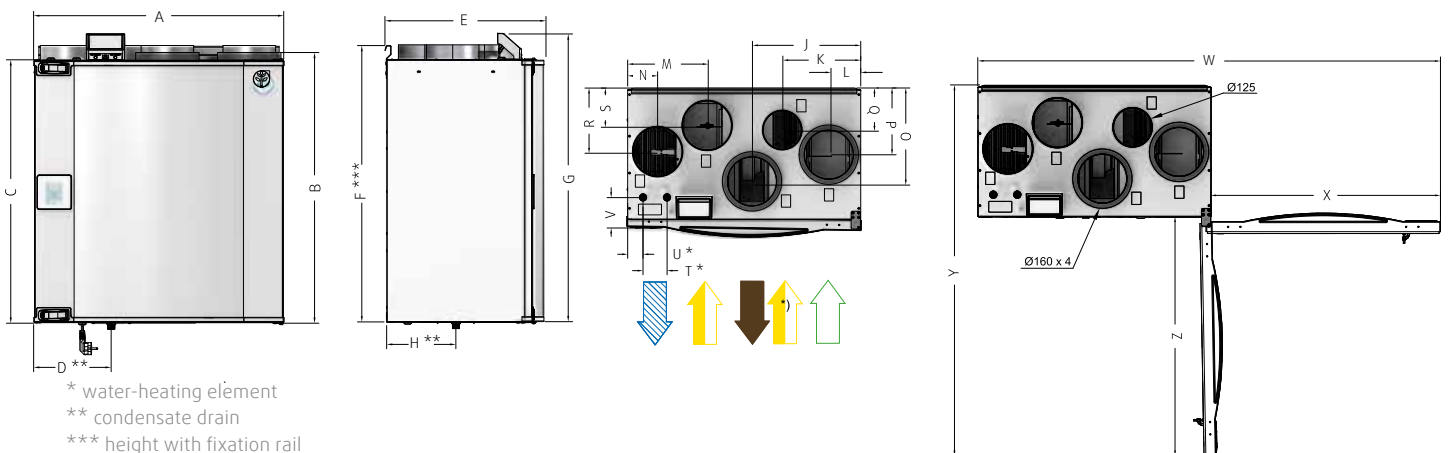
### Right version



A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
762	823	802	234	492	842	878	210	354	255	104	258	97	291	211	136	201	306	78	50	107	1504	745	1207	779

Dimensions in mm

### Left version



- \* water-heating element
- \*\* condensate drain
- \*\*\* height with fixation rail
- \*) connection for extractor hood

# SAVE VTR 500



Residential ventilation unit with high-efficiency rotary heat exchanger and intelligent SAVE control. Driven by low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made of double-skinned galvanised sheet steel (painted white). The unit has an integrated electric reheater.

The humidity sensor (installed as standard) does not only control the flow rates of the energy-saving EC fans via speed control of the rotor, but also the transfer of moisture if necessary.

The compact residential ventilation unit also features a pleasingly comprehensive range of accessories. The SAVE VTR 500 can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system.



## Features of the SAVE VTR 500 – characteristics and advantages at a glance

- Up to 85% heat recovery efficiency
- Designed for living areas up to 400 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box – simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air

Technical data	
Item no.	88501 (left version) 88500 (right version)
Energy efficiency class	Standard unit A with accessories A
Installation	Vertical design
Material	Galvanized steel, white
Voltage / frequency	V / 50Hz 230
Power consumption per fan at operating point	W 70 400 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s 1,2
Input power, fan motor	W 2 x 170
Electric reheater	W 1670
Recommended fuse	A 13
Filter class	Supply air F7 / ePM10 80% (*G3 / Coarse 60%) Exhaust air G3 / Coarse 60%
Weight	kg 85

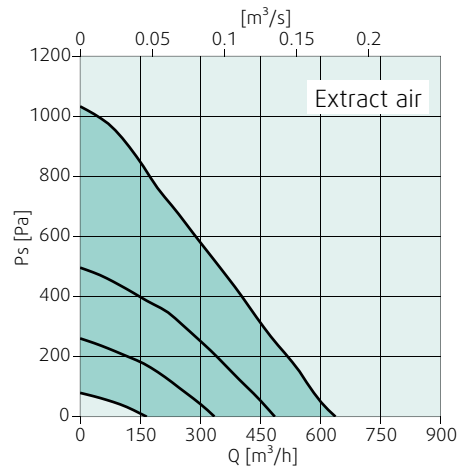
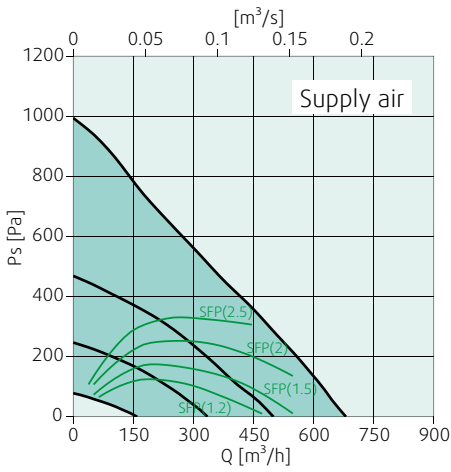
SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire unit

Mid-frequency range, Hz	
L <sub>WA</sub> dB(A)	Tot 63 125 250 500 1k 2k 4k 8k
Supply air	68 70 69 68 69 58 59 53 49
Extract air	60 75 68 64 59 49 47 37 29
Surroundings	47 50 53 49 49 35 34 31 27

The table shows the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).



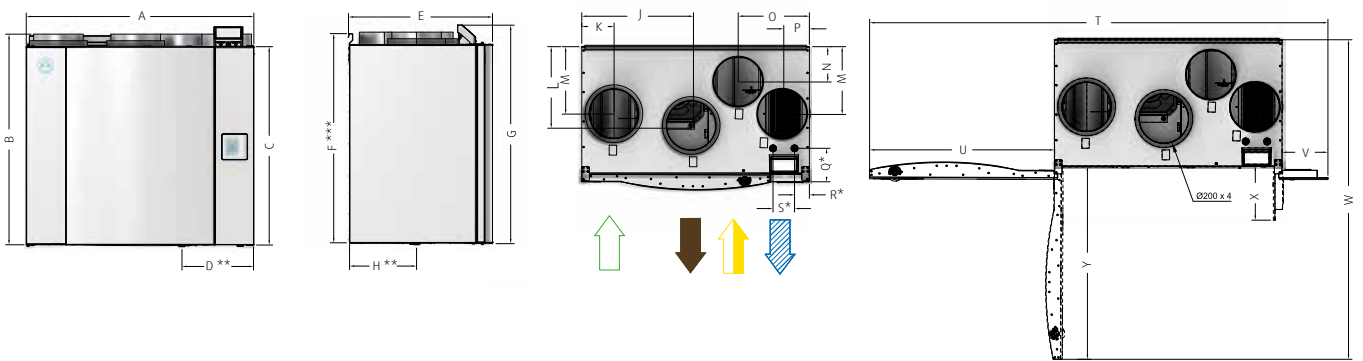
## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions

### Right version

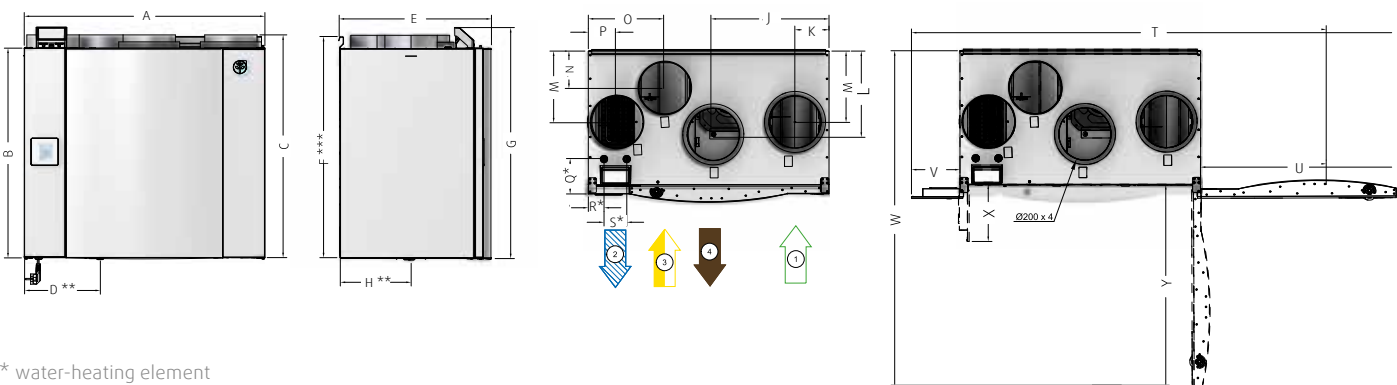


Supply air | Exhaust air | Outdoor air | Extract air

A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
920	850	800	290	584	845	885	271	442	130	318	270	141	288	110	135	60	87	1855	748	185	1290	218	780

Dimensions in mm

### Left version



\* water-heating element  
 \*\* condensate drain  
 \*\*\* height with fixation rail

# SAVE VTR 700



Residential ventilation unit with high-efficiency rotary heat exchanger and intelligent SAVE control. Driven by low noise and energy-saving RadiCal fans with demand-driven speed control. The housing is made of double-skinned galvanised sheet steel (painted white).

The humidity sensor (installed as standard) does not only control the flow rates of the energy-saving EC fans via speed control of the rotor, but also the transfer of moisture if necessary.

The compact residential ventilation unit also features a pleasingly comprehensive range of accessories. The SAVE VTR 700 can be controlled and set externally via an app. The standard Modbus interface enables smart integration with the building control system.



## Features of the SAVE VTR 700 – characteristics and advantages at a glance

- Up to 83% heat recovery efficiency
- Designed for living areas up to 600 m<sup>2</sup>
- Automatic summer mode, cold recovery and free night-time cooling
- External connection box for simple connection of external sensors
- Separate adjustment of the supply airflow and the extract airflow
- Water heating and cooling elements available as accessories
- Startup wizard
- Integrated humidity sensor in extract air

Technical data	
Item No.	88701 (left version) 88700 (right version)
Energy efficiency class	Standard unit A with accessories* A+
Installation	Vertical design
Material	Steel, white
Voltage / frequency	V / 50Hz 230
Power consumption per fan at operating point	W 71 670 m <sup>3</sup> /h bei 50 pa
SFP	kW/m <sup>3</sup> /s 0,72
Input power, fan motor	W 2 x 168
Recommended fuse	A 13
Filter class	M5 / ePM10 60% (* F7 / ePM1 / 55%) M5 / ePM10 60%
Weight	kg 188

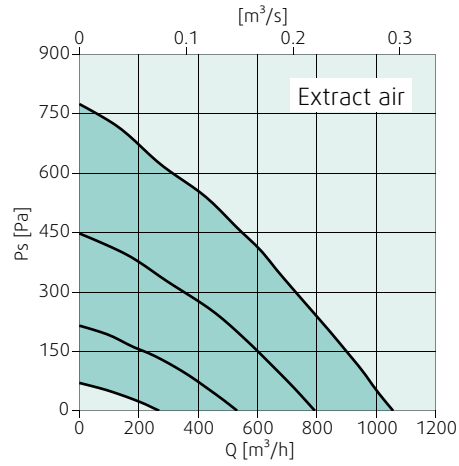
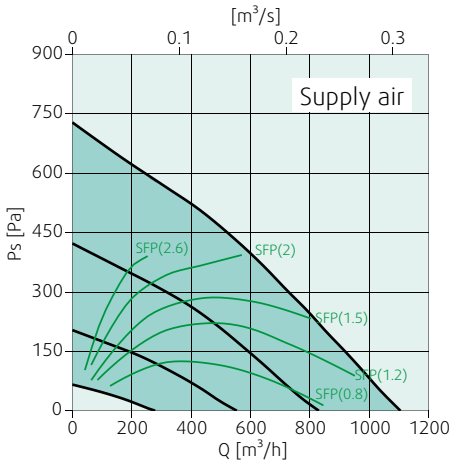
\* available as accessories

SFP = Specific Fan Power (kW/m<sup>3</sup>/s), refers to the entire unit

Mid-frequency range, Hz									
L <sub>WA</sub> dB(A)	Tot	63	125	250	500	1k	2k	4k	8k
Supply air	63	76	67	67	61	55	54	48	34
Extract air	56	68	70	62	47	48	38	31	23
Surroundings	40	54	48	46	34	27	23	20	6

The table shows the sound power level L<sub>WA</sub>, which is not to be confused with the sound pressure level L<sub>pA</sub> (based on the above-specified operating point at 50 Pa).

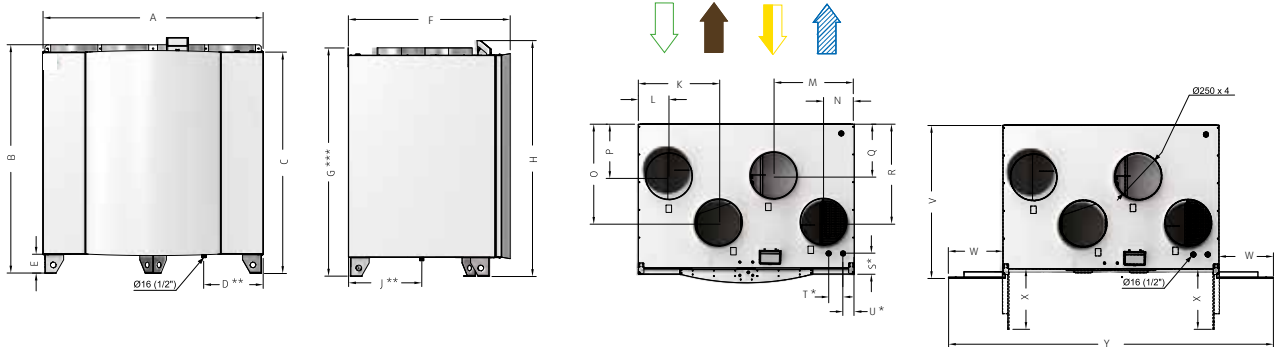
## Performance data



Accessory kits and schematic diagrams can be found on Page 48

## Dimensions

### Right version

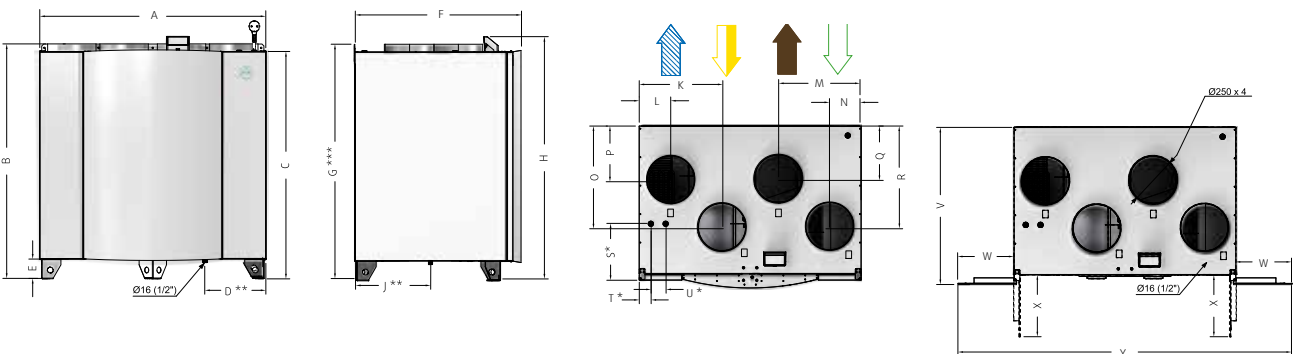


Supply air | Exhaust air | Outdoor air | Extract air

A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1170	1215	1175	315	100	860	1213	1250	390	435	165	435	165	530	281	277	527	113	80	60	830	295	325	1780

Dimensions in mm

### Left version



- \* water-heating element
- \*\* condensate drain
- \*\*\* height with fixation rail

# Accessories & schematic diagrams



Residential ventilation units from Systemair are supplied with all the components needed to ensure efficient operation and good indoor air quality. However, there are still options for adapting functions and operation to particular needs and requirements.

Our philosophy is for the standard units to be able to satisfy most of our customers, and that these are delivered with all the necessary components. Those with particular wishes or needs can fulfil them using our accessories.



Our accessories help adapt the standard units to the special needs and wishes of our customers

- Extending the functionality of the units
- More flexible operation thanks to demand-driven ventilation
- Simpler or more modern operation (app)
- Additional air heating beyond heating via heat recovery
- Spare parts

## The right accessories for your needs

### Product accessories



SAVE VTC 200 **Page 50**

SAVE VTC 300 **Page 50**

SAVE VTC 500 **Page 50**

SAVE VTC 700 **Page 50**

SAVE VSR 150/B **Page 54**

SAVE VSR 300 **Page 54**

SAVE VSR 500 **Page 54**

SAVE VTR 100/B **Page 56**

SAVE VTR 150/B **Page 56**

SAVE VTR 150/K **Page 58**

























SAVE VTR 250/B **Page 58**

SAVE VTR 300/B **Page 60**

SAVE VTR 500 **Page 60**

SAVE VTR 700 **Page 60**

# Accessories SAVE VTC

		SAVE VTC 200	SAVE VTC 300
	Description	Name Item No.	Name Item No.
Basic accessories, control	 SAVE touch (HMI) control unit, black	SAVE touch HMI, black 138078	SAVE touch HMI, black 138078
	 SAVE touch (HMI) control unit, white	SAVE touch HMI, white 138077	SAVE touch HMI, white 138077
	 SAVE touch wall mounting frame	SAVE touch Wall Mounted Kit 140736	SAVE touch Wall Mounted Kit 140736
	 SAVE touch IAM Internet access module	SAVE touch IAM Modul 211243	SAVE touch IAM Modul 211243
	 VK connection cable	VK-15 306594	VK-15 306594
	 CE/CD coupling for connecting multiple control panels	CE/CD 37367	CE/CD 37367
Basic	 Flexible pipe silencer, 50 mm insulation, 1.0 m long	SCD 125 84331	SCD 160 84332
	 Spring return control damper, incl. 230V motor with spring return actuator	Tune-R-125-3-M4 311968	Tune-R-160-3-M4 311969
	 Relay box for shut-off valve 230V with or without spring return	RMK 153549	RMK 153549
	 Relay box for shut-off valve 24VAC with or without spring return, incl. Trafo	RMK-T 153548	RMK-T 153548
	 Filter cassette G3 insulated, Prefilter	FGR-I 125 37064	FGR-I 160 37065
	 Combi-grille, sheet steel Outdoor and exhaust air, black	CVVX 125 26421	CVVX 160 25394
	 Combi-grille, sheet steel Outdoor and exhaust air, white	CVVX 125 26422	CVVX 160 25396
On-demand control	 CO2 sensor, wall-mounted * 0-10 V, 0...2000ppm	CO2-Sensor 14904	CO2-Sensor 14904
	 CO2 sensor, duct-mounted * L = 100 mm, 0-10 V, 0...2000ppm	CO2-Sensor 14906	CO2-Sensor 14906
	 Combi-sensor, wall-mounted * CO2 + humidity + temp.	CO2 RH 211522	CO2 RH 211522
	 CO2 transmitter, wall-mounted * digital 0/1, 0...2000ppm	CO2RT-R-D 6993	CO2RT-R-D 6993
	 CO2 transmitter, duct-mounted* digital 0/1, 0...2000ppm	CO2DT-R 14352	CO2DT-R 14352
	 Humidistat, wall-mounted * digital 0/1, 30-100% r.F.	HU 30213	HU 30213
	 Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	 Room temperature sensor	TG-R5/NTC10-01 211525	TG-R5/NTC10-01 211525
 Surface temperature sensor	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523	
VAV / CAV	 VAV/CAV-Set SAVE touch	PDT12S25 140777	PDT12S25 140777
	 Iris diaphragm ** (only for CAV control)	SPI-125 C 6751	SPI-160 C 6753

\* Energy efficiency class - standard unit with accessories


























\*\* 2 pcs. required for CAV control (constant volume control).

		SAVE VTC 200	SAVE VTC 300
	Description	Name Item No.	Name Item No.
Water-reheating elements installed in ventilation duct	Hot-water heating element duct-mounted	VBC 125-2 5457	VBC 160-2 5458
	Surface temperature sensor	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523
	Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862
	3-way valve	ZTR 15-0,4 9670	ZTR 15-0,6 6573
	Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945
Water-cooling elements installed in ventilation duct	Cold water cooler duct-mounted	CWK 125-3-2,5 30021	CWK 160-3-2,5 30022
	Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862
	3-way valve	ZTR 15-0,4 9670	ZTR 15-0,6 6573
	Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945
Electric reheater installed in ventilation unit	Unit version right	- -	Electric reheaterVTC 300 R 138107
	Unit version left	- -	Electric reheaterVTC 300 L 139312
Electric preheater, installed in ventilation duct	Electric preheater	CB 125-1,2 5290	CB 160-2,1 5292
	CB connection set	SAVE control CB connection 142852	SAVE control CB connection 142852
Filters	Supply air filter F7	PF VTC 200 ePM1 55% 208671	PF VTC 300 ePM1 55% 207041
		-	BF VTC 300 ePM1 65% 207042
	Supply air filter M5	-	PF VTC 300 ePM10 60% 207040
	Supply airfilter G4	PF VTC 200 Coarse 65% S/E 208670	PF VTC 300 Coarse 65% S/E 207039
	Exhaust airfilter M5	-	-
Exhaust airfilter G4	PF VTC 200 Coarse 65% S/E 208670	PF VTC 300 Coarse 65% S/E 207039	

\*\*\* Requires separate power supply



# Accessories SAVE VTC

		SAVE VTC 500	SAVE VTC 700
	Description	Name Item No.	Name Item No.
Basic accessories, control	 SAVE touch (HMI) control unit, black	SAVE touch HMI, black 138078	SAVE touch HMI, black 138078
	 SAVE touch (HMI) control unit, white	SAVE touch HMI, white 138077	SAVE touch HMI, white 138077
	 SAVE touch wall mounting frame	SAVE touch Wall Mounted Kit 140736	SAVE touch Wall Mounted Kit 140736
	 SAVE touch IAM Internet access module	SAVE touch IAM Modul 211243	SAVE touch IAM Modul 211243
	 VK connection cable	VK-15 306594	VK-15 306594
	 CE/CD coupling for connecting multiple control panels	CE/CD 37367	CE/CD 37367
	 CAV kit für SAVE Touch	CAV kit 161100	- -
Basic	 Flexible pipe silencer, 50 mm insulation, 1.0 m long	SCD 250 84333	SCD 250 87545
	 Spring return control damper, incl. 230V motor with spring return actuator	TUNE-R-200-3-M4 311970	TUNE-R-250-3-M4 311971
	 Relay box for shut-off valve 230V with or without spring return	SAVE Relaisbox 230VAC 153549	SAVE Relaisbox 230VAC 153549
	 RRelay box for shut-off valve 24VAC with or without spring return, incl. Trafo	RMK-T 153548	RMK-T 153548
	 Filter cassette G3 insulated, Prefilter	FGR-I 200 37066	FGR-I 250 37316
	 Combi-grille, sheet steel Outdoor and exhaust air, black	CVVX 200 25395	CVVX 250 8498
	 Combi-grille, sheet steel Outdoor and exhaust air, white	CVVX 200 25357	CVVX 250 146260
On-demand control	 CO2 sensor, wall-mounted * 0-10 V, 0...2000ppm	CO2-Sensor 14904	CO2-Sensor 14904
	 CO2 sensor, duct-mounted * L = 100 mm, 0-10 V, 0...2000ppm	CO2-Sensor 14906	CO2-Sensor 14906
	 Combi-sensor, wall-mounted * CO2 + humidity + temp.	CO2 RH 211522	CO2 RH 211522
	 CO2 transmitter, wall-mounted * digital 0/1, 0...2000ppm	CO2RT-R-D 6993	CO2RT-R-D 6993
	 CO2 transmitter, duct-mounted* digital 0/1, 0...2000ppm	CO2DT-R 14352	CO2DT-R 14352
	 Humidistat, wall-mounted * digital 0/1, 30-100% r.F.	HU 30213	HU 30213
	 Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	 Room temperature sensor	TG-R5/NTC10-01 211525	TG-R5/NTC10-01 211525
	 Surface temperature sensor	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523
VAV / CAV	 VAV/CAV-Set SAVE touch	PDT12S25 140777	PDT12S25 140777
	 Iris diaphragm ** (only for CAV control)	SPI-200 C 6754	SPI-250 C 6755


























\* Energy efficiency class - standard unit with accessories

\*\* 2 pcs. required for CAV control (constant volume control).

		SAVE VTC 500	SAVE VTC 700
	Description	Name Item No.	Name Item No.
Water-reheating elements installed in ventilation duct	Hot-water heating element duct-mounted	VBC 200-2 5459	VBC 250-2 5460
	Surface temperature sensor	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523
	Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862
	3-way valve	ZTR 15-1,6 9673	ZTR 15-1,6 9673
	Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945
Water-cooling elements installed in ventilation duct	Cold water cooler duct-mounted	CWK 200-3-2,5 30023	CWK 250-3-2,5 30024
	Duct temperature sensor	TG-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862
	3-way valve	ZTR 15-0,6 6573	ZTR 15-1,0 9672
	Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945
Electric reheater installed in ventilation unit	Unit version right	Electric reheater VTC 500 R 158105	Electric reheater VTC 700 R 138200 ***
	Unit version left	Electric reheater VTC 500 L 158109	Electric reheater VTC 700 137746 ***
Electric preheater, installed in ventilation duct	Electric preheater	CB 200-2,1 5384	CB 250-6,0 5372
	CB connection set	SAVE control CB connection 142852	SAVE control CB connection 142852
Filters	Supply air filter F7	PF VTC 500 ePM1 55% 212683	PF VTC/VTR 700 ePM1 55% 207472
	Supply air filter M5	-	BF VTC 700 ePM1 60% GF 207470
	Supply airfilter G4	-	PF VTC/VTR 700 ePM10 60% S/E 207471
	Exhaust airfilter M5	PF VTC 500 ePM10 50% 212682	PF VTC/VTR 700 ePM10 60% S/E 207471
	Exhaust airfilter G4	-	-



\*\*\* Requires separate power supply

# Accessories SAVE VSR

		SAVE VSR 150/B	SAVE VSR 300	SAVE VSR 500
	Description	Name Item no.	Name Item no.	Name Item no.
Basic accessories, Control	 SAVE touch (HMI) control unit, black	SAVE touch HMI, black 138078	SAVE touch HMI, black 138078	SAVE touch HMI, black 138078
	 SAVE touch (HMI) control unit, black	SAVE touch HMI, white 138077	SAVE touch HMI, white 138077	SAVE touch HMI, white 138077
	 SAVE touch wall mounting frame	SAVE touch Wall Mounted Kit 140736	SAVE touch Wall Mounted Kit 140736	SAVE touch Wall Mounted Kit 140736
	 SAVE control IAM Internet access module	SAVE touch IAM Modul 211243	SAVE touch IAM Modul 211243	SAVE touch IAM Modul 211243
	 VK connection cable	VK-15 306594	VK-15 306594	VK-15 306594
	 CE/CD coupling for connecting multiple control panels	CE/CD 37367	CE/CD 37367	CE/CD 37367
Basic	 Flexible pipe silencer, 50 mm insulation, 1.0 m long	SCD 125 84331	SCD 160 84332	SCD 200 2560
	 Spring return control damper, incl. 230V motor with spring return actuator	Tune-R-125-3-M4 311968	Tune-R-160-3-M4 311969	TUNE-R-200-3-M4 311970
	 Relay box for shut-off valve 230V with or without spring return	RMK 153549	RMK 153549	RMK 153549
	 Relay box for shut-off valve 24VDC, with or without spring return, incl. Trafo	RMK-T 153548	RMK-T 153548	RMK-T 153548
	 Filter cassette G3 insulated, Prefilter	FGR-I 125 37064	FGR-I 160 37065	FGR-I 200 37066
	 Combi-grille, sheet steel Outdoor and exhaust air, black	CVVX 125, black 26421	CVVX 160, black 25394	CVVX 200, black 25395
	 Combi-grille, sheet steel Outdoor and exhaust air, white	CVVX 125, white 26422	CVVX 160, white 25396	CVVX 200, white 25397
	 Telescopic suspension	Telescopic suspension VSR 150/B 37251	-	-
	 Ceiling mounting kit	Wall mounting kit VSR 150/B 115599	Ceiling mounting kit VSR 300 131610	Ceiling mounting kit VSR 500 131620
	 Wall mounting kit	Wanll mounting kit vertical 165599 Wanll mounting kit horizontal 162999	- - -	- - -
On-demand control	 CO2 sensor, wall-mounted * 0-10 V, 0...2000ppm	CO2-Sensor 14904	CO2-Sensor 14904	CO2-Sensor 14904
	 CO2 sensor, duct-mounted * L = 100 mm, 0-10 V, 0...2000ppm	CO2-Sensor 14906	CO2-Sensor 14906	CO2-Sensor 14906
	 Combi-sensor, wall-mounted * CO2 + humidity + temp.	CO2 RH 211522	CO2 RH 211522	CO2 RH 211522
	 CO2 transmitter, wall-mounted * digital 0/1, 0...2000ppm	CO2RT-R-D 6993	CO2RT-R-D 6993	CO2RT-R-D 6993
	 CO2 transmitter, duct-mounted* digital 0/1, 0...2000ppm	CO2DT-R 14352	CO2DT-R 14352	CO2DT-R 14352
	 Humidistat, wall-mounted * digital 0/1, 30-100% r.F.	HU 30213	HU 30213	HU 30213
	 Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	 Room temperature sensor	TG-R5/NTC10-01 211525	TG-R5/NTC10-01 211525	TG-R5/NTC10-01 211525
	 Surface temperature sensor	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523

\* Energy efficiency class - standard unit with accessories

























\*\* 2 pcs. required for CAV control (constant volume control).

		SAVE VSR 150/B	SAVE VSR 300	SAVE VSR 500
VAV / CAV	Description	Name	Name	Name
		Item no.	Item no.	Item no.
	 VAV/CAV-Set SAVE touch	PDT12S25 140777	PDT12S25 140777	PDT12S25 140777
	 Iris diaphragm ** (only for CAV control)	SPI-125 C 6751	SPI-160 C 6753	SPI-200 C 67554
Water-reheating elements, Installed in ventilation duct	 Hot-water heating element duct-mounted	VBC 125-2 5457	VBC 160-2 5458	VBC 200-2 5459
	 Surface temperature sensor	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523
	 Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	 Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862	RVAZ4 24A 9862
	 3-way valve	ZTR 15-0,4 9670	ZTR 15-0,6 6573	ZTR 15-1,0 9672
	 Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945	PSS48 211945
Water-cooling elements, Installed in ventilation duct	 Cold water cooler duct-mounted	CWK 125-3-2,5 30021	CWK 160-3-2,5 30022	CWK 200-3-2,5 30023
	 Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	 Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862	RVAZ4 24A 9862
	 3-way valve	ZTR 15-0,4 9670	ZTR 15-0,6 6573	ZTR 15-1,0 9672
	 Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945	PSS48 211945
Electric reheater, Installed in ventilation unit	 Unit version right	Integrated 0,5 kW	Integrated 1,67 kW	Integrated 1,67 kW
	 Unit version left	Integrated 0,5 kW	Integrated 1,67 kW	Integrated 1,67 kW
Filter	 Supply air filter F7	PF VSR 150 ePM1 60% 212948	BF VSR 300 ePM2.5 70% 212472	BF VSR 500 ePM2.5 70% 212475
	 Extract air filter G3 / M5	PF VSR 150 M5/ePM1 50% 212949	BF VSR 300 Coarse 50% 212473	BF VSR 500 Coarse 50% 212476
	 Filterset PHI ****	- -	Filters. PHI VSR 300 (F7/M5) 211585	Filters. PHI VSR 500 (F7/F7) 211586

\*\*\* Requires separate power supply













\*\*\*\* Filter kit complying with PHI certification is required.

# Accessories SAVE VTR

























		SAVE VTR 100/B	SAVE VTR 150/B
	Description	Name Item no.	Name Item no.
Basic accessories, Control	 SAVE touch (HMI) control unit, black	SAVE touch HMI, black 138078	SAVE touch HMI, black 138078
	 SAVE touch (HMI) control unit, white	SAVE touch HMI, white 138077	SAVE touch HMI, white 138077
	 SAVE touch wall mounting frame	SAVE touch Wall Mounted Kit 140736	SAVE touch Wall Mounted Kit 140736
	 SAVE control IAM Internet access module	SAVE touch IAM Modul 211243	SAVE touch IAM Modul 211243
	 VK connection cable	VK-15 306594	VK-15 306594
	 CE/CD coupling for connecting multiple control panels	CE/CD 37367	CE/CD 37367
Basic	 Flexible pipe silencer, 50 mm insulation, 1.0 m long	SCD 125 84331	SCD 125 84331
	 Spring return control damper, incl. 230V motor with spring return actuator	Tune-R-125-3-M4 311968	Tune-R-125-3-M4 311968
	 Relay box for shut-off valve 230V with or without spring return	RMK 153549	RMK 153549
	 Relay box for shut-off valve 24VDC, with or without spring return, incl.	RMK-T 153548	RMK-T 153548
	 Filter cassette G3 insulated, Prefilter	FGR-I 125 37064	FGR-I 125 37064
	 Combi-grille, sheet steel Outdoor and exhaust air, black	CVVX 125, black 26421	CVVX 125, black 26421
	 Combi-grille, sheet steel Outdoor and exhaust air, white	CVVX 125, white 26422	CVVX 125, white 26422
	Set für BlanketnInstallation	Ceiling mounting kit VTR 100/B 155980	- -
On-demand control	 CO2 sensor, wall-mounted * 0-10 V, 0...2000ppm	CO2-Sensor 14904	CO2-Sensor 14904
	 CO2 sensor, duct-mounted * L = 100 mm, 0-10 V, 0...2000ppm	CO2-Sensor 14906	CO2-Sensor 14906
	 Combi-sensor, wall-mounted * CO2 + humidity + temp.	CO2 RH 211522	CO2 RH 211522
	 CO2 transmitter, wall-mounted * digital 0/1, 0...2000ppm	CO2RT-R-D 6993	CO2RT-R-D 6993
	 CO2 transmitter, duct-mounted* digital 0/1, 0...2000ppm	CO2DT-R 14352	CO2DT-R 14352
	 Humidistat, wall-mounted * digital 0/1, 30-100% r.F.	HU 30213	HU 30213
	 Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	 Room temperature sensor	TG-R5/NTC10-01 211525	TG-R5/NTC10-01 211525
 Surface temperature sensor	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523	
VAV / CAV	 VAV/CAV-Set SAVE control	PDT12S25 140777	PDT12S25 140777
	 Iris diaphragm ** (only for CAV control)	SPI-125 C 6751	SPI-125 C 6751

\* Energy efficiency class - standard unit with accessories

\*\* 2 pcs. required for CAV control (constant volume control).

		SAVE VTR 100/B	SAVE VTR 150/B
	Description	Name <i>Item no.</i>	Name <i>Item no.</i>
Water-reheating elements Installed in ventilation duct	 Hot-water heating element duct-mounted	VBC 125-2 5457	VBC 125-2 5457
	 Surface temperature sensor	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523
	 Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	 Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862
	 3-way valve	ZTR 15-0,4 9670	ZTR 15-0,4 9670
	 Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945
Water-cooling elements Installed in ventilation duct	 Cold water cooler duct-mounted	CWK 125-3-2,5 30021	CWK 125-3-2,5 30021
	 Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	 Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862
	 3-way valve	ZTR 15-0,4 9670	ZTR 15-0,4 9670
	 Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945
Electric reheater Installed in ventilation unit	Electric reheater	500 W 154100	Integrated 0,5 or 1,0 kW
	Filter	 Supply air filter F7	PF VTR 100 ePM1 60% 212147
BF VTR 100 ePM1 60% 212145			-
 Supply air filter M5		PF VTR 100 ePM10 50% S/E 212148	PF VTR 150 ePM10 60% 211121
		BF VTR 100 Coarse 70% S/E 212146	BF VTR 150 ePM10 50% 210253
 Exhaust airfilter M5		PF VTR 100 ePM10 50% S/E 212148	PF VTR 150 ePM10 60% 211120
		BF VTR 100 Coarse 70% S/E 212146	BF VTR 150 ePM10 50% 210254

# Accessories SAVE VTR

		SAVE VTR 150/K	SAVE VTR 250/B
	Description	Name Item no.	Name Item no.
Basic accessories, Control	 SAVE touch (HMI) control unit, black	SAVE touch HMI, black 138078	SAVE touch HMI, black 138078
	 SAVE touch (HMI) control unit, white	SAVE touch HMI, white 138077	SAVE touch HMI, white 138077
	 SAVE touch wall mounting frame	SAVE touch Wall Mounted Kit 140736	SAVE touch Wall Mounted Kit 140736
	 SAVE control IAM Internet access module	SAVE touch IAM Modul 211243	SAVE touch IAM Modul 211243
	 VK connection cable	VK-15 306594	VK-15 306594
	 CE/CD coupling for connecting multiple control panels	CE/CD 37367	CE/CD 37367
Basic	 Flexible pipe silencer, 50 mm insulation, 1.0 m long	SCD 125 84331	SCD 125 84331
	 Spring return control damper, incl. 230V motor with spring return actuator	Tune-R-125-3-M4 311968	Tune-R-125-3-M4 311968
	 Relay box for shut-off valve 230V with or without spring return	RMK 153549	RMK 153549
	 Relay box for shut-off valve 24VDC, with or without spring return, incl.	RMK-T 153548	RMK-T 153548
	 Filter cassette G3 insulated, Prefilter	FGR-I 125 37064	FGR-I 125 37064
	 Combi-grille, sheet steel Outdoor and exhaust air, black	CVVX 125, black 26421	CVVX 125, black 26421
	 Combi-grille, sheet steel Outdoor and exhaust air, white	CVVX 125, white 26422	CVVX 125, white 26422
On-demand control	 CO2 sensor, wall-mounted * 0-10 V, 0...2000ppm	CO2-Sensor 14904	CO2-Sensor 14904
	 CO2 sensor, duct-mounted * L = 100 mm, 0-10 V, 0...2000ppm	CO2-Sensor 14906	CO2-Sensor 14906
	 Combi-sensor, wall-mounted * CO2 + humidity + temp.	CO2 RH 211522	CO2 RH 211522
	 CO2 transmitter, wall-mounted * digital 0/1, 0...2000ppm	CO2RT-R-D 6993	CO2RT-R-D 6993
	 CO2 transmitter, duct-mounted* digital 0/1, 0...2000ppm	CO2DT-R 14352	CO2DT-R 14352
	 Humidistat, wall-mounted * digital 0/1, 30-100% r.F.	HU 30213	HU 30213
	 Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	 Room temperature sensor	TG-R5/NTC10-01 211525	TG-R5/NTC10-01 211525
	 Surface temperature sensor	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523
VAV / CAV	 VAV/CAV-Set SAVE control	PDT12S25 140777	PDT12S25 140777
	 Iris diaphragm ** (only for CAV control)	SPI-125 C 6751	SPI-125 C 6751
























\* Energy efficiency class - standard unit with accessories

\*\* 2 pcs. required for CAV control (constant volume control).



		SAVE VTR 150/K	SAVE VTR 250/B
	Description	Name <i>Item no.</i>	Name <i>Item no.</i>
Water-reheating elements, Installed in ventilation duct	Hot-water heating element duct-mounted	VBC 125-2 5457	VBC 125-2 5457
	Surface temperature sensor	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523
	Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862
	3-way valve	ZTR 15-0,4 9670	ZTR 15-0,4 9670
	Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945
Water-cooling elements, Installed in ventilation duct	Cold water cooler duct-mounted	CWK 125-3-2,5 30021	CWK 125-3-2,5 30021
	Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862
	3-way valve	ZTR 15-0,4 9670	ZTR 15-0,6 6573
	Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945
Electric reheater, Installed in ventilation unit	Electric reheater	Integrated 0,5 or 1,0 kW	Integrated 0,5 or 1,0 kW
Water-reheating elements, Element installed in ventilation unit	Water-reheating elements	-	Water-heating element VTR 250 156370
	Actuator for mixing valve 24 V	-	RVAZ4 24A 9862
	3-way valve	-	ZTR 15-0,4 9670
	Actuator power supply transformer 230 V - 24 V	-	PSS48 211945
Filter	Supply air filter F7	PF VTR 150 ePM1 55% 211122	BF VTR 250 ePM1 55% 211125
	Supply air filter M5	PF VTR 150 ePM10 60% 211121	-
		BF VTR 150 ePM10 50% 210253	-
	Exhaust airfilter M5	PF VTR 150 ePM10 60% 211120	-
		BF VTR 150 ePM10 50% 210254	BF VTR 250 ePM10 50 % 211123
Extract air filter G3	-	BF VTR 250 Coarse 50% 211124	

# Accessories SAVE VTR

		SAVE VTR 300/B	SAVE VTR 500	SAVE VTR 700
	Description	Name <i>Item no.</i>	Name <i>Item no.</i>	Name <i>Item no.</i>
Basic accessories, Control	 SAVE touch (HMI) control unit, black	SAVE touch HMI, black 138078	SAVE touch HMI, black 138078	SAVE touch HMI, black 138078
	 SAVE touch (HMI) control unit, white	SAVE touch HMI, white 138077	SAVE touch HMI, white 138077	SAVE touch HMI, white 138077
	 SAVE touch wall mounting frame	SAVE touch Wall Mounted Kit 140736	SAVE touch Wall Mounted Kit 140736	SAVE touch Wall Mounted Kit 140736
	 SAVE control IAM internet communication module	SAVE touch IAM Modul 211243	SAVE touch IAM Modul 211243	SAVE touch IAM Modul 211243
	 VK connection cable	VK-15 306594	VK-15 306594	VK-15 306594
	 CE/CD coupling for connecting multiple control panels	CE/CD 37367	CE/CD 37367	CE/CD 37367
Basic	 Flexible pipe silencer, 50 mm insulation, 1.0 m long	SCD 160 84332	SCD 200 84333	SCD 250 87545
	 Spring return control damper, incl. 230V motor with spring return actuator	Tune-R-160-3-M4 311969	TUNE-R-200-3-M4 311970	TUNE-R-250-3-M4 311971
	 Relay box for shut-off valve 230V with or without spring return	RMK 153549	RMK 153549	RMK 153549
	 Relay box for shut-off valve 24VDC, with or without spring return, incl.	RMK-T 153548	RMK-T 153548	RMK-T 153548
	 Filter cassette G3 insulated, Prefilter	FGR-I 160 37065	FGR-I 200 37066	FGR-I 250 37316
	 Combi-grille, sheet steel Outdoor and exhaust air, black	CVVX 160, black 25394	CVVX 200, black 25395	CVVX 250, black 8498
	 Combi-grille, sheet steel Outdoor and exhaust air, white	CVVX 160, white 25396	CVVX 200, white 25397	CVVX 250, white 146260
On-demand control	 CO2 sensor, wall-mounted * 0-10 V, 0...2000ppm	CO2-Sensor 14904	CO2-Sensor 14904	CO2-Sensor 14904
	 CO2 sensor, duct-mounted * L = 100 mm, 0-10 V, 0...2000ppm	CO2-Sensor 14906	CO2-Sensor 14906	CO2-Sensor 14906
	 Combi-sensor, wall-mounted * CO2 + humidity + temp.	CO2 RH 211522	CO2 RH 211522	CO2 RH 211522
	 CO2 transmitter, wall-mounted * digital 0/1, 0...2000ppm	CO2RT-R-D 6993	CO2RT-R-D 6993	CO2RT-R-D 6993
	 CO2 transmitter, duct-mounted* digital 0/1, 0...2000ppm	CO2DT-R 14352	CO2DT-R 14352	CO2DT-R 14352
	 Humidistat, wall-mounted * digital 0/1, 30-100% r.F.	HU 30213	HU 30213	HU 30213
	 Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	 Room temperature sensor	TG-R5/NTC10-01 211525	TG-R5/NTC10-01 211525	TG-R5/NTC10-01 211525
	 Surface temperature sensor	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523
VAV / CAV	 VAV/CAV-Set SAVE touch	PDT12S25 140777	PDT12S25 140777	PDT12S25 140777
	 Iris diaphragm ** (only for CAV control)	SPI-160 C 6753	SPI-200 C 6754	SPI-250 C 6755

\* Energy efficiency class - standard unit with accessories

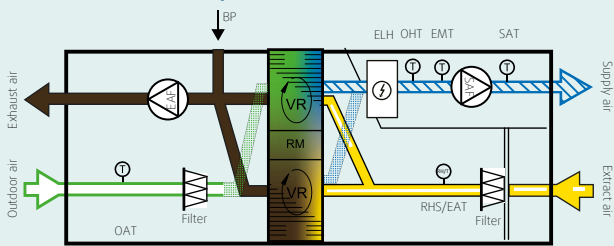
\*\* 2 pcs. required for CAV control (constant volume control).

		SAVE VTR 300/B	SAVE VTR 500	SAVE VTR 700
	Description	Name <i>Item no.</i>	Name <i>Item no.</i>	Name <i>Item no.</i>
Water-reheating elements Installed in ventilation duct	Hot-water heating element duct-mounted	VBC 160-2 5458	VBC 200-2 5459	VBC 250-2 5460
	Surface temperature sensor	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523	TG-A1/NTC10-01 211523
	Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862	RVAZ4 24A 9862
	3-way valve	ZTR 15-0,6 6573	ZTR 15-1,0 9672	ZTR 15-1,6 9673
	Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945	PSS48 211945
Water-cooling elements Installed in ventilation duct	Cold water cooler duct-mounted	CWK 160-3-2,5 30022	CWK 200-3-2,5 30023	CWK 250-3-2,5 30024
	Duct temperature sensor	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524	G-K3/NTC10-01 211524
	Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862	RVAZ4 24A 9862
	3-way valve	ZTR 15-0,6 6573	ZTR 15-1,0 9672	ZTR 15-1,6 96723
	Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945	PSS48 211945
Water-reheating elements Installed in ventilation unit	Water-reheating elements	Water-heating element VTR 300 141700	Water-heating element VTR 500 141701	Wasserheizreg. VTR 700 141101 r. Ausf. / 138101 l. Ausf.
	Actuator for mixing valve 24 V	RVAZ4 24A 9862	RVAZ4 24A 9862	RVAZ4 24A 9862
	3-way valve	ZTR 15-0,6 6573	ZTR 15-1,0 9672	ZTR 15-1,6 9673
	Actuator power supply transformer 230 V - 24 V	PSS48 211945	PSS48 211945	PSS48 211945
Electric preheater, Installed in ventilation duct	Unit version right	Integrated 0,5 kW	Integrated 1,67 kW	Electric reheater VTR 700 141100
	Unit version left	Integrated 0,5 kW	Integrated 1,67 kW	Electric reheater VTR 700 138100
Filters	Supply air filter F7	BF VTR 300 ePM10 80% 208268	BF VTR 500 ePM10 80% 208283	PF VTC/VTR 700 ePM1 55% 207472
	Supply air filter M5	-	-	PF VTC/VTR 700 ePM10 60% S/E 207471
	Supply air filter G3	BF VTR 300 Coarse 60% 208269	BF VTR 500 Coarse 60% 208285	-
	Extract air filter G3	BF VTR 300 Coarse 60% 208270	BF VTR 500 Coarse 60% 208284	-
	Extract air filter M5	-	-	PF VTC/VTR 700 ePM10 60% S/E 207471
	PHI filter kit***	Filterset PHI VTR 300 (F7/F7) 211587	-	-

\*\*\* Filter kit complying with PHI certification is required.

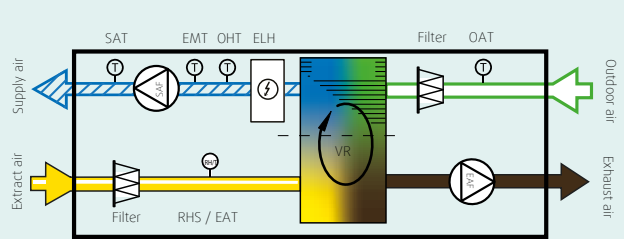
# Schematic diagram

## SAVE VSR 150/B



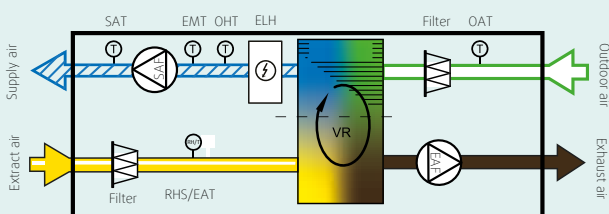
- Filter Outdoor / extract air filter
- VR Rotary heat exchanger
- EAF Exhaust air fan
- RHS / EAT Humidity and extract air temperature sensor
- SAF Supply air fan
- ELH Electric reheater
- SAT Supply air temperature sensor
- OHT Overheating sensor
- EMT Safety-temperature limiter
- OAT Outdoor air temperature sensor
- BP Bypass for extractor

## SAVE VSR 300



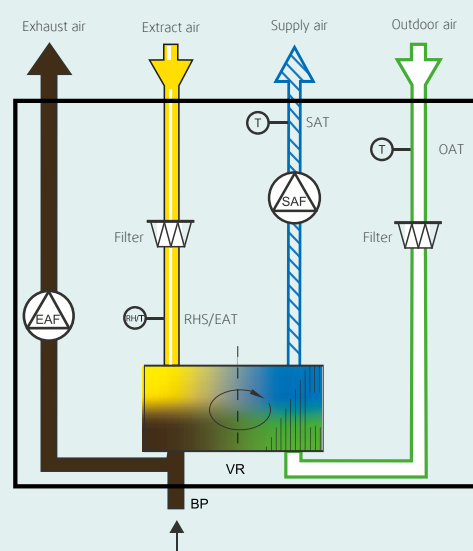
- Filter Outdoor / extract air filter
- VR Rotary heat exchanger
- EAF Exhaust air fan
- RHS / EAT Humidity and extract air temperature sensor
- SAF Supply air fan
- ELH Electric reheater
- SAT Supply air temperature sensor
- OHT Overheating sensor
- EMT Safety-temperature limiter
- OAT Outdoor air temperature sensor

## SAVE VSR 500



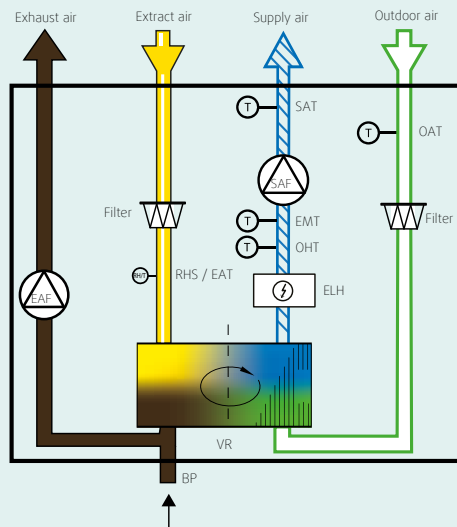
- Filter Outdoor / extract air filter
- VR Rotary heat exchanger
- EAF Exhaust air fan
- RHS / EAT Humidity and extract air temperature sensor
- SAF Supply air fan
- ELH Electric reheater
- OHT Overheating sensor
- EMT Safety-temperature limiter
- OAT Outdoor air temperature sensor
- SAT Supply air temperature sensor

## SAVE VTR 100/B



- Filter Outdoor / extract air filter
- VR Rotary heat exchanger
- EAF Exhaust air fan
- RHS / EAT Humidity and extract air temperature sensor
- SAF Supply air fan
- OAT Outdoor air temperature sensor
- SAT Supply air temperature sensor
- BP Bypass for integrated extractor hood

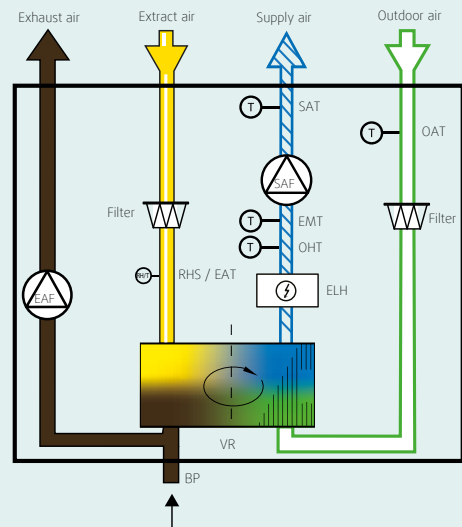
### SAVE VTR 150/B \*



- Filter Outdoor / extract air filter
- VR Rotary heat exchanger
- EAF Exhaust air fan
- RHS / EAT Humidity and extract air temperature sensor
- SAF Supply air fan
- ELH Electric reheater
- OHT Overheating sensor
- EMT Safety-temperature limiter
- OAT Outdoor air temperature sensor
- SAT Supply air temperature sensor
- BP Bypass for integrated extractor hood

\* right version

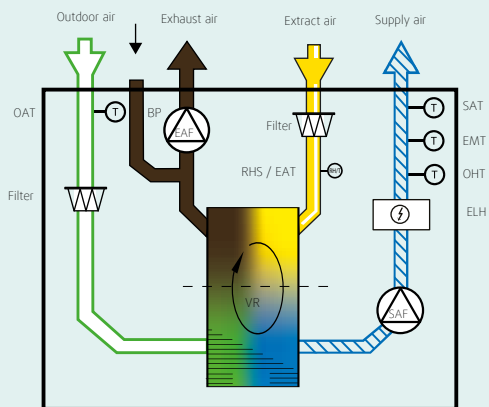
### SAVE VTR 150/K \*



- Filter Outdoor / extract air filter
- VR Rotary heat exchanger
- EAF Exhaust air fan
- RHS / EAT Humidity and extract air temperature sensor
- SAF Supply air fan
- ELH Electric reheater
- OHT Overheating sensor
- EMT Safety-temperature limiter
- OAT Outdoor air temperature sensor
- SAT Supply air temperature sensor
- BP Bypass for integrated extractor hood

\* right version

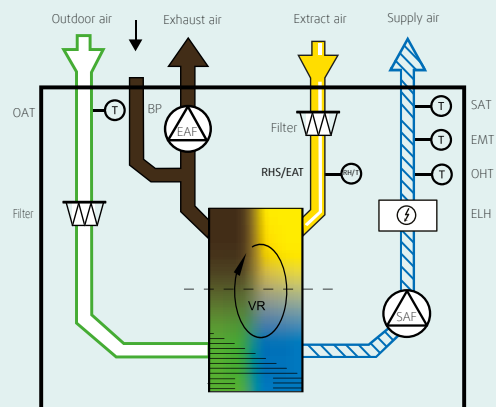
### SAVE VTR 250/B \*



- Filter Outdoor / extract air filter
- VR Rotary heat exchanger
- EAF Exhaust air fan
- SAF Supply air fan
- ELH Electric reheater
- RHS / EAT Humidity and extract air temperature sensor
- OHT Overheating sensor
- EMT Safety-temperature limiter
- OAT Outdoor air temperature sensor
- SAT Supply air temperature sensor
- BP Bypass for integrated extractor hood

\* right version

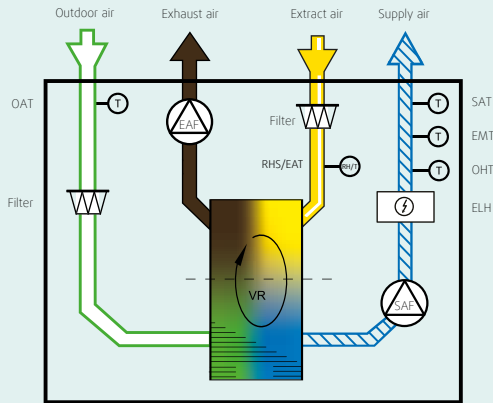
### SAVE VTR 300/B \*



- Filter Outdoor / extract air filter
- VR Rotary heat exchanger
- EAF Exhaust air fan
- RHS / EAT Humidity and extract air temperature sensor
- SAF Supply air fan
- ELH Electric reheater
- OHT Overheating thermostat
- EMT Safety-temperature limiter
- OAT Outdoor air temperature sensor
- SAT Supply air temperature sensor
- BP Bypass for integrated extractor hood

\* right version

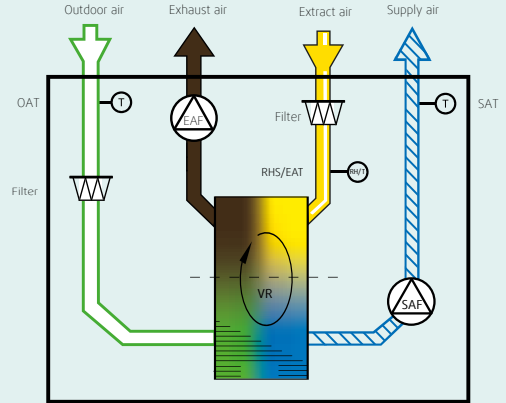
### SAVE VTR 500 \*



- Filter Outdoor / extract air filter
- VR Rotary heat exchanger
- EAF Exhaust air fan
- RHS / EAT Humidity and extract air temperature sensor
- SAF Supply air fan
- ELH Electric reheater
- SAT Supply air temperature sensor
- OAT Outdoor air temperature sensor
- EMT Safety-temperature limiter
- OHT Overheating sensor

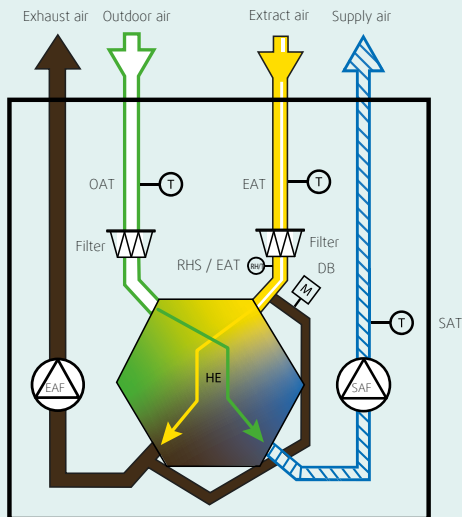
\* right version

### SAVE VTR 700



- Filter Outdoor / extract air filter
- VR Rotary heat exchanger
- EAF Exhaust air fan
- RHS / EAT Humidity and extract air temperature sensor
- SAF Supply air fan
- SAT Supply air temperature sensor
- OAT Outdoor air temperature sensor

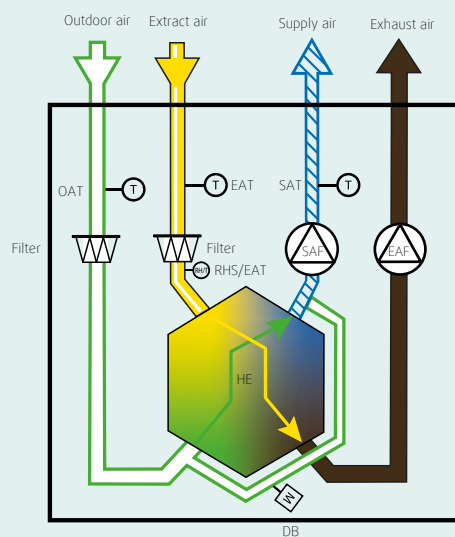
### SAVE VTC 200 \*



- Filter Outdoor / extract air filter
- HE Counter flow heat exchanger
- EAF Exhaust air fan
- RHS / EAT Humidity and extract air temperature sensor
- SAF Supply air fan
- SAT Supply air temperature sensor
- OAT Outdoor air temperature sensor
- DB Outdoor air / Supply air bypass

\* right version

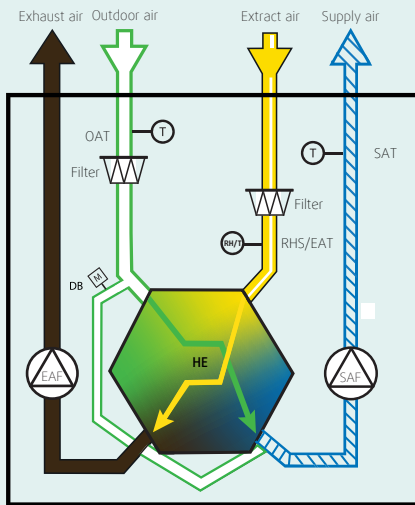
### SAVE VTC 300 \*



- Filter Outdoor / extract air filter
- HE Counter flow heat exchanger
- EAF Exhaust air fan
- RHS / EAT Humidity and extract air temperature sensor
- SAF Supply air fan
- SAT Supply air temperature sensor
- OAT Outdoor air temperature sensor
- DB Outdoor air / Supply air bypass

\* right version

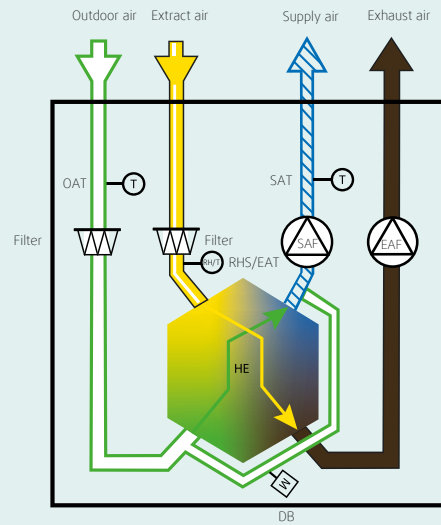
### SAVE VTC 500 \*



Filter	Outdoor / extract air filter
HE	Counter flow heat exchanger
EAF	Exhaust air fan
RHS / EAT	Humidity and extract air temperature sensor
SAF	Supply air fan
SAT	Supply air temperature sensor
OAT	Outdoor air temperature sensor
DB	Outdoor air / Supply air bypass

\* right version

### SAVE VTC 700 \*



Filter	Outdoor / extract air filter
HE	Counter flow heat exchanger
EAF	Exhaust air fan
RHS / EAT	Humidity and extract air temperature sensor
SAF	Supply air fan
SAT	Supply air temperature sensor
OAT	Outdoor air temperature sensor
DB	Outdoor air / Supply air bypass

\* right version



# Villavent® central vacuum cleaner system



The Villavent® V20/V30 central vacuum cleaner is a powerful and low noise device. The central unit is connected with the suction sockets via a low voltage control line and is activated by this control line. The dust container is located in the lower section of the unit. The dust is collected in a filter bag. To optimise the dust collection, our vacuum cleaners are equipped with safety filters and filter barriers.

The exhaust air of the vacuum cleaner is preferably discharged outside, so that fine particulate matter is not blown back into the building. The resulting underpressure must be compensated for by air leakage in the building or by outdoor air openings.

So that airtight buildings do not have to do without a central vacuum cleaner, the vacuum cleaner can be equipped with a HEPA filter. An exhaust air line then becomes unnecessary. The HEPA filter filters fine particulate matter from the air and needs to be replaced regularly.

If a SAVE ventilation unit is installed in the building, the two units can communicate with each other via a control line. The ventilation system reduces the extract air volume during vacuum cleaning to automatically maintain a balance in the building.

## Features of the central vacuum cleaner system – characteristics and advantages at a glance

- No need to lug around heavy vacuum-cleaning equipment
- High suction power and low noise
- Simple and flexible installation
- Simple to operate and maintain
- One connection socket on each storey
- Robust plastic housing

## Basic configuration

This consists of the central vacuum cleaner, a pipe kit (selection of three sizes) and the Premium 2 hose kit with a 2-level on/off switch on the handle.

The Premium 2 hose kit is a complete package with 10 m

flexible hose, 1 m telescopic pipe, standard floor nozzle, parquet nozzle, 3 in 1 combi-brush and wall holder. The central vacuum cleaner is switched on or off via the switch on the handle. Other accessories are available.



Preassembled pipe kit for installation.



Premium 2 Base attachm., 10 m

Article no.

26430



**Specially-shaped handle**

Improves the airflow, the cleaning performance and reduces flow noise. Transition to adjustable and lightweight telescopic aluminium pipe. With adjustable power during vacuum cleaning. User-friendly and ergonomic handle.

**3 in 1 combi-brush**

With the combi-brush, your customers will always have the right cleaning attachment to hand. Dust brush, furniture brush and flat nozzle in one.



**Connection to suction socket**

Contact connector for suction socket.



**Premium 2 floor nozzle**

Floor nozzle with rollers and adjustable brush.



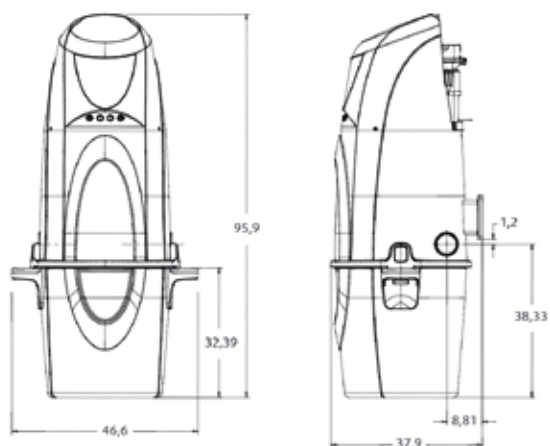
## Technical data

	V30
Articel no.	12548
Rated power (max.)	1650 W
Motor cooling	Ambient
Voltage	230 V (50 Hz)
Control circuit	24 V
Suction power	620 W
Current	6.5 A
Fuse (slow blow)	10 A
Suction (max.)	2880 mmWs
Airflow	57 l/s
Sound pressure level $L_{pA}$ (1 m)	67 dB(A)
Vacuum unit container	31 l
Vacuum cleaner bag	23 l, single use
Weight	approx. 7.9 kg
Max. pipe length*	approx. 30 m
Pipe diameter	Ø 50.8 mm (2")
Cable length	~2.5 m cable (with plug)














\* Pipe length between the unit and the furthest socket, including the exhaust air hose. The exhaust air hose should not exceed a length of 10 m. The max. pipe length was determined using a hose kit with a length of 10 m.

Contents pipe kit	1 socket	2 sockets	3 sockets
Item No.	3734	3735	3736
Angle 90° for connection to suction socket	1 pc.	2 pcs.	3 pcs.
Pipe bend 90° (one rotatable pipe bend in each kit)	3 pcs.	7 pcs.	10 pcs.
Pipe bend 45° for connection to pipe system	2 pcs.	4 pcs.	6 pcs.
Y-piece 45° for connection to pipe system	1 pc.	1 pc.	1 pc.
Y-piece 90° for connection to pipe system	-	-	1 pc.
Pipe socket	4 pcs.	6 pcs.	8 pcs.
Pipe bracket	3 pcs.	5 pcs.	6 pcs.
Socket (wall-mounted component)	1 pc.	1 pc.	1 pc.
Mounting frame for vacuum sockets (building shell)	1 pc.	2 pcs.	3 pcs.
Cover plate for vacuum sockets (building protection)	1 pc.	2 pcs.	3 pcs.
Low voltage cable 24 V	10 m	17 m	30 m
Mounting material (packaging)	1	1	1
Glue (bottle)	100 ml	100 ml	100 ml
Pipe, length 1.15 m	6 pcs.	10 pcs.	14 pcs.
Assembly instructions	1 pc.	1 pc.	1 pc.

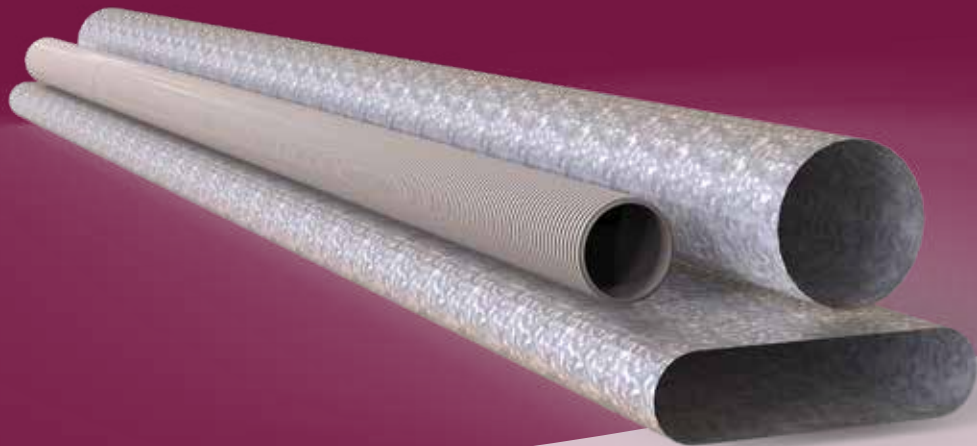
## Dimensions



## Accessories

Description	Name Item No.
 Suction socket with mounting frame and protective cover. White plastic.	SDO 8485
 Sweep inlet valve with LED lighting. White plastic.	ZSS SSD 79230
 Exhaust silencer	ZS SD 3744
 Exhaust air wall-grille	ZS ASG 3745
 HEPA filter	HEPA filter V20 /V30 12549
 Parquet nozzle with rollers and brush for hard floors.	Premium 2 parquet nozzle 30156
 Floor nozzle with rollers and adjustable brushes.	Premium 2 floor nozzle 30660
 Turbo nozzle with rotating brush for carpets.	Premium 2 turbo nozzle 39605
 Combi-brush with integrated dust brush, furniture brush and flat nozzle.	Premium 2 3-in-1 combi-brush 30748
 Adapter round to oval	Premium 2 adapter 30779
 Basket for accessories	Basket 313881
 Ashcan	Ashcan 12320
 Filter bag	Filter bag 12552

# Duct systems



Flexible and individual: the type of ventilation, the structural situation on-site, materials, design and much more – duct systems from Systemair adapt to requirements.

Circumstances alter, prerequisites do not remain the same, sudden changes represent new challenges – it's good that systems from Systemair can handle every situation. This applies to round and oval metal ducts, as well as our plastic pipe systems Systemair Tube F and ISO+. Hygiene is also an important consideration: the inside surfaces of the ducts are smooth, making them conducive to airflow and easy to clean.

Flow-related and acoustic considerations must be analysed before selecting a duct system. Furthermore, the routing of the ducts must be agreed with the other trades and adapted to the situation on the construction site early on. The next step: as soon as the volumes which need to be transported by the ventilation system are known, the ducts can be designed – calculating the quantity of air required according to DIN 1946-6. A maximum speed of 3 m/s is recommended in the main duct. This avoids high pressure losses and unnecessary noise.

But how can ventilation concepts be generated without a great deal of work? The answer: with Airplan from Systemair. Create ventilation concepts easily and in accordance with DIN 1946-6. Airplan comes up with suggestions for appropriate overall product solutions.



### Flexible duct systems – characteristics and advantages at a glance

- Safe and economical air distribution in the building
- Configuration (selection and design) depending on individual specifications
- Galvanised sheet steel, stainless steel or plastic
- Round or oval design
- Extremely robust and dimensionally stable
- Easy to clean
- Also available as a pipe kit

### Which is the best type of duct for your plans?

Duct systems	Dimensions	Volumetric flow per line	Description	
<b>Plastic duct</b> SystemairTube F	DN 50, 80	15 m <sup>3</sup> /h	flexible and airtight without additional sealing, quick to install thanks to simple "click" system	<b>Page 74</b>
	DN 63, 80	20 m <sup>3</sup> /h		
	DN 75, 89	30 m <sup>3</sup> /h		
	DN 90, 110	45 m <sup>3</sup> /h		
SystemairISO+ (supplementary)	DN 160 DN 200		the ideal combination of thermal and acoustic insulation, used as connection between ventilation unit and exterior wall (outdoor and exhaust air), and in unheated areas	<b>Page 81</b>
<b>Metal duct</b> Flat duct	136 mm x 59 mm 215 mm x 59 mm	80 m <sup>3</sup> /h 140 m <sup>3</sup> /h	oval, made from galvanised sheet steel or stainless steel, fixation and sealing using cold-shrink tape	<b>Page 83</b>
	Folded spiral seam duct with zoom pipe	DN 100 DN 125 DN 160 DN 200 DN 250		

- 
- Supply air
  - Exhaust air
  - Outdoor air
  - Extract air

## Choosing the right duct: so the air can flow

Working in harmony like a perfectly coordinated organism – ventilation systems from Systemair can be configured individually for each house and therefore for every requirement. Because every organism is unique in its own way. The ventilation ducts work like veins, distributing and transporting. Of central importance: correct installation and appropriate use, enabling the air to circulate without problems.

### Duct for every situation: Tube F

Able to handle any challenge. Tube F are suitable for every installation and mounting scenario – quickly and easily thanks to their "click" system. For installation in floors, filigree slab ceilings, prefabricated ceilings or suspended ceilings, for new builds and renovation projects, for residential and commercial buildings. Always stable and safe to tread on. Tube F adapts flexibly to on-site circumstances during installation.

### Extremely robust: metal duct and pipes

Flat ducts and folded spiral seam ducts always retain their shape – thanks to galvanised sheet steel. This ensures enormous robustness, especially when being installed in floor screed. Tough and durable, suitable for high temperatures, space-saving in installation on or below raw concrete ceilings.

### Airplan is your plan:

Find the right ventilation concept in just a few minutes! It's easy with Airplan, the free software tool:

- Volume calculation according to DIN 1946-6
- Calculation of unit dimensions
- Specification and compilation of the duct system, including silencers and diffusers

Find out more at [www.systemair.de](http://www.systemair.de)



#### Air quantities for supply air rooms

Recommendation: minimum volumetric flow 15 m<sup>3</sup>/h

Bedroom (master):	40 m <sup>3</sup> /h
Children's bedroom:	30 m <sup>3</sup> /h
Guest bedroom:	30 m <sup>3</sup> /h
Office:	30 m <sup>3</sup> /h

#### Die Luftmengen für die Ablufträume (für Schnellauslegung)

Living room:	60–100 m <sup>3</sup> /h	Kitchen:	40 m <sup>3</sup> /h
Bathroom:	40 m <sup>3</sup> /h	Utility room:	20–30 m <sup>3</sup> /h
Shower + WC:	30 m <sup>3</sup> /h	Store room:	10–20 m <sup>3</sup> /h
WC:	20–30 m <sup>3</sup> /h	Hallways (if necessary):	20–40 m <sup>3</sup> /h

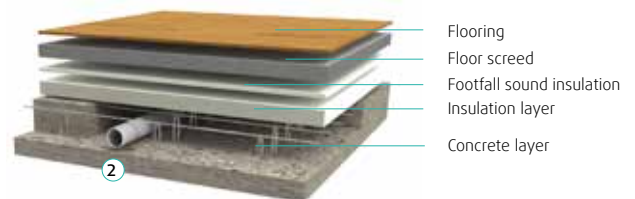
## It fits and has fresh air: ready to circulate

Many options, flexible solutions. Systemair duct systems provide the right solution to prevent a bad atmosphere. As demonstrated by these installation examples. See for yourself!

- 1 Folded spiral seam duct
- 2 SystemairTube F
- 3 Flat duct

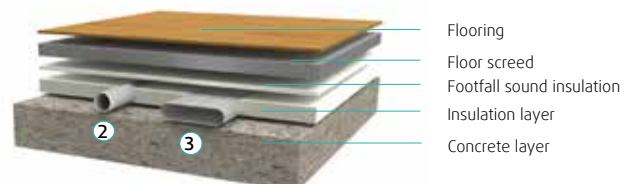
### Filigree slab ceilings

Efficient, inexpensive and quick – that's what construction specialists say about the very popular filigree slab ceilings. It is estimated that 4 million square metres of filigree slab ceilings (also known by the brand name "Filigran ceilings") are produced each year in Germany. One of the advantages: Lots of planning freedom. Tube F exploit this freedom too. They slot perfectly into the lattice girders. And fit like a glove: the fresh cast insitu concrete protects the duct system.



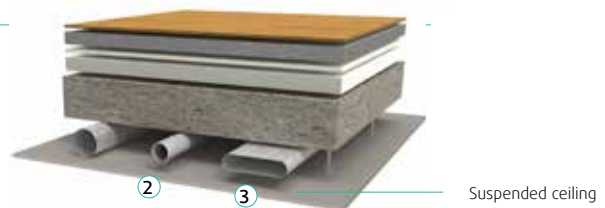
### Concrete ceiling

Houses built using stone and concrete are as popular as they ever have been. Nowadays, ventilation systems are important components of the building's design. It is sufficient to install the air distribution after the building shell is complete. For installation in floors (top concrete layer installation), the ducts are laid directly in the insulation layer. Tube F and the flat duct could all be used here.



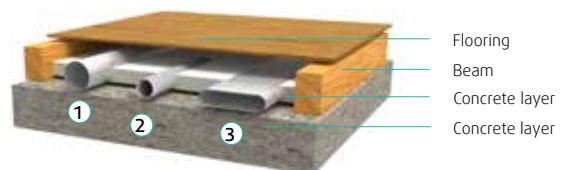
### Suspended ceiling

Often used in industrial, commercial and administrative premises, suspended ceilings can also be used in dwellings (usually in attic spaces). The hollow space in the ceiling is perfect for installing ventilation ducts. Tube F, flat duct and folded spiral seam duct are all suitable for this.



### Attic

Similar to suspended ceilings, the insulated roof space above the attic offers plenty of room to install ventilation ducts, even at a later date. The same applies here too: not only Tube F but also flat ducts and folded spiral seam ducts could all be used here.



### Houses with lightweight construction

Prefabricated wooden houses – and wooden houses in general – are receiving more and more attention. No surprise, since they offer rapid construction times and a high level of prefabrication. Systemair also has solutions for this growing market. Get in touch with us!

# SystemairTube F



Economical, safe, hygienic and easy: Systemair Tube F is absolutely airtight – nothing gets out and nothing gets in. Thanks to the small pipe diameter and the 'click' system, the Tube F system can be laid quickly, compactly and flexibly. Good for the environment and good for the user: The pipe is manufactured from physiologically and toxicologically safe plastic with no recycled materials. This ensures that the pipe is not only odour-neutral, but halogen and emission free.

Tightness class D according to DIN EN 12237 (highest tightness class of the standard).

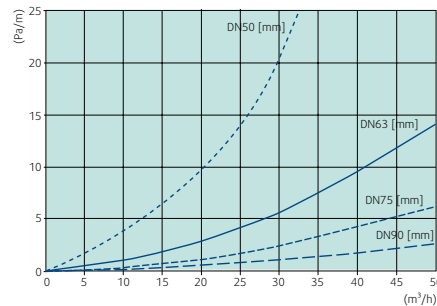


## Features of SystemairTube F – characteristics and advantages at a glance

- Material: PE without recycled material
- Operating temperature: -20 °C to +60 °C
- Ring stiffness: 8 kN/m<sup>2</sup>
- Fire protection class: DIN EN 13501-1

Air pipe	Outside Ø [mm]	Inside Ø [mm]	Max. internal corrugation [mm]	Bending radius [m]
DN 50	51	41	0.4	0.15
DN 63	64	54	0.5	0.15
DN 75	76	64	0.6	0.15
DN 90	91	78	0.7	0.15

## Pressure loss



## Pressure loss

	DN 50			DN 63			DN 75			DN 90		
Flow rate in m <sup>3</sup> /h approx.:	2 m/s	2,5 m/s	3 m/s	2m/s	2,5 m/s	3 m/s	2m/s	2,5 m/s	3 m/s	2m/s	2,5 m/s	3 m/s
1 pipe	10 m <sup>3</sup> /h	12,5 m <sup>3</sup> /h	15 m <sup>3</sup> /h	15 m <sup>3</sup> /h	20 m <sup>3</sup> /h	25 m <sup>3</sup> /h	22 m <sup>3</sup> /h	28 m <sup>3</sup> /h	34 m <sup>3</sup> /h	34 m <sup>3</sup> /h	42 m <sup>3</sup> /h	51 m <sup>3</sup> /h
2 pipes	20 m <sup>3</sup> /h	25 m <sup>3</sup> /h	30 m <sup>3</sup> /h	30 m <sup>3</sup> /h	40 m <sup>3</sup> /h	50 m <sup>3</sup> /h	44 m <sup>3</sup> /h	56 m <sup>3</sup> /h	68 m <sup>3</sup> /h	68 m <sup>3</sup> /h	84 m <sup>3</sup> /h	102 m <sup>3</sup> /h
3 pipes	30 m <sup>3</sup> /h	37,5 m <sup>3</sup> /h	45 m <sup>3</sup> /h	45 m <sup>3</sup> /h	60 m <sup>3</sup> /h	75 m <sup>3</sup> /h	-	-	-	-	-	-
Pipe length (m)	2 m/s	2,5 m/s	3 m/s	2 m/s	2,5 m/s	3 m/s	2 m/s	2,5 m/s	3 m/s	2 m/s	2,5 m/s	3 m/s
2	7,6	10,0	12,6	4,0	5,6	8,4	2,6	4,0	6,0	2,6	4,0	5,4
4	15,2	20,0	25,2	8,0	11,2	16,8	5,2	8,0	12,0	5,2	8,0	10,8
6	22,8	30,0	37,8	12,0	16,8	25,2	7,8	12,0	18,0	7,8	12,0	16,2
8	30,4	40,0	50,4	16,0	22,4	33,6	10,4	16,0	24,0	10,4	16,0	21,6
10	38,0	50,0	63,0	20,0	28,0	42,0	13,0	20,0	30,0	13,0	20,0	27,0
12	45,6	60,0	-	24,0	33,6	50,4	15,6	24,0	36,0	15,6	24,0	32,4
14	53,2	-	-	28,0	39,2	58,8	18,2	28,0	42,0	18,2	28,0	37,8
16	60,8	-	-	32,0	44,8	-	20,8	32,0	48,0	20,8	32,0	43,2
18	-	-	-	36,0	50,4	-	23,4	36,0	54,0	23,4	36,0	48,6

### Tube F FR



Flexible plastic duct in 50m coil.

Tube F DUCT	Item no.	DN
50	159965	DN 50
63	159966	DN 63
75	159967	DN 75
90	159968	DN 90

### Tube F RV



Plastic pipe connection for connecting Tube F pipes. Incl. 2 sealing rings.

Tube F CON	Item no.	DN	Ø d mm	Ø D mm
50	146602	DN 50	52	59
63	146603	DN 63	65	72
75	146604	DN 75	77	84
90	146605	DN 90	92	100

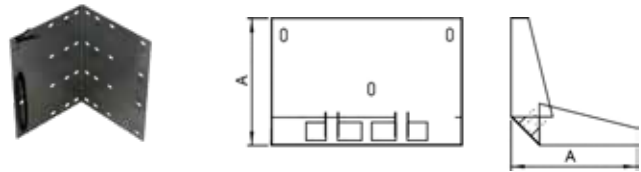
### Tube F RS



Duct cutter RS for Tube F DUCT.

Tube F RS	Artikel-Nr.	DN
50/63	198964	DN 50/63
75/90	198965	DN 75/90

### Tube F BS



Galvanised sheet steel angle bracket. For bending Tube F pipes. Supplied with cable ties.

Tube F BS	Item no.	DN	A
90°	79869	DN 63 / 75 / 90	153

### Tube F VC-C

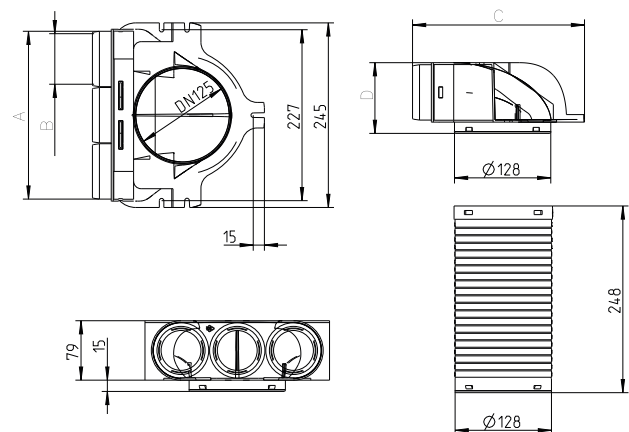


DN 63

DN 75

DN 90

Diverter from Tube F connections to ceiling valve. Supplied with end covers. Plastic.



\*can be cut to length as required

Tube F VC-C	3x63/125/230	2x75/125/230	1x90/125/230	2x90/125/230
Item no.	146606	146607	146608	146609
A	223	189	106	226
B	3x DN63	2x DN75	1x DN90	2x DN90
C	229	271	278	278
D	94	94	121	121

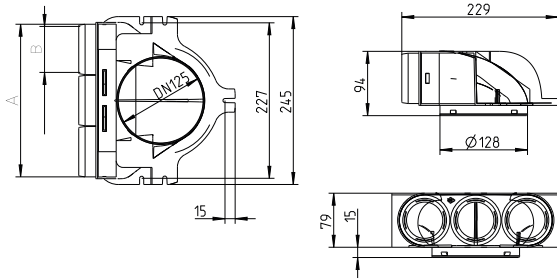
### Tube F VC-W-P



DN 63

DN 75

Diverter from Tube F connections to wall valve.  
Internal wall dimension min. 80 mm. Socket length 13 mm.  
Not suitable for installation in the floor.

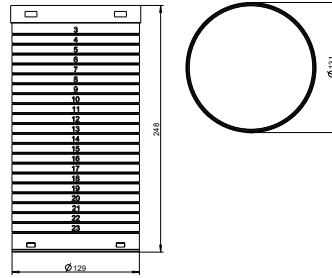


Tube F VC-W-P	3x63/125/13	2x75/125/13
Item no.	146610	146611
A	189	223
B	DN63	DN75
Connections	3x DN 63 + 1x DN 125	2x DN 75 + 1x DN 125

### Tube F extension socket



Extension socket for plastic diverter. Can be cut to length as required.



Tube F EXT	Item no.	Socket length
230	146612	248

### Tube F VC-W-M



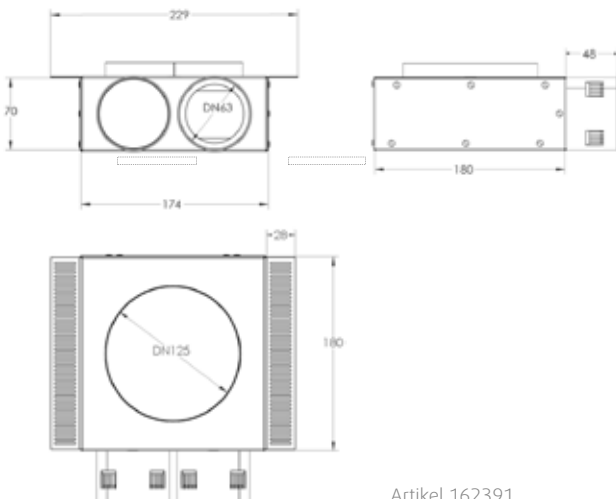
Artikel 162391



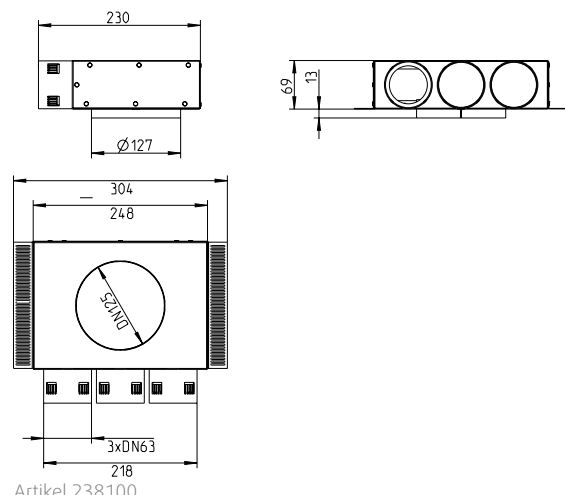
Artikel 238100

Transition from Tube F connections to wall valve.  
Internal wall dimension min. 70mm.

Tube F VC-W-M	Item no.	DN	Valve connection
2x63/125-90	162391	DN 63	DN 125
3x63/125-90	238100	DN 63	DN 125



Artikel 162391



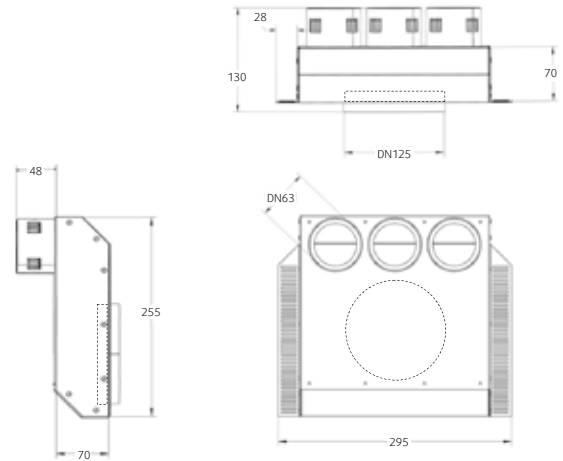
Artikel 238100

## Transition from Tube F connections to wall valve



Artikel 162392

Tube F US-W-M	Item no.	DN	Valve connection
3x63/125-Z	162392	DN 63	DN 125



## Tube F TRANS

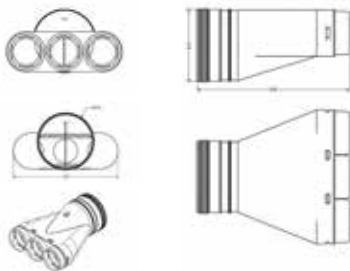


DN 63

DN 75

DN 90

Asymmetric adapters for transition from DN 125 to plastic Tube F connections. Rubber seals and end covers included.



Tube F TRANS	Item no.	Connections
DN 125/3x63	146614	3x DN 63 + 1x DN 125
DN 125/2x75	146615	2x DN 75 + 1x DN 125
DN 125/1x90	146616	1x DN 90 + 1x DN 125

## Tube F DH

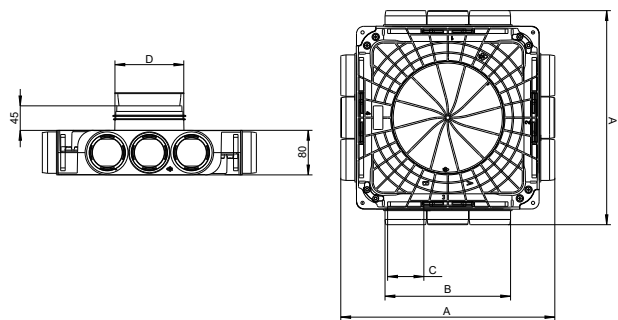


12x63/DN125

12xDN 63/160

8xDN 75/160

Plastic horizontal distributor for Tube F pipe systems. For distributing supply air or extract air. Protective and end covers included.

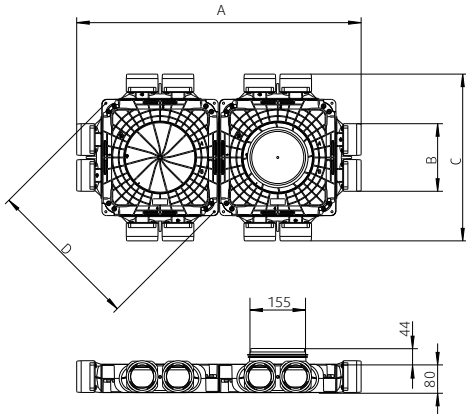


Tube F DH	12x63/DN125	12x63/DN160	8x75/DN160
Item no.	146617	146619	146620
A	380	380	446
B	223	223	189
C	3xDN63	3xDN63	2xDN75
D	1xDN125	DN160	DN160

## Tube F DH



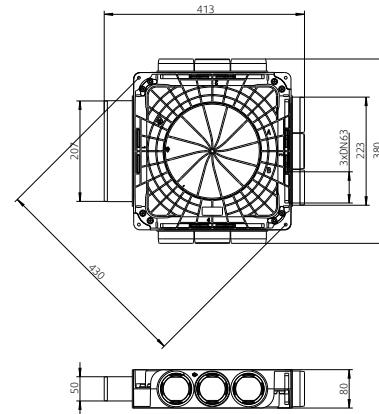
DN 160



Tube F DHD	18x63/DN160	12x75/DN160	6x90/DN160
Item no.	146627	146628	146629
A	708	794	800
B	223	189	104
C	380	466	478
D	430	430	430
Connections	18x DN 63 + 1x DN160	12x DN 75+ 1x DN 160	6x DN 90 + 1x DN 160



DN 63



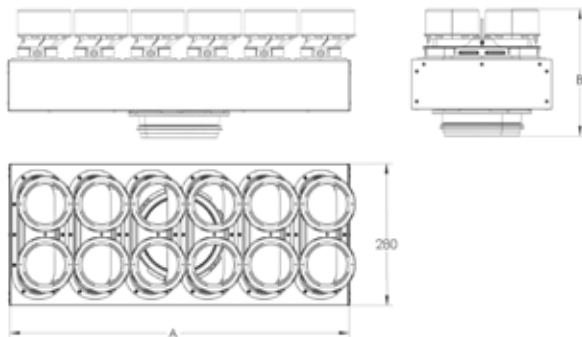
Tube F DH	9xDN63 / Syst. 151
Item no.	146630
Connections	9 x DN 63 + 1x DN 151

## Tube F DV



Item no. 199086 to 199091

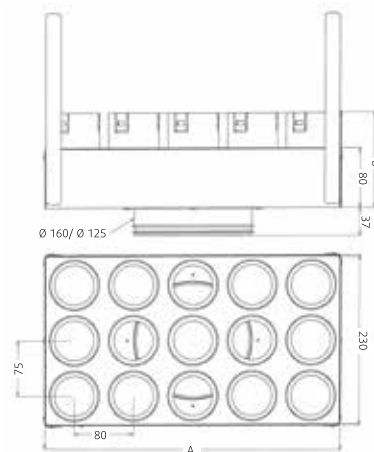
Vertical distributor made of sheet steel.  
Galvanised and powder-coated.



Tube F DV	Item no.	DN	A (mm)	B (mm)
15xDN63/160	199086	DN63/160	563	200
18xDN63/160	199087	DN63/160	674	200
10xDN75/160	199088	DN75/160	563	244
12xDN75/160	199089	DN75/160	674	244
5xDN90/160	199091	DN90/160	563	250
6xDN90/160	199090	DN90/160	674	250



Item no. 162389 to 162390



Tube F DV	Item no.	DN	A (mm)	B (mm)
15xDN63/125	162389	DN63/125	400	130
15xDN63/160	162390	DN63/160	400	130

### Tube F socket



Grey plastic. For connecting the rising mains to the distributor, with turn-click system. Also fits for connection to the ISO+ grille or GEO. The socket is supplied with a protective cover.

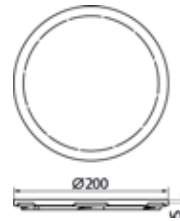


Tube F socket	Item no.	ØD
Socket 125	146633	125
Socket 160	146634	160
Socket 180	146635	180

### Tube F End cover



Grey plastic. For airtight closing of distributor openings, with turn-click system.



Tube F End cover	Item no.	DN
DN 200	146632	200

### Tube F Mounting frame DN125/129



Tube F Mounting frame	Item no.	DN	Height
DN125	162369	125 / 129	65 mm

### Tube F RED

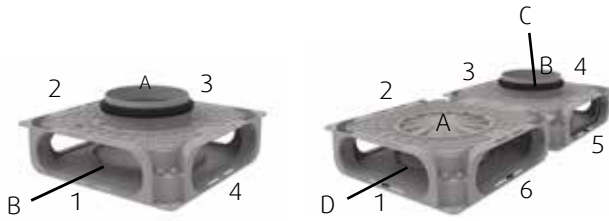


Plastic transition piece for adapting DN 63 to DN 50, for installation in Tube F diverters and distributors.



Tube F RED	Item no.
63-50 mm	146613

## Tube F variable distributor



Small distributor

Large distributor

### Order reference

The variable distributor connections can be laid as desired. Some things must be selected very carefully when putting together the order reference. This is comprised of four parts and the codes in the table shown on the right.

**Part 1** Floor installation or ceiling installation – especially important for connections 2x DN 75 (Code 7), 1x DN90 (Code 9) and 2x DN 90 (Code 2). These nominal connection diameters extend beyond the distributor height. Therefore offset connection is possible. For ceiling installation - offset downwards and for floor installation - offset upwards. → Select B or D

**Part 2** Then the desired side connections are specified (possible codes: 6, 7, 9, 2, D, K, W according to table on the right) for the sides (No.1-4 or 1-6 according to figure above). The sequence on the distributor is numbered as shown in the figure above. The installation situation of the distributor must be considered when deciding upon locations. Then a point is placed in the order number.

**Part 3** Then the position and nominal size of the supply line to the distributor and the sealing cover(s) must be specified. (Possible codes: 2, 6, 8, D) Small distributors each have one connection point on the upper and lower sides: (A and B). The large distributors each have 2 connection points on the upper and lower sides (A, B and C, D acc. above figure). The sockets and sealing covers (possible codes: 2, 6, 8, D) can be exchanged without problems.

**Part 4** If, in addition, the distributor is to have an adapter on one of the side connections, the type of adapter must be stated (Code H or V). This is located in the order number after the "+". Therefore the coupling piece (Code K) is absolutely essential for Part 2. Otherwise, the order number will end already before the "+".

	Connections	Code*
	3x Ø 63 mm	6*
	2x Ø 75 mm	7*
	1x Ø 90 mm	9*
	2x Ø 90 mm	2*
	Sealing cover	D*
	Coupling piece	K*
	Oval connection, syst. 151	W*
	Socket Ø 125 mm	2
	Socket Ø 160 mm	6
	Socket Ø 180 mm	8
	Sealing cover Ø 200 mm	D
	Adapter, asymmetrical / Ø 125 mm	H*
	Adapter, 90° / Ø 125 mm	V*

\* not available singly!

### Order reference example

Small distributor	Tube F HV4:	D 7W6D . D2
Large distributor	Tube F HV6:	B 66D79K . 6DDD + V
Part 1: Installation:	Floor B Ceiling D	
Part 2: Side connections:	3x Ø 63 mm = 6 2x Ø 75 mm = 7 1x Ø 90 mm = 9 2x Ø 90 mm = 2 Cover = D Coupling = K Oval connection = W	
Part 3: Upper/lower connections:	Ø 125 = 2 Ø 160 = 6 Ø 180 = 8 Cover Ø 200 = D	
Part 4: Supply line from the side:	Vertical = V Horizontal = H	

### Max. air volume

Ø 63	=	20 m <sup>3</sup> /h
Ø 75	=	30 m <sup>3</sup> /h
Ø 90	=	45 m <sup>3</sup> /h
Distributor	=	360 m <sup>3</sup> /h

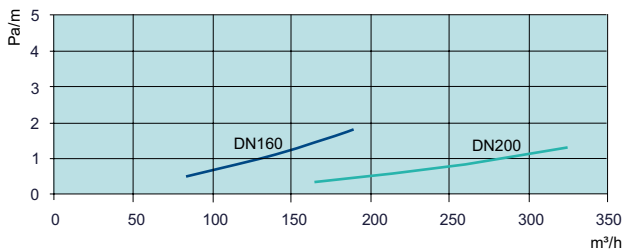


# SystemairISO+

Robust, noise absorbing pipe, preferably for use in unheated areas. Excellent acoustic properties thanks to the combination of a hard, ribbed external sheath with enclosed air chambers and foam insulation on the interior. Sagging of the pipe is considerably reduced thanks to the robust PE external sheath. Quicker to install due to the small number of fixation points. Fully insulated, making installation easier since additional work to insulate the pipe is unnecessary.



## Pressure loss



## Features of SystemairISO+ – characteristics and advantages at a glance

- Sound-absorbing and thermally insulated
- The two nominal diameters DN 125 / 180 plus associated transition pieces make the system easy to work with.
- Easier to install: the robust PE external sheath gives the pipe stability. Thanks to its integrated insulation, additional work to insulate the pipe is unnecessary.
- Fully recyclable

## ISO+ pipe



Robust, noise absorbing pipe, preferably for use in unheated areas. High-density polyethylene (HDPE) external sheath; polyolefin inner sheath with closed cell structure. Thermal conductivity: 0.040 W/mK at 40 °C  
Fire protection class: external sheath B2, inner pipe B1

ISO+ pipe	Item No.	Outer Ø	Inner Ø	Length
DN 160-125	314887	160	125	2 m
DN 200-180	314888	200	170	2 m

## ISO+ B90



ISO+ bend 90°	Item No.	Outer Ø	Inner Ø	
B90/160-125	314879	160	125	incl. one
B90/200-180	314880	200	170	connector

## ISO+ B45



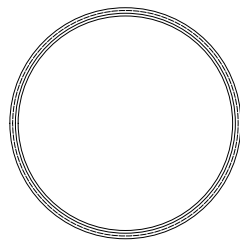
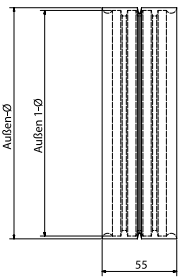
ISO+ bend 45°	Item No.	Outer Ø	Inner Ø	
B45/160-125	314877	160	125	incl. one
B45/200-180	314878	200	170	connector

## ISO+ C



Flexible EPDM rubber connection sleeve.

ISO+ C	Item No.	Outer Ø	Outer 1-Ø
160-160	314881	160 (167)	163
200-200	314882	200 (206)	202



## ISO+ SK



Hose clamp for fixing the rubber sleeve to the Spiro pipe.

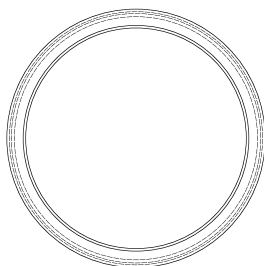
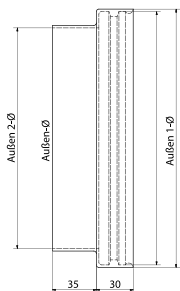
ISO+ SK	Item No.	for Spiro pipe
60-165	312510	160
S60-215	312511	200

## ISO+ R, symmetrical



Symmetrical transition to Spiro.  
Material: EPDM rubber

ISO+ R	Item No.	Outer Ø	Outer 1-Ø	Outer 2-Ø
160-125	314883	160 (160)	167	125 (121)
200-180	314886	200 (202)	206	180 (176)
200-160	314885	200 (202)	206	150/160 (146)

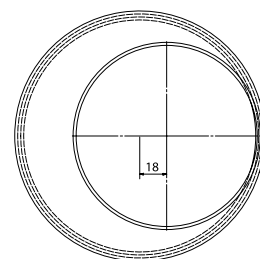
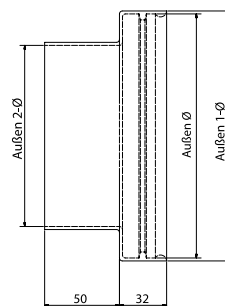


## ISO+ R, asymmetrical



Asymmetrical transition to Spiro.  
Material: EPDM rubber

ISO+ R	Item No.	Outer Ø	Outer 1-Ø	Outer 2-Ø
160-125A	314884	160 (163)	167	125 (121)

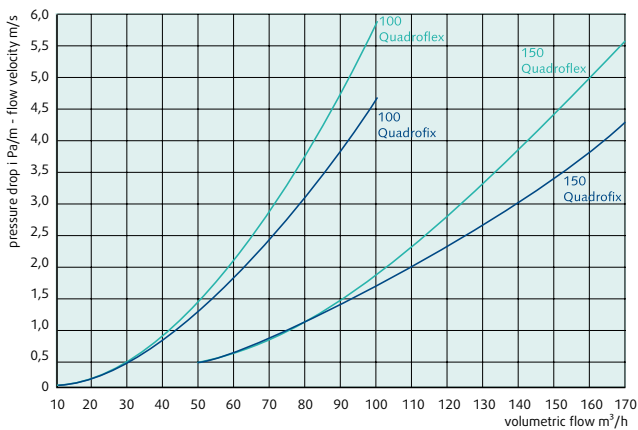


# Flat duct, oval, galvanised

Flat ducts are used for long conduits with low ceiling dimensions, since this system has the lowest pressure losses. A smooth membrane reduces the pressure losses even further. The folded spiral seam design gives the pipe stability and makes it easy to handle, with a weight saving of up to 60% compared with an equivalent rigid sheet-metal duct.



## Pressure loss



## Features of the flat duct – characteristics and advantages at a glance

- Made from sheet steel
- Available in 2 sizes with hydraulic diameter (equivalent to DN 90 and DN 125)
- Push-fit system for easy installation
- Sealed with adhesive tape
- Non-flammable

## Quadroflex - smooth interior



Rigid installation pipe, oval, smooth interior for air guidance, manufactured from galvanised steel strip. Non-flammable acc. DIN 4102 class A1. Temperature resistance: up to +200 °C, Length: 3 m

Quadroflex	Item No.	Interior dim.	Exterior dim.
S 100	305045	129 x 52	136 x 59
S 151	305046	208 x 52	215 x 59

## Quadroflex - corrugated



Corrugated folded spiral seam pipe made of galvanised steel strip for increased compressive strength. Non-flammable acc. DIN 4102 class A1. Temperature resistance: up to +200 °C

Quadroflex	Item No.	Interior dim.	Exterior dim.	Delivery length
S 100	305043	129 x 52	136 x 59	3 m
S 100	305047	129 x 52	136 x 59	15 m in coil
S 151	305044	208 x 52	215 x 59	3 m

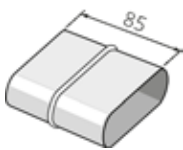


### Internal connector, tight/tight



Stainless steel, for connecting two Quadroflex or Quadrofix pipes.

Internal connector	Item No.	Exterior dim.
S 100	305007	128 x 51
S 151	305008	207 x 51

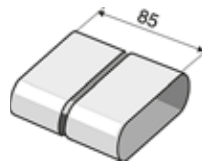


### External connector, wide/wide



Stainless steel, for connecting two Quadroflex or Quadrofix form parts.

External connector	Item No.	Interior dim.
S 100	305064	129 x 52
S 151	305009	208 x 52

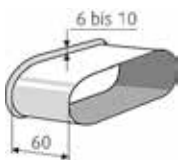


### Flanged collar



Stainless steel, for Quadroflex or Quadrofix pipes.

Flanged collar	Item No.	Exterior dim.
S 100	305010	128 x 51
S 151	305011	207 x 51

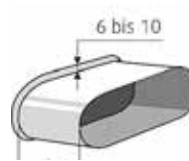


### End cover

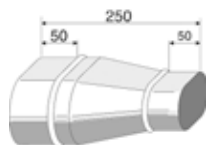


Stainless steel, for Quadroflex or Quadrofix pipes.

End cover	Item No.	Exterior dim.
S 100	305055	128 x 51
S 151	305056	207 x 51



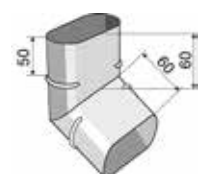
### Flat-to-flat reducer



Stainless steel cross-section reduction for Quadroflex or Quadrofix pipes.

Reducer	Item No.	From	To
151-100	305022	207 x 51	128 x 51

### Angle 45°, wide



Stainless steel angle 45°, wide, for diverting Quadroflex or Quadrofix pipes in tight spaces.

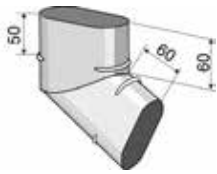
Angle 45°	Item No.	Exterior dim.
S 100	305027	128 x 51
S 151	305028	207 x 51

### Angle 45°, flat



Stainless steel angle 45°, flat, for diverting Quadroflex or Quadrofix pipes in tight spaces.

Angle 45°	Item No.	Exterior dim.
S 100	305029	128 x 51
S 151	305030	207 x 51

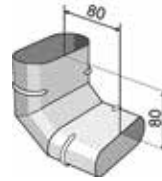


### Angle 90°, wide



Stainless steel angle 90° in three segments, wide, for diverting Quadroflex or Quadrofix pipes.

Angle 90°	Item No.	Exterior dim.
S 100	305031	128 x 51
S 151	305032	207 x 51



### Angle 90°, flat



Stainless steel angle 90° in three segments, flat, for diverting Quadroflex or Quadrofix pipes.

Angle 90°	Item No.	Exterior dim.
S 100	305033	128 x 51
S 151	305034	207 x 51

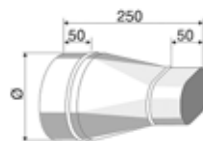


### Transition round to flat



Symmetrical stainless steel transition piece for adapting oval pipe ends to round cross sections.

Transition	Item No.	from	to
S 100	305018	ø99	128x51
S 151	315246	ø124	207x51
S 151	305019	ø149	207x51



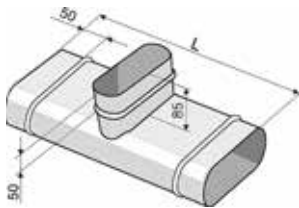
### Branch piece 90°, wide



Stainless steel branch piece 90° with three connection sockets for Quadroflex or Quadrofix pipes. Outlet on wide side.

Branch piece	Item No.	Duct	Outlet	L
151-100	305016	207 x 51	128 x 51	220
151-151	305048	207 x 51	207 x 51	240

External dimensions



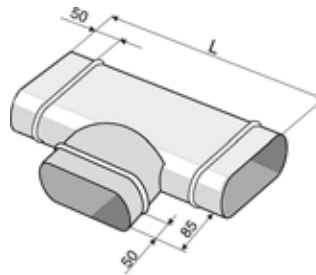
### Branch piece 90°, flat



Stainless steel branch piece 90° with three connection sockets for Quadroflex or Quadrofix pipes. Outlet on flat side.

Branch piece	Item No.	Duct	Outlet	L
100-100	305013	128 x 51	128 x 51	300
100-151	305014	128 x 51	207 x 51	360
151-100	305015	207 x 51	128 x 51	300
151-151	305040	207 x 51	207 x 51	360

External dimensions



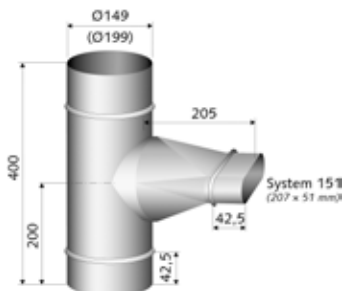
### Branch piece, outlet S 151



Branch piece 90° with one connection socket for Quadroflex or Quadrofix pipe system 151.

Material: stainless steel

Branch piece	Item No.
DN 150/151	305017
DN 200/151	303177

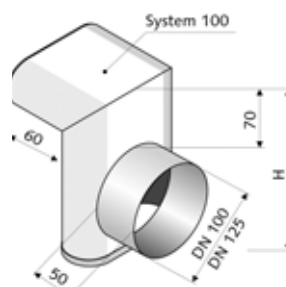


### Angle diverter



Angle diverter 90° for connecting disc valves. Suitable for wall installation. Material: stainless steel

Angle diverter	Item No.	H
100/DN 100	303052	185.5
100/DN 125	303053	210.5



## Diverter



Stainless steel diverter adapting round to oval, for connecting vents. Suitable for wall installation. Can be cut to length as required.

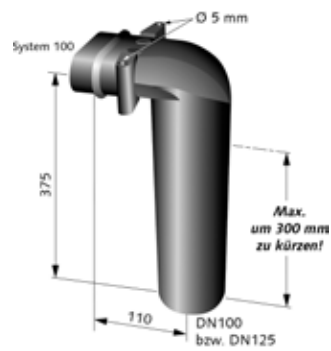
Diverter	Item No.
151/DN 150	305426

## Diverter



Plastic diverter adapting round to oval, for connecting vents. Suitable for wall installation. Can be cut to length as required.

Diverter	Item No.
100/DN 100	311240
100/DN 125	311241



## Poly-nail strip



Width: 1.5 cm, roll 15 m

Poly-nail strip	Item No.
	302361

## Cold sealing tape



Width: 5 cm, roll 15 m

Cold sealing tape	Item No.
	305001

# Round duct, galvanised



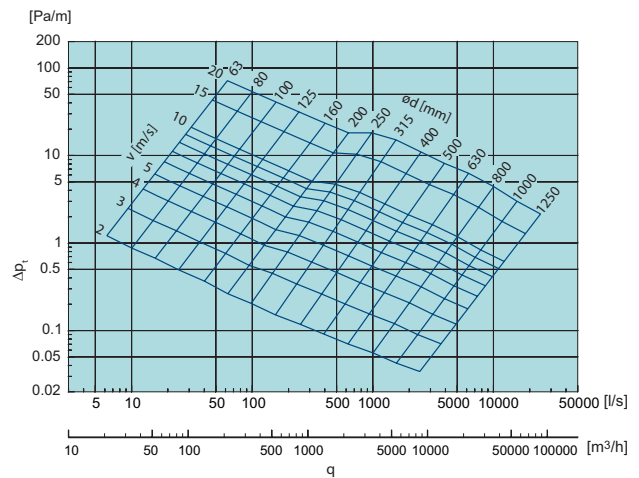
Folded spiral seam ducts manufactured acc. DIN EN 12237 and DIN EN 1506, compliant with leak tightness class D. Our folded spiral seam ducts fulfil the pressure requirements acc. DIN EN 12237: - 750 Pa / + 2000 Pa.



## Features of the round duct – characteristics and advantages at a glance

- Pipe length 1.2 m for easier handling. Cutting tools are unnecessary if telescopic pipes are used.
- Manufactured from galvanised sheet steel
- Non-flammable

## Pressure loss



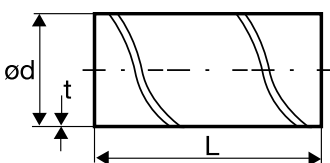
## Folded spiral seam duct SR



Galvanised sheet steel, with stiffening beads.

SR	Item No.	DN	ød	t	L
100	12142	DN 100	100	0.6	1200 mm
125	12143	DN 125	125	0.6	1200 mm
160	12144	DN 160	160	0.6	1200 mm
200	12145	DN 200	200	0.6	1200 mm
250	313563	DN 250	250	0.6	1200 mm

Dimensions in mm.



## Zoom pipe, extendable



Galvanised sheet steel folded spiral seam zoom duct, extendable.

Zoom pipe	Item No.	DN	Length
100	12109	100	0.25 / 0.36 m
125	12110	125	0.25 / 0.36 m
160	12111	160	0.25 / 0.36 m
200	12112	200	0.25 / 0.36 m

Zoom pipe	Item No.	DN	Length
100	12113	100	0.63 / 1.14 m
125	12114	125	0.63 / 1.14 m
160	12115	160	0.63 / 1.14 m
200	12116	200	0.63 / 1.14 m



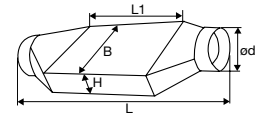
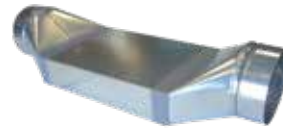
## UIS



Compressed alu-flex pipe, socket on both ends.  
Length 230 mm, extendable length 1 m.

UIS	Item No.
DN 100	12121
DN 125	12122
DN 160	12123
DN 200	12124

## DC



Galvanised sheet steel duct cross with socket on both ends.

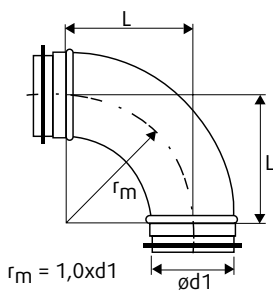
DC	Item No.	ød	L	L1	H	B
DN 125	12178	125	610	315	63	210
DN 160	12179	160	647	315	80	300

## Bend 90°



Galvanised sheet steel, with rubber lip seal on both ends.

B 90°	Item No.	ød1	L
DN 100	12085	100	100
DN 125	12086	125	125
DN 160	12087	160	160
DN 180	309618	180	200
DN 200	12088	200	242
DN 250	313565	250	242

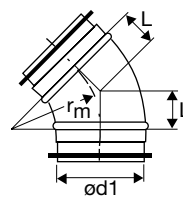


## Bend 45°



Galvanised sheet steel, with rubber lip seal on both ends.

B 45°	Item No.	ød1	L
DN 100	12089	100	41
DN 125	12090	125	52
DN 160	12091	160	66
DN 200	12092	200	83
DN 250	313564	250	120

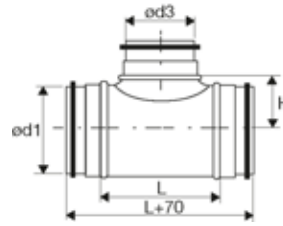


## T-piece



Galvanized sheet steel T-piece, with rubber lip seal on the connections.

T	Item No.	ød1	ød3	H	L
DN 100	12068	100	100	60	180
DN 125	12070	125	125	75	200
DN 160	12063	160	160	92	250
DN 200	12071	200	200	112	305



T-piece with reduced outlet / duct cross-section.

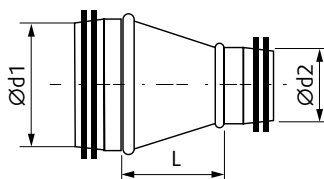
T	Item No.	ød1	ød3	H	L
DN 100	12069	100	125	95	215
DN 125	12067	125	100	75	180
DN 125	12073	125	160	75	200
DN 160	12065	160	100	92	180
DN 160	12064	160	125	92	180
DN 160	305485	160	150	100	260
DN 200	12074	200	100	112	200
DN 200	12075	200	125	112	250
DN 200	12072	200	160	112	250
DN 250	37257	200	250	165	385
DN 250	37258	250	160	150	256
DN 250	37259	250	200	150	306

## R



Galvanized sheet steel reducer, with rubber lip seal on both ends.

R	Item No.	ød1	ød2	L
DN 125/100	79806	125	100	27
DN 150/100	79807	150	100	41
DN 200/150	79808	200	150	37
DN 250/150	79809	250	150	62
DN 315/250	79812	315	250	50

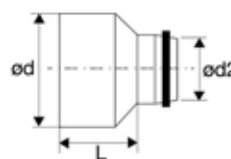


## R



Galvanized sheet steel reducer, one end with socket and one end with rubber lip seal.

R	Item No.	ød1	ød2	L
DN 100/80	12080	100	80	61
DN 125/100	12081	125	100	64
DN 160/100	12079	160	100	83
DN 160/125	12078	160	125	71
DN 160/150	6233	160	150	59
DN 180/125	309621	180	125	85
DN 180/160	309816	180	160	66
DN 200/125	12082	200	125	90
DN 200/160	12077	200	160	73
DN 200/180	309817	200	180	63

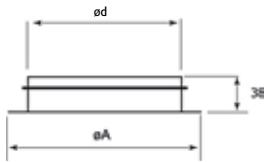


### RFP



Mounting frame made from galvanized sheet steel, rubber seal at the pipe connection.

RFP	Item No.	$\phi A$	$\phi D$
100	6125	120	97
125	6126	146	122
160	6127	180	157
200	6128	220	197

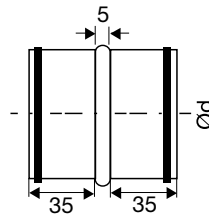


### NP



Galvanized sheet steel internal connector, with rubber lip seal on both ends.

NP	Item No.	$\phi d$
DN 100	12059	100
DN 125	201348	125
DN 160	12060	160
DN 200	12061	200
DN 250	301760	250

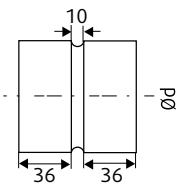


### MF



Galvanized sheet steel external connector, with socket on both ends.

MF	Item No.	$\phi d$
DN 100	12062	100
DN 125	200140	125
DN 150	305037	150
DN 160	200817	160
DN 180	309867	180
DN 200	200818	200
DN 250	313562	250

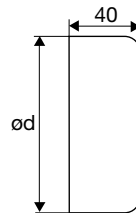


### EB



End cap for closing pipe ends, made from galvanized sheet steel, with socket.

EB	Item No.	$\phi d$
DN 100	200820	100
DN 125	200821	125
DN 160	12093	160
DN 200	12094	200



## DIS



Insulation hose used for insulating outdoor and exhaust air pipes, as well as to avoid formation of condensation in air ducts in unheated areas.

DIS	Item No.	Insulation
DN 100	84789	25 mm
DN 125	85034	25 mm
DN 160	87546	25 mm
DN 200	87547	25 mm
DN 250	87620	25 mm
DN 100	87548	50 mm
DN 125	87549	50 mm
DN 160	87562	50 mm
DN 200	87563	50 mm
DN 250	87621	50 mm

## Self-tapping screws



Galvanised, self tapping.

Self-tapping screws	Item No.
100 pieces/kit	312227
500 pieces/kit	312228

## PE insulation hose



PE soft-foam insulation hose with 4 mm insulation for DN 160 or System 151. Length 10 m.

	Item No.
PE insulation hose	305630

## Polypropylene adhesive tape



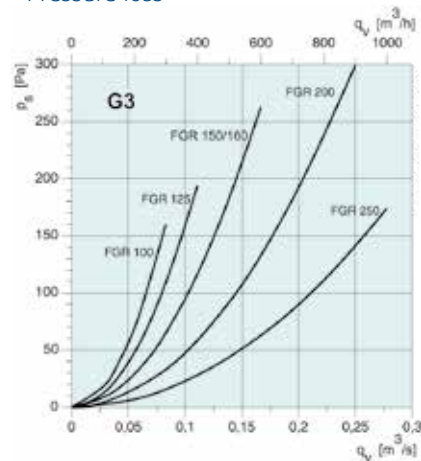
Width: 5 cm, roll 10 m, material: polypropylene.

## FGR-I



The insulated FGR-I filter cassette is equipped with a standard G3 fleece filter mat. The housing and the connection sockets are made from galvanised sheet steel with 13 mm insulation. The cover can be closed with snap fasteners. The connection sockets have a rubber lip seal. Spare PFR-type filters are available as accessories. The insulated filter cassettes are used, for example, as supply air filters for industrial and factory halls, as pre-filters for ventilation systems or as extract air filters for tumble dryers. The recommended final pressure loss is 170 Pa.

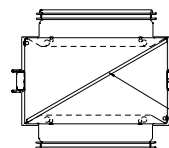
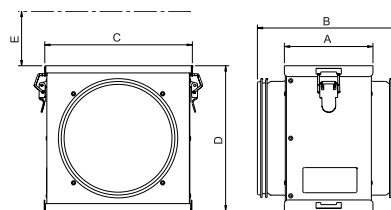
### Pressure loss



FGR-I**	ø	A	B	C	D	E*
125	125	156	190	241	213.5	190
160	160	156	190	241	213.5	190
200	200	156	215	320	308.5	280
250	247	156	206	320	305	280

\*space requirement for filter change

\*\*insulated



Filter

FGR-I	Item No.	Fleece filter mat*	Filter class
125	37064	PFR 100-160	G3
160	37065	PFR 100-160	G3
200	37066	PFR 200-250	G3
250	37316	PFR 200-250	G3

\*included



# Silencers

## LF



Flexible connection silencer with a perforated aluminium flex pipe on the inside and a plastic cover on the outside. Mineral wool noise insulation with a thickness of 25 mm. One end has a connection sleeve, the other end has a valve connection fitting including a membrane for connection to the moisture barrier. Length: 800 mm

LF	Item No.	Connection	Insertion losses in dB							
			Octave centre frequency in Hz							
		Socket	125	250	500	1k	2k	4k	8k	tot
100	12436	Ø100	8	14	22	30	25	10	8	15
125	12533	Ø125	6	12	22	28	25	11	9	14

## SCD



Flexible pipe silencer with standardised connections (socket-nipple). Noise insulation values are shown in the following table. The internal pipe consists of a closed, non-woven internal hose (washable) and a 25 or 50 mm thick acoustic and thermal insulation layer. To ensure effective noise insulation, the silencer should be installed either directly ahead of or directly after the fan or a bend. Thanks to its flexibility, it can also be used as a bend.

### Technical data

Internal pipe	Non-woven matting
Insulation	25 or 50 mm mineral wool/fleece
External sheath	Glass-fibre-reinforced aluminium laminate
Connection	Socket on one side, nipple on the other
Connection material	Galvanised sheet steel
Fire resistance class	Bs1 (EN13501-1)
Temperature range	°C -30 to +140
Working pressure	Pa max. 2000
Airspeed	m/s max. 10
Length	m 1.0 (without socket or nipple)

### Acoustic insulation (dB)

SCD	Item No.	Insulation	D (mm)	L (m)	Mid-frequency range, Hz								
					63	125	250	500	1000	2000	4000	8000	Tot (dB)
100	2555	25 mm	100	1	15.9	22.9	31.1	38.6	36.4	40.6	50.1	35.9	39
125	2556	25 mm	125	1	11.7	18.9	32.4	29.9	28.8	34.5	40.9	24.5	32
160	2558	25 mm	160	1	19.3	25.4	30.5	27.1	23.8	32.2	27.8	17.3	28
200	2560	25 mm	200	1	10.7	12.1	28.7	22.8	22.8	30.6	19.4	11.9	26
250	2561	25 mm	250	1	12.9	18.7	24.3	19.5	19.9	27.7	12.9	10.2	22
100	84330	50 mm	100	1	4.3	8.5	15.5	28.2	50.8	51	57.8	38.5	30
125	84331	50 mm	125	1	17.7	26.3	35.4	29.2	33.3	45.4	40.5	26.5	35
160	84332	50 mm	160	1	16.5	24.1	30.6	27.5	29.6	41.7	28.7	18.1	32
200	84333	50 mm	200	1	6.5	6.3	21.1	27.1	30.5	35.8	19.4	12.3	29
250	87545	50 mm	250	1	12,9	18,7	24,3	19,5	19,9	27,7	12,9	10,2	22

## Flat duct silencer

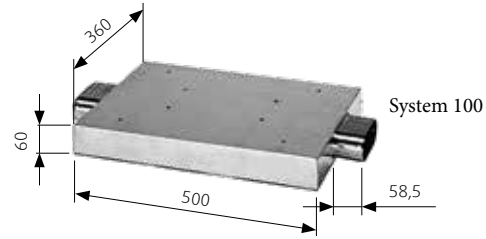


Flexible aluminium flat duct silencer for noise reduction.  
Absorption material: mineral-fibre-free  
Non-flammable acc. DIN 4102 class A2.  
Temperature resistant from -60 °C to +60 °C.

System	Item No.	Length	Interior dim.	Exterior dim.	Connection
100	305012	500	129 x 52	202 x 117	128 x 51

Insertion losses in dB Octave centre frequency in Hz							
125	250	500	1k	2k	4k	8k	tot
8	10	18	46	50	44	38	19

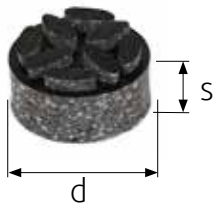
## Flat duct silencer



Rigid, mineral-fibre-free silencer for use with the Quadro System 100.  
Non-flammable acc. DIN 4102 class B1.  
Temperature resistant up to +60 °C.

System	Item No.	Length	Connection	Insertion losses in dB						
				Octave centre frequency in Hz						
				125	250	500	1k	2k	4k	8k
100	305036	500	128 x 51	9.2	10.2	20.4	21.1	15.2	9.4	4.8

## IRS



Internal pipe silencer, made from fire and mould-resistant foam, complying with the requirements of emissions class M1 (melamine resin). Can be used with full valve function, for acoustic insulation and pressure regulation.

IRS	Item No.	d	s	Insertion losses in dB							
				Octave centre frequency in Hz							
				125	250	500	1k	2k	4k	8k	tot
DN 100	305049	102	50	14	12	8	7	7	11	18	8
DN 125	305050	127	50	14	9	5	8	6	11	16	7
DN 160	305051	162	50	14	9	8	7	7	14	17	8
DN 200	305193	202	50	12	4	4	8	8	13	14	6

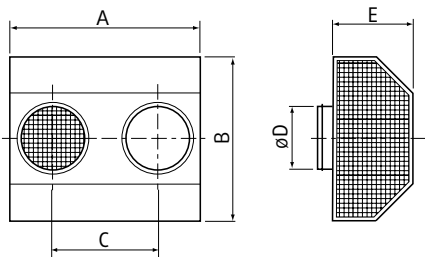
# Outdoor and exhaust air grilles

## CVVX



Combi-grille for separate guidance of outdoor and exhaust air. Manufactured from coated sheet steel  
Black: RAL 9005 White: RAL 9016

CVVX	Item No. Black	Item No. White	A	B	C	øD	E
125	26421	26422	418	291	185	125	130
160	25394	25396	470	362	215	160	130
200	25395	25397	550	402	255	200	130
250	8498	-	680	550	350	250	136

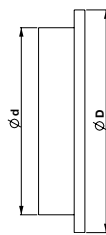


## IGC-LI



Intake grille for installation indoors and outdoors. The grille is made of aluminium. The bird protection mesh behind the slats is made from rust-proof stainless steel.

IGC-LI	Item No.	ød	øD
IGC-LI 100	37357	100	131
IGC-LI 125	37358	125	151
IGC-LI 160	37359	160	188
IGC-LI 200	37360	200	230
IGC-LI 250	37361	250	278
IGC-LI 315	37362	315	350



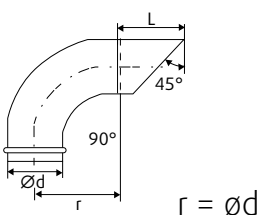
ød = connection diameter  
øD = external diameter

## AB 90°



Galvanised sheet steel intake/discharge bend, suitable for outdoor and exhaust air, with integrated angled socket and protective grille.

AB	Item No.	ød	L	kg
150	305041	150	250	2.9
200	313674	200	300	4.7

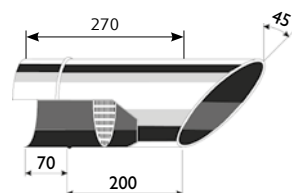


## ABS



Intake/discharge bend made from mirror-bright stainless steel, suitable for outdoor and exhaust air, angled with integrated protective grille.

ABS	Item No.	Connection
150	305035	ø150
200	313673	ø200





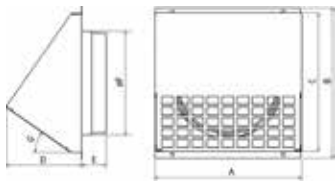
## ISO+ external grille



Intake/discharge grille made from powder-coated steel. The pipe connection fits directly into pipes of diameter 125 mm (ISO+ DN 160) or 180 mm (ISO+ DN 200)  
Colour: Black

ISO+ grille	Item No.	A	B	C	D	E*	øF	G
125	312506	252	262	239	130	-	125	35°
180	304635	252	262	239	130	41	180	35°

\*E= on request

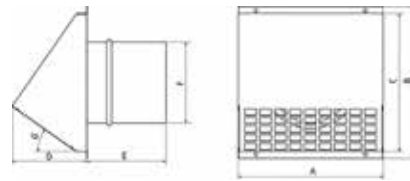


## VK-SR



Outdoor/exhaust air grille for steel spiro-pipes, powder-coated. The pipe connection fits directly into pipes of diameters 160, 200 and 250 mm.  
Colour: Black

VK-SR	Item No.	A	B	C	D	E	øF	G
160	312507	326	306	280	149	137	160	33°
200	312508	326	306	280	149	137	200	33°



## AH-V2A

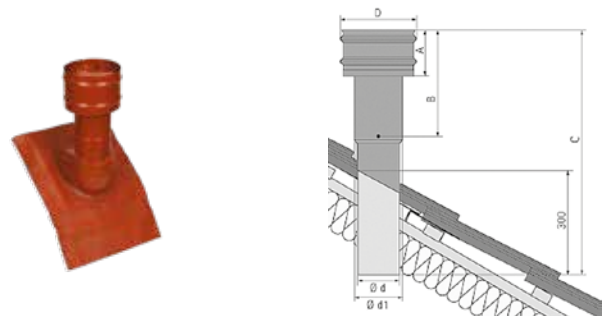


Stainless steel intake hood. Consisting of a slatted hood (supplied), a 1000 mm long pipe, two static brackets and an adapter for a DN 200 pipe connection. The intake should be situated at least 100 cm above the ground. The air intake hood is removable so that the filter inside can be cleaned or replaced.

AH-V2A	Item No.
Air intake, stainless steel; DN 200	305052
Filter for air intake, G4, VPE = 2 pcs.	305053

Other diameters on request.

## SDL



Roof hood for outdoor and exhaust air. Roof pitch 6° to 60°. Other roof pitches available upon request. Available as a kit, including universal roof flashing, roof hood top element and base, in the colours red or black.

SDL	Item No.	Colour	ød	ød1	D	L1	A	B	C	D
125	313335	Red	138	123	250	177	145	320	380	204
160	313336	Red	178	158	268	212	180	360	420	260
200	313337	Red	198	218	288	252	230	410	470	310
125	313338	Black	138	123	250	177	145	320	380	204
160	313339	Black	178	158	268	212	180	360	420	260
200	313340	Black	198	218	288	252	230	410	470	310

# Diffusers

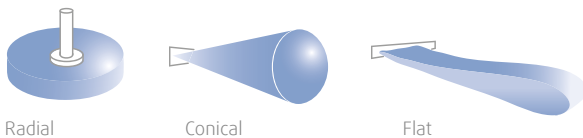


Systemair's diffusers are particularly quiet and work extremely effectively. This means air is transported without draughts, and a pleasant and comfortable indoor climate is guaranteed.

Form follows function is not a guiding principle at Systemair. For us, form and function go hand-in-hand. This also applies to the design and application of diffusers. On the ceiling, in the wall, or close to the floor, made of steel or plastic, for radial, flat or conical airflows – Systemair offers a full range of high-quality air diffusers.

The geometry of the diffuser or valve opening determines the geometry of the volumetric flow. Round or rectangular openings generate conical airflows, or long and narrow ones. To create a flat airflow, the ratio of length to height must be more than 10 to 1, or the length of the opening must be nearly as wide as the room. Radial volumetric flows are generated from round diffusers, if the airflow is able to spread out in every direction.

### Different flow forms



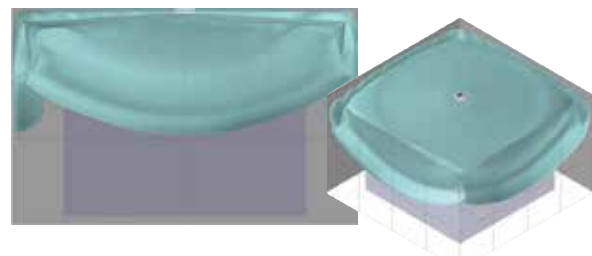
### High-quality diffusers for every situation

- Interaction of design, function, technology and interior design
- High comfort for the user
- Simple to adjust and adapt to the way the room is used
- Flexible product range for a multitude of installation and location options
- Large induction effect without creating draughts or temperature differences

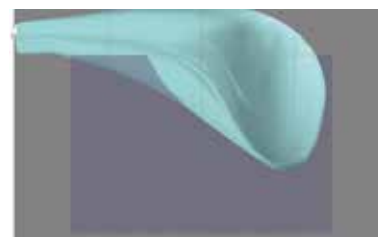
### Getting the right mixture – how does residential ventilation work?

Residential ventilation uses the principle of mixed ventilation. Fresh air is mixed with the indoor air. The flow energy in the air stream decreases as the air stream comes into contact with the ambient air in the room and mixes with it (induction effect). Thanks to their design, highly-inductive diffusers quickly reduce temperature differences between the supply air and room air, so that even larger amounts of supply air can be delivered to the room without creating draughts. The air stream increases in volume as it travels, and therefore slows down. This enables the temperature to adjust smoothly.

The result of our years of experience: bringing in the supply air from above (on the ceiling, or on the wall just below the ceiling) is often the best option. A discharge direction parallel to the ceiling with a 360° discharge angle will enable supply air to be distributed evenly throughout the whole room, ensuring optimum mixing with the room air.



Horizontal entry of supply air with a ceiling diffuser.



Induction of room air in the supply air flow.

### Systemair DESIGN

Simple yet precise online tool for selecting the right diffusers. All technical data and information at a glance with direct access to the MagiCloud database (TGA BIM library).

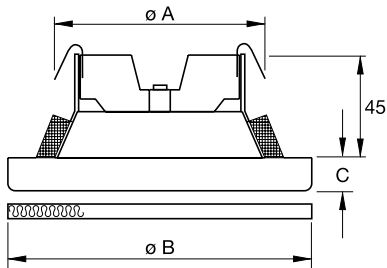
Find out more at <https://design.systemair.com>

# TFF

## Ceiling diffuser



TFF	80	100	125	150	160	200
Item No.	6089	78643	78644	7509	78645	78646
Rec. air volume [m <sup>3</sup> /h]	15	20	50	100	100	150
øA	80	100	125	149	159	200
øB	106	135	160	191	196	195
C	15	15	15	15	15	15



### Description

The cover enables the discharge opening to be shielded by up to 180°. The valve disc is adjustable and fixed in place with a counter nut.

### Function

The TFF is a round valve for installation in the ceiling. It consists of an inlet cone and a central disc coated with sound-absorbent material. The central disc can be twisted to adjust the air gap and regulate the flow rate. The airflow pattern can be adjusted using the supplied cover. The TFF should be installed in a mounting frame (RFP).

### Design

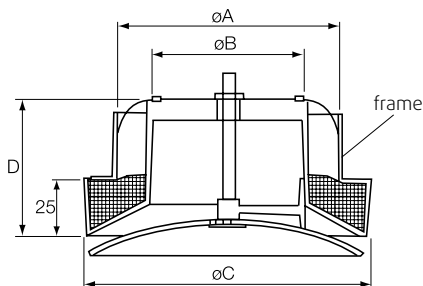
The TFF is made from sheet steel and is coated in the standard colour white (RAL 9016).

# Balance-S

## Ceiling and wall diffuser



Balance-S	100	125	160
Item No.	6965	6966	6967
Rec. air volume [m <sup>3</sup> /h]	20	50	100
øA	100	125	160
øB	81	104	120
øC	156	182	206
D	72	78	86



### Description

Systemair Balance-S is a supply air and extract air valve for ceiling or wall installation. The valve disc is adjustable and fixed in place with a counter nut.

### Function

The Balance-S is a round valve with an aerodynamic valve cone. It is characterised by excellent values with regard to sound pressure level, overall pressure and airflow properties. The Balance-S should be installed in a mounting frame (RFU).

### Design

The Balance-S is made from recyclable polypropylene and is temperature resistant up to 100 °C. It is supplied in white (RAL 9010).

# Balance-E

## Ceiling and wall diffuser

### Description

Balance-E is a round extract air disc valve for ceiling or wall installation with an aerodynamic valve cone. The valve disc is fixed in place with a counter nut.

### Function

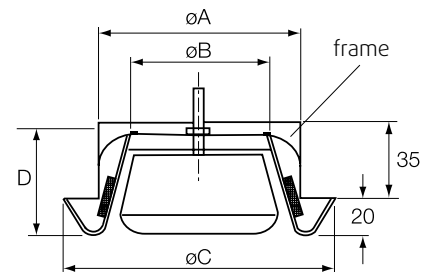
It is characterised by excellent values with regard to sound pressure level, overall pressure and airflow properties. The Balance-E should be installed in a mounting frame (RFP).

### Design

The Balance-E is made from recyclable polypropylene and is temperature resistant up to 100 °C. The valve is supplied in white (RAL 9010).



Balance-E	Item No.	Rec. air volume [m <sup>3</sup> /h]	øA	øB	øC	D
100	6961	20	100	70	142	61
125	6962	50	125	87	160	61
160	6963	100	160	118	195	57
200	6964	150	200	167	240	64



# EFF

## Ceiling and wall diffuser

### Description

Systemair extract air valve EFF. Extract air disc valve for ceiling or wall installation. The valve disc is adjustable and fixed in place with a counter nut.

### Function

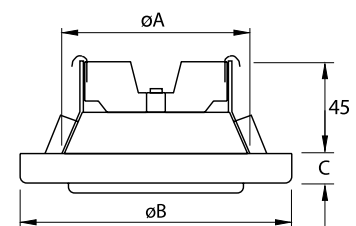
The EFF is a extract air valve which can be used for all types of buildings. The EFF should be installed in a mounting frame (RFP).

### Design

The EFF is made from sheet steel and is coated in white (RAL9010).



EFF	Item No.	Rec. air volume [m <sup>3</sup> /h]	øA	øB	C
80	6145	15	80	106	15
100	78619	20	100	135	15
125	78638	50	125	160	15
150	7490	100	149	191	15
160	78639	100	159	196	15
200	78642	150	200	238	18





# Borea

## Ceiling and wall diffuser

### Description

The adjustable Borea valve can be used for supply air and extract air. The valve can be installed both in the ceiling and in the wall.

### Function

When used with supply air, sections of the outlet can be closed for focused air guidance.

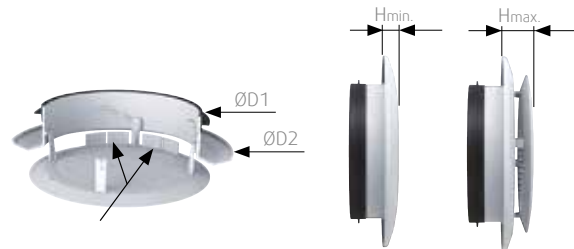
### Design

Borea is manufactured completely out of white polystyrene. It consists of a base unit, a closing disc and an adjustable front grille. This enables different throw patterns and trajectories to be set easily. It can be inserted directly in a DN125 pipe or a DN125 flanged collar.



	Item No.	ØD1	ØD2	Hmin.	Hmax.
Borea 125	68872	119	165	12	24
Filter G4 DN125	137290				

### Dimensions



Deflectors

Type	Air volume Qv[m³/h]	Supply air								Extract air							
		Grille open, disc closed, wall installation		without deflector				with deflector				Grille open, disc open		Grille closed, disc open			
				Grille closed, disc open, ceiling installation		Position 2		Position 2		Position 1				Position 2			
				dp (Pa)	Lw (dB(A))	dp (Pa)	Lw (dB(A))	dp (Pa)	Lw (dB(A))	dp (Pa)	Lw (dB(A))			dp (Pa)	Lw (dB(A))	dp (Pa)	Lw (dB(A))
Borea 125	45	9	< 20	18	26	7	< 20	13	22	3	< 20	20	23	7	< 20		
	60	17	< 20	30	31	13	21	20	27	5	< 20	37	33	13	21		
	75	25	24	40	35	18	24	31	32	8	< 20	57	41	20	25		
	90	36	31	56	39	25	28	43	36	11	20	80	46	27	29		
	120	62	43	-	-	40	36	70	43	19	28	-	-	48	36		
	150	-	-	-	-	62	41	-	-	28	34	-	-	74	43		

### Borea settings

	Wall installation	Ceiling installation	
Supply air			
	Grille open, disc closed	Grille closed, disc in position 1 without shielding	Grille closed, disc in position 2 possible with or without shielding
Extract air			
	Grille open, disc in position 2 without shielding	Grille closed, disc in position 1 without shielding	Grille closed, disc in position 2 without shielding

Deflectors can be used to partially close the disc opening in order to shield certain areas. The deflectors can be removed for use with extract air or for four-sided discharge.

# BOR-S / -R

Wall diffuser



BOR-S

BOR-R

BOR-S/-R	Item No.
100*	26078
125*	26079
100	26076
125	26077

\*Filter BOR-S, VPE 10 pcs., Item No. 314449

## Description

The BOR supply air valve (wall installation) was especially developed for draught-free, low noise application in residential ventilation. It can also be used for ventilation applications in offices, conference rooms and hotel rooms. The special diffuser design prevents the airflow from falling into the inhabited area before the fresh air has reached a pleasant temperature and speed. The maximum  $\Delta T$  is 10 K. BOR-R can also be used in VAV systems. The diffusers are equipped with a setting mechanism and differential pressure measurement points.

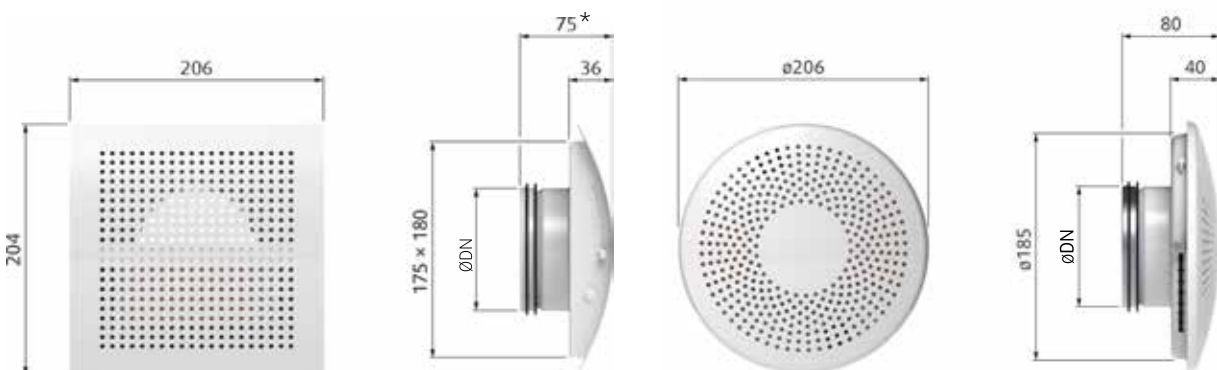
## Function

The diffuser has an adjustable cover for setting the flow rate. This can be accessed from the outside and may save awkward disassembly of the diffuser. The cover can be fixed in 9 positions. All measurements were taken using these fixed positions. The test nipple must be closed after setting the desired flow rate using the measuring points. The performance data can be read from the graphs below.

## Design

The body of the BOR unit is made from galvanised sheet steel with a perforated, convex front plate. The front plate is coated in RAL 9010 as standard.

## Dimensions

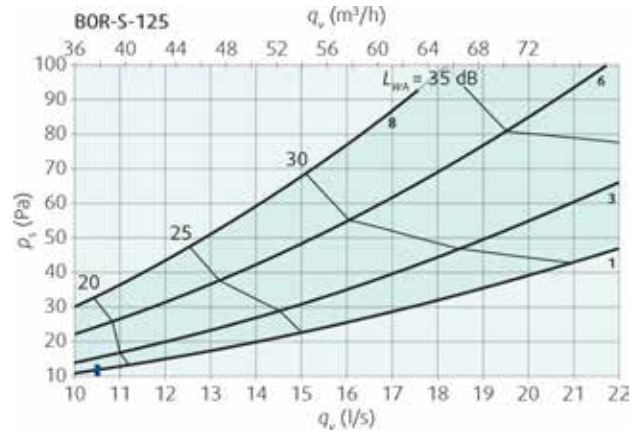
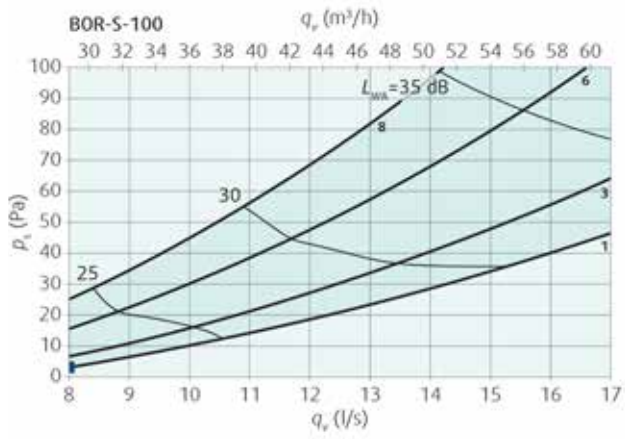


BOR-S	DN
100	100
125	125

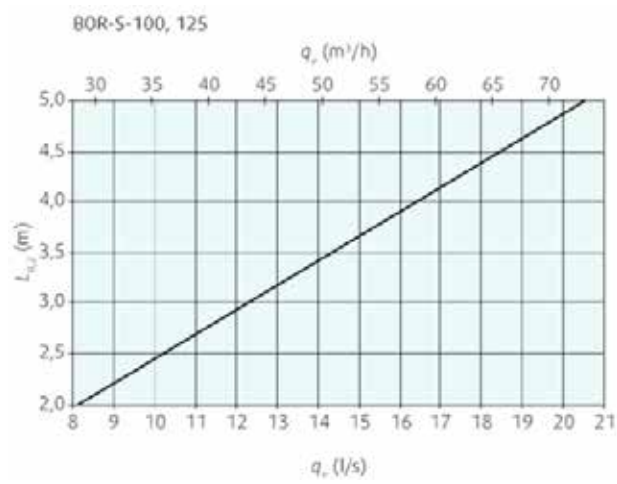
BOR-R	DN
100	100
125	125



## Performance graphs



## Throw distance



# PLUTO

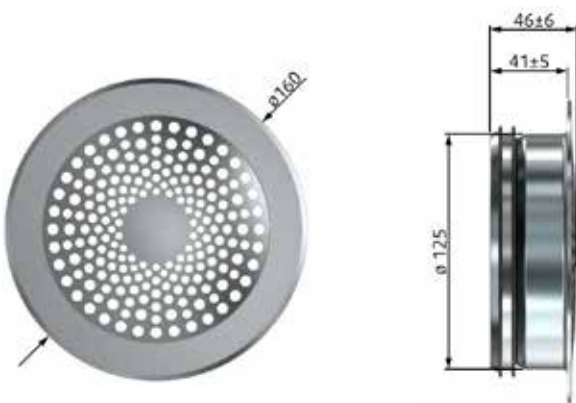
Floor diffuser



PLUTO

Item No.  
73377

## Dimensions



## Description

PLUTO floor diffuser with perforated stainless steel front. Suitable for ventilating dwellings, hotel rooms or smaller offices. For ease of cleaning, the floor diffuser can be removed completely.

## Function

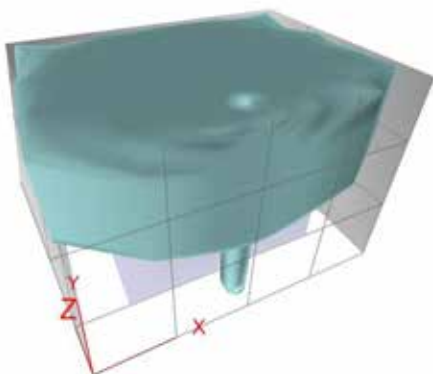
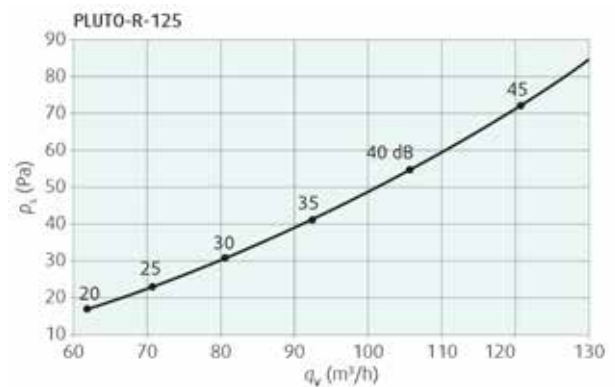
The PLUTO floor diffuser has been specially developed for draught-free and low noise delivery of supply air into living and sleeping quarters. The floor diffuser is inserted in the FLEX+ or OVAL+ diverter.

## Design

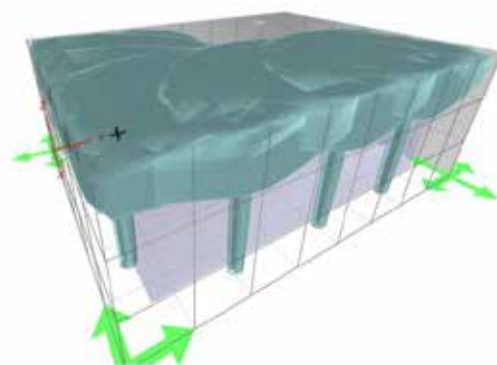
The floor diffuser is made from galvanised steel, with a slightly convex, perforated, brushed stainless steel front plate and high-quality rubber seals.

## Accessories

IRS 125 for regulating air volume.



In smaller rooms a floor outlet is sufficient.



In larger rooms, several floor diffusers must be arranged.

# AE

## Self-regulating extract air valve

### Function

The AE is an electrically-adjustable extract air valve for two flow rates (basic and demand-driven ventilation). It is ideal for ventilation of kitchens, bathrooms and toilets, and for central ventilation systems in residential buildings. The basic flow rate is increased to the demand-driven flow rate via a switch (switch provided on-site by the client). After 30 minutes, it switches back to the level "basic ventilation". The degree of protection is IP X1.

### Design

Made from plastic in RAL 9010. Exchangeable front grille in different colours. Size DN 125. High-quality design with an aerodynamic form and low acoustic values.

### Installation

For direct installation in the wall, incl. mounting ring. An angle guide is needed if installed in the ceiling, which must be provided on-site by the client.

### Settings

System setting / system calibration is not necessary for constant-pressure systems.

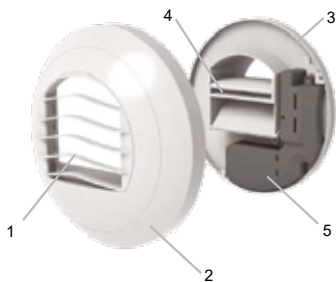
### Maintenance

The covering and optimum height of the intake ring avoid dirty edges. Simple to clean without risking changes to the air volumes.

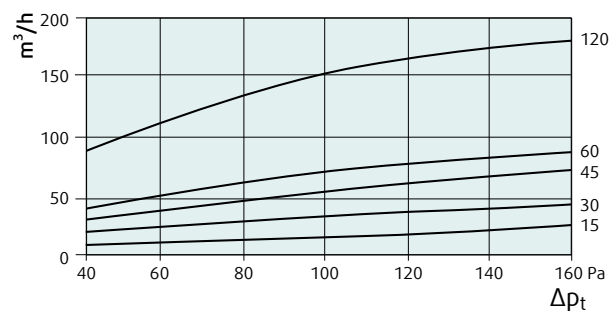


AE	Item No.
15/30	31412
30/60	31413
45/120	31414
Filter G4 DN125	137290

- Two flow rates for basic and demand-driven ventilation, e.g. via switch (supplied by client)
- System setting / system calibration not necessary for constant-pressure systems
- Appealing design
- High-quality design with an aerodynamic form and low acoustic values
- Covering and optimum height of the intake ring avoid dirty edges
- Simple to clean without risking changes to the air volumes



- 1 Replaceable louvre grille
- 2 Casing ring
- 3 Support disc with sleeve and rubber ring
- 4 Control unit
- 5 Electrical connections



Acoustic properties	$L_w$ dB(A)			
	70 Pa	100 Pa	130 Pa	160 Pa
AE 15/30	24	27	30	33
AE 30/60	25	31	34	36
AE 45/120	27	33	34	37

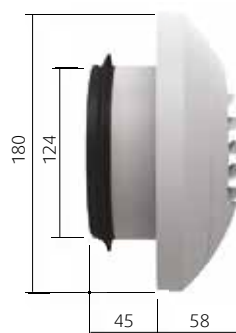
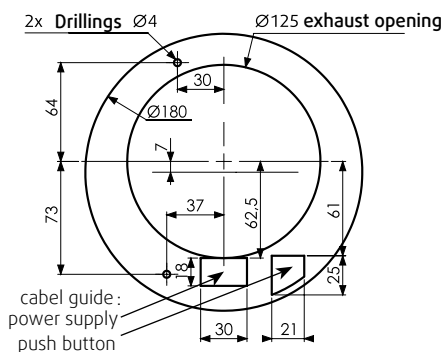
# AH

## Self-regulating extract air valve, with humidistat



		Item No.
AH 10/40	Variable extract air valve incl. humidity control, DN 125, RAL 9010	49988
AH 15/50	Variable extract air valve incl. humidity control, DN 125, RAL 9010	941238
AH 15/75	Variable extract air valve incl. humidity control, DN 125, RAL 9010	941239
AHC 6/40/90	Variable extract air valve incl. humidity control, DN 125, RAL 9010, on-demand ventilation initiated by a cord	49989
AHE 6/40/90	Variable extract air valve incl. humidity control, DN 125, RAL 9010, on-demand ventilation initiated by a 230 V signal (switch provided by client)	49991
AHE 12/45/105	Variable extract air valve incl. humidity control, DN 125, RAL 9010, on-demand ventilation initiated by a 230 V signal (switch provided by client)	941240
AHP 10/60/60	Variable extract air valve incl. humidity control, DN 125, RAL 9010, on-demand ventilation initiated by a presence sensor (12 V)	73072
Transformer	Transformer 230 V AC / 12 V AC	37364
Filter G4 DN 125		137290
Filter G4 DN100		137291

Acoustic properties			
Type	$L_w$ dB(A)		
	100 Pa	130 Pa	160 Pa
AH	27	30	33
AHC	31	34	36
AHE	33	34	37
AHP	33	37	39



### Function

The AH extract air valve is a variable ventilation valve. It is ideal for the ventilation of kitchens, bathrooms and toilets, as well as for central ventilation systems in residential buildings. Products in the AH group are equipped with humidity control. This increases the air volume when the humidity is rising, and switches back down to the basic air volume when the humidity is falling. The numbers in the product designation specify the control range for the humidity ventilation (example AH 10/40: control range 10 - 40m<sup>3</sup>/h). The mechanical humidity control unit does not need a power supply. Versions with demand-driven ventilation via an external signal or motion sensor require a power supply of 12 V or 230 V with a switch contact. When on-demand ventilation is activated, the extract air valve opens at the specified max. flow rate (third figure in the product designation). After 30 minutes, it switches back automatically to the basic air volume. The degree of protection is IP X1.

### Design

Made from plastic in RAL 9010 (white). Size DN 125. The extract air valve is also available in DN 100 upon request. High-quality design with an aerodynamic form and low acoustic values.

### Installation

For direct installation in the wall, incl. mounting ring. An angle guide is needed if installed in the ceiling, which must be provided on-site by the client.

### Settings

System setting / system calibration is not necessary for constant-pressure systems.

### Maintenance

Cover and optimum height of the intake ring avoid dirty edges. Simple to clean without risking changes to the air volumes.



# FAV

## Self-regulating supply air valve, acoustically insulated



FAV



The FAV wall valve will impress you with its elegant design and outstanding sound-insulating properties.

The function and air distribution offered by the newly-designed supply air valve is excellently suited to normal and high-level sound insulation requirements.

All components needed for installation are supplied in a complete kit.

### Applications / installation options

For installation in external walls as a fresh air supply valve – into single-family houses, office buildings and multilevel apartment blocks. The wall valve is particularly suitable for living rooms and bedrooms.

### How it works

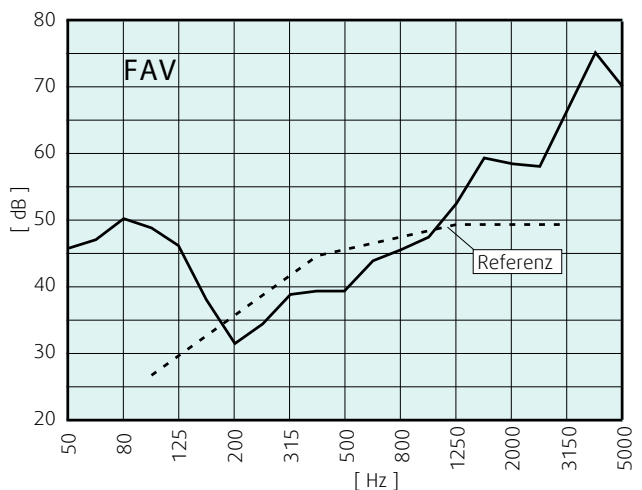
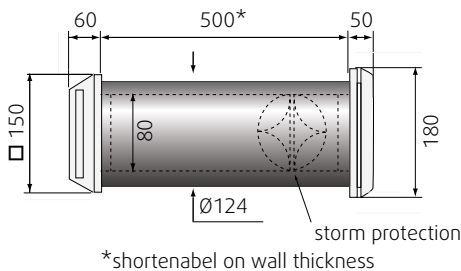
An air extraction system removes stale air from the extract air rooms, such as the kitchen, bathroom, storage rooms and WC. The FAV filters the outdoor air and distributes it proportionately between the living room, bedrooms and leisure rooms. Optimum efficiency can be achieved if the unit is installed in the upper wall region, next to a window, 2.0 to 2.2 m above a radiator. The storm protection limits the air supply to 30 m<sup>3</sup>/h, thus avoiding draughts.

Item No.	Ø bore	Max. flow rate with G3 standard filter	Acoustic value Dn,w* for wall thickness	Rw, R**	Version / colour***
312214	124 mm	10 Pa 30 m <sup>3</sup> /h	400 mm / 48 dB 500 mm / 51 dB	18 dB 20 dB	White plastic Inside: square Outside: round

Dimensions in mm.

\*Rated element standardised sound level difference Dn,w acc. DIN EN ISO 140-10

\*\*Acoustic insulation value acc. DIN 4109 \*\*\*colour white: similar to RAL 9010



### FAV outdoor grille



Item No.	Colour
312217	White, RAL 9010

### FAV weather protection for outdoor grilles



Item No.	Colour
312216	White, RAL 9010

### FAV fleece filter mat, G2



Item No.	
314279	Fleece filter mat, G2

### FAV filter cartridge F7



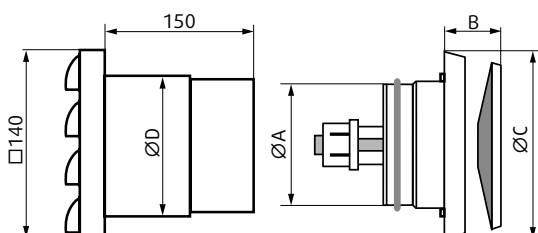
Item No.	
312215	L = 94 mm, DN 80

## VTK

### Self-regulating extract air valve

The VTK regulates the flow rate depending on the temperature. This is achieved using a thermostat-bulb, which changes the valve opening depending on the outdoor temperature. As temperatures fall, the size of the opening is reduced, throttling the flow rate. The optional spacers can be used to ensure a minimum flow rate.

The VTK comprises an external cowl, a coarse filter and the self-regulating extract air valve.



VTK	80	100	160
Item No.	5657	5658	5659
ØA	80	95	157
B	40	40	47
ØC	147	147	207
ØD	85	104	163



# RDR

## Constant volumetric flow regulator



RDR	Item No.
80/15-50 (m <sup>3</sup> /h)	37293
100/15-50 (m <sup>3</sup> /h)	37294
100/50-100 (m <sup>3</sup> /h)	37295
125/15-50 (m <sup>3</sup> /h)	37296
125/50-100 (m <sup>3</sup> /h)	37297
125/100-180 (m <sup>3</sup> /h)	37292
150/50-100 (m <sup>3</sup> /h)	37309
150/100-180 (m <sup>3</sup> /h)	37298

Volumetric flow (m <sup>3</sup> /h)	LW dB(A)			
	50Pa	100Pa	150Pa	200Pa
15	25	29	32	35
30	26	31	35	38
45	27	33	36	39
60	32	37	39	42
75	32	37	40	42
90	32	38	41	44
120	30	34	39	42
150	33	37	41	45
180	34	40	44	47
210	34	40	42	44
240	35	41	44	47
270	37	43	45	49
300	33	37	42	45

Test report: CETIAT 2315002 for volumetric flow RD Ø80 to RD Ø125 mm.



### Description

RDR is a constant volumetric flow regulator which is installed in round pipes to achieve a constant flow rate.

### Function

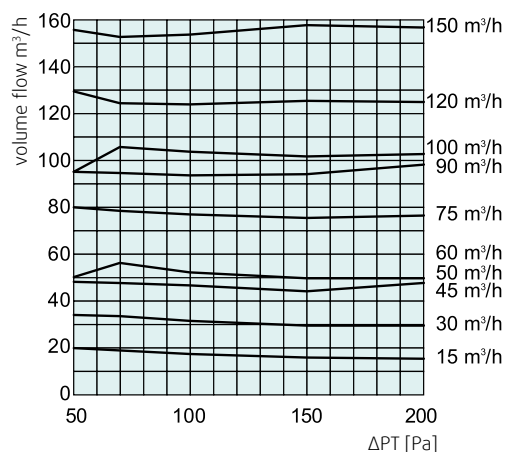
The air is forced to flow through a predetermined space. Here the integrated flap can change its position, depending on the specified airflow. The flap is attached by a calibrated spring, so it is not possible to make subsequent adjustments to the flow rate. No additional energy is required.

### Design

The RDR is made from plastic (fire resistance class M1). The regulator is grey and can be used for temperatures up to 60 °C.

### Installation

The volumetric flow regulator is installed directly in horizontal or vertical pipe systems. Airtight installation is ensured by a lip seal. The arrow on the housing shows the air direction. For supply air applications, the distance from duct branches or outlets must be at least 3x the pipe diameter.





# SPI

## Iris diaphragm

### Description

SPI is an iris diaphragm for measuring and adjusting airflow. It has the following properties: low noise level, centrally-formed volumetric flow and test points for precise measurements. The iris diaphragm can be opened completely. This means that a service flap for cleaning is not necessary. Available in sizes 80 to 800 mm. Can be used up to a temperature of 70 °C.



### Design

The iris diaphragm is manufactured from galvanised sheet steel and has airtight rubber seals at the pipe connections. The unit is suitable for extract air applications.

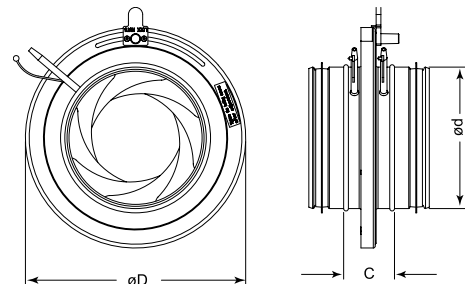
### Installation

The SPI must be installed with defined minimum distances from other duct components, to keep deviations in the flow rate as low as possible. No special distances are specified for reduction/increase of the pipe diameter to the next size. The SPI enables volumetric flow to be determined accurately at all locations – even those close to curved flow paths, e.g. T-pieces, bends and upstream of air outlets.

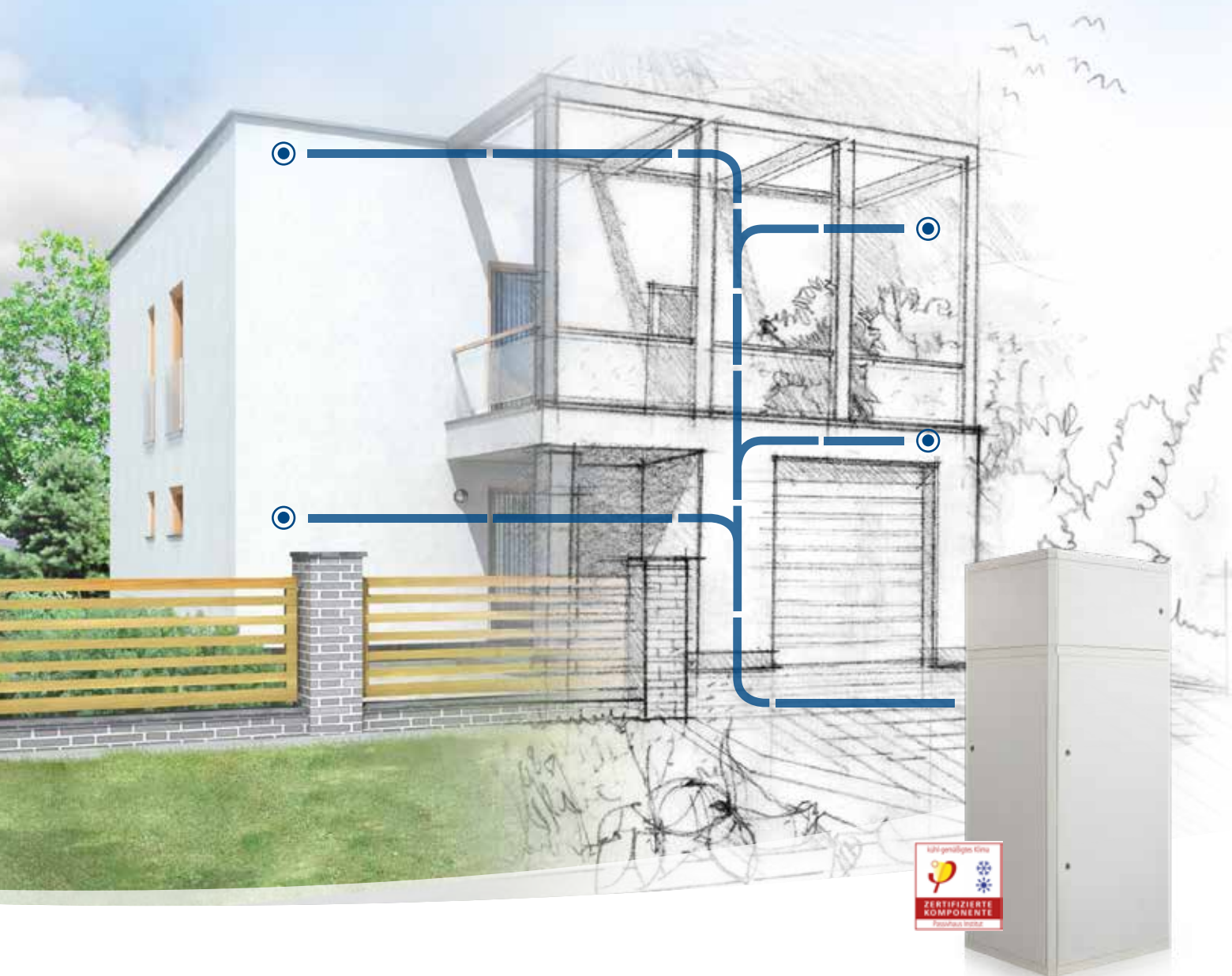
#### Minimum distances

- Ahead of bend - 1 x ØD
- After bend - 1 x ØD
- Ahead of T-piece - 3 x ØD
- After T-piece - 1 x ØD
- Before diffuser - 3 x ØD

SPI	Item No.	Ød	C	ØD
80	7621	79	110	125
100	6750	99	54	163
125	6751	124	63	210
150	6752	149	54	230
160	6753	159	60	230
200	6754	199	62	285
250	6755	249	62	333
300	6756	299	65	405
315	6757	314	63	406
400	6758	399	70	560
500	7625	499	60	644
630	7626	629	60	811
800	6881	798	70	1015



# Genius air heating system



Ventilation, heating, cooling and hot water production – Genius is the compact central building services unit which can do everything.

## Genius by name, genius by nature

Modern buildings need contemporary building services. Genius from Systemair is the intelligent combined solution for energy-efficient single-family houses: heating, ventilation, cooling, heat recovery and hot water production.

Our controllable residential ventilation with integrated heat recovery ensures a balanced indoor climate throughout the entire year. Ventilation is enhanced by a steplessly-controlled air-air-water heat pump, always taking care that you have the right climate and temperature: providing pure air heating in winter and in summer – thanks to a reversible mode – cooling too.

Genius is a tour de force.

The perfect description for a relatively small system which packs a surprising amount of power and performance.



# From this moment on, oil, gas and water become air for your customers.

The air heating system from Systemair



Genius is the compact central building services unit which can do everything: ventilation, heating, cooling and hot water production. All Genius needs is a secondary air circuit in addition to conventional ventilation ducts. Thanks to the integrated air/air heat pump, a heating system using water becomes unnecessary.

#### KEY

	Outdoor air
	Supply air
	Secondary air
	Extract air
	Exhaust air

Nowadays, whoever erects a new building or renovates an old one in Germany must fulfil the requirements of the German Energy Conservation Regulation (EnEV). The result is often highly insulated, airtight building envelopes which require mechanical residential ventilation – for a healthy indoor climate and as little energy loss as possible. At the same time, thanks to today's improved standards for insulation, the heating energy required is less. For this reason, conventional heating systems are generally over-dimensioned for energy-efficient houses. This is why we developed Genius. A central building services unit which, with its integrated air-air heat pump is able to ventilate efficiently with heat recovery, and is also able to use the air for heating or cooling the rooms. But that's not all: thanks to an integrated air-water heat pump, even hot water production is included. That is to say, your customers only need a single system. This saves a great deal of time in the planning phase, reduces investment costs and, what's more, needs less space. Convincing arguments for demanding customers. And promising prospects for you.

### **How does the air heating system work?**

At the heart of the system is the Genius combi-unit. It continually supplies the living and sleeping quarters with fresh, clean air, and transports the extract air to the exterior, via the kitchen, bathroom and WC. A rotary heat exchanger removes the heat from the extract air and, if necessary, uses it to preheat the cool supply air. It also ensures that the air is not too dry. In summer, the principle functions in reverse, so that the extract air cools the supply air and excessive indoor air humidity is removed.

### **Heating and cooling modes**

The heating load is covered by an increase in the flow rate. Here a fan draws air from the living area via a separate duct system (secondary air). A steplessly-controlled air-air heat pump heats this depending on the requirements and conveys it to the living and sleeping quarters. In summer, the heat pump works in reverse so that the dwelling is cooled.

### **Hot water production**

All Genius functions can be used individually or in parallel. This applies to hot water production as well. A 150 litre tank is integrated for storing the drinking water. A heating rod is installed inside to ensure the system functions perfectly, even if the outside temperatures are extremely low.

### **A bad atmosphere is a thing of the past with Genius**

The idea of using air as a heat transfer medium and transporting it from room to room through ducts has been around a long time. However, until now it was common for unpleasant smells and impurities to be transported too. Thanks to Systemair's secondary air system, your customers will only experience pure air quality, because the extract air system remains completely untouched. This ensures that the transmission of odours or substances is excluded. High-performance pollen and dust filters also clean the supply air.

The result: the very best air quality and a pleasant indoor climate for your customers.

# One for all. All with air.

## Genius – the modern central building services unit

Genius from Systemair is the intelligent solution for energy-efficient single-family houses\*. The compact unit combines controlled residential ventilation including heat recovery (up to 85%) with heating / cooling and hot water production. In combination with a photovoltaic system, it is even possible to realise a virtually self-sufficient and CO<sub>2</sub> neutral system. And best of all: with Genius, you save much time in the planning phase, because Systemair will take on all the project engineering work for you.

### Advantageous. For your customers and for you.

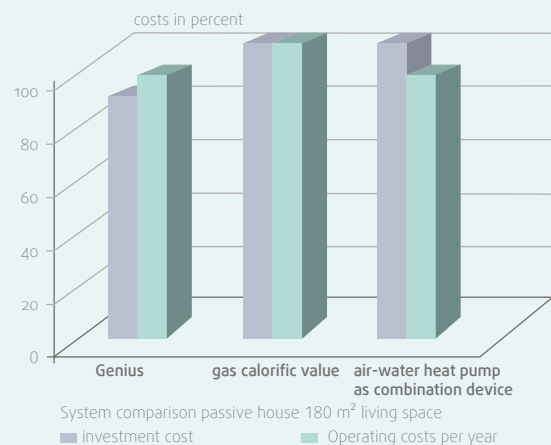
All the Genius functions are possible independently or in parallel – just as you need them. This means optimum utilisation of the required energy and conservation of resources. Additional electric heating is only necessary in exceptional situations, since Genius is equipped with modern and powerful heat pump technology. This makes

pleasant room temperatures possible, even on very cold days. If your customer still wants to have a wood-burning stove, or a tiled stove, there is nothing to stop them: the secondary air distributes the heat from the stove throughout the entire house. In summer, the steplessly-controlled heat pump works in reverse, actively cooling the ambient air. This way, your customer can enjoy an ideal indoor climate and the highest level of comfort throughout the whole year with just one system.

By the way: Genius can easily be operated via the internet. This means you and your customers have unlimited access, even from outside. Clever, don't you think?

### ! Good for the environment and the budget

Modern buildings require a ventilation system. So expenditure for this is unavoidable. However, with Genius you save by not having to install a separate distribution system for the heating, which also results in lower maintenance costs. Furthermore, Genius is an absolute pioneer with regard to efficiency, making the operating costs comparable to or cheaper than for other systems.



\* KfW 40+ and KfW 40 max. 200m<sup>2</sup> living area · KfW 55 approx. 150m<sup>2</sup> living area, depending on the heating load





### Ventilation module

- Rotary heat exchanger with moisture recovery
- The house is heated/cooled via the ventilation system's supply air ducts



### Heat pump module

- With steplessly-controlled compressor for precise adjustment
- Reversible air-air/air-water heat pump for heating/cooling/hot water

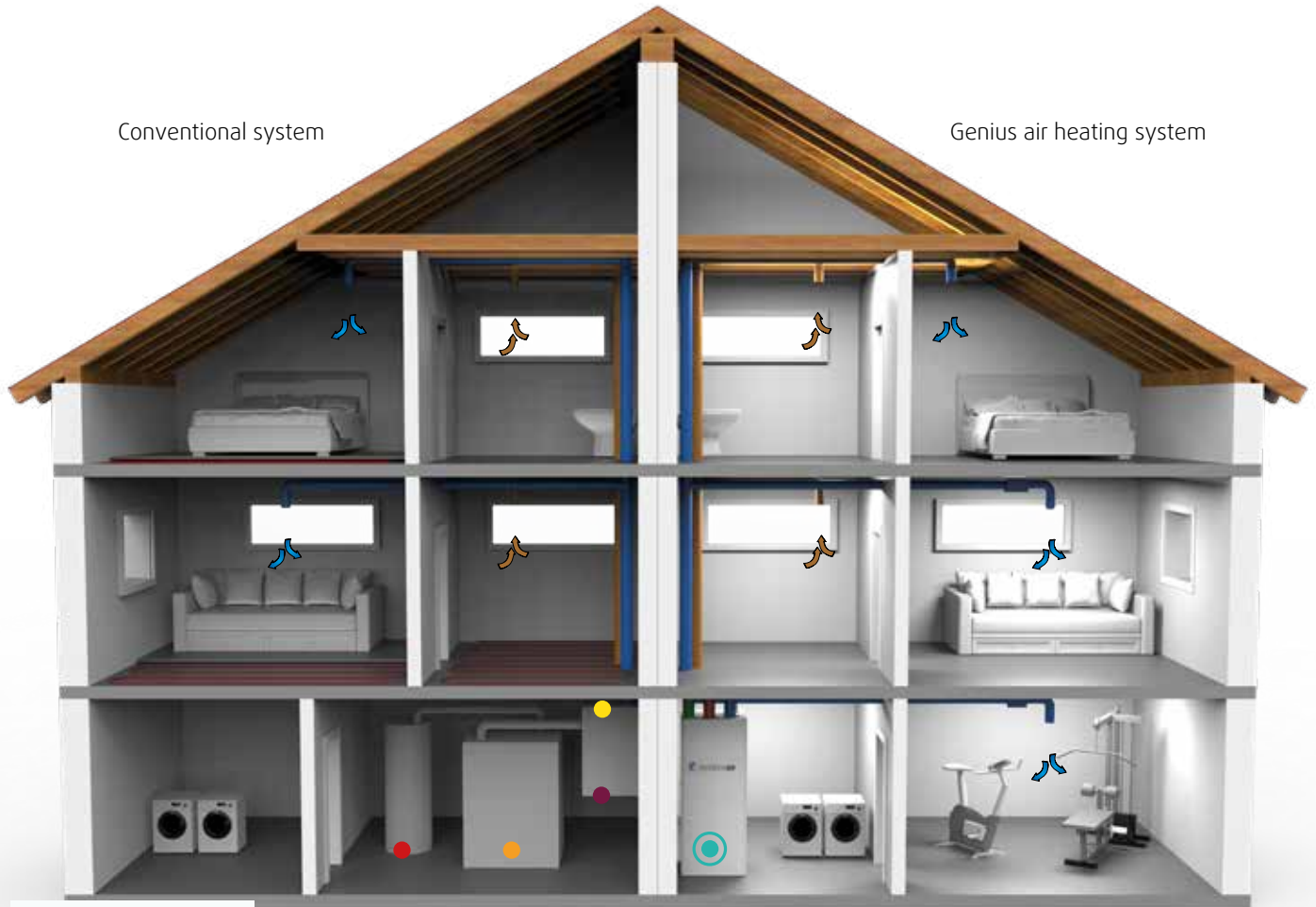


### Hot water module

- incl. control cabinet and 150 l hot water tank
- Hot water production parallel to heating and cooling operation



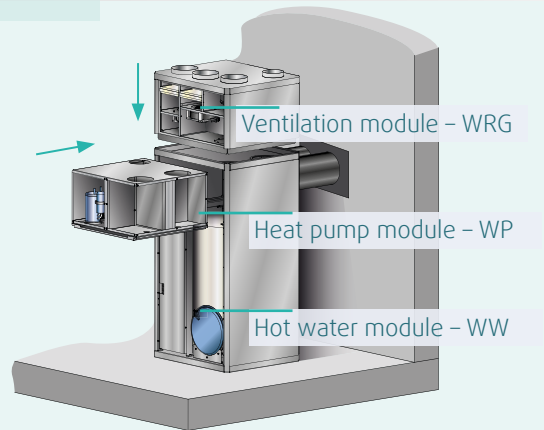
# Increased comfort, decreased space requirement



- KEY**
- Genius
  - Hot water tank
  - Boiler
  - Ventilation unit
  - Underfloor heating

**Good to know**

The individual Genius components for ventilation, the heat pump and hot water are installed in compact modules, which can simply be pushed into the housing or placed on top. This makes installation and maintenance easier.





## ● An overview of all the advantages of Genius:

- Humidity recovery via rotary heat exchanger
- Low space requirement
- Control system optimises consumption
- Easy to operate: via display, app, internet, cloud
- Advanced components from renowned manufacturers (ebm-papst, Danfoss, Carel, Regin, Mitsubishi)
- PLUS X AWARD innovation prize

- In general, no additional heating is necessary – not even on very cold days
- Up to 85% heat recovery efficiency
- Project engineering by Systemair
- Integrated 150 litre hot water storage tank
- Reversible heat pump
- Contemporary dimensions, designed for the requirements of energy-efficient houses

- Stove operation possible
- Combination with photovoltaics possible



# Comfortable in all areas.

## Modules, control, functions

Modern technology requires contemporary, convenient operation. We have designed Genius so that you and your customers can easily control the system with a PC and even using the internet: via the service level as a specialist or via the user level as an end user. This enables you and your customers to have permanent access, even from outside, and an optimum overview of all functions and parameters.

It is just as easy to control individual rooms via a display as it is to control the system via a control panel on the unit itself.

The Systemair App allows you to operate the system using your smartphone.



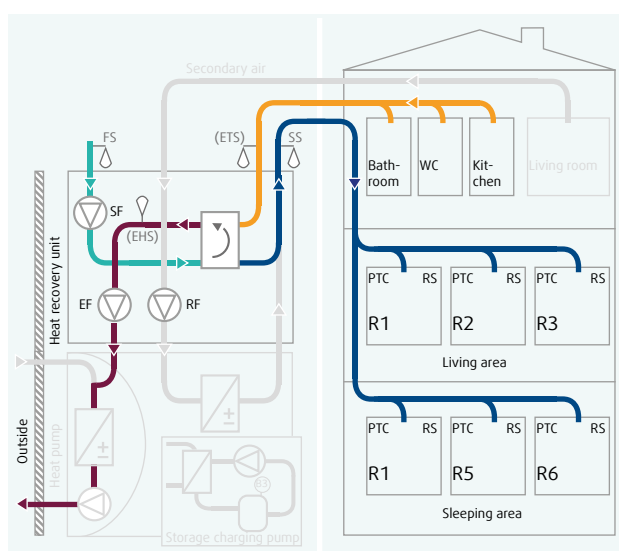
### The functions in detail:

- 4 ventilation stages acc. DIN 1946/6:
  - Ventilation for moisture protection
  - Reduced ventilation
  - Nominal ventilation
  - Intensive ventilation
  - Additional option to switch off
- Temperature control in winter:
  - Setpoint adjustment based on outside temperature
  - Temperature control of individual rooms
  - Fixed value
  - Setpoint = average setpoint temperatures for the room
  - Setpoint = Reference room setpoint
- Temperature control in summer:
  - Setpoint adjustment based on outside temperature
  - Fixed value
  - Cooling can be deactivated
- Stove operation
- Legionella control program
- Fast charging hot water
- Emergency mode hot water
- Emergency mode heating
- Adjustment of maximum supply air temperature based on outdoor temperature, alternatively manually
- Minimum supply air temperature
- Time programs:
  - Ventilation/heating/cooling
  - Hot water: automatic, individual
  - Decrease mode: setpoint temperature, ventilation stage
  - Holiday mode
- Filter monitoring
- Passive night-time cooling, individually adjustable
- Chart function: recording of conditions/parameters
- Electric reheating elements (PTCs):
  - Temperature control of individual rooms
  - Emergency operation
  - Start delay
  - Can be switched off
- Window contact function: as soon as a window is opened, e.g. in the bedroom, the heating for this room is interrupted (accessory shut-off valve required)



# Thoroughly thought through.

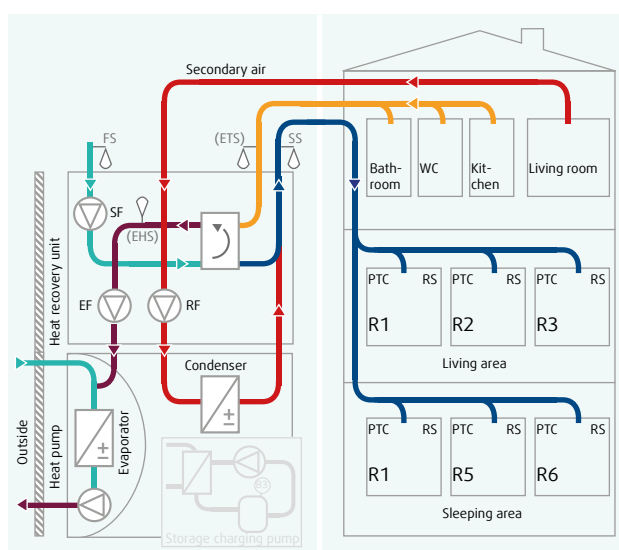
Genius in operation



## Ventilation mode

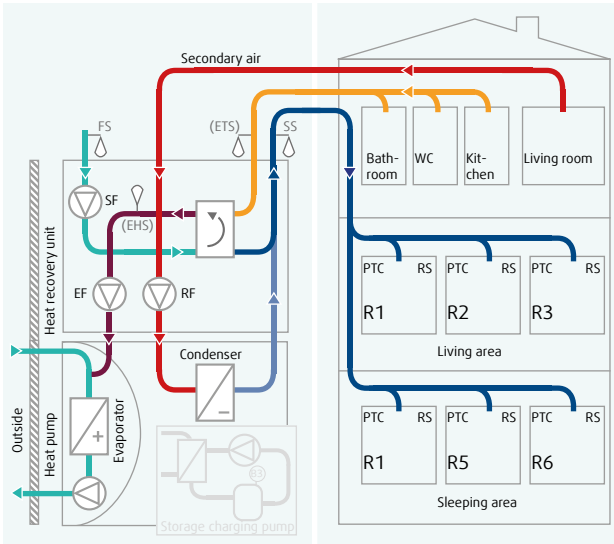
The extract air is extracted via the kitchen, bathroom and WC. On its way outside, it flows through the rotary heat exchanger. At the same time, fresh air is drawn in from the outside and is also passed through the rotary heat exchanger. With each rotation of the heat exchanger, both supply air and extract air flow through the cells. In this way, heat from the extract air is transferred to the supply air. In summer, the principle functions in reverse, so that the cooler extract air cools down the warmer supply air.

As well as heat, the rotary heat exchanger also recovers humidity. This means that the atmospheric humidity is generally always within a comfortable range.



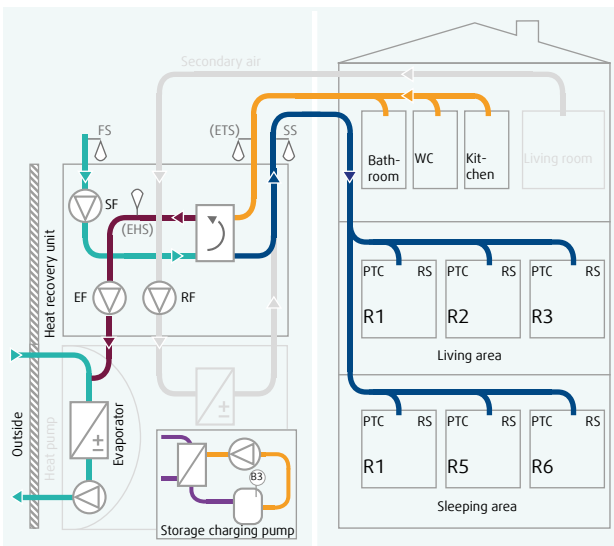
## Heating mode

The heating load is covered by an increase in the flow rate. This requires a separate duct system. A fan, which is controlled in parallel to the heat pump, removes secondary air from the living area. This is warmed by the heat pump and fed back into the living and sleeping quarters as supply air. The extract air system remains completely untouched, ensuring that contamination of the supply air is impossible. The heat pump only uses the residual energy in the exhaust air, after heat recovery, as an additional heat source.



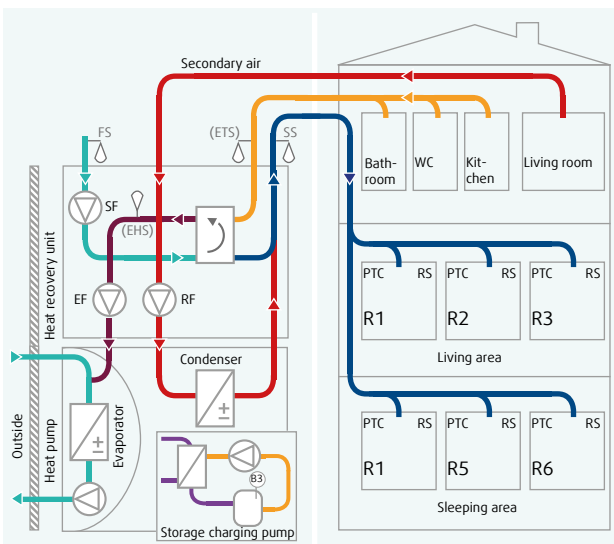
### Cooling mode

The cooling mode works in the same way as the heating mode, except that the heat pump works in reverse. This means that the evaporator becomes the condenser and the condenser becomes the evaporator. The heat pump extracts heat from the dwelling, which is then discharged to the outside.



### Hot water production without heating or cooling demand

The ventilation functions as described in "Ventilation mode". If there is a demand for hot water, the compressor and the storage charging pump start. The residual energy of the extract air is used as in the heating mode. A plate heat exchanger is used: the hot gas of the refrigeration circuit flows through the primary side and hot water flows through the secondary side.



### Hot water production in parallel with heating

Hot gas flows continuously through the plate heat exchanger for hot water production. The heat transfer for hot water production takes place only via the charge pump. If heating is operating at the same time, the secondary air fan follows the heating demand. Now hot water production has priority, but the residual heat is used for heating.

### Hot water production in parallel with cooling functions according to the same principle.

#### KEY

SF	Supply air fan	SS	Supply air sensor		Outdoor air
EF	Extract air fan	EHS	Exhaust air sensor		Supply air
RF	Secondary air fan	PTC	Electric reheater		Secondary air
FS	Outdoor air sensor	RS	Room controller		Extract air
ETS	Extract air sensor				Exhaust air



# Exceptional in every discipline

## The technical data

Connections	
Cold water	1" AG
Hot water	1" AG
Circulation	1" AG
Condensate	mm DN 40
Safety valve	3/4"
Outdoor air ventilation	mm DN 160
Outdoor air heat pump	mm DN 250
Extract air	mm DN 160
Supply air	mm DN 200
Secondary air	mm DN 200
Exhaust air ventilation/heat pump	mm DN 250

Performance data	
Heating capacity	kW max. 6 *
Cooling capacity	kW max. 4 *
Power PTC element	W je 600 (100m <sup>3</sup> /h)
Heating rod output, hot water	kW 3

Ventilation	
Reference volumetric flow	m <sup>3</sup> /h 195 195
Temperature outdoor air	°C 7 7
Temperature extract air	°C 20 20
Temperature supply air	°C 17,4 16,1
Spec. elec. power consumption	W/ (m <sup>3</sup> /h) 0,38 0,38
Supply air side temperature ratio	% 79,6 78,5
Supply air side humidity ratio	% 50

Heating	
Temperature outdoor air	°C 7 2 -7
Temperature extract air	°C 20 20 20
Heat pump performance	% 40 50 50
Volumetric flow secondary air	% 80 100 100
Heating capacity entire unit	W 4400 4030 4030
Heating capacity heat pump	W 3630 3000 2640
COP unit	3,58 2,98 3,26
COP heat pump	3,02 2,22 2,13

Electrical data	
Voltage	V 230
Frequency	Hz 50
Max. compressor power consumption	W 1800
Max. fan power consumption Ventilation module	W je 80
Max. fan power consumption Heat pump module	W 170
Storage charging pump power consumption	W 6-28

Ventilation	
Air volume (normal mode)	m <sup>3</sup> /h 190
Max. air volume heating/cooling (incl. secondary air)	m <sup>3</sup> /h 600
Heat recovery efficiency	% bis 85
Outdoor air filter grade	F7
Extract air filter grade	G4
Secondary air filter grade	G4

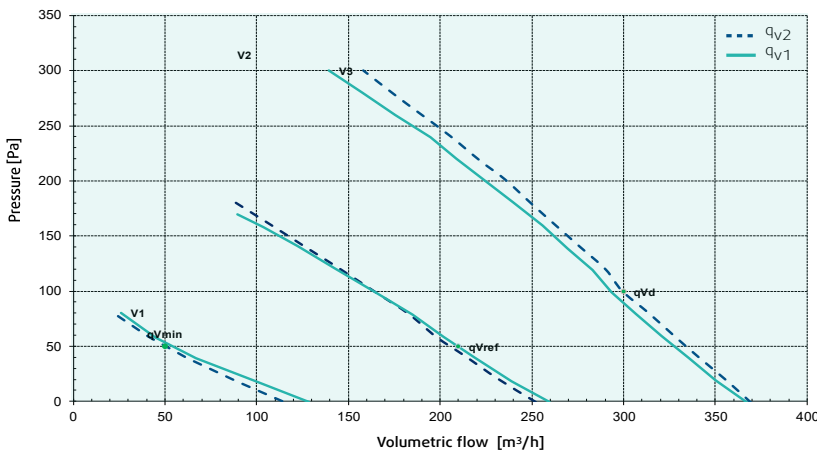
Dimensions / weights	
Width	mm 865
Height	mm 2070
Depth	mm 750
Ventilation module weight	kg 75
Heat pump module weight	kg 60
Basic module/hot water unit weight	kg 170
Total weight when empty	kg 305
Total weight when full	kg 460

Other information	
Refrigerant	R410A
Refrigerant fill quantity	kg 1,1
Tank volume	l 150
Expansion tank	l 6
Hot water safety valve	bar 6

\* these are maximum values. The application limits must be adhered to. The manufacturer must be consulted if the heating load is greater than 5 kW.

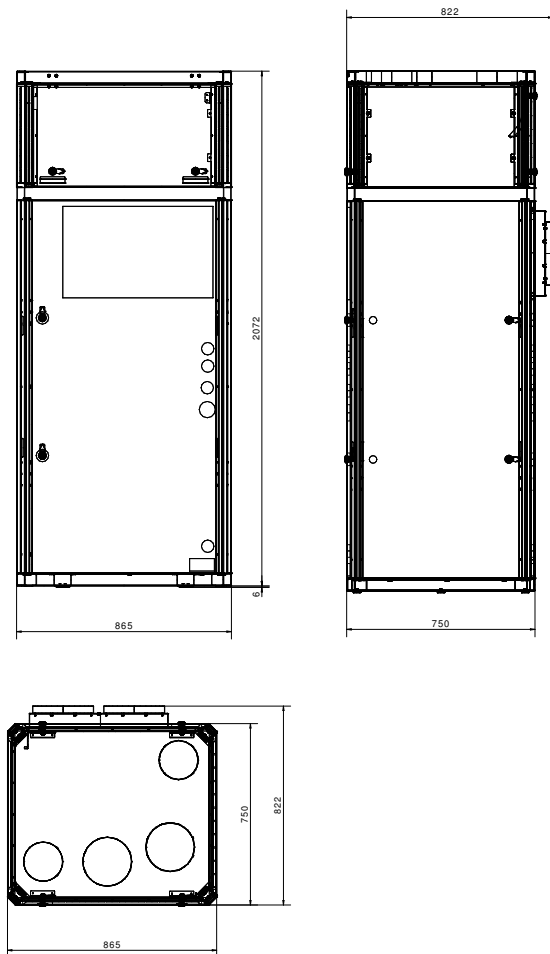
Central building services unit		
Item No.	Description	
Genius combi unit	84349	All building services in a single unit. Functions: heating, ventilation, cooling, heat recovery and hot water production
Genius insulating base	315188	Noise decoupling for the unit, 90 x 90 mm, 4 pcs. required
Argus-RS-CDO	2994	Room controller DN 125, connection via RS485 (Modbus or EXOline)
Genius module PTC	312784	PTC electric reheater
CBM 160-2,1	5482	Electric reheater DN 160, only in conjunction with TG-K 360
CBM 200-3,0	7593	Electric reheater DN 200, only in conjunction with TG-K 360
TG-K 360	4846	Temperature sensor, in conjunction with CBM 160, 200
Tune-R-125-3-M4	311968	Motorised shut-off valve, in conjunction with window contact.
Filter F7, supply air	306380	Supply air filter for Genius central building services unit, filter class F7
Filter G4, extract air	306346	Extract air filter for Genius central building services unit, filter class G4
Filter G4, secondary air	306374	Secondary air filter for Genius central building services unit, filter class G4

# Volumetric flow/pressure diagram



## Distinct design, concentrated power

Despite its many functions, Genius doesn't take up much space. What's more, the appealing design of the unit means it doesn't need to be hidden away in a special service room.



## ! Products you can rely on



Quality:

Systemair is certified according to ISO 9001, ISO 14001 and ATEX. Our testing and development laboratories are among the most modern facilities in Europe; measurements are performed according to international standards such as AMCA and ISO.



Save energy, reduce operating costs!

Our "Green Ventilation" label identifies all products which are particularly energy-efficient. All products with a "Green Ventilation" label unite economy with energy efficiency.



Prize-winning:

Genius was awarded the Plus X Award in the categories Innovation, High Quality, Functionality and Ecology.



Certified:

The Genius air handling unit is passive-house certified. It is suitable for all low-energy houses and passiv houses, as well as for other houses and apartments, in which energy should be saved.



Sven Haustein, haalplatz architekten, Schwäbisch Hall, Germany

"For years now we have been planning high-quality, airtight houses. They are excellently insulated with the best components and very low energy consumption. But due to the lack of alternatives for building services, until now we have always had to use expensive components which were mostly over-dimensioned for the specific requirements, or which were, to a certain extent, unnecessary. The Genius combi-unit is exactly the alternative that we needed."



# Often asked. Happily answered.

## Our customers' FAQs

### **What is the difference between secondary air and recirculating air?**

Recirculating air is extract air which is treated and then fed back (as a component of the supply air) to at least one room from which it was not originally taken. This means it is possible for odours and substances to be transmitted.

In contrast, secondary air is removed from a supply air zone, fed through a separate duct system and, after treatment, is fed back into the same room. Therefore, it is impossible for it to mix with the extract air. This also applies to the Genius system. The only difference is that the secondary air is fed back into the entire supply system after treatment, instead of just one room.

### **For what buildings is Genius appropriate?**

The application limits are:

KfW 40+ and KfW 40: max. 200 m<sup>2</sup> living area

KfW 55: approx. 150m<sup>2</sup> living area

depending on the heating load.

### **What other basic requirements must be met?**

- The supply air duct system must be insulated and designed for the higher flow rates
- A separate duct system is needed for the secondary air
- Additional electric convectors or underfloor heating is recommended in bathrooms

### **Is the drinking water tank sufficient to supply a one-family household without additional electrical energy?**

With Genius, the hot water is produced on demand and is possible during all operating states, i.e. also during heating and cooling. The drinking water tank holds 150 litres. Thanks to parallel operation and the heat pump performance, this is sufficient for a one-family household, even

with a high level of consumption. The additional electrical heating rod is only for the following functions: Legionella control program, fast charge, emergency operation and assistance when the outside temperature is extremely low.

### **Can Genius be operated in combination with a fireplace?**

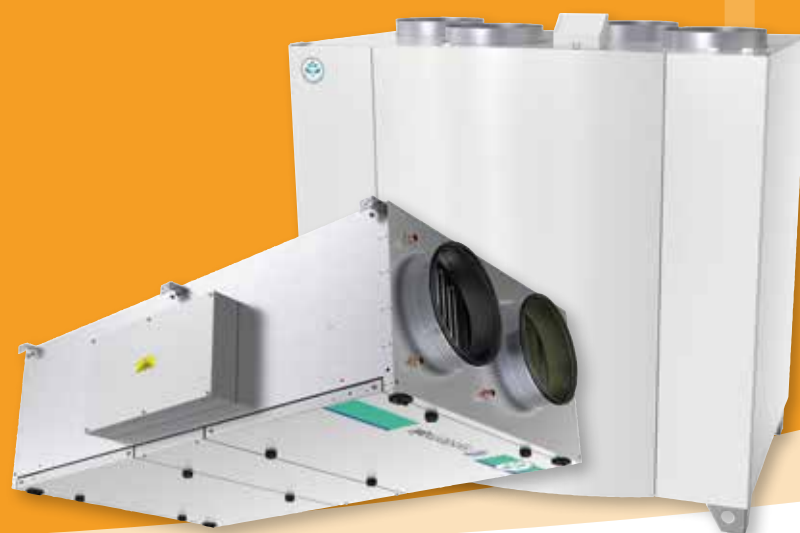
Yes, as long as the fireplace is installed independently of the indoor air. This is because when an indoor air-dependent fireplace is operated in parallel to a ventilation system, if an underpressure forms, it must be impossible for exhaust gases from the fireplace to enter the room. Here, safety measures are required which could result in the system being switched off. Since Genius also provides the entire heating function, any shutdown must be prevented. The heat from an indoor air-independent stove operated in parallel can be simply and evenly distributed throughout the whole house via the Genius secondary air duct system.

### **How can the temperature be regulated in individual rooms?**

With an air heating system, you can control the temperature of individual rooms using the PTC reheating elements. Here the heat pump only supplies the temperature demanded by the room controller configured as the "reference" room (this is generally the bedroom). The temperature increase in the other rooms occurs on an individual basis, using the electric reheaters.

# Systems with heat recovery

## for apartment block



Important things should not be left to chance! Our airtight construction methods make ventilation an important consideration regarding protecting the building and the health of the inhabitants. There are various options for mechanical ventilation in apartment blocks which save energy, permit a pleasant living environment and, at the same time, ensure the value of the property is retained. Two systems with heat recovery are presented on the following pages.



In an apartment block, a whole range of habits, inclinations, characters and needs always have to be accommodated. This is also demonstrated by the way people treat their living space. Many people do a lot right all by themselves, but others may need help – or to be relieved of responsibility altogether – e.g. for ventilation. Having said that, ventilation using windows can almost no longer be recommended. Our outdoor air today is not always what you would wish to have in your home. Ventilation systems offer the right conditions for high-quality filtering of the outdoor air.

Stuffy, stale air has always needed to be removed and replaced with fresh air. In the past this happened all by itself, but nowadays we need to make an effort to achieve good indoor air quality. Not everyone does this or is even conscious of the fact. The final result is often a "mouldy" apartment.

To prevent this from happening, and help investors and owners sleep easily, you can rely on ventilation systems - preferably from Systemair. Equipment from Systemair unites energy efficiency, easy installation and operation with all-round service from a single partner.

Intelligent control always ensures sufficient ventilation to prevent the worst.

Optimum use of energy, comfort and safety thanks to the use of supply and extract air systems with heat recovery



- Low energy consumption
- Highest possible energy-saving thanks to heat recovery and
- On-demand ventilation as required
- Building protection program provides peace of mind
- Support and service
- Humidity control
- Comprehensive quality from a one-stop shop

## The right choice made easy

### Apartment block with a decentralised system

In this type of system, each dwelling has its own ventilation system with heat recovery. The advantage here is that fire compartments do not have to be breached, so savings can be made on fire dampers. No valuable living space is taken up by rising pipes which have to pass through every apartment. However, an external grille must be integrated in the façade for every dwelling. Residents profit from a 100% independently-operated system with regard to air volume, temperature and heat recovery.

### Apartment block with a centralised system

All residents in an apartment block give the heat from "their" extract air to the common supply air. It may well be that one or two residents believe they are being short-changed and giving more than others. However, maintenance costs for ventilation are lower because only one large unit is required. On the other hand, fire protection measures must be taken and fire dampers maintained.



# Systems with heat recovery

## centralised for apartment blocks



Whoever creates living space in the form of an apartment block not only wishes to offer users a pleasant home, but to protect their property from damage – while complying with energy-saving regulations. A residential ventilation system with heat recovery is the best investment for this.

### How does ventilation with heat recovery work?

The cold outdoor air is filtered, meets the warm extract air in the heat exchanger and then continues into the apartment as supply air. The used extract air is removed from the house as exhaust air. SAVE control, the highly-intelligent control system from Systemair, monitors and optimises the indoor air.

- Retain and increase property value, energy efficiency, e.g. due to lower heating requirement
- Thermal comfort thanks to temperature-controlled supply air
- No mould formation due to continuous exchange of air
- Permanent removal of harmful substances
- Guaranteed clean and fresh air in the house
- Hygienic air conditions, whatever the weather

## 4 components for the right solution



A central ventilation system in an apartment block has the ventilation unit installed either in the roof or the basement. Central ducts transport the supply air and extract air through the storeys to the individual apartments. In the apartments themselves, an apartment station provides individual air volume regulation according to requirements. A smaller duct system transports the supply air and extract air from the station to individual valves in the various rooms, similar to a single-family house.

### Which apartment station best fits your needs?

Air volume	Application	Type of installation	Product
60 - 650 m <sup>3</sup> /h 17 - 180 l/s	Per apartment	Ceiling or wall installation	OPTIMA-RES



**You will find units for centralised systems in our ventilation equipment catalogue or on our homepage at [www.systemair.de](http://www.systemair.de)**

# Volumetric flow regulator OPTIMA-RES

## For decentralised air volume control



MZ3-Touch

### Characteristics and advantages at a glance

- Efficient silencer
- Connection sockets with rubber lip seal
- Simple maintenance thanks to access cover
- Control valve Leak tightness class 4 acc. EN 1751
- ILH hygiene certificate VDI 6022
- High measurement and control precision of 5%

OPTIMA-RES is part of a centralised ventilation system. It enables supply air and extract air quantities to be set individually for each apartment. The volumetric flow regulator is operated via the user-friendly wired remote control, MZ3-Touch, which is available as an accessory.

OPTIMA-RES is a compact unit with integrated volumetric flow regulators (1x supply air and 1x extract air) and integrated silencers.

The residential ventilation box is integrated in a complete system with external control. For greater convenience, the air volumes can be adjusted individually for each apartment using the MZ3-Touch controller.

### Design

The housing of the OPTIMA-RES is made from galvanised sheet steel. The OPTIMA-RES includes:

- One supply air and one extract air volumetric flow regulator (OPTIMA-R)
- Electrical connections and control, pre-wired
- Pre-installed silencer

Optima-RES-DE can be fitted on the wall or the ceiling. The connections have a rubber seal, enabling direct fitting to a folded spiral seam duct. The baseplate of the system box has mounting lugs, making installation with screws significantly easier.

The VAV controller has integrated sleeves, ensuring that it is easy to maintain. The system box has cable entry points for power supply, actual value signal, setpoint signal and manual overload signal.

These cables must be connected on-site by the installing technician. The relevant terminals can be viewed on the circuit diagram.

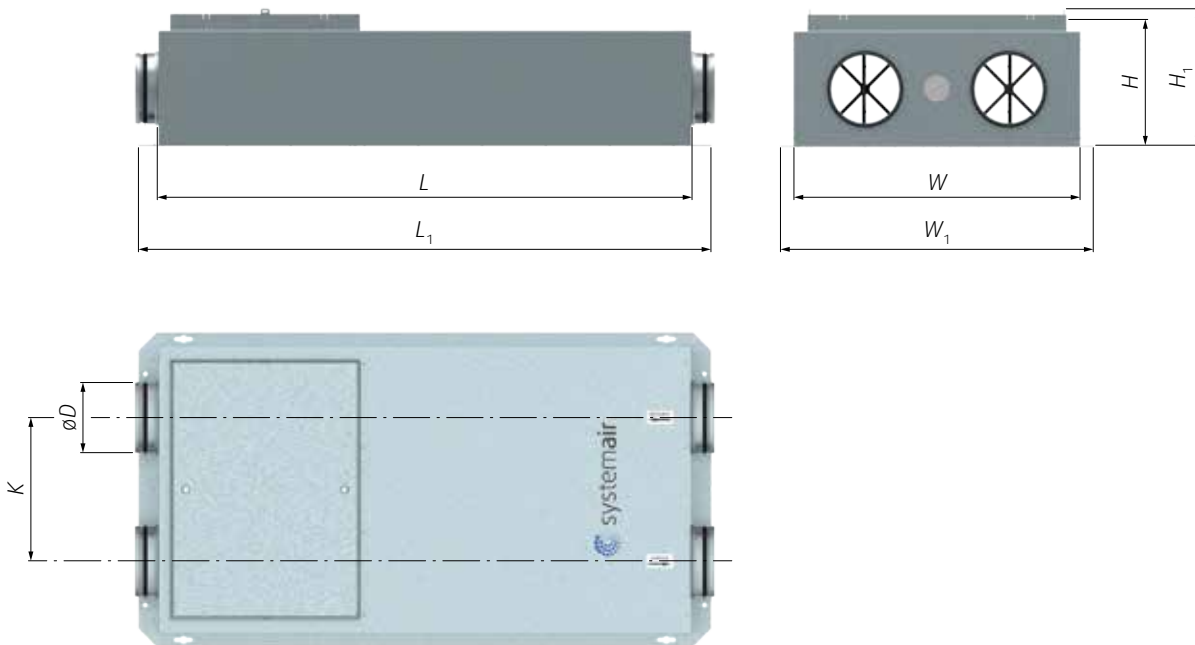
Operating temperature range: -20 ° C ... +70 ° C in duct, -20 ° C ... +50 ° C for actuator. Dry indoor climate.

Power supply (whole system): AC 230V / 50Hz  
Protection class (closed box): IP40

## Technical data

OPTIMA-RES		100	125	160
Vmin (2 m/s)	m <sup>3</sup> /h	57	88	145
	l/s	16	24	40
Vmax (9 m/s)	m <sup>3</sup> /h	254	398	651
	l/s	71	111	181
Dimensions (L x B x H)	mm	1175 x 555 x 225	1275 x 610 x 260	1285 x 700 x 306
Weight	kg	25	29	35
Installation		Ceiling or wall installation		

## Dimensions



DN	ØD	K	W	W1	H	H1	L	L1	m	V
(mm)									(kg)	(l)
100	98	250	495	555	200	225	1080	1170	25	147
125	123	280	550	610	235	260	1180	1270	29	202
160	157,5	320	640	700	282	306	1190	1280	35	275



# Systems with heat recovery

## Decentralised systems for apartment blocks



You will find more ventilation systems for all kinds of requirements in our ventilation equipment catalogue or on our homepage at [www.systemair.de](http://www.systemair.de)

Whoever buys or renovates an apartment is investing in the future. A healthy living environment, energy efficiency and the "smart home" play an important role here.

### How does centralised apartment ventilation with heat recovery work?

The cold outdoor air is filtered, meets the warm extract air in the heat exchanger and then continues into the apartment as supply air. The stale extract air is removed from the apartment as exhaust air. SAVE control, the highly-intelligent control system from Systemair, monitors and optimises the indoor air.

Subjects which we at Systemair focus on and unite in our solutions. Therefore, there are good arguments for using ventilation systems with heat recovery:

- Retain and increase property value
- Energy efficiency, e.g. due to lower heating requirement
- Thermal comfort thanks to temperature-controlled supply air
- No mould formation due to continuous exchange of air
- Permanent removal of harmful substances
- Guaranteed clean and fresh air in the house
- Hygienic air conditions, whatever the weather



## 4 components for the right solution



## Which unit best fits your requirements?

Living area	Max. air volume at 120 pa	Dimensions (B x H x D)	Type of installation	Heat exchanger Explanation Seite 137	Product	
to 80 m <sup>2</sup>	150 m <sup>3</sup> /h	565 x 600 x 328 mm	Wall, ceiling	Rotary	SAVE VTR 100/B	Page 34
to 120 m <sup>2</sup>	160 m <sup>3</sup> /h	596 x 630 x 368 mm	Wall	Rotary	SAVE VTR 150/B	Page 36
to 120 m <sup>2</sup>	160 m <sup>3</sup> /h	1108 x 570 x 300 mm	Wall	Rotary	SAVE VSR 150/B	Page 28
to 200 m <sup>2</sup>	270 m <sup>3</sup> /h	598 x 799 x 428 mm	Wall	Rotary	SAVE VTR 250/B	Page 40

# Systems without heat recovery



There's only one place for smelly, moist and stale indoor air – outside! Otherwise you risk the build-up of mould and harmful substances. Extract air systems from Systemair make sure the air is clean.

In modern, energy-efficient houses, airing via the windows is not enough. Who knows when it's time to air the room? Certainly not when the air indoors is already stale. It's much better to rely on extract air systems from Systemair. 24 hours a day, 365 days a year, these conveniently transport the desired air volume, either continuously or depending on parameters such as humidity or CO2 levels. The result – considerably less heat lost compared with conventional ventilation via the windows. And a constant supply of fresh air.

A fan removes stale, moist, impure air from the extract air rooms (such as the kitchen, bathroom and WC) via a network of ducts. The air is then guided outside via the roof or an external wall. Depending on the flow rate and application, the extract air fans can be installed in the building or on the roof. Outdoor air flows in through special openings (valves with filters in the external walls) into the living room and sleeping quarters, ensuring the whole dwelling has continuous ventilation. What's more, thanks to the adjustability of the system, the ventilation heat losses are reduced when compared with conventional ventilation via the windows.



### A perfect exchange and a perfect indoor climate – the most important advantages of units without heat recovery

- Low-noise ventilation
- Targeted airflows in the apartment
- Air filtering thanks to filters in the supply air fixtures
- Lower energy consumption thanks to EC fans
- Simple installation and low maintenance costs

## The right choice made easy

### Extract air system in a **single-family house** or an **apartment**

The extract air fan transports moisture and odours out of the kitchen, bathroom and WC. Supply air components are integrated in the exterior walls of living and sleeping quarters to ensure sufficient exchange of air. The outdoor/supply air flows into the dwelling to compensate an underpressure. Because there is no heat recovery, it is not possible to preheat the supply air.

### Extract air systems in **apartment blocks**

Systems in apartment blocks are managed based on demand (controlled). A central fan on the roof or in the attic controls the exchange of air for the whole building. Air extraction components in the apartments remove the moist air. This extract air system can be controlled on demand by using extract air components which monitor parameters such as humidity or presence. This system can be used for ventilating bathrooms and toilets without an external window in apartments and in similar inhabited areas, in accordance with DIN 18017 – 3. As a matter of principle, special attention must be paid to fire protection in apartment blocks.



## Systems without heat recovery for single-family houses



Whoever builds, buys or renovates a house is investing in the future. A healthy living environment, energy efficiency and the "smart home" play an important role here.

### How does ventilation with an extract air system work?

In the extract air rooms, a fan removes the extract air and guides it out of the building as exhaust air. The air heats up on its way to the extract air rooms, taking odours and moisture with it as it goes. The resulting underpressure pulls the outdoor air into the living and sleeping areas through a supply air vent. The supply air is filtered as it enters through the outdoor air vent.


Subjects which we at Systemair focus on and unite in our solutions. There are good arguments for using extract air ventilation systems:

- Retain and increase property value
- Energy efficiency, e.g. due to lower heating requirement
- No mould formation, because the air is removed from the 'wet' rooms
- Permanent removal of harmful substances
- Hygienic air conditions, whatever the weather

## 4 components for the right solution



## Which unit best fits your requirements?

Living area	Version	Max. air flow at 120 pa	Air volume - max. volumetric flow	Sound pressure level *	Weight	Product	
bis 120 m <sup>2</sup>	Circular duct fan	250 m <sup>3</sup> /h	312 m <sup>3</sup> /h	43 dB(A)	6 kg	KVK Slim 100 EC	 <b>Page 144</b>
bis 200 m <sup>2</sup>	Circular duct fan	400 m <sup>3</sup> /h	493 m <sup>3</sup> /h	47 dB(A)	6 kg	KVK Slim 125 EC	<b>Page 144</b>
bis 220 m <sup>2</sup>	Circular duct fan	440 m <sup>3</sup> /h	533 m <sup>3</sup> /h	49 dB(A)	6 kg	KVK Slim 160 EC	<b>Page 144</b>
bis 400 m <sup>2</sup>	Circular duct fan	730 m <sup>3</sup> /h	896 m <sup>3</sup> /h	50 dB(A)	10,3 kg	KVK Slim 200 EC	<b>Page 144</b>
bis 125 m <sup>2</sup>	Circular duct fan	340 m <sup>3</sup> /h	389 m <sup>3</sup> /h	40 dB(A)	13 kg	KVK Silent 125 EC	<b>Page 146</b>
bis 220 m <sup>2</sup>	Circular duct fan	440 m <sup>3</sup> /h	544 m <sup>3</sup> /h	43 dB(A)	17 kg	KVK Silent 160 EC	<b>Page 146</b>
bis 400 m <sup>2</sup>	Circular duct fan	780 m <sup>3</sup> /h	864 m <sup>3</sup> /h	46 dB(A)	19 kg	KVK Silent 200 EC	<b>Page 146</b>
bis 400 m <sup>2</sup>	Circular duct fan	700 m <sup>3</sup> /h	806 m <sup>3</sup> /h	47 dB(A)	1,6 kg	prioAir 160 EC	<b>Page 148</b>
bis 600 m <sup>2</sup>	Circular duct fan	1130 m <sup>3</sup> /h	1318 m <sup>3</sup> /h	50 dB(A)	2,4 kg	prioAir 200 EC	<b>Page 148</b>
bis 800 m <sup>2</sup>	Circular duct fan	1400 m <sup>3</sup> /h	1822 m <sup>3</sup> /h	46 dB(A)	3,6 kg	prioAir 250 EC	<b>Page 148</b>
bis 1000 m <sup>2</sup>	Circular duct fan	1700 m <sup>3</sup> /h	2077 m <sup>3</sup> /h	50 dB(A)	3,05 kg	prioAir 250 EC-L	<b>Page 148</b>

available in other sizes

\* in 3 m (20 m<sup>2</sup> Sabin)



## Systems without heat recovery for apartment blocks

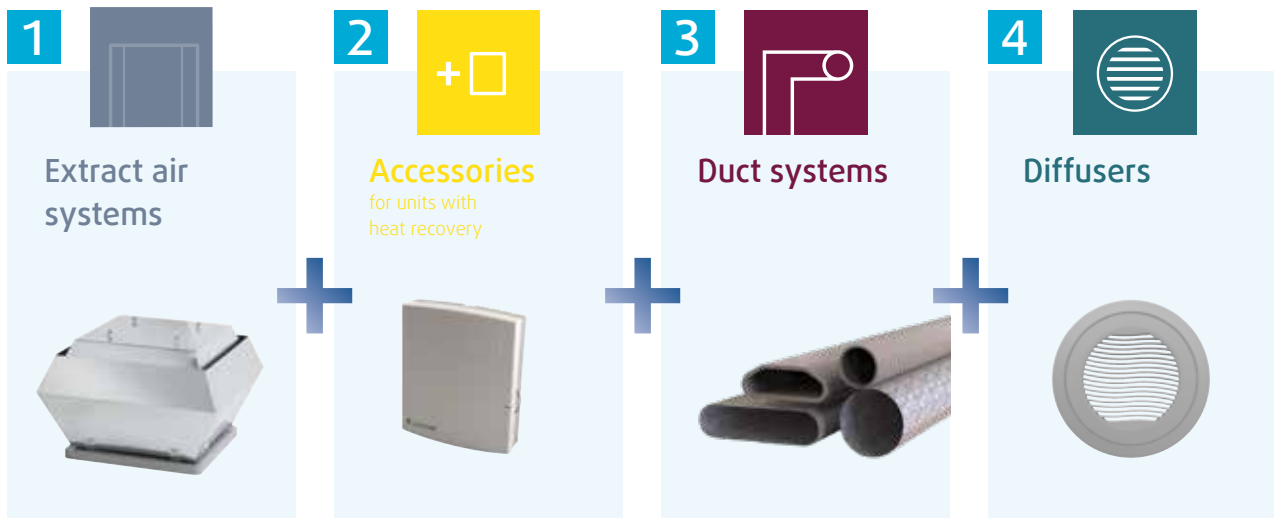


You will find more fans for all kinds of requirements in our fan catalogue or on our homepage at [www.systemair.de](http://www.systemair.de)

Systemair fans come in all shapes and sizes. Fans with constant pressure control are generally used in apartment blocks. No matter what the weather conditions, we have a solution for every application. You can round off your system using our wide range of accessories.



## 4 components for the right solution



## Which unit best fits your requirements?

Version	Max. air flow at 120 pa	Electr. input power	Weight	Product	
Roof fan	835 m <sup>3</sup> /h	123 W	6 kg	DVC 190-P	Page 158
Roof fan	1044 m <sup>3</sup> /h	159 W	6 kg	DVC 225-P	Page 158
Roof fan	2059 m <sup>3</sup> /h	153 W	14 kg	DVC 315-P	Page 158
Roof fan	4136 m <sup>3</sup> /h	521 W	25 kg	DVC 355-P	Page 158
Roof fan	4892 m <sup>3</sup> /h	539 W	25 kg	DVC 400-P	Page 158
Roof fan	6782 m <sup>3</sup> /h	996 W	40 kg	DVC 450-P	Page 158
Roof fan	6390 m <sup>3</sup> /h	774 W	38 kg	DVC 450-PK	Page 158
Duct fan	2333 m <sup>3</sup> /h	157 W	28 kg	MUB-CAV/VAV 025 315EC	Page 154
Duct fan	4100 m <sup>3</sup> /h	526 W	31 kg	MUB-CAV/VAV 025 355EC	Page 154
Duct fan	4705 m <sup>3</sup> /h	537 W	50 kg	MUB-CAV/VAV 042 400EC	Page 154
Duct fan	7420 m <sup>3</sup> /h	991 W	54 kg	MUB-CAV/VAV 042 450EC	Page 154
Duct fan	6898 m <sup>3</sup> /h	768 W	53 kg	MUB-CAV/VAV 042 450EC-K	Page 154
Duct fan	932 m <sup>3</sup> /h	155 W	15 kg	MUB 016 200EC	Page 152
Duct fan	2333 m <sup>3</sup> /h	157 W	27 kg	MUB 025 315EC	Page 152
Duct fan	4100 m <sup>3</sup> /h	526 W	30 kg	MUB 025 355EC	Page 152
Duct fan	4705 m <sup>3</sup> /h	537 W	49 kg	MUB 042 400EC	Page 152
Duct fan	7420 m <sup>3</sup> /h	991 W	54 kg	MUB 042 450EC	Page 152
Duct fan	6898 m <sup>3</sup> /h	768 W	53 kg	MUB 042 450EC-K	Page 152

# KVK Slim EC



## Housing

Housing from galvanised sheet steel. Cover with 40 mm mineral wool acoustic and thermal insulation.

## Motor

Energy-saving, highly efficient EC external rotor motors.

## Impeller geometry

Radial impeller with forwards-curving blades. From size 200 and up with backwards-curving blades.

## Output control

100% controllable via a 0 - 10 V signal. The fans are equipped with a potentiometer (0 - 10 V). This is installed in the terminal box and preset to 10 V (factory setting). The speed can be easily adjusted should the installation require a different operating point.

## Motor protection

The motor protection is integrated in the motor electronics.

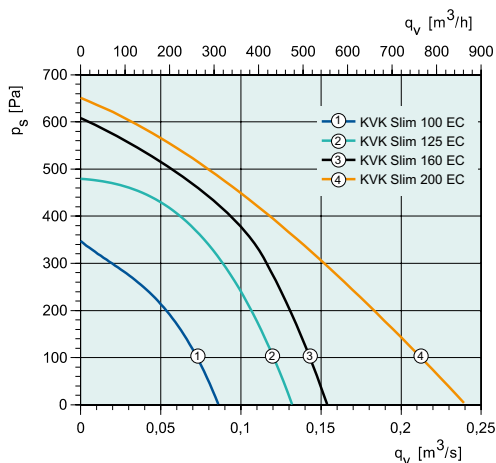
You can find more information in our online catalogue at [www.systemair.de](http://www.systemair.de)



## Features of the KVK Slim EC / KVO EC – characteristics and advantages at a glance

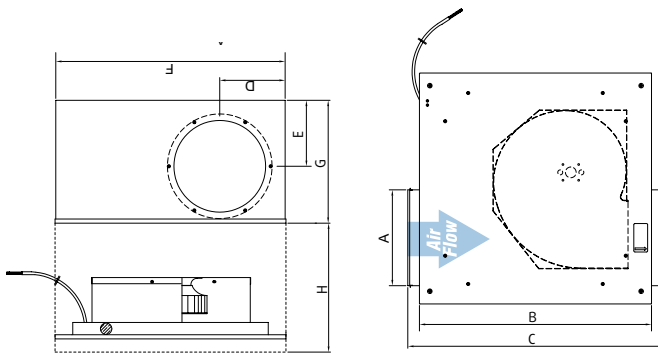
- High efficiency across the entire system characteristic field
- Low noise level, developed for noise-sensitive applications
- Motor and impeller are mounted in the cover which can be folded back to make cleaning and maintenance easier.
- Vibration-free connection to the pipe system with FK Fast clamp (accessories)

## Quick selection





## Dimensions



KVK Slim EC	A	B	C	D	E	F	G	H
KVK Slim 100 EC	100	329	367	69	76	300	150	150
KVK Slim 125 EC	125	329	367	84	72	300	150	150
KVK Slim 160 EC	160	329	367	99	90	300	185	185
KVO Slim 200 EC	200	419	466	123	109	435	220	220

## Technical data

KVK Slim EC		KVK Slim 100 EC	KVK Slim 125 EC	KVK Slim 160 EC	KVK Slim 200 EC
Item No.		92149	92150	92151	92152
Voltage	V	230	230	230	230
Frequency	Hz	50/60	50/60	50/60	50/60
Phase	~	1	1	1	1
Electr. input power (P1)	W	60,4	118	118	111
Current	A	0,483	0,9	0,923	0,875
Max. volumetric flow	m <sup>3</sup> /h	312	493	533	896
Speed	1/min	2499	2605	2500	2579
Sound pressure level in 3m (20m <sup>2</sup> Sabine) <sup>(1)</sup>	dB(A)	43,1	47,4	48,7	50,3
Weight	kg	5,6	5,6	6	10,3
Insulation class		B	B	B	B
Protection class, motor	IP	IP44	IP54	IP54	IP54
Max. temperature of transported air	°C	60	60	60	55

<sup>(1)</sup> Corresponds to sound pressure level in 1 m (in open air)

# KVK Silent EC



## Housing

Housing from galvanised sheet steel. 50 mm mineral wool acoustic and thermal insulation.

## Motor

Energy-saving, highly efficient EC external rotor motors.

## Impeller geometry

Radial impeller with backwards-curving blades.

## Output control

100% controllable via a 0 - 10 V signal. The fans are equipped with a potentiometer (0 - 10 V). This is installed in the cover and preset to 10 V (factory setting). The speed can be easily adjusted should the installation require a different operating point.

## Motor protection

The motor protection is integrated in the motor electronics.

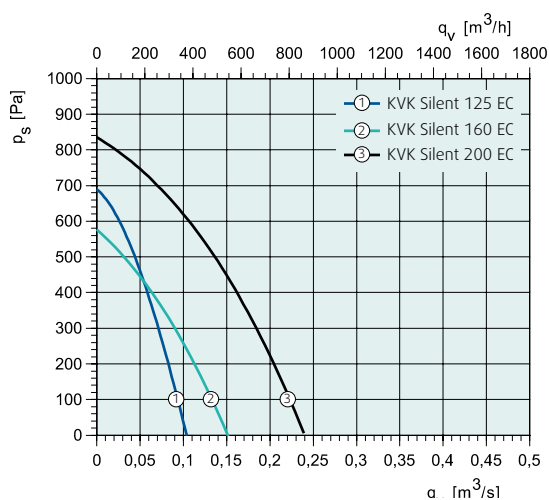
You can find more information in our online catalogue at [www.systemair.de](http://www.systemair.de)



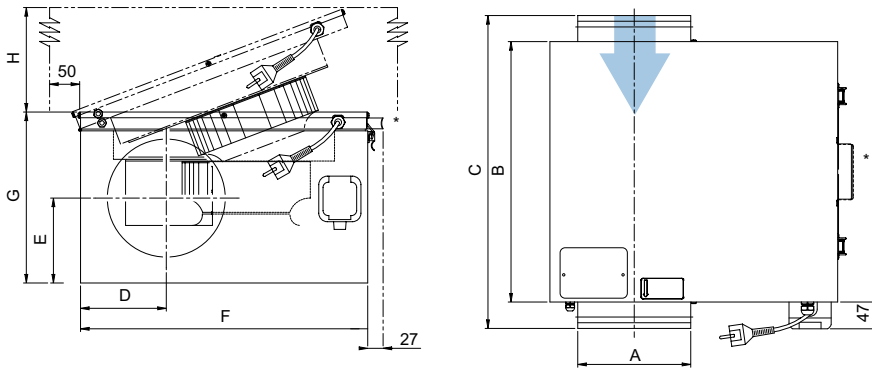
## Features of the KVK Silent EC – characteristics and advantages at a glance

- High efficiency across the entire system characteristic field
- For noise-sensitive applications
- Motor and impeller are mounted in the cover which can be folded back to make cleaning and maintenance easier.
- Plug connection interrupts the power supply when the cover is opened: no on/off switch is required for maintenance
- Vibration-free connection to the pipe system with FK Fast clamp (accessories)

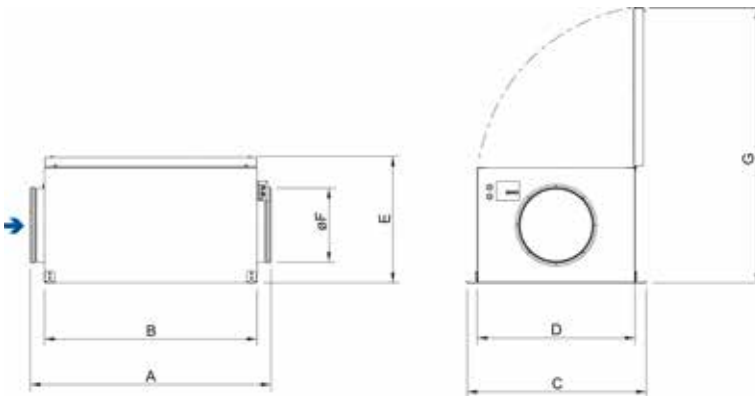
## Quick selection



## Dimensions



KVK Silent EC	A	B	C	D	E	F	G	H
KVK Silent 125 EC	125	433	479	125	128,5	442	246	470
KVK Silent 160 EC	160	482	528	145,5	132,5	505	266	530



KVK Silent EC	A	B	C	D	E	ØF	G
KVK Silent 200 EC	682	604	596	500	352	200	810

## Technical data

KVK Silent EC		KVK Silent 125 EC	KVK Silent 160 EC	KVK Silent 200 EC
Item No.		92168	92169	92170
Voltage	V	230	230	230
Frequency	Hz	50/60	50/60	50/60
Phase	~	1	1	1
Electr. input power (P1)	W	74,7	66,2	156
Current	A	0,633	0,541	1,1
Max. volumetric flow	m <sup>3</sup> /h	389	544	864
Speed	1/min	3535	2592	3033
Weight	kg	13,7	16,8	18,8
Max. temperature of transported air	°C	55	60	60
*for speed control	°C	55	60	60
Sound pressure level in 3m (20m <sup>2</sup> Sabine) <sup>(1)</sup>	dB(A)	39,8	42,8	46,1
Insulation class		B	B	B
Protection class, motor	IP	IP54	IP54	IP54
Motor protection		Integrated	Integrated	Integrated

<sup>(1)</sup> Corresponds to sound pressure level in 1 m (in open air)

# prioAir EC



## Housing

Airtight, linear housing made from composite material (PP TD20). Leakage rate compliant with Leak tightness class C, according to EN 12237:2003. With 25 mm long duct connections compliant with EN1506:1997.

## Motor

Energy-saving, highly efficient EC external rotor motors.

## Impeller geometry

Thanks to our in-house-developed, flow-optimised, free running plastic axial impeller and special guide vanes, the prioAir is the fan with the best SFP values in its class.

## Output control

100 % controllable via a 0-10 V signal.

## Motor protection

The motor protection is integrated in the motor electronics.

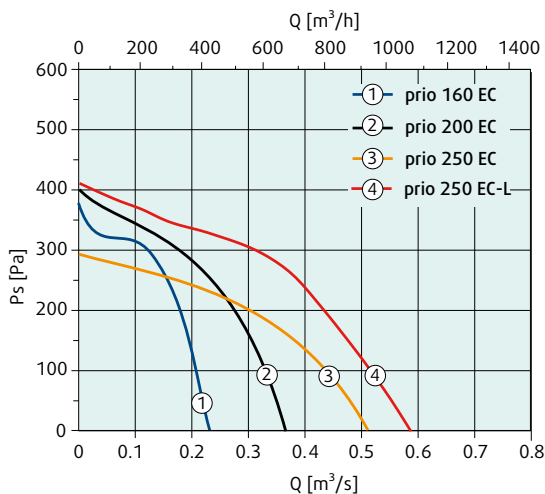
You can find more information in our online catalogue at [www.systemair.de](http://www.systemair.de)



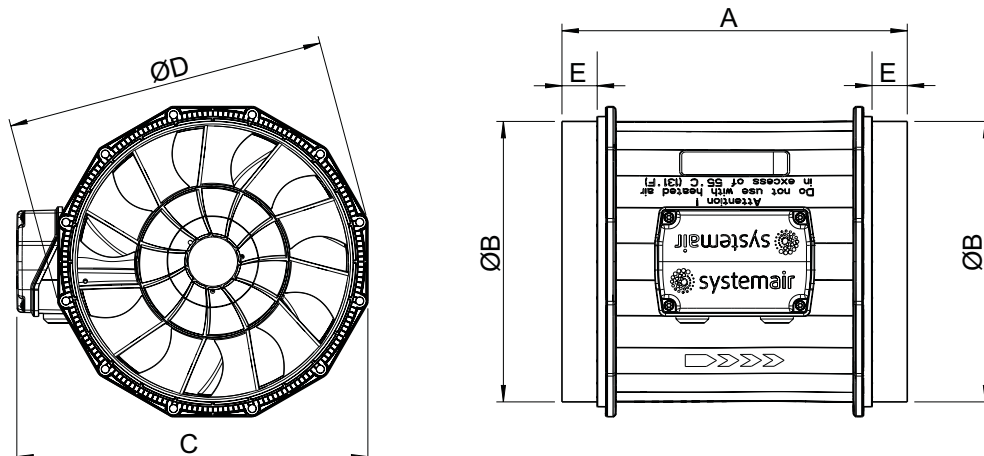
## Features of the prioAir EC – characteristics and advantages at a glance

- Low SFP values and very high efficiency
- Powerful EC motor with integrated motor electronics
- Integrated potentiometer for speed control
- Compact design, therefore low space requirement
- Low noise
- Can be installed in any mounting position

## Quick selection



## Dimensions



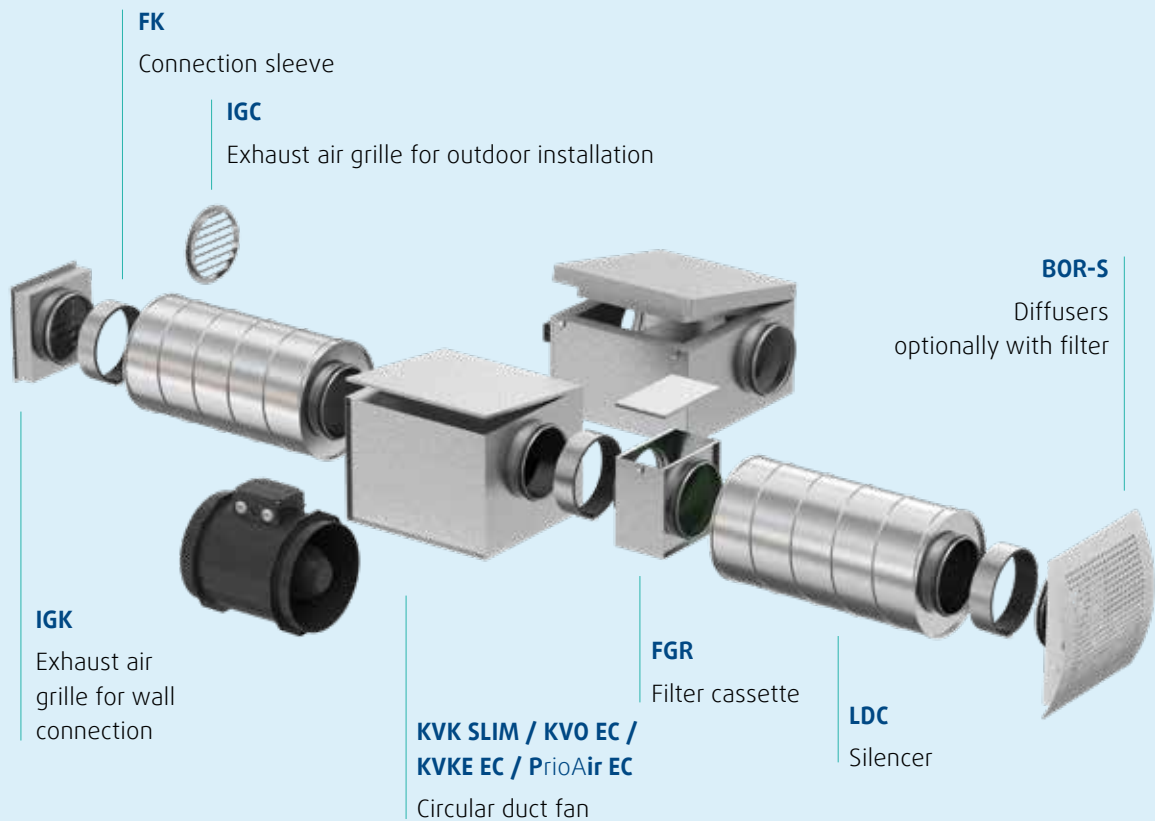
prioAir EC	A	ØB	C	ØD	E
160	220	159	211	187	25
200	245	199	249	227	25
250	300	249	303	284,4	30
250-L	300	249	303	284,4	30

## Technical data

prioAir EC		prio 160 EC	prio 200 EC	prio 250 EC	prio 250 EC-L
Item No.		78185	78186	78187	78188
Voltage	V	230	230	230	230
Frequency	Hz	50/60	50/60	50/60	50/60
Phase	~	1	1	1	1
Electr. input power (P1)	W	77,1	117	126	171
Current	A	0,659	0,921	0,901	1,17
Max. volumetric flow	m <sup>3</sup> /h	806	1318	1822	2077
Speed	1/min	4304	3463	2336	2649
Weight	kg	1,6	2,4	2,9	3,05
Max. temperature of transported air	°C	55	55	55	55
Sound pressure level in 3m (20m <sup>2</sup> Sabine) <sup>(1)</sup>	dB(A)	47	50	45,7	50
Insulation class		B	B	B	B
Protection class, motor	IP	44	44	44	44
Motor protection		integrated	integrated	integrated	integrated









<sup>(1)</sup> Corresponds to sound pressure level in 1 m (in open air)

A perfect fit!



The extract air ventilation system consists of multiple components, all attuned to each other. The best possible air distribution is achieved thanks to a duct system (Page 70) and diffusers (Page 98) from Systemair.

## Accessories for KVO EC / KVKE EC / PrioAir EC

Circular duct fan sizes		100	125	160	200
Description	Name	Name	Name	Name	Name
	Item No.	Item No.	Item No.	Item No.	Item No.
 IGC exhaust air grille	IGC-LI-100 92744	IGC-LI-125 92760	IGC-LI-160 92761	IGC-LI-200 92762	
 Silencers	LDC 100-300 8180	LDC 125-300 53722	LDC 160-300 53108	LDC 200-300 53369	
	LDC 100-600 5188	LDC 125-600 5190	LDC 160-600 53108	LDC 200-600 5194	
	LDC 100-900 5189	LDC 125-900 5191	-	LDC 200-900 5195	
	LDC 100-1200 5996	LDC 125-1200 5997	-	-	
 Connection sleeve	FK 100 1607	FK 125 1608	FK 160 1610	FK 200 1611	
 Flexible pipe silencer, 25 mm insulation	SCD 100 / 1,0 2555	SCD 125 / 1,0 2556	SCD 160 / 1,0 2558	SCD 200 / 1,0 2560	
 Backdraft damper	RSK 100 5597	RSK 125 5598	RSK 160 5601	RSK 200 5602	
 Filter cassette	FFR 100 1766	FFR 125 1768	FFR 160 1770	FFR 200 1773	
 Filter cassette	FGR 100 1802	FGR 125 1804	FGR 160 1809	FGR 200 1812	
 Filter cassette, insulated	- -	FGR-I 37064	FGR-I 37065	FGR-I 37066	

# MUB EC



## Housing

Self-supporting design made from aluminium profiles with encapsulated screw channels. Corners made from highly impact resistant PA6. 20 mm glass wool acoustic and thermal insulation on the inside.

## Motor

Energy-saving, highly efficient EC external rotor motors. Radial impeller geometry with backwards-curving blades.

## Output control

100% controllable via a 0 - 10 V signal. The fans are equipped with a potentiometer (0-10 V) installed in the terminal box and preset to 10 V (factory setting). The speed can be easily adjusted should the installation require a different operating point.

## Motor protection

The motor protection is integrated in the motor electronics.

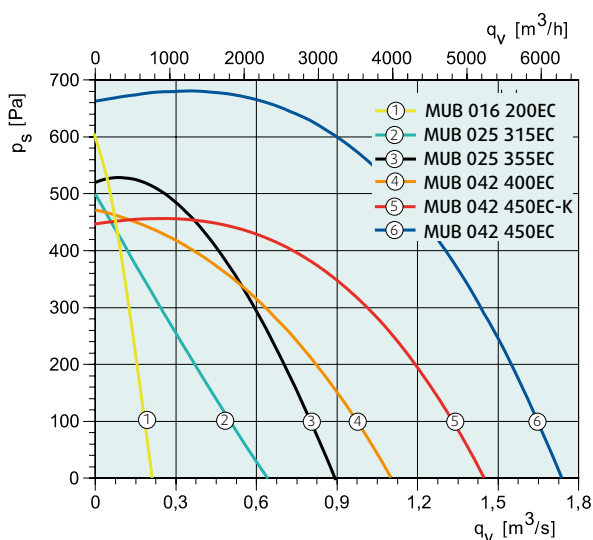
You can find more information in our online catalogue at [www.systemair.de](http://www.systemair.de)



## Features of the KVO EC – characteristics and advantages at a glance

- High efficiency across the entire system characteristic field
- For noise-sensitive applications
- Motor and impeller are mounted in the cover which can be folded back to make cleaning and maintenance easier.
- Plug connection interrupts the power supply when the cover is opened: no on/off switch is required for maintenance
- Vibration-free connection to the pipe system with FK Fast clamp (accessories)
- Available with 90° discharge direction

## Quick selection

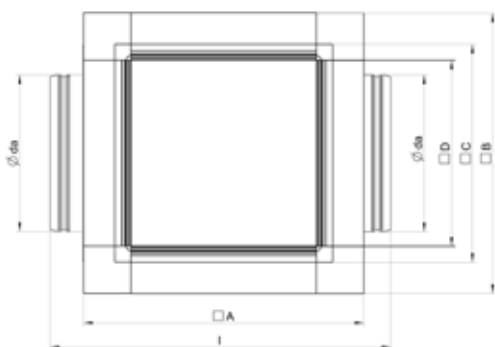


Multibox discharge direction

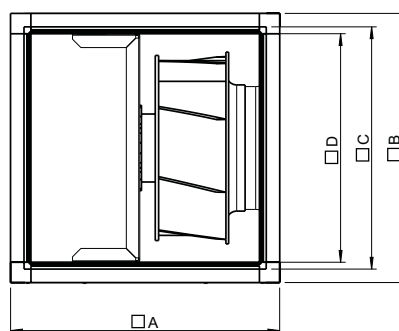
The Multibox discharge direction can be changed easily at any time in situ.



## Dimensions



Sizes 315 to 450



Sizes 315 to 450

MUB EC	A	B	C	D	I	da
MUB 016 200EC	358	358	278	237	435	200
MUB 025 315EC	500	500	420	378	-	-
MUB 025 355EC	500	500	420	378	-	-
MUB 042 450EC	670	670	590	548	-	-
MUB 042 450EC-K	670	670	590	548	-	-

## Technical data

	MUB 016 200EC	MUB 025 315EC	MUB 025 355EC
Item No.	76866	79206	79207
Voltage	V 230	230	230
Frequency	Hz 50/60	50/60	50/60
Phase	~ 1	1	1
Electr. input power (P1)	W 155	157	526
Current	A 1,24	1,26	2,21
Max. volumetric flow	m <sup>3</sup> /h 932	2333	4100
Speed	1/min 3054	1506	1806
Max. temperature of transported air	°C 55	60	60
Sound pressure level in 3m (20m <sup>2</sup> Sabine)	dB(A) 56	45	51
Weight	kg 15	27,1	30
Insulation class	B	B	F
Protection class, motor	IP54	IP54	IP55
Constant pressure speed control, electr.	CXE/AVC	CXE/AVC	CXE/AVC
Demand-driven volumetric flow control, electr.	EC-Vent	EC-Vent	EC-Vent
Speed control, manual	MTP 10	MTP 10	MTP 10

	MUB 042 400EC	MUB 042 450EC	MUB 042 450EC-K
Item No.	79208	79209	84601
Voltage	V 230	400	230
Frequency	Hz 50/60	50/60	50/60
Phase	~ 1	3	1
Electr. input power (P1)	W 537	991	597
Current	A 2,29	1,45	2,71
Max. volumetric flow	m <sup>3</sup> /h 4705	7420	5080
Speed	1/min 1476	1554	1297
Max. temperature of transported air	°C 55	60	60
Sound pressure level in 3m (20m <sup>2</sup> Sabine)	dB(A) 48	59	56
Weight	kg 49	54	53
Insulation class	F	F	B
Protection class, motor	IP55	IP55	IP54
Constant pressure speed control, electr.	CXE/AVC	CXE/AVC	CXE/AVC
Demand-driven volumetric flow control, electr.	EC-Vent	EC-Vent	EC-Vent
Speed control, manual	MTP 10	MTP 10	MTP 10

# MUB CAV/VAV



## Features of the KVO EC – characteristics and advantages at a glance

- High efficiency across the entire system characteristic field
- For noise-sensitive applications
- Motor and impeller are mounted in the cover which can be folded back to make cleaning and maintenance easier.
- Plug connection interrupts the power supply when the cover is opened: no on/off switch is required for maintenance
- Vibration-free connection to the pipe system with FK Fast clamp (accessories)
- Available with 90° discharge direction

### Housing

Self-supporting design made from aluminium profiles with encapsulated screw channels. Corners made from highly impact resistant PA6. 20 mm glass wool acoustic and thermal insulation on the inside.

### Motor

Energy-saving, highly efficient EC external rotor motors. Radial impeller geometry with backwards-curving blades.

### Output control

The MUB-CAV/VAV Multibox is equipped with a sensor control module and a measuring cable for volumetric flow control. The system is completely prewired.

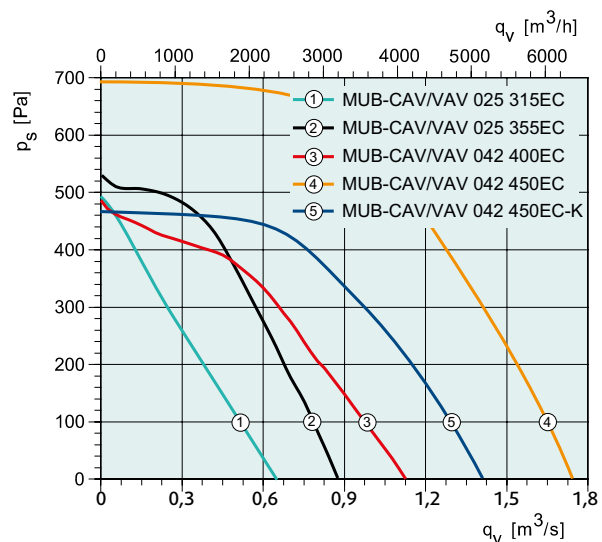
Depending on which mode is set, the unit can be used as a sensor module or a control module.

### Motor protection

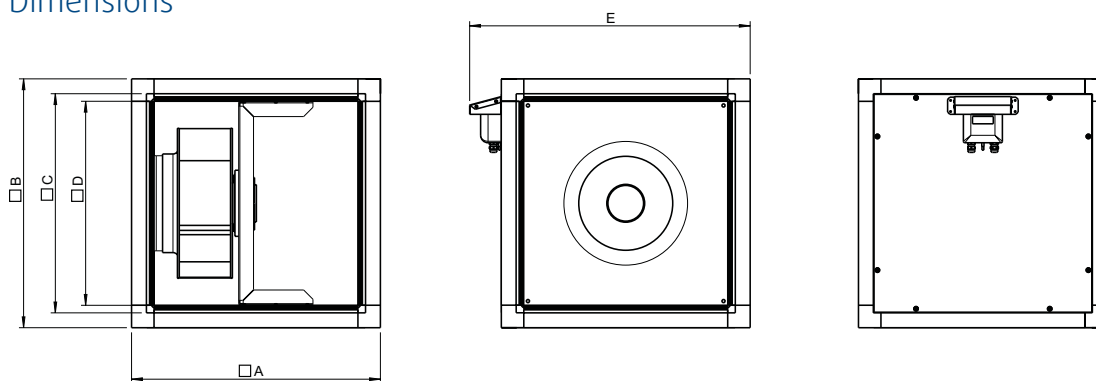
The motor protection is integrated in the motor electronics.

You can find more information in our online catalogue at [www.systemair.de](http://www.systemair.de)

## Quick selection



## Dimensions



MUB-CAV/VAV	A	B	C	D	E
025 315 / 355	500	500	420	378	586
042 400 / 450	670	670	590	548	756

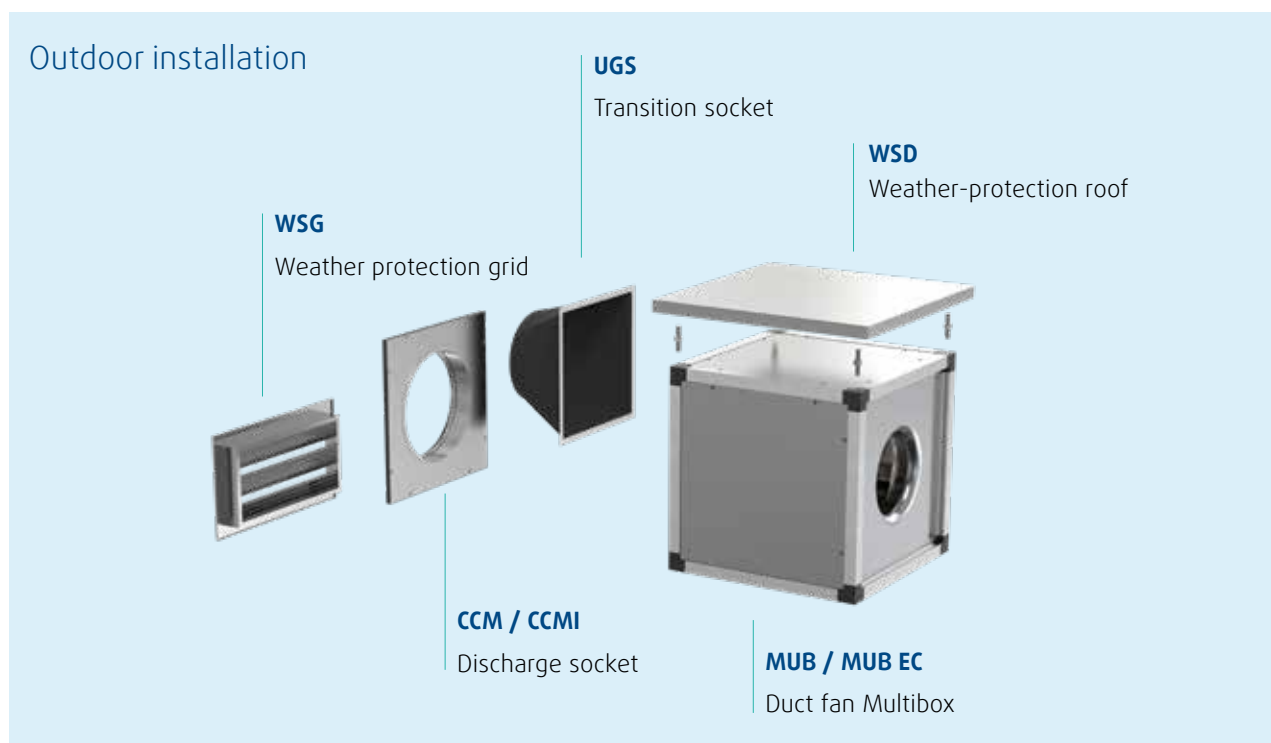
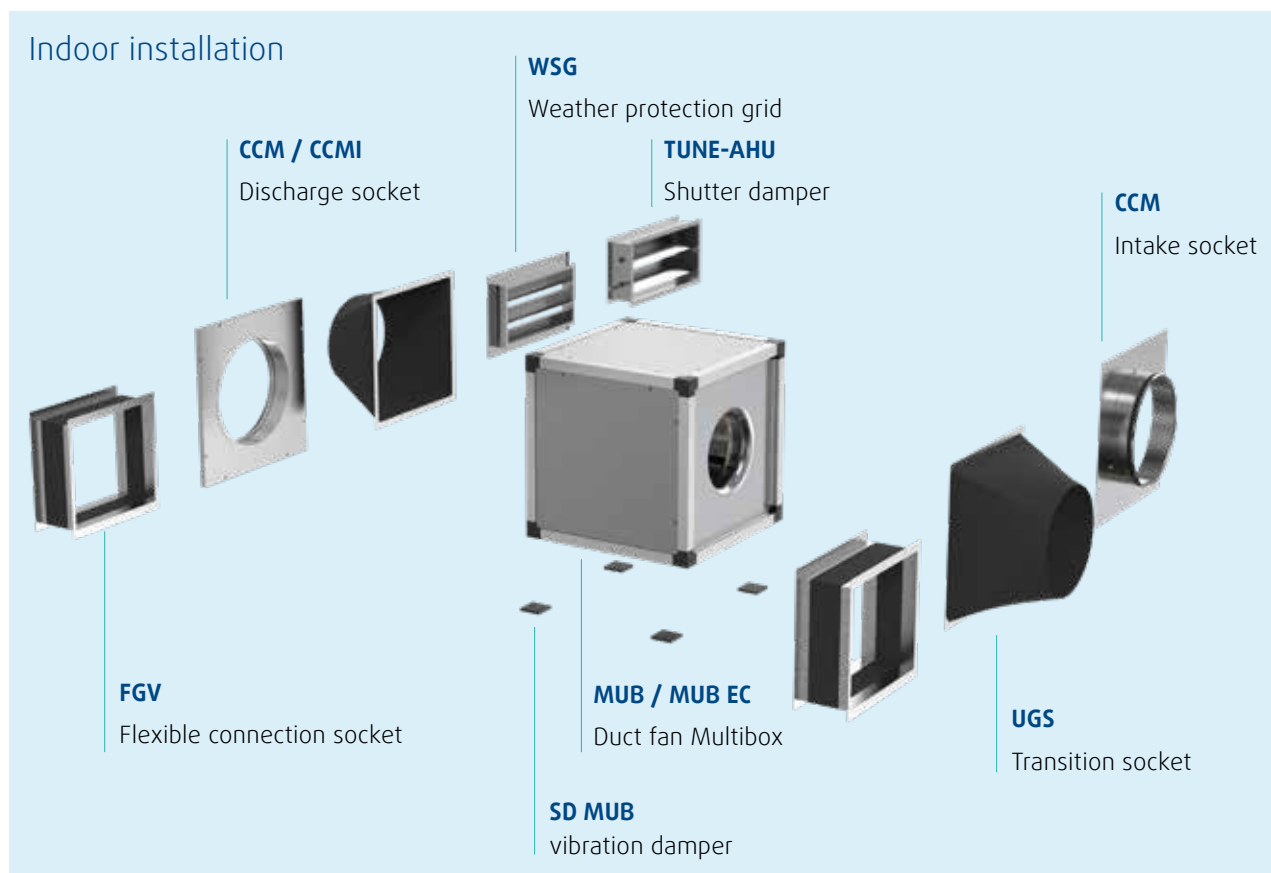
## Technical data

	MUB CAV/VAV 025 315EC	MUB CAV/VAV 025 355EC	MUB CAV/VAV 042 400EC
Item No.	79835	79836	79837
Voltage	V 230	230	230
Frequency	Hz 50/60	50/60	50/60
Phase	~ 1	1	1
Electr. input power (P1)	W 168	389	380
Current	A 1,19	2,37	2,26
Max. volumetric flow	m <sup>3</sup> /h 2293	3182	3881
Speed	1/min 1701	1638	1336
Max. temperature of transported air	°C 60	60	60
Sound pressure level in 3m (20m <sup>2</sup> Sabine)	dB(A) 47	53	52
Weight	kg 29	30	46
Insulation class	B	B	B
Protection class, motor	IP44	IP44	IP44
Constant pressure speed control, electr.*	✓	✓	✓
Demand-driven volumetric flow control, electr.*	✓	✓	✓

	MUB CAV/VAV 042 450EC	MUB CAV/VAV 042 450EC-K
Item No.	79838	37458
Voltage	V 400	400
Frequency	Hz 50/60	50/60
Phase	~ 3	1
Electr. input power (P1)	W 1059	599
Current	A 1,45	2,71
Max. volumetric flow	m <sup>3</sup> /h 6332	5080
Speed	1/min 1562	1298
Max. temperature of transported air	°C 60	60
Sound pressure level in 3m (20m <sup>2</sup> Sabine)	dB(A) 63	57
Weight	kg 56	53
Insulation class	F	B
Protection class, motor	IP54	IP54
Constant pressure speed control, electr.*	✓	✓
Demand-driven volumetric flow control, electr.*	✓	✓

\* convertible










## System solution for multiboxes






The extract air ventilation system consists of multiple components, all attuned to each other. The best possible air distribution is achieved thanks to a duct system (Page 70) and diffusers (Page 98) from Systemair.

# Accessories MUB EC / MUB CAV/VAV

## Indoor installation

MUB EC / -CAV/VAV		025 315	025 355	042 400
	Description	Name <i>Item No.</i>	Name <i>Item No.</i>	Name <i>Item No.</i>
Basic	 Intake socket	CCM 315 312562	CCM 355 312718	CCM 400 311780
	 Discharge socket	CCM 315 312535	CCM 355 312719	CCM 400 311682
	 Discharge socket , insulated	CCMI 315 313843	CCMI 355 313844	CCMI 315 313845
	 Vibration dampers kit	SD MUB 37324	SD MUB 37324	SD MUB 37324
	 Shutter damper	TUNE-AHU 025 79800	TUNE-AHU 025 79800	TUNE-AHU 79881
	 Transition socket	UGS 025/315 31290	UGS 025/355 4356	UGS 042/400 31290
	 Weather protection grid	WSG MUB 025 31484	WSG MUB 025 31484	WSG MUB 042 31485
	 Weather protection grid, rotated	WSG 025 MUB/T 36070	WSG 025 MUB/T 36070	WSG 042 MUB/T 36071
	 Flexible connection	FGV 025 4196	FGV 025 4196	FGV 042 4605

## Outdoor installation

MUB EC / -CAV/VAV		025 315	025 355	042 450
	Description	Name <i>Item No.</i>	Name <i>Item No.</i>	Name <i>Item No.</i>
Basic	 Weather protection grid	WSG MUB 025 31484	WSG MUB 025 31484	WSG MUB 042 31485
	 Weather protection grid, rotated	WSG 025 MUB/T 36070	WSG 025 MUB/T 36070	WSG 042 MUB/T 36071
	 Weather-protection roof	WSD-MUB 025 31480	WSD-MUB 042 31481	WSD-MUB 042 31481

# DVC / DVCI-S | DVC / DVCI-P



## Housing

Housing made from salt water resistant aluminium. Base frame made from galvanised sheet steel. DVCI with 50 mm mineral wool acoustic and thermal insulation.

## Motor

Energy-saving, highly efficient EC external rotor motors.

## Impeller geometry

Radial impeller with backwards-curving blades.

## Output control

100% controllable. DVC(I)-S fans are equipped with a potentiometer (0 - 10 V) mounted in the terminal box. DVC(I)-P with integrated pressure regulator unit for constant pressure control. DVC(I)-POC with integrated pressure regulator and temperature sensor for external temperature compensation. The programming for constant pressure control can be executed with and without external temperature compensation.

## Motor protection

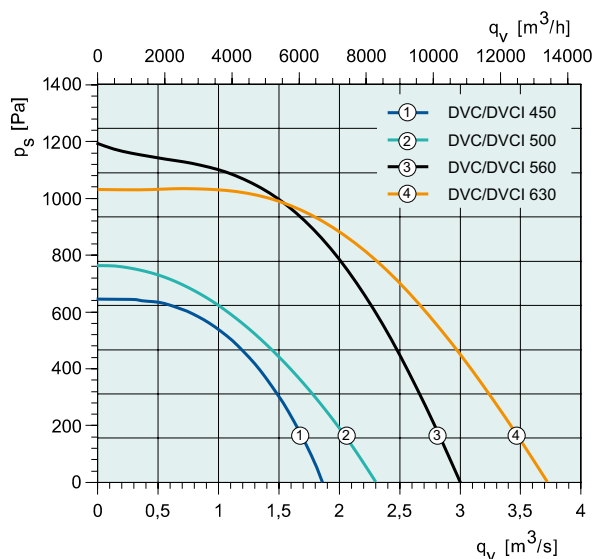
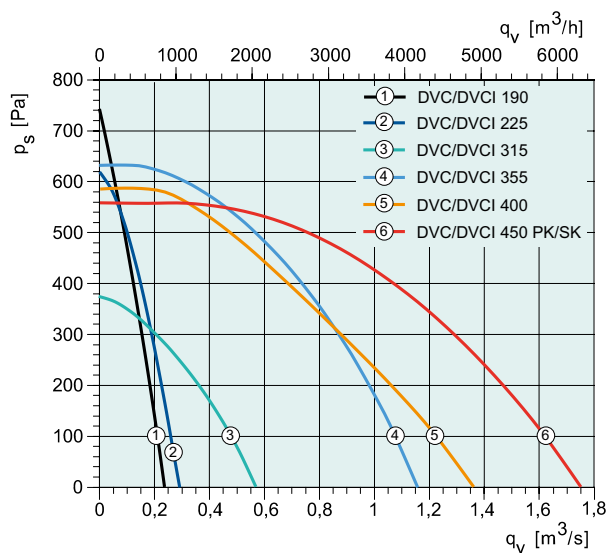
The motor protection is integrated in the motor electronics.

You can find more information in our online catalogue at [www.systemair.de](http://www.systemair.de)

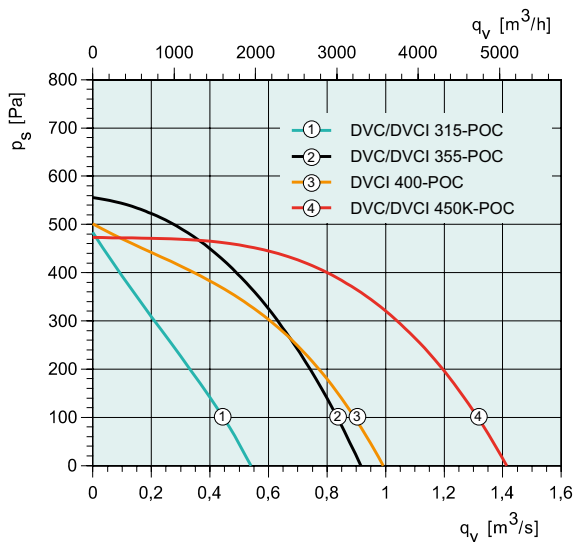
## Features – characteristics and advantages at a glance

- High efficiency across the entire system characteristic field
- P version: integrated pressure regulator unit for simple implementation of constant pressure control
- S version: stepless control via 0 - 10 V signal, thanks to integrated potentiometer
- For noise-sensitive applications

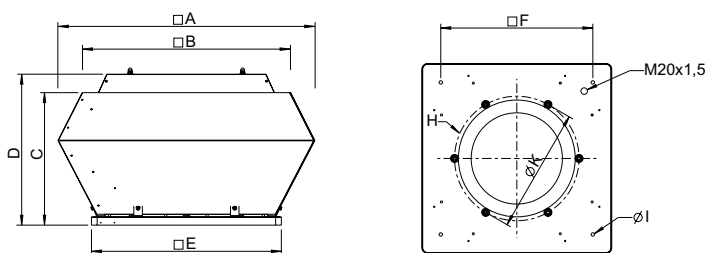
## Quick selection



## Quick selection



## Dimensions



DVC / DVCI-S	A	B	C	E	F	H	øK	øI
190-225	370/497	295/442	170/211	335	245	6xM6	285	10(4x)
315	560/690	470/583	330/369	435	330	6xM6	285	10(4x)
355-400	720/874	618/648	390/439	595	450	6xM8	438	12(4x)
450	900/968	730/730	465/479	665	535	6xM8	438	12(4x)

DVC / DVCI-P	A	B	C	D	E	F	H	øK	øI
190-225	370/497	320/442	175/211	-	335	245	6xM6	285	10(4x)
315	560/690	470/583	330/369	392,5	435	330	6xM6	285	10(4x)
355-400	720/874	618/648	390/439	454	595	450	6xM8	438	12(4x)
450	900/970	730/730	465/479	516	665	535	6xM8	438	12(4x)

## Technical data

		DVC 190-S	DVC 190-P	DVC 225-S	DVC 225-P	DVC 315-S	DVC 315-P	DVC 355-S
Item No.		79245	79349	79246	79236	79247	79237	79248
Voltage	V	230	230	230	230	230	230	230
Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Phase	~	1	1	1	1	1	1	1
Electr. input power (P1)	W	123	123	159	159	153	153	521
Current	A	0,969	0,969	1,27	1,27	1,24	1,24	2,18
Max. volumetric flow	m <sup>3</sup> /h	835	835	1044	1044	2059	2059	4136
Speed	1/min	3661	3661	3120	3120	1532	1532	1800
Max. temperature of transported air	°C	60	60	55	55	60	60	60
Sound pressure level in 4m	dB(A)	56	56	56	56	45	45	59
Sound pressure level in 10m	dB(A)	50	49	49	49	37	37	51
Weight	kg	5,2	6	5	6	12	14	22,6
Insulation class	B	B	B	B	B	B	B	F
Protection class, motor	IP	54	54	54	54	54	54	55

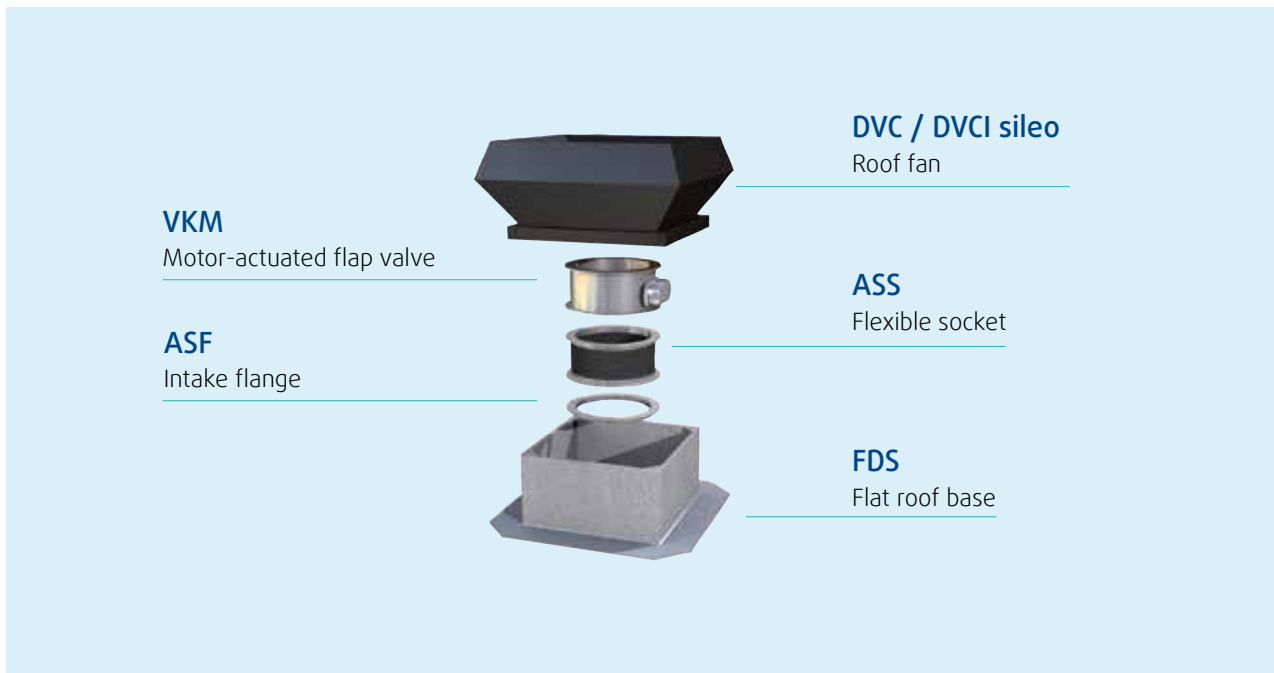
		DVC 355-P	DVC 400-S	DVC 400-P	DVC 450-SK	DVC 450-S	DVC 450-P	DVC 450-PK
Item No.		79238	79249	79239	79260	79259	79240	79241
Voltage	V	230	230	230	230	230	230	230
Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Phase	~	1	1	1	1	3	3	1
Electr. input power (P1)	W	521	539	539	774	996	996	774
Current	A	2,18	2,27	2,27	3,22	1,47	1,47	3,22
Max. volumetric flow	m <sup>3</sup> /h	4136	4892	4892	6390	6782	6782	6390
Speed	1/min	1800	1503	1503	1416	1555	1555	1416
Max. temperature of transported air	°C	60	55	55	60	60	60	60
Sound pressure level in 4m	dB(A)	59	47	47	51	54	54	51
Sound pressure level in 10m	dB(A)	51	39	39	43	46	46	43
Weight	kg	24,5	23	23	37	38	40	38
Insulation class	F	F	F	F	F	F	F	F
Protection class, motor	IP	55	55	55	55	55	55	55



		DVCI 190-S	DVCI 225-S	DVCI 225-P	DVCI 315-S	DVCI 315-P
Item No.		79264	79265	79274	79266	79275
Voltage	V	230	230	230	230	230
Frequency	Hz	50/60	50/60	50/60	50/60	50/60
Phase	~	1	1	1	1	1
Electr. input power (P1)	W	122	155	155	159	159
Current	A	0,98	1,24	1,24	1,27	1,27
Max. volumetric flow	m <sup>3</sup> /h	850	1048	1048	2174	2174
Speed	1/min	3470	3104	3104	1526	1526
Max. temperature of transported air	°C	60	55	55	60	60
Sound pressure level in 4m	dB(A)	52	52	52	39	39
Sound pressure level in 10m	dB(A)	44	44	44	31	31
Weight	kg	7,5	7,5	8	17	19
Insulation class	B		B	B	B	B
Protection class, motor	IP	54	54	54	54	54










		DVCI 355-S	DVCI 355-P	DVCI 400-S	DVCI 400-P	DVCI 450-SK	DVCI 450-S	DVCI 450-P
Item No.		79267	79276	79268	79278	79270	79269	79279
Voltage	V	230	230	230	230	230	230	400
Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Phase	~	1	1	1	1	1	3	3
Electr. input power (P1)	W	528	528	555	555	752	971	971
Current	A	2,23	2,23	2,28	2,28	3,21	1,49	1,49
Max. volumetric flow	m <sup>3</sup> /h	4234	4234	5033	5033	6152	6653	6653
Speed	1/min	1804	1804	1535	1535	1415	1559	1559
Max. temperature of transported air	°C	60	60	55	55	60	60	60
Sound pressure level in 4m	dB(A)	51	51	41	41	38	48	48
Sound pressure level in 10m	dB(A)	43	43	33	33	30	40	40
Weight	kg	32	34	31	33	41	43	46
Insulation class	F		F	F	F	F	F	F
Protection class, motor	IP	55	55	55	55	55	55	55

## System solution for roof fans



The extract air ventilation system consists of multiple components, all attuned to each other. The best possible air distribution is achieved thanks to a duct system (Page 70) and diffusers (Page 98) from Systemair.

## Accessories DVC / DVCI | DVCI-S / DVCI-P

Roof fan sizes		190	225	315	355	400	450
	Description	Name <i>Item No.</i>	Name <i>Item No.</i>	Name <i>Item No.</i>	Name <i>Item No.</i>	Name <i>Item No.</i>	Name <i>Item No.</i>
Basic	 Maintenance switches	REV-3POL/03 33978	REV-3POL/03 33978	REV-3POL/03 33978	REV-3POL/03 33978	REV-3POL/03 33978	REV-3POL/03 33978
	 Adapter frame	TDA DV 190/225 309416	TDA DV 190/225 309416	TDA DV 315 309230	TDA DV 355/400 301393	TDA DV 355/400 301393	TDA DV 450/500 301394
	 Self-actuating flap valve	VKS 190/225 9539	VKS 190/225 9539	VKS 190/225 9539	VKS 310/311 9543	VKS 355-500 9544	VKS 355-500 9544
	 Flap valve, motor-actuated	-	-	VKM 310/311 9555	VKM 355-500 9556	VKM 355-500 9556	VKM 355-500 9556
	 Flexible socket	ASS 190/225 9573	ASS 190/225 9573	ASS 310/311 9575	ASS 355-500 9576	ASS 355-500 9576	ASS 355-500 9576
	 Intake flange	ASF 190/225 9567	ASF 190/225 9573	ASS 310/311 9575	ASS 355-500 9576	ASS 355-500 9576	ASS 355-500 9576
	 Base silencer	SSD 190/225 9560	SSD 190/225 9560	SSD 315M/L 30086	SSD 355/400 9562	SSD 355/400 9562	SSD 450/500 9563
	 Flat roof base	FDS 190/225 9548	FDS 190/225 9548	FDS 310/311 9549	FDS 355/400 9550	FDS 355/400 9550	FDS 450/500 9551
	 Inclined roof base	SDS 190/225 3783	SDS 310/311 3784	SDS 355/400 3785	SDS 355/400 3785	SDS 355/400 3785	SDS 450-500 3786

# FAQ / Information for planners

You will find more information about standards, guidelines and frequently asked questions in this section.

# Assistance in planning a residential ventilation system

To help you find the right duct system and the right size, here we give you a few simple design rules for determining the overall air volumes needed in an apartment or a single-family house.

The air volumes for the supply air rooms are specified depending on the planned occupancy, whereby the air volumes should not fall below a minimum volumetric flow of 15 m<sup>3</sup>/h.

## Air volumes for extract air rooms (as specification)

Bathroom:	40 m <sup>3</sup> /h	Utility room:	20–30 m <sup>3</sup> /h
Shower + WC:	30 m <sup>3</sup> /h	Store room:	10–20 m <sup>3</sup> /h
WC:	20–30 m <sup>3</sup> /h	Hallways (if necessary):	20–40 m <sup>3</sup> /h
Kitchen:	40 m <sup>3</sup> /h		

## Air quantities for supply air rooms

Minimum volumetric flow 15 m<sup>3</sup>/h

Bedroom (master):	40 m <sup>3</sup> /h
Children's bedroom:	30 m <sup>3</sup> /h
Guest bedroom:	30 m <sup>3</sup> /h
Office:	30 m <sup>3</sup> /h
Living room:	60–100m <sup>3</sup> /h

For acoustic reasons, a supply or extract air valve should be specified with a maximum of 40 m<sup>3</sup>/h. This is unless the valve is explicitly intended for higher flow rates. The air speed in the ducts should be max. 3 m/s. The following tables show the max. volumetric flows for an air speed of 3 m/s for our various duct systems.

You can use these to roughly work out the size and number of ducts and valves you need.

## Folded spiral seam duct

Air speed 3 m/s

DN100	85 m <sup>3</sup> /h
DN125	130 m <sup>3</sup> /h
DN160	220 m <sup>3</sup> /h
DN200	340 m <sup>3</sup> /h
DN250	530 m <sup>3</sup> /h

## SystemairTube F

Air speed 2.5 m/s

DN50	15 m <sup>3</sup> /h
DN63	20 m <sup>3</sup> /h
DN75	30 m <sup>3</sup> /h
DN90	45 m <sup>3</sup> /h
Ø250	530 m <sup>3</sup> /h

## Flat duct

Air speed 3 m/s

System 100	80 m <sup>3</sup> /h
System 151	140 m <sup>3</sup> /h

## Locating valves

For acoustic reasons, valves should never be installed in the corners of rooms, but instead be at least 1 m away from the wall.

Wherever possible, you should always plan to install supply air valves in the ceiling, or in the wall just below the ceiling. This gives the most effective and comfortable distribution of air in the room. When selecting valves, please consider whether the valve geometry is suitable for the ceiling or the wall.

Extract air valves should also be installed in the ceiling, or close to the ceiling, so that it is always possible to remove the warmest and most humid air from the room. Here, too, the best location is the centre of the room.

If you adhere to these requirements, you will have a system with an external pressure loss of around 60 - 80 Pa. Using the overall air volume and the external pressure loss, you can configure the appropriate unit on our homepage. It is even simpler if you use the specified operating point for our units here in the catalogue: air volume at 50 Pa.

# EnEV

## The German Energy Conservation Regulation

### EnEV

All energy-related aspects of buildings are regulated in the German Energy Conservation Regulation (*EnEV – Energieeinsparverordnung*). This not does not just apply to new builds, but also to the renovation of older buildings. The reference building in the EnEV specifies the values for all structural elements (e.g. walls, roof or windows) and for the building services (e.g. hot water production, heating or ventilation systems) which you must fulfil. If there is a deviation in one part of the reference building, you will need to balance this out using other components.

Airtightness and minimum exchange of air are mentioned in section 6(1) and (2) of the EnEV. (1) "Structures to be built must be designed so that the heat-transferring envelope, including the joints, is sealed in line with good engineering practice, making it permanently airtight."

All this means is that your customer's house must be sealed so that almost no air flows into it due to infiltration (air movement due to air leakage in the house). However, (2) contradicts (1) by saying: (2) "Structures to be built must be designed so that the minimum exchange of air required for health and heating is ensured." So on the one hand, you need to seal your customer's house, but on the other hand, you must also provide the minimum exchange of air needed for health. This minimum exchange of air is described and calculated in DIN 1946 Section 6.

### DIN 1946 Section 6

DIN 1946 Section 6, Ventilation of residential accommodation, provides binding regulations to ensure the necessary ventilation for residential accommodation. A ventilation concept must be created for each building project – whether new build or renovation – to provide evidence and appropriate specifications for the minimum exchange of air needed to protect the building and ensure a hygienic indoor environment. The ventilation concept is used to calculate and decide whether free ventilation is acceptable, or whether a fan-supported system is necessary.

### The ventilation concept

DIN 1946-6 now requires the creation of a ventilation concept for new buildings and renovation work. A ventilation concept is required for renovation work if, in a single-family house or an apartment block, more than 1/3 of the existing windows are replaced or if, in a

single-family house, more than 1/3 of the roof surface is newly-sealed.

This means: The planner or contractor must specify how the exchange of air needed for hygiene and building protection can be implemented.

Any specialist who plans, implements or maintains ventilation systems, or who is involved in planning and modernising buildings can generate the ventilation concept. The most important question when coming up with a ventilation concept is how to ensure ventilation for moisture protection. Factors incorporated in the calculation are the standard of insulation, the type and the location of the building. The former indicates the degree of leakage in the building shell. The living area indicates the expected loading. The location of the house is important in order to estimate the wind load. A fan-supported ventilation system with heat recovery is then designed for nominal ventilation.

### Ventilation measures

If the supply of air through leaks in the building is not sufficient to ensure ventilation for moisture protection, the planner must provide ventilation measures. This can be achieved with additional ventilation via shafts or valves installed in the outer building envelope (outside wall vents), in conjunction with extract air systems. Alternatively, fan-supported residential ventilation systems with heat recovery or building service systems such as Genius can be used. At this level, planning active ventilation via the windows by the inhabitants is not permitted. Ventilation for moisture protection must work independently of the user! The planner must also specify how the required exchange of air is to be achieved for the following ventilation levels. For cross ventilation and shaft ventilation systems, the planner will need to include active window ventilation as soon as ventilation is reduced. The planner must explicitly inform the users about this. If necessary, for fan-supported ventilation, the planner can incorporate active opening of the windows for intensive ventilation. For increased requirements regarding energy efficiency, noise protection and indoor air quality, fan-supported ventilation is always required.



## Ventilation levels

### Ventilation for moisture protection

Ventilation to ensure protection of the building against moisture: depending on the level of thermal insulation of the building, under normal conditions of use, with partially reduced moisture loading (e.g. partial absence of the user, no drying of washing). According to the standard, this level must be ensured continuously and independently of the user.

### Reduced ventilation

Additionally-required ventilation to ensure minimum standards of hygiene (presence of harmful substances) and protection of the building, with partial absence of the user. As far as is possible, this level must be ensured independently of the user.

### Nominal ventilation

Describes the necessary ventilation for ensuring compliance with hygienic and health requirements, as well as protecting the building during normal use of the dwelling. Here, the user can be involved to a certain extent with active window ventilation.

### Intensive ventilation

Helps deal with peak loading (e.g. due to cooking, washing). Here the user can be involved to a certain extent with active window ventilation.

### Special case: windowless rooms

Rooms without windows represent a special case in a dwelling. The ventilation of these rooms must be still be planned and implemented according to the requirements of the current DIN 18017-3 issued in September 2009. According to DIN 1946-6, ventilation measures for windowless rooms may be sufficient to supply the whole dwelling with fresh air. This must also be checked on a case-by-case basis and gives rise to a number of questions. For example, to what extent is a bathroom ventilation system – which can be switched off – sufficient ventilation for protecting the entire dwelling from moisture, if it only runs for brief periods during the day.

# EU Ecodesign Directive

## Reduce harm to the environment through product design

The EU sets minimum energy efficiency requirements for the appropriate products via the "Directive 2009/125/EC establishing a framework for the setting of ecodesign requirements for energy-related products" – or Ecodesign Directive or ErP Directive for short.



The energy label should permit the end user to compare products easily, enabling them to select energy-efficient products. In contrast to other electrical equipment, the energy classes on the labels of residential ventilation equipment are determined by a calculated parameter, the specific energy consumption (SEC). This value should display the energy-saving potential of the equipment used in kilowatt hours per m<sup>2</sup> per year.

SEC or SEV-Klasse	SEC or SEV in kWh/am <sup>2</sup>
A+ (highest efficiency)	SEV < -42
A	-42 ≤ SEV -34
B	-34 ≤ SEV -26
C	-26 ≤ SEV -23
D	-23 ≤ SEV -20
E (lowest efficiency)	-20 ≤ SEV -10
F (not valid)	-10 ≤ SEV -0
G (not valid)	0 ≤ SEV

SEC value or SEV value and energy class allocation

### New requirements for ventilation and air-conditioning

#### Fans EU 327/2011 (B2B, no label)

- Since 2013, minimum requirements apply for fans above 125 Watts regarding energy efficiency
- From January 1, 2015, these requirements have become significantly more stringent

#### Central ventilation and air conditioning units EU 1253/2014 (B2B, no label)

- Since January 1, 2016, minimum requirements apply regarding
  - fan power consumption and
  - heat recovery efficiency

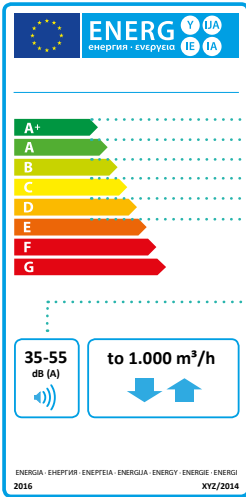
#### Residential ventilation equipment EU 1253/2014 and 1254/2014 (B2C, label)

- Minimum requirements from January 1, 2016: The units must save at least as much primary energy (electricity and heat) as they use (electricity)
- Minimum requirements from January 1, 2018: The units must save significantly more primary energy than they use – the ventilation heat requirement of the residential building is approximately halved
- Energy efficiency label from A+ to G (see Table)

#### Air conditioners EU 206/2012 (B2C, label)

- Since January 1, 2013, units with a cooling performance up to 12 kW are classified in energy efficiency classes from A+++ to D
- Units in cooling mode must fulfil at least the requirements of energy efficiency class A





### Time-controlled



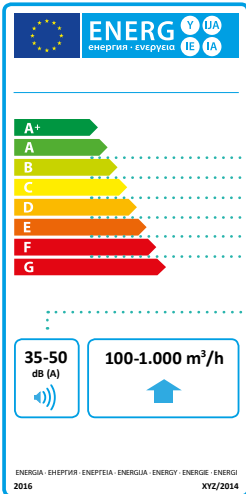
Unit property  
Sound power level  
↓  
Sound power level  
in the room <30 dB (A)  
depending on the installation

### Demand-driven



## Central residential ventilation unit with heat recovery

This is not only influenced by known parameters such as electrical power consumption or heat recovery but, to a great degree, by the operation mode as well. So a Unit X may well achieve a better energy class when operated according to demand (e.g. humidity and CO2 sensors influence the air quantity), than in a time-controlled or manually-controlled version.



### Time-controlled



Unit property  
Sound power level  
↓  
Sound power level  
in the room <30 dB (A)  
depending on the installation

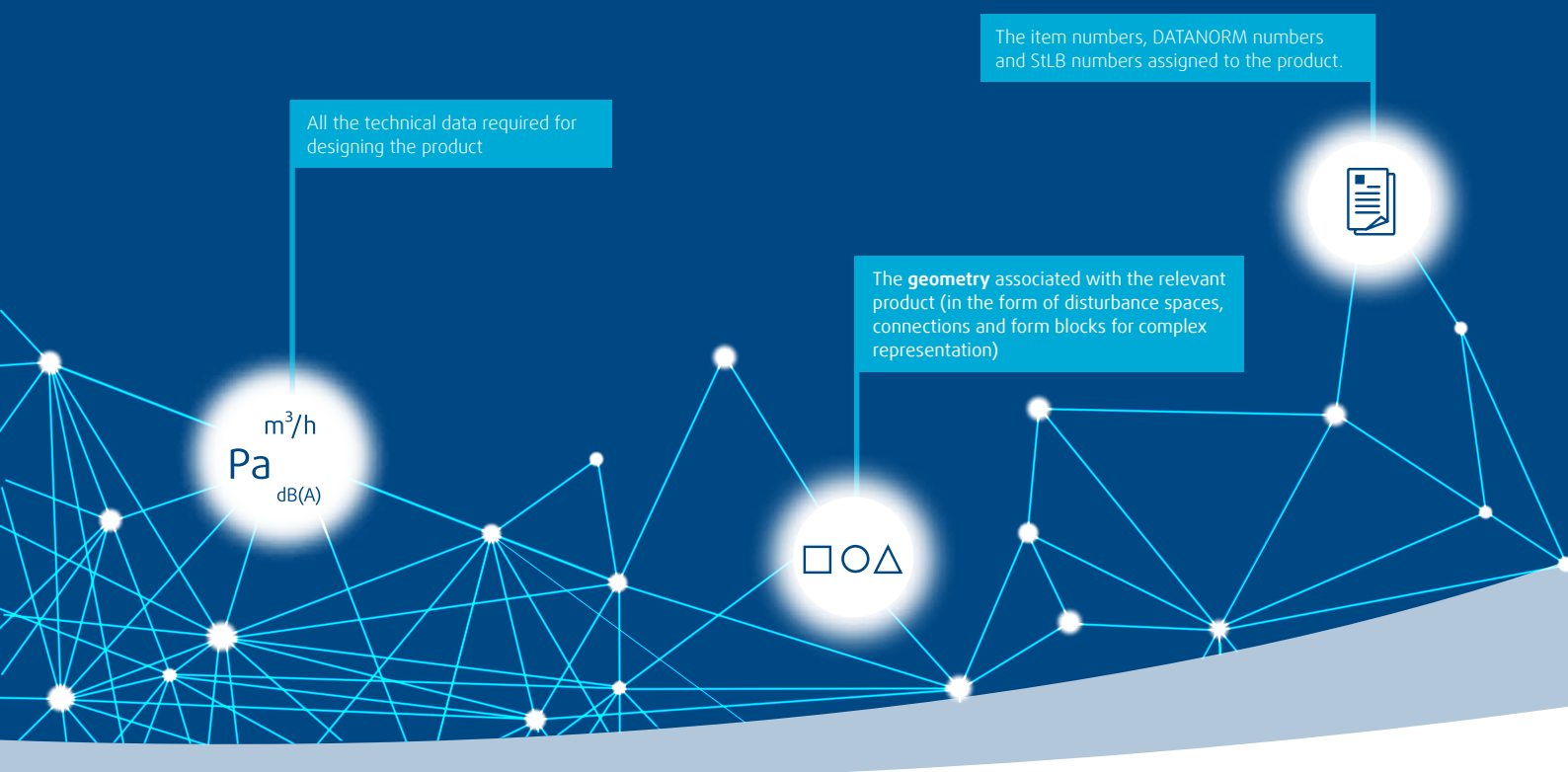
### Demand-driven



## Central extract air fan without heat recovery

From an energy perspective, extract air systems without heat recovery score worse than units with heat recovery, since the heat in the extract air is lost. The operation mode also has a large influence on the energy class for extract air systems.

The VDI Guideline ensures that different CAD and calculation programs can import product data from different manufacturers without additional interfaces.



## VDI Guideline 3805

In building services engineering, systems are increasingly planned and configured with the assistance of IT systems. This requires the product data to be available in a machine-readable format.

The VDI Guideline 3805 "Product data exchange in building services" aims to create standardised dataset descriptions which permit the creation of uniform (from an IT perspective) product descriptions for each product group, with the following content:

- All the technical data required for designing the product
- The geometry associated with the relevant product (in the form of disturbance spaces, connections and form blocks for complex representation).
- The item numbers, DATANORM numbers and StLB numbers assigned to the product.

This ensures that different CAD and calculation programs can import product data from different manufacturers without additional interfaces. One can compare the format with, for example, the JPEG format, which can be read by all image processing programs. VDI 3805 covers products and components in heating, ventilation and sanitary systems. The format is manufacturer-neutral and can therefore be imported into all common CAD programs.

Systemair will support you in your ventilation project from the planning phase right through to implementation – now also with data acc. VDI 3805 for Systemair residential ventilation and compact air handling units.

You can find more detailed information about the VDI Guideline 3805, including links to downloads, at [www.systemair.de](http://www.systemair.de)

# We care about safety

## Fire protection and smoke extraction dampers

Fire protection and smoke extraction dampers from Systemair offer increased safety for people and animals, prevent the spread of fire and smoke, and provide focused smoke extraction for the protection of buildings. In and on solid walls and ceilings, in lightweight walls, fire-resistant walls and on wall exteriors – the variety of installation options offers you maximum certainty during planning.

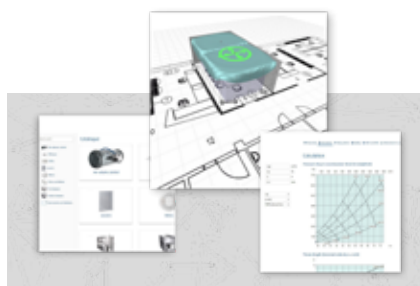
We offer you round and square fire dampers and in-pipe fire dampers, in all kinds of sizes. Our products are characterised by high quality, reasonable prices and rapid delivery times. The fire dampers comply with EN 15650, are tested according to EN 1366-2 and are classified according to EN 13501-3, as well as being CE-inspected.

You can find more information on our homepage at [www.systemair.de](http://www.systemair.de)

### Characteristics and advantages at a glance



- Tested according to DIN EN 15650 and DIN EN 12101/8
- With CE marking
- Fire resistance class to EI120S
- Fire dampers can also be supplied in EX versions
- Wide range of accessories



#### Systemair DESIGN

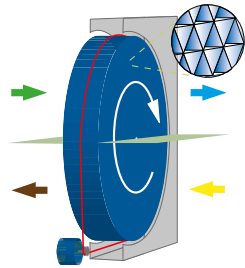
Simple yet precise online tool for selecting the right fire protection and smoke extraction dampers, diffusers and volumetric flow regulators. All technical data and information at a glance with direct access to the MagiCloud database (TGA BIM library). Find out more at <https://design.systemair.com>



# The right choice made easy

## Comparison of rotary and counter flow heat exchangers

### Rotary heat exchanger



As well as heat (sensible heat), **rotary heat exchangers** are also able to transmit moisture (latent heat). For use in single-family houses or dwellings with sensible efficiencies of up to more than 85 per cent.

#### Heat transfer

The lamellar structure of the rotor (similar to corrugated paper) and the continuous rotary motion between the warm and cold air currents result in the rotor heating up in the extract air. In winter this heat is transferred to the cold supply air. This effect can be used in reverse in summer, because heat from the outdoor air is transferred to the cooler extract air. This enables a cooling effect to be achieved in summer, or also it can be used to recover cooling energy in air-conditioned buildings.

#### Moisture transmission via a condensation rotor

The heat exchange matrix is made from pure aluminium which transfers moisture precisely at the moment when condensation forms on the extract air side and is then reabsorbed by the outdoor air. For large temperature differences, the degree of recovered moisture can rise above 60 per cent. With our rotors, moisture is primarily transferred when it is needed, i.e. in winter. This enables problems with overly-dry air to be reduced or even avoided altogether. The moisture transfer can be controlled by adjusting the rotor speed.

#### Entrained rotation – internal leakage

The rotor rotation can result in small amounts of extract air entering the supply air (entrained rotation). A combination of air leakage in the housing and the rotor speed, in conjunction with the pressure differential of the unit (caused by filters, for example), can result in a certain amount of extract air being transferred to the supply air. In general, our equipment has an internal leakage rate of less than 5 per cent.

This even falls to below 3 per cent for equipment certified for use in passive houses. This means that nowadays, units with a rotor are certainly comparable with plate heat exchangers, at least concerning internal leakage.

#### Frost protection

Thanks to the transfer of moisture, it is not necessary to drain away condensation in residential buildings. This means the ventilation unit does not need to be connected to a waste water pipe. Also, down to around -20 °C, the rotor does not freeze while transferring condensation, making frost protection for the heat exchanger unnecessary. Therefore, the entire capability of the heat exchanger can be exploited when outside temperatures are low. The colder the better.

### Counter flow heat exchanger



**Aluminium and plastic counter flow heat exchangers** transfer heat (sensible heat) and are able to achieve efficiencies of over 90 per cent.

#### Heat transfer

In plate heat exchangers, the air flows through a series of parallel plates. Here supply air and extract air always

flow alternately on opposite sides. The heat energy is transferred through the plate from the warm air current to the cold air current.

#### Without moisture transfer

If conventional aluminium or plastic plate heat exchangers are used, the resulting condensate must be removed from the unit via a waste water pipe. The siphon must always be filled with water to prevent air from being sucked through the duct system.

### Airtightness

Supply air and extract air are completely separate from each other so, in theory, there is no portion of extract air in the supply air. In practice however, there can be internal leakages due to a combination of manufacturing tolerances of approx. 0.8 per cent for plate heat exchangers (manufacturer's specifications) and leakages in the housing, depending on the pressure difference in the unit. Here too, the limit for internal leakage is 5 per cent and 3 per cent for a passive house.

### Frost protection

The higher the efficiency of the heat exchanger, the more condensate can form when temperature differences are large. The efficiency also affects the temperature below which the heat exchanger must be protected from frost, i.e. when the condensate starts to freeze. For high-performance counter flow heat exchangers with efficiencies of around 90 per cent, this may already be the case for outside temperatures below -3 °C. The lower the efficiency, the lower the freezing point. This also means the energy expenditure for frost protection varies correspondingly. For reliable frost protection, and to prevent too much heat being extracted from the heat exchanger, the outdoor air can either be preheated, or guided past the heat exchanger via a bypass and then over a heater. Another option is often used: the supply air fan is throttled, creating an imbalance between the supply air and the extract air. However this no longer works for modern, airtight houses. Frost protection can be achieved without using

too much energy by investing in a brine-geothermal heat exchanger. No matter how it is done, frost protection costs money and energy!

Special types of plate heat exchangers, such as the **membrane counter flow heat exchanger**, can also transfer moisture as well as heat. However the sensible heat transmission efficiency is reduced to around 75 per cent, i.e. below that of the rotors.

### With moisture transfer

Membrane exchangers can transfer moisture and do not need to be connected to a waste water pipe. Depending on the humidity difference, moisture can also be transferred from the outdoor air to the extract air in summer. However, membranes are subject to wear; the pores start to close up and eventually the heat exchanger must be replaced. This means that the original moisture transfer performance reduces continually over time.

### Frost protection

At around -8 °C, the frost point of membrane heat exchangers is somewhat lower than that of aluminium or plastic heat exchangers. Just like for aluminium or plastic heat exchangers, energy must be added to protect the heat exchanger from freezing when outside temperatures are low.

## Conclusion

Every type of heat exchanger has advantages and disadvantages, which are more or less significant depending on the requirements. A plate heat exchanger can make the best use of its high efficiency if the outside temperature does not fall (or falls only briefly) below its specific frost point. Then frost protection is unnecessary and, due to the mild climate (not colder than around -3°C), the indoor climate does not become too dry, even without moisture transfer. A membrane heat exchanger plays to its strengths wherever as much moisture as possible is to be transferred continuously. Aluminium or plastic heat exchangers are often replaced by membrane heat exchangers after around two years, once the moisture from construction has gone. However, the moisture transfer cannot be controlled here and the membrane gradually closes. A rotor performs most strongly in climates down to around -20 °C. Here the rotor is able to generate maximum heat recovery without any frost protection at all, as well as transferring moisture as needed. Nowadays internal leakages are no longer a problem, since they are comparable with other heat exchangers. Within a dwelling a slight transfer of odour is unimportant, since the proportion transferred via the ventilation system is considerably smaller than, for example, via doors, clothes or the body of air able to move between rooms. With the open plan (living-eating area) designs common today, this is no longer of any significance.





## Air filters for ventilation and air conditioning

### Change of the filter classes EN 779 -> ISO 16890

Air filters are important components in ventilation and air conditioning systems for ensuring good indoor air quality and a hygienic system.

On July 1, 2018, the inspection standards and certification of air filters switched from EN 779 to ISO 16890.

In contrast to EN 779, the new ISO 16890 evaluates the effectiveness of air filters regarding the different fine particulate fractions PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> and Coarse (fine particulate matter up to 1 µm, up to 2.5 µm, up to 10 µm and coarse particles). These PM (Particulate Matter) values are also used analogously in the evaluation of outdoor air quality.

The filter classes ISO ePM<sub>1</sub>, ISO ePM<sub>2.5</sub>, ISO ePM<sub>10</sub> and Coarse with ISO coarse therefore replace the previous filter classes G1 to F9. Compared with EN 779:2012, operators and planners of ventilation and

air-conditioning systems will now find it much easier to select appropriate filters using the new inspection standard and its classification system. The new testing and classification process will determine the separation behaviour of all particles with sizes between 0.3 and 10 µm occurring in the outdoor air, instead of – as previously – just particles of 0.4 µm. This means the standard is now more closely aligned with real application conditions. The filtration performance of fine particle filters is then determined without a previous dust feed. This eliminates the problematic dependency of the filter efficiency on a synthetic test dust, and is a significantly more reliable parameter than the efficiency specification according to EN779.

The new classification system is much more user-friendly when selecting filters to achieve a desired air quality. There are four filter classes specifying the filter's required filtration performance as a percentage in the relevant spectrum. The class ISO ePM1 60% has a filtration performance (e) for particles of  $\leq 1 \mu\text{m}$  of at least 60%. Filters with a filtration performance of less than 50% at PM10 are assigned the category ISO coarse.

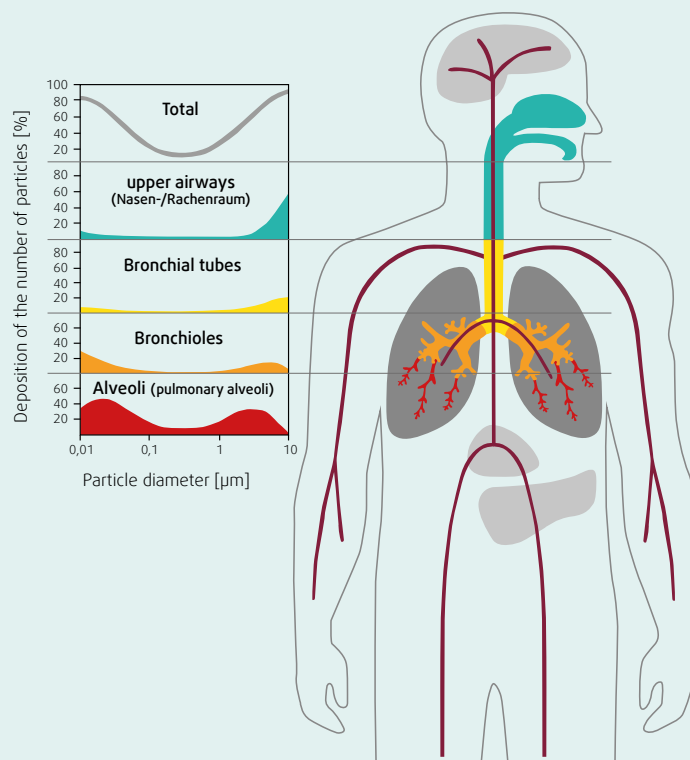
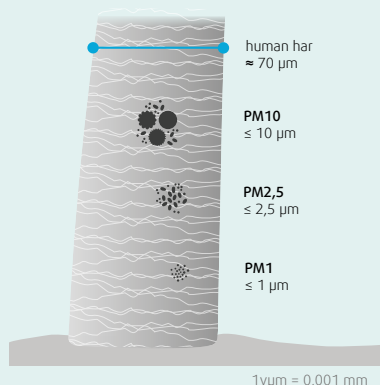
Class	Efficiency range	Example particle / fine particulate
ISO ePM1	ePM1, min $\geq 50\%$	Viruses, bacteria, nano-particles, soot (from fossil fuels), sea salt, oil mist
ISO ePM2.5	ePM2.5, min $\geq 50\%$	Bacteria, fungi and mould spores, pollen, toner particles
ISO ePM10	ePM10 $\geq 50\%$	Pollen, stone dust, agricultural dusts
ISO Coarse	ePM10 $< 50\%$	Sand, fluff, airborne seeds, hair etc.

A large number of guidelines, standards and regulations refer to the EN 779 filter classification, and these will only be replaced successively in the coming years. Therefore comparability is often an issue when air filters with the newer classification are used. A simple conversion from the old classes to the new is not possible due to the difference in the evaluation method. A correct transposition into the relevant user standard for the filter must take place in the future.

### Help with comparing filter classes

EN 779:2018	PM 1	ePM 2.5	ePM 10
M5	5% - 35%	10% - 45%	40% - 70%
M6	10% - 40%	20% - 50%	60% - 80%
F7	40% - 65%	65% - 75%	80% - 90%
F8	65% - 90%	75% - 95%	90% - $> 95\%$
F9	80% - 90%	85% - 95%	90% - $> 95\%$

The human body absorbs numerous particles and dust when breathing in air. In particular, the majority of these particles are made up of small fractions of particulate matter which can get into the blood and organs via the alveoli. Filters complying with ISO 16890 reduce the amount of particles in the range from  $> 0.3 \mu\text{m}$  by up to  $> 90\%$ .





## Original replacement filters or or cheaper counterfeit products?

Nowadays it is easy to purchase cheaper filters on the internet. These imitations might fit into your unit, but may otherwise have almost nothing in common with the original part. Often the end customer cannot see any difference in the product, only in the price. But the price is based on things which the cheap filter simply cannot provide.

So there are good reasons why you should buy original replacement filters:

- 1.) The filter used by the equipment manufacturer must be approved with regard to fire protection and hygiene. To receive accreditation, the filter must comply with the building material class B2 and pass a flammability test acc. DIN 4102-1. Furthermore, all substances and materials used in the filter (filter fleece, frames, sealants, adhesives) must be demonstrably free from substances hazardous to health.
- 2.) The filters in our equipment are designed for the relevant unit with respect to pressure loss (air volume). Here the filter area must be adapted to the material used. The correct pressure loss over the filter in both flow directions is important for the internal leakage of the unit (pressure differences in the unit) and the air volume ratio (balance between the supply air and extract air). The unit characteristics and the fan activation for air volume control have been determined in extensive laboratory tests and are the basis for catalogues, design tools and the software for controlling the units. Other filters with other properties change the behaviour and the air volumes of the unit definitively. Finding a counterfeit product with the same properties would be like winning the lottery.
- 3.) Due to differences in materials or a smaller filter surface, incorrect filters can lead to higher pressure losses. In addition to 2.), a higher pressure loss also means the unit will consume more electricity. This is because the effort needed for the fan to transport the air is increased.
- 4.) Equipment manufacturers must provide evidence and documentation for the filter classes. They are inspected by market surveillance authorities and must therefore also check their suppliers to ensure reliable and consistent quality.
- 5.) Fine filters must be sealed to the housing, so that no unfiltered air can flow past the filter. The higher the filter class, the better the seal needs to be. The original part has the appropriate seal for the unit!

### Replacement filter for our devices

You can find an overview of all filters for our devices in our Media Center or on our homepage at [www.systemair.de](http://www.systemair.de).





# Application and installation examples

## Ceiling installation of ventilation unit and TUBE F ducts

Drawings one to four show the connection of TUBE F distributors to ceiling or floor-mounted units for horizontal installation.



Figure 1 consisting of: VSR150 + SCD + adapter + distributor

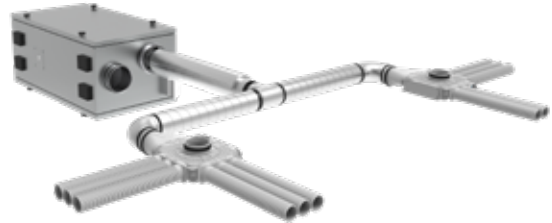


Figure 2 consisting of:  
VSR300 + SCD + T-piece + 2 adapters + 2 distributors

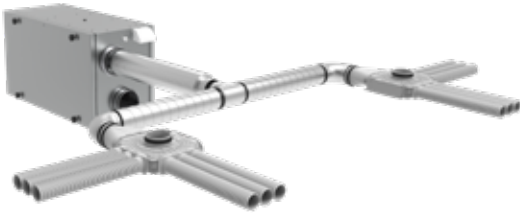


Figure 3 consisting of:  
VSR300 upright + SCD + T-piece + 2 adapters + 2 distributors



Figure 4 consisting of:  
VSR300 upright + SCD 90° + T-piece + 2 distributors

**Connection of a duct system vertically to a wall unit**

Vertical connection for installing TUBE F pipes in the building storeys: either under, in, or above the ceiling.



Figure 5 consisting of: VTR300 + SCD + spiral + 2 distributors

TUBE F manifold connection under the ceiling to the ventilation unit with transition piece from DN125 directly to the manifold.



Figure 6 consisting of:  
VTR300 + SCD 90° + adapter + distributor

Folded spiral seam duct connection to ventilation unit with air volume split between two distributors.



Figure 7 consisting of:  
VTR300 + SCD + T-piece + 2 distributors



Figure 8 consisting of: Diverter 3xDN63 + TFF

### Anschluss von Ventilen

Installing valves under a suspended ceiling: the TUBE F pipe can be laid within the ceiling or suspended below it. The length of the spacer between the diverter and the valve can be adapted.

Installing TUBE F and valve in a plasterboard wall: appropriate Systemair valves are available for direct installation in the diverter or into the spacer.



Figure 9 consisting of: Diverter 3xDN63 + BOR-S

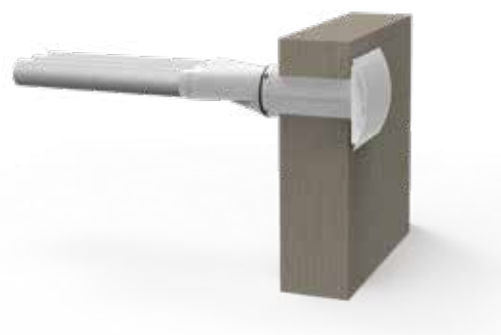


Figure 10 consisting of: Adapter + diverter + BOR-S

Installing TUBE F under the ceiling: a transition piece from Flex+ to DN125 can be used when installing TUBE F below the ceiling and connecting a valve on the rear side of the wall. An additional spacer can be used if necessary.



Systemair around the globe

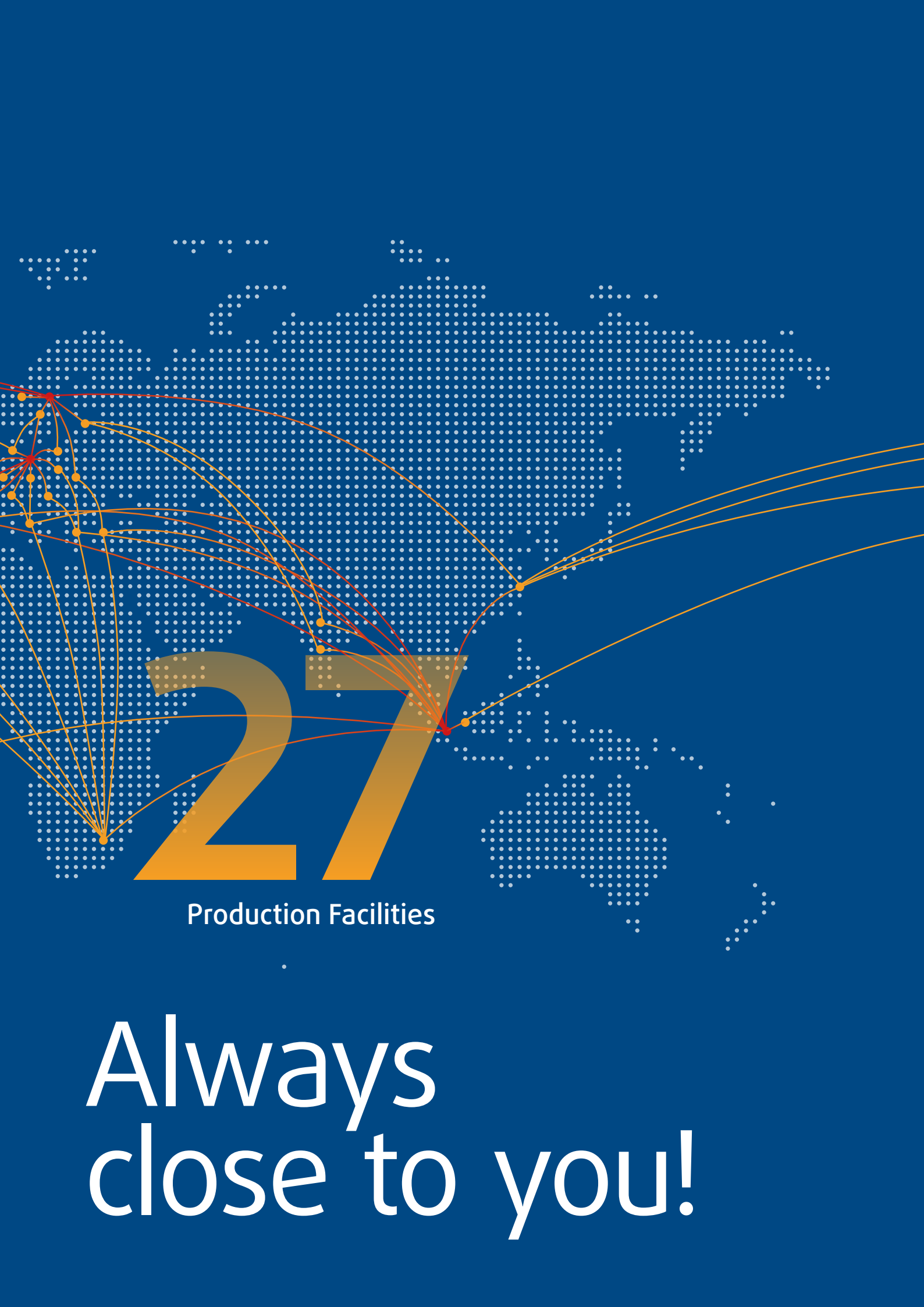


3

Distribution Centers

50

Countries with Sals Subsidiaries



27

Production Facilities

Always  
close to you!







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