ventilation-system.com

VENTS

TWINFRESH

SINGLE-ROOM ENERGY RECOVERY UNITS

Single-room ventilation

CONTENTS

EXCLUSIVE
MODERN
USER-FRIENDLY
BASIC
AFFORDABLE

WHAT IS IN THE AIR WE BREATHE?

Breathing clean fresh air is essential for maintaining your health. Overpopulated cities, congested roads, fuming pipes of factories and plants, never-ending development and agricultural activities all have their adverse effects on the air environment. According to the research conducted by the World Health Organisation, the pollution of the air environment and indoor air is a major contributor to the morbidity and mortality around the world. Today 91% of the world population live in cities and have to deal with skyrocketing pollution. The most deleterious effects on the human health are attributed to nitrogen dioxide, harmful particulate matter and elevated ozone concentrations. Buildings under construction and renovation projects may also generate air pollution. A large-scale research of cases related to poor indoor air quality helped to identify the key factors which adversely affect our breathing environment:

50 %

Inefficient ventilation

Inadequate supply of fresh air or poor ducting efficiency.

30 %

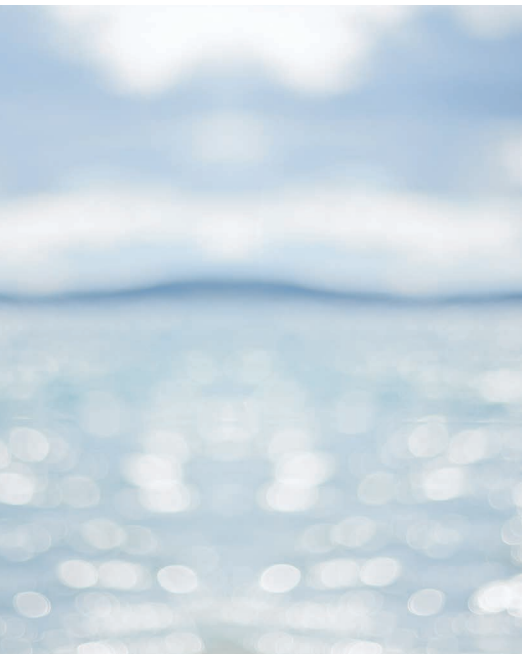
Indoor pollutants

The presence of premises-specific pollutants (e.g. formaldehyde, solvent vapours, dust, and microbiological pollution).

10 %

Outdoor pollutants

Pollutants originating from external sources (e.g. vehicle exhaust fumes, pollen, fungal spores, smoke, and dust resulting from roadworks and construction work).



Poor indoor air quality may have adverse health effects.

EXPERT OPINION

Creating natural air exchange by airing the room through the windows may partially reduce air pollution.
However, this comes at a cost.

Letting fresh air in through vent panes and windows creates uncontrolled air overflow and causes drafts – a recipe for a cold or something much worse.

When open a window, you let in a cocktail of pollutants which, depending on the season, may include exhaust fumes, dust, poplar fluff, and pollen. Furthermore, during the cold season this also increases heat losses with a direct effect on the heating bills.
While the windows remain open for airing, the street noise entering the indoor space may reach well beyond comfortable levels.
This is especially true for people who live near busy city roads and popular recreational areas, traffic junctions, airports and railways.
Therefore, due to the penetration of irritants and hazardous substances into the room and the inability to deal with stale air natural ventilation defeats its purpose.

Alexander Tikhiy

Commodity market analyst

10 %

Other factors

Out-of-range temperature and relative humidity which cause occupant discomfort.

WHY DO WE NEED VENTILATION?

Fresh air

The basic purpose of ventilation is to supply clean fresh air into the room.

Balancing the pressure

Ventilation must be properly balanced. Low indoor pressure in the absence of supply units equipped with filters causes dirty outdoor air to seep in through various cracks and openings – moreover, if the walls and windows are air-tight, it will find its way in through the sewerage system if it isn't properly sealed.

A comfortable breathing environment

During the cold season extract fans remove warm stale air from the building while dry cold air enters the premises through cracks and leaks in window panes and door assemblies causing a degradation in the indoor air quality.

THE AIR WE BREATHE

Atmospheric air is vital for the functioning of the human body.
Our metabolism relies on oxidation – that is, the reactions of various chemicals with the oxygen transported by the blood cells. Without the supply of oxygen there is no oxidation which means imminent death. Therefore, the purity and freshness of the air you breathe is something to be constantly aware of.

The air in flats and other indoor spaces is often rich in bacterial contamination, dust, all sorts of vapours, gases and other waste products of a big city causing constant exposure to air pollution.

It goes without saying that breathing such air in your own home is rather damaging your health than allowing to consume enough oxygen to sustain your normal body functions.

THE SOLUTION IS HERE!

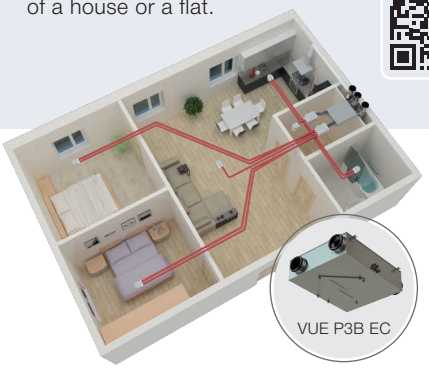
To eliminate the above-mentioned health hazards, the treated room must be provided with a device to regularly extract damp stale air and replace it with fresh air. In this case the only reasonable and practical solution is an efficient supply and exhaust ventilation system. The Vents catalogue contains a wide range of equipment to ensure proper air exchange.

www.vents.ua

WAYS TO ORGANISE VENTILATION IN A PREMISE

CENTRALISED VENTILATION SYSTEMS

A single unit is responsible for exchanging the air in all the rooms of a house or a flat.



Features

- This unit supplies fresh air which is cleaned by the built-in filters and extracts stale air from the room.
- A single air handling unit is capable of providing efficient ventilation for the entire home.
- The unit requires a system of air ducts.
- The ventilation modes are selected automatically by the built-in control system.
- Heat energy recovery helps save energy.
- The ventilation system design must prevent air leaks from the spaces filled with stale air into those with fresh air.
- A properly designed system is essential for ensuring an intensive air exchange essential to the occupant comfort.
- The ventilation system operating modes are adjusted from a single point for all the spaces in the home.

SINGLE-ROOM VENTILATION SYSTEMS

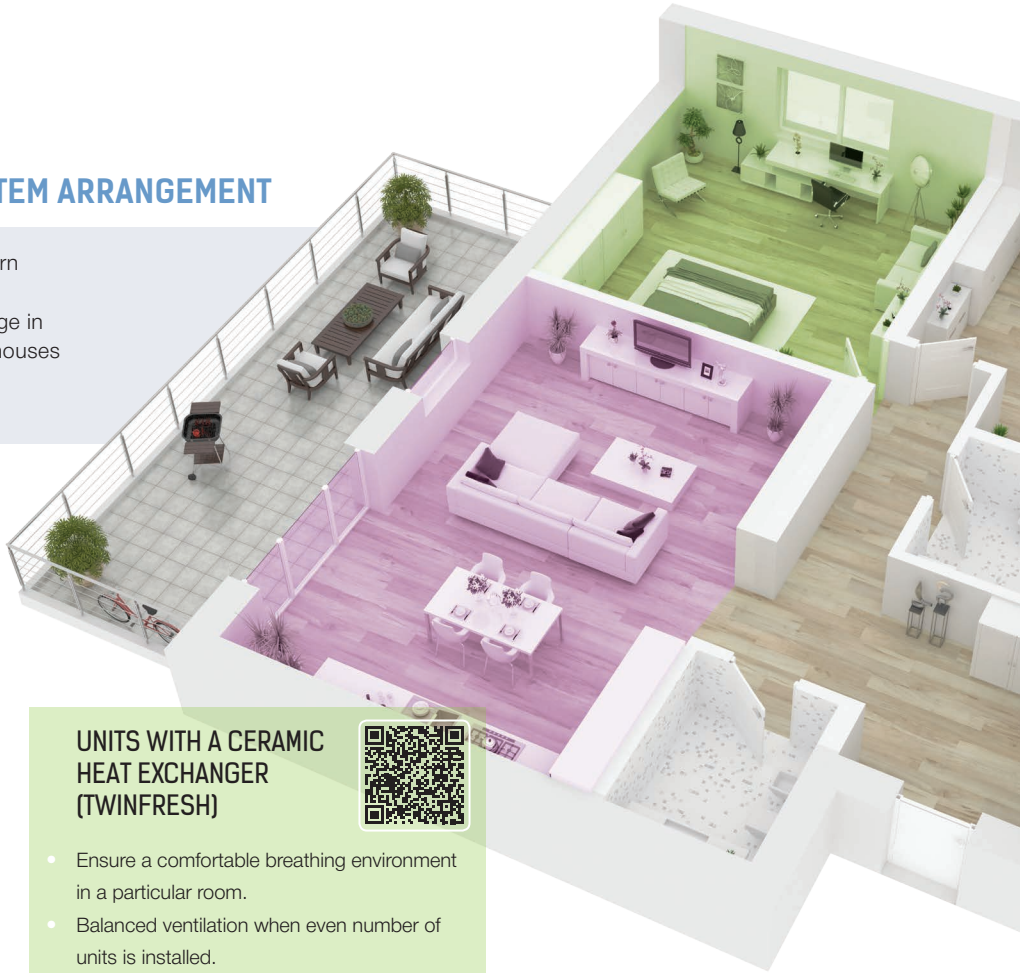
Air supply and extract are carried out by a separate ventilation unit in each room.

Features

- Fresh air intake, filtration and stale air exhaust to outside.
- Compact ventilators do not require any additional elements or ducts, they are ready for use and designed for direct wall mounting in the outer walls of buildings.
- An individual air flow adjustment is possible for each room of a house or an apartment.
- It is necessary to determine only the performance of the unit at design phase, which significantly simplifies the calculations.
- Low fan power due to direct air discharge contributes to low-noise operation.
- Heat recovery and humidity balance in the premises are achieved through the use of heat exchangers.
- Reduce heating costs in winter and air conditioning costs in summer.

SINGLE-ROOM VENTILATION SYSTEM ARRANGEMENT

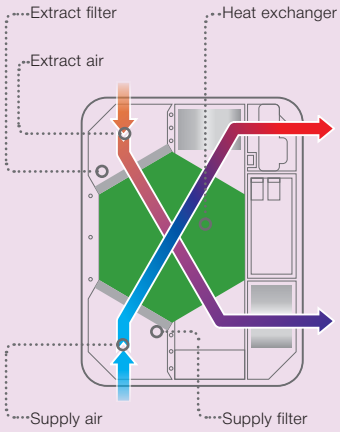
Single-room ventilation system is the most modern and practical solution for creating a comfortable breathing environment and necessary air exchange in reconstructed premises, new and newly settled houses or in residential renovated apartments.



Single-room ventilation improves fire safety due to the absence of air ducts between individual spaces.
Fresh air is supplied through a short air duct in the wall, and the unit does not spend energy on overcoming the resistance of long ducts.

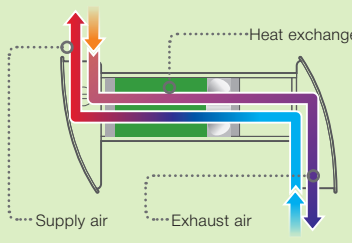
UNITS WITH A PLATE HEAT EXCHANGER (MICRA, DVUT)

- Ensure comfortable breathing environment in a particular room.
- Each space is ventilated on demand.
- Unit speed is set automatically to ensure the proper air quality.
- Direct mounting into the wall.
- Mounting into thin walls without reducing efficiency.
- Simple design makes it fit into any interior.



UNITS WITH A CERAMIC HEAT EXCHANGER (TWINFRESH)

- Ensure a comfortable breathing environment in a particular room.
- Balanced ventilation when even number of units is installed.
- The unit is mounted directly into the wall.
- High efficiency.
- Moisture recovery and no condensate formed.
- Low noise level.
- Suitable for mounting into thin walls without reducing efficiency.
- May be equipped with filters with high filtration efficiency.
- Minimum indoor unit size and easy maintenance.
- May be equipped with an external hood for air outlet to the window aperture, which allows retaining appearance of the facade.



TWINFRESH VENTILATORS

Supply clean fresh air to the premises

Recover heat and provide indoor humidity balance

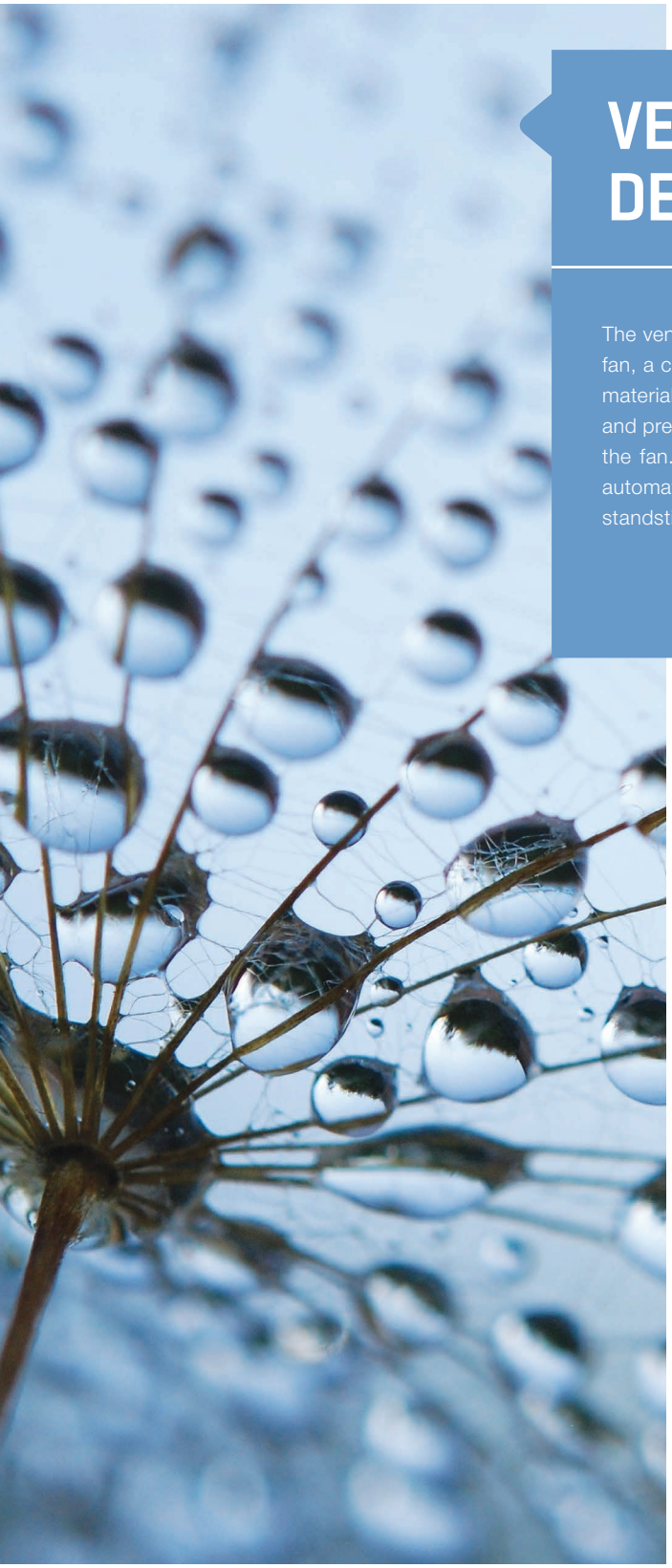
Low energy demand

Prevent penetration of excessive humidity and appearance of mould

Reduce the heating costs in winter and air conditioning costs in summer

Low noise level

Clean intake air from dust, insects, exhaust fumes



VENTILATOR DESIGN

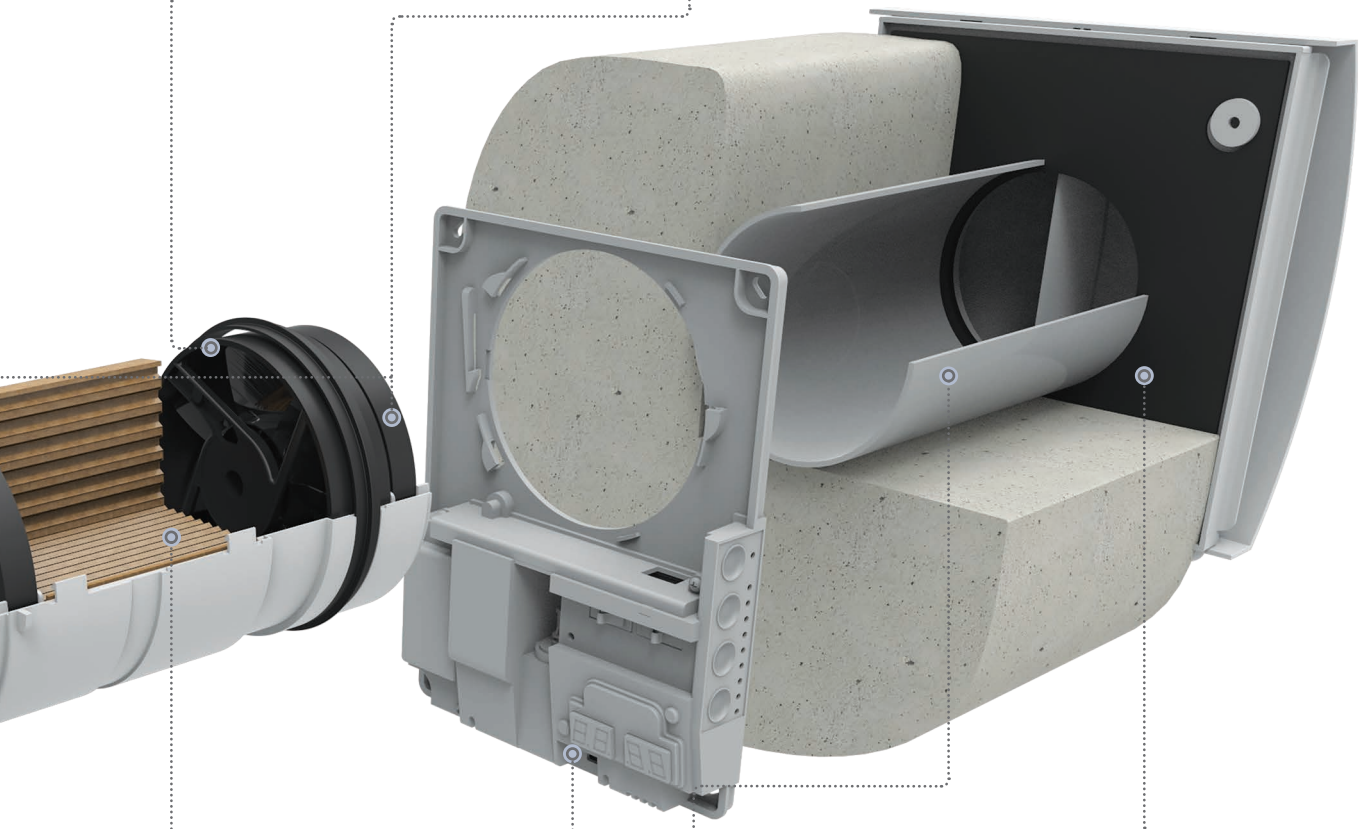
The ventilator consists of an indoor unit with a decorative front panel, a fan, a ceramic regenerator, filters, an air duct with the sound absorbing material and an outer ventilation hood.* Filters ensure rough air filtration and prevent ingress of dust and foreign objects into the regenerator and the fan. The indoor unit is equipped with an automatic air damper or automatic shutters, preventing draft and backdraft during the ventilator standstill.

*The ventilator design depends on the selected model.

AUTOMATIC AIR DAMPER
Shuts off the air duct when switching the ventilator off

FILTERS
Ensure air filtration and prevent ingress of dust and foreign objects into the regenerator and the fan

REVERSIBLE DC MOTOR



CERAMIC REGENERATOR

OUTER VENTILATION HOOD
Prevents ingress of water and foreign objects into the ventilator.

INDOOR UNIT

TELESCOPIC AIR DUCT

CYCLE I.

Stale air extraction

Warm damp stale air is extracted from a premise, simultaneously heating up and moisturising the regenerator.
Filter prevents ingress of contaminants into the regenerator.

In 70 s the ventilator automatically switches to air supply mode.

RETAINS HEAT

To ensure comfort inside a premise the units provide two operation modes: energy regeneration or extract and supply.
Energy regeneration results from reversible operation of the ventilator, consisting of two cycles.

WHEN IT IS COLD OUTSIDE

Warm moistened air enters a room and in 70 seconds the ventilator automatically switches to air extract mode.

Fresh, but cold and dry outside air passes through the regenerator, becomes wet and warm due to the heat accumulated in it.
Filter removes dust and insects from the air.

CYCLE II.

Clean air supply

SAVES ELECTRICAL ENERGY

In order to save electrical energy the units can operate in energy regeneration or supply and extract mode.
Energy regeneration results from reversible operation of the ventilator, consisting of two cycles.

WHEN IT IS HOT OUTSIDE

CYCLE I.

Stale air extraction

Cold stale air is extracted from a premise, cooling the regenerator. Filter prevents ingress of contaminants from air.

In 70 s the ventilator automatically switches to air supply mode.

Cold air enters a premise, and in 70 seconds the ventilator switches to air extract mode.

Fresh warm outside air passes through the regenerator and becomes cool due to the cold accumulated in it.
Filter removes dust and insects from the air.

CYCLE II.

Clean air supply

EFFECTIVE VENTILATION FOR VARIOUS TYPES OF PREMISES

*The area is approximate and depends on the ventilation standards in the user's country.

THE ROOM AREA IS UP TO 15 m²

TwinFresh Expert provides comfortable breathing environment in small premises.
Modern control system, easy mounting and many other additional options are designated for effective ventilation in your house.

№	Picture	Model	Number	Room area*	Internet address
1		TwinFresh Expert RW-30-14 V.2	2	15 m²	
2		VN	1		

THE ROOM AREA IS UP TO 40 m²

TwinFresh Easy is a functional ventilator.
Provides comfortable breathing environment in small premises.

№	Picture	Model	Number	Room area*	Internet address
1		TwinFresh Easy RL7-50-17	4	Up to 40 m²	
2		iFan Wi-Fi	1		

THE ROOM AREA IS **UP TO 108 m²**

TwinFresh Comfo – clean and fresh air in your house.
Perfect solution for large premises: ventilators operate in pairs to ensure a comfortable breathing environment, effortless mounting, automatic draft shutoff by air shutters, easy control.

№	Picture	Model	Number	Room area*	Internet address
1		TwinFresh Comfo RB1-85-14 + SF TwinFresh R50 F8 (filter F8)	2	108 m²	
2		TwinFresh Comfo RB1-50-14	2		
3		IFan Wi-fi	1		
4		TwinFresh Comfo RB1-85-14	2		

TOP 5 REASONS TO CHOOSE TWINFRESH EXPERT

01

YOU CANNOT IMAGINE YOUR LIFE WITHOUT A SMARTPHONE

All domestic appliances are at your disposal at any time.

02

YOU HAVE A SMART HOME SYSTEM

And plan to integrate the ventilation system into it.

03

NO WIRES

All connections are only wireless.

04

COMFORTABLE BREATHING ENVIRONMENT WITHOUT EFFORTS

Let the sensors decide which ventilation speed to choose.

05

SAY «NO» TO DRAFTS!

Fully automatic air damper prevents drafts at the start.

TO CHOOSE TWINFRESH EASY

TOP 6 REASONS

01
APPROPRIATE BREATHING ENVIRONMENT IN EVERY ROOM
Ensures independent ventilation in every room.

02
NO SIGN OF DRAFT
After all, you control it yourself.
It is enough to turn an air damper to shut off air supply.

03
LOW NOISE
Minimal noise level makes you forget you have ventilation system at home.

04
ABSOLUTELY FRESH AIR
With the filters (option) for additional purification.

05
EASY CONTROL
You can control ventilation system by simply pushing one button – in case you have guests or sleep.

06
IT IS ENERGY-SAVING
Saves costs for heating in winter and cooling in summer.

TOP 7 REASONS TO CHOOSE TWINFRESH COMFO

01
YOUR HOUSE IS LARGE
It is difficult to control all rooms.
That is the reason for combining all ventilators within one network.

02
NIGHT MODE
At night time ventilation system operates at the lowest speed.

03
AUTOMATIC SHUTTERS
Protect your house from drafts when the ventilation system is off.

04
CLEAN AND FRESH AIR
With additional purification filters.

05
HUMIDITY SENSORS
Ventilation system automatically switches to higher speed when humidity is high, protecting the house from dampness and mould.

06
EASY MOUNTING AS ONE-TWO-THREE
You need only to mount it, plug into a socket and use!

07
PASSIVE AIR SUPPLY
When the shutters are open, fresh air enters a room even if the ventilator is off.

TWINFRESH

TWINFRESH
EXPERT
RW-30-14 V.2

TWINFRE

Power from

1.8 W

Air flow up to

30 m³/h

Sound pressure level

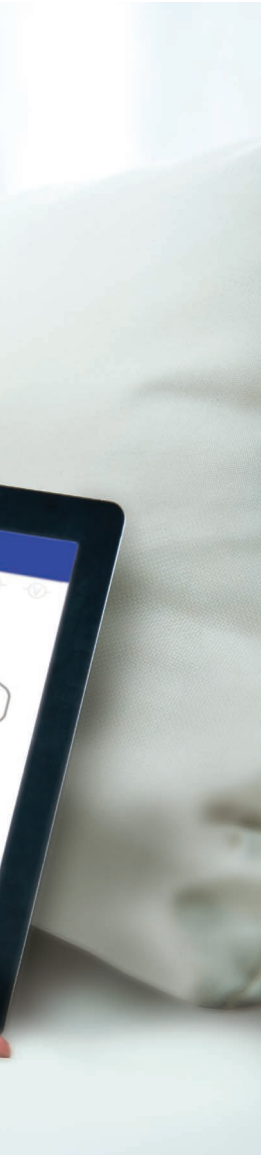
21 dBA

SH

Exclusive ventilator TwinFresh Expert RW-30-14 V.2 ensures fresh and clean air in the room 24 hours a day.

Being non-ducted, the unit can be easily mounted, without requiring additional costs.
The unit is controlled by the mobile application from anywhere in the world.

COMFORT AND SIMPLICITY



MODERN

Exclusive ventilator with wireless control.

ENERGY-EFFICIENT

Energy efficiency of the class A+ means preserving natural resources and reducing costs for your house upkeep.

CARING

Fresh and clean air is provided by a special cartridge consisting of a fan, a regenerator, and filters with high filtration efficiency.

Air flow of just one ventilator is enough to provide the room up to 15 m^2 with fresh air.

It is enough to have only one ventilator operating in direct and reversible modes to provide air supply and extract.

Filters (G3) have antibacterial treatment. Cleaning the filters of dust is done by a vacuum cleaner or water flushing. The antibacterial treatment effect is kept.

EASY CONTROL!

Mobile applications are designated to simplify our daily routine: from buying airline tickets to ordering office lunches.
Smartphone allows to control all appliances in the house, including climatic ones.

And what about small units?
We have good news: small ventilator can be also controlled from your smartphone!

Download the VENTS TWINFRESH mobile app and control all your «Experts» in the house just from your smartphone!

The control buttons are also duplicated on the ventilator casing:

- ON/OFF;
- Speed selection;
- Operation mode selection: ventilation or regeneration.

It is possible to control all the ventilators simultaneously by connecting them to a single Wi-fi network. In this case all ventilators (Slaves) will respond to a signal from the Master ventilator only.

Smartphone, control panel or sensor control can be applied only to Master.

Vents TwinFresh V.2
is available in Google Play Market and App Store

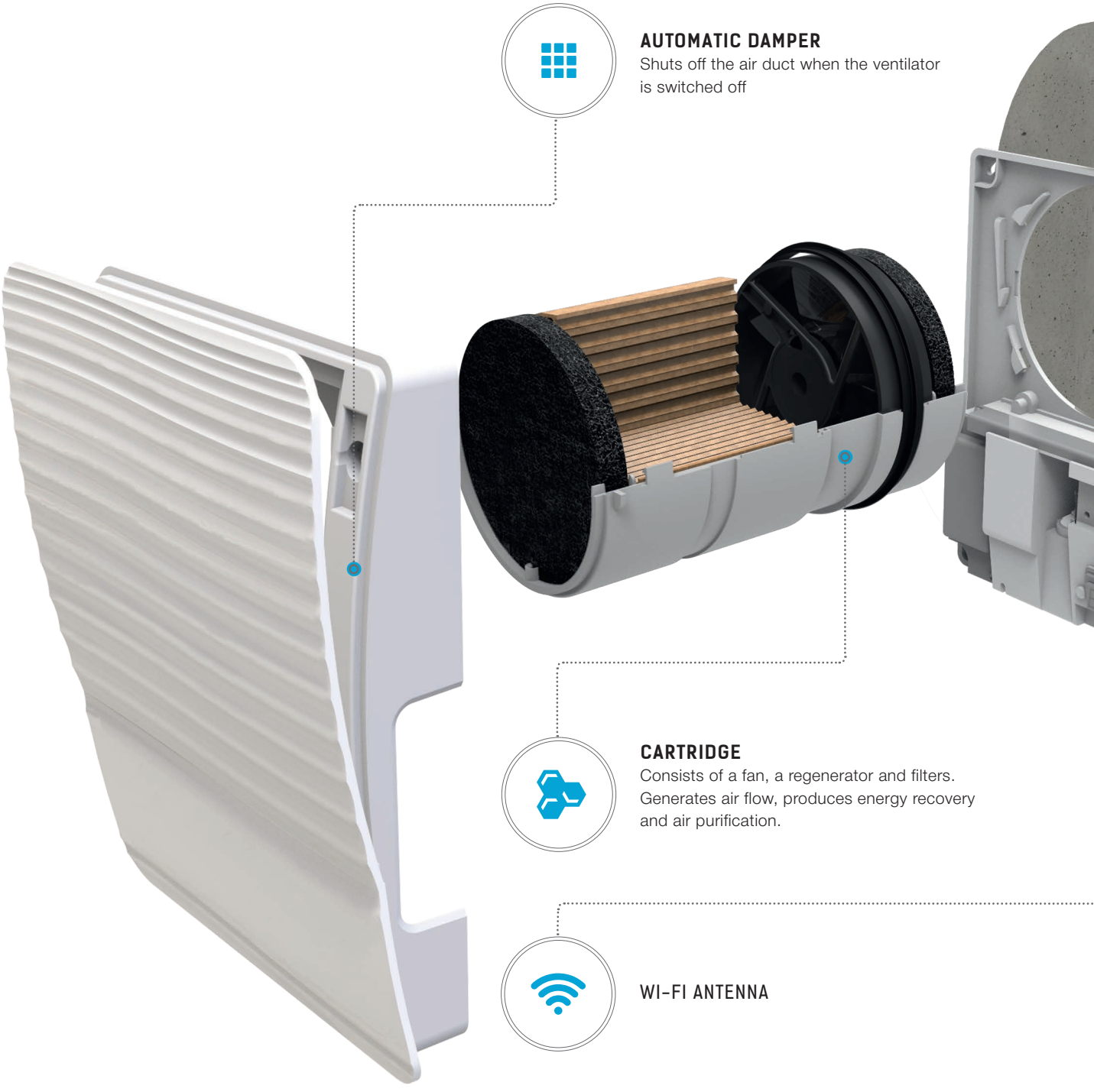
Download on the App Store

Google Play

ADVANTAGES

- Trendy ventilator design.
- Can be mounted inside a prepared hole (from ∅ 100 mm) in a wall.
- Wireless connection of all units to a single Wi-Fi network, without routing the cables.
- Automatic drafts shutoff when the ventilator is off due to the hermetic damper.
- Ventilation of premises with the area of about 15 m^2 (the area is approximate and depends on the ventilation standards in your country).
- High efficiency – 81%.
- A humidity sensor.
- Connection of an external relay CO_2 sensor or other external relay sensors.
- Noise at the level of human whisper (21-31 dBA).
- Simple mounting and maintenance.

HOW IS IT DESIGNED?

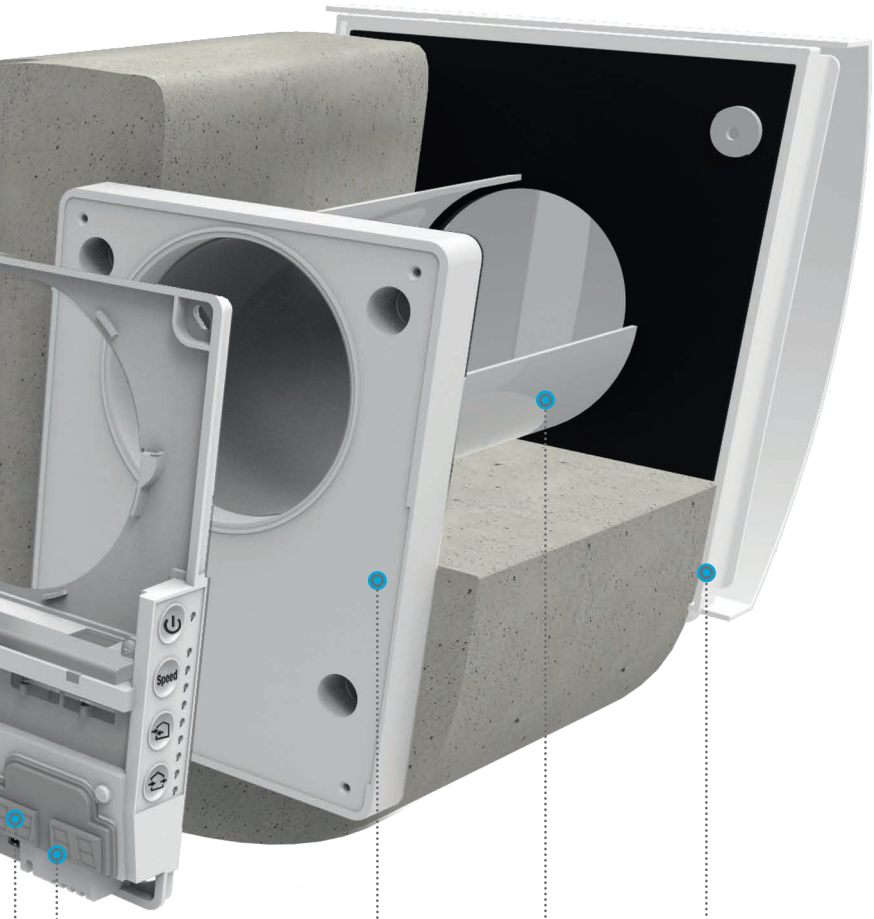


AUTOMATIC DAMPER
Shuts off the air duct when the ventilator is switched off

CARTRIDGE
Consists of a fan, a regenerator and filters. Generates air flow, produces energy recovery and air purification.

WI-FI ANTENNA

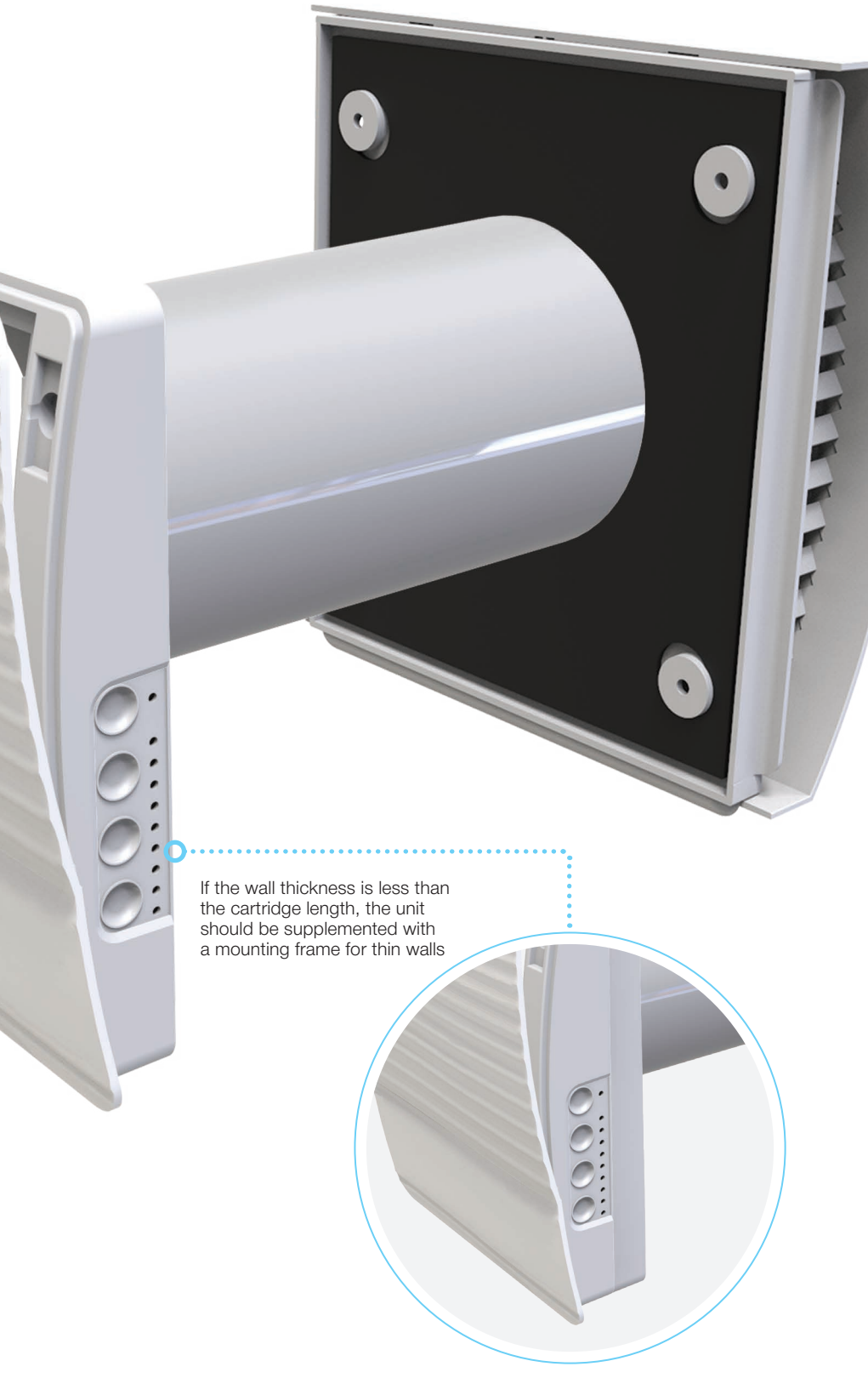
HUMIDITY SENSOR



MOUNTING FRAME (OPTIONAL)
Facilitates mounting of the ventilator in thin walls with the thickness from 135 mm.

TELESCOPIC AIR DUCT

OUTER VENTILATION HOOD
Outer ventilation hood protects the ventilator from ingress of water and foreign objects



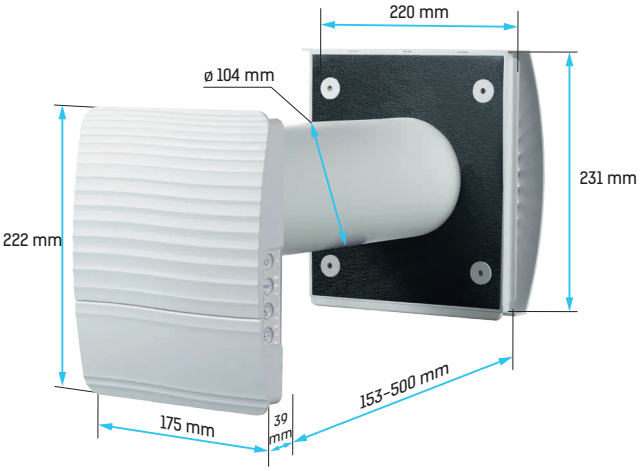
If the wall thickness is less than the cartridge length, the unit should be supplemented with a mounting frame for thin walls

TECHNICAL DATA

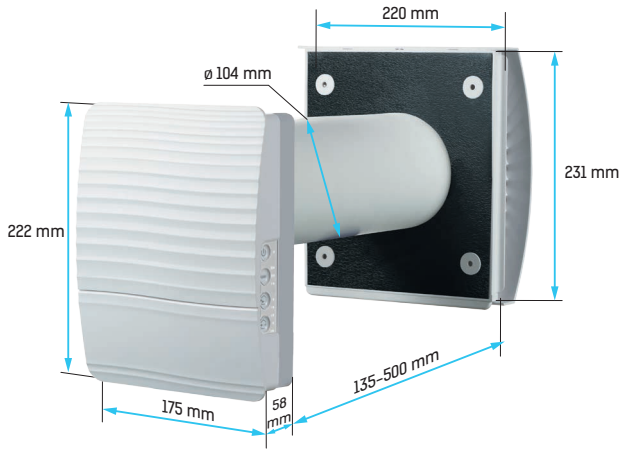
Speed	I	II	III
Unit voltage [V/50 (60) Hz]	100–240		
Power [W]	1.80	3.00	4.40
Current [A]	0.027	0.037	0.051
Air flow in ventilation mode [m³/h (l/s)]	10 (3)	20 (6)	30 (8)
Air flow in energy recovery mode [m³/h (l/s)]	5 (1)	10 (3)	15 (4)
SFP [W/l/s]	1.30	1.08	1.06
Filter	G3		
Transported air temperature [°C]	-15…+40		
Sound pressure level at 1 m distance [dBA]	30	37	40
Sound pressure level at 3 m distance [dBA]	21	28	31
Outdoor sound pressure attenuation in accordance with DIN EN 20140 [dBA]	42		
The classification of the indoor/outdoor air tightness, according to EN 13141-8 [m³/h]	D1		
Heat recovery efficiency in accordance with DIBt LÜ-A 20 [%]	≤ 81		
Protection class	IP24		

OVERALL DIMENSIONS

Twinfresh Expert RW-30-14 V.2

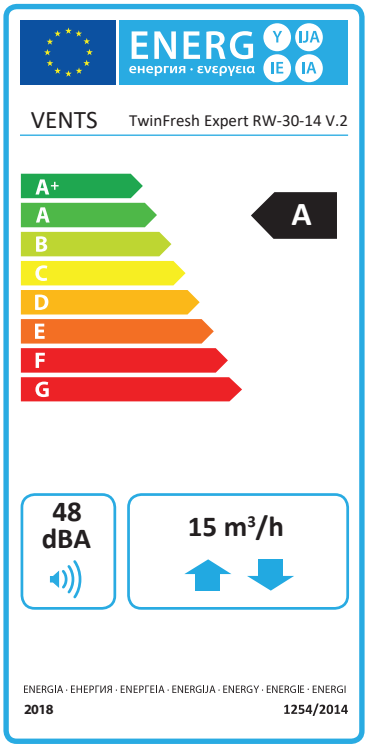


TwinFresh Expert RW-30-14 V.2
with a mounting frame for thin walls



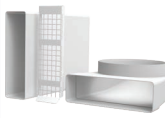
ECODESIGN

Specific energy consumption (SEC) [kWh/(m².a)]	Cold		Average		Warm	
	-79	A+	-38	A	-15	E
Type of ventilation unit	Bidirectional					
Type of drive installed	Three-speed					
Type of heat recovery system	Regenerative					
Thermal efficiency of heat recovery [%]	71					
Maximum air flow rate [m³/h]	15					
Power [W]	4.4					
Sound power level [dBA]	48					
Reference air flow rate [m³/s]	0.005					
Reference pressure difference [Pa]	N/A					
Specific power input (SPI) [W/(m³/h)]	0.2					
Control typology	Local control					
Maximum internal leakage rate [%]	2.7					
Maximum external leakage rate [%]	N/A					
Mixing rate of bidirectional units [%]	1					
The classification of the airflow sensitivity to pressure variations, according to EN 13141-8 [%]	37					
The classification of the indoor/outdoor air tightness, according to EN 13141-8 [m³/h]	5.2					
Internet address	http://www.ventilation-system.com					
The annual electricity consumption (AEC) [kWh electricity/a]	Cold		Average		Warm	
	175		175		175	
The annual heating saved (AHS) [kWh primary energy/a]	Cold		Average		Warm	
	8294		4240		1917	



ACCESSORIES

Hoods	EH-14 white 100		Plastic hood. Colour options: White, Black, Grey, Terracotta, Brown, Beige
	EH-14 chrome 100		Grey plastic outer hood with a brushed stainless steel cover
	EH-17 white 100		Plastic hood. Colour options: White, Black, Grey, Terracotta, Brown, Beige
	EH-2 grey 100		Grey painted stainless steel outer hood for thin walls
	EH-2 chrome 100		Brushed stainless steel hood for thin walls

Angular mounting	NP 100 white-0078		Kit for angular mounting with a white grille
	NP 100 chrome-0079		Kit for angular mounting with a stainless steel outer grille

Mounting elements	1810		Round telescopic air duct 500-1000 mm
	T TwinFresh Expert R-30		Cardboard template for the unit indoor mounting

For ventilator control	KV TwinFresh Expert RW		Wi-Fi connected sensor control panel
	CO2-1		CO_2 sensor with LED indication and sensor buttons
	CO2-2		CO_2 sensor

Filters	SF TwinFresh Expert R-30 G3		G3 filter kit (2 pcs.)

TWINFRESH **EASY** **RL7-50-17**

TWINFRESH **EASY-D** **RL7-50-17**

TWINFRE

Power from

1 W

Air flow up to

50 m³/h

Sound pressure level from

12 dBA

SH

The modern TwinFresh Easy RL7-50-17 ventilator will provide the room with clean and fresh air.
Filters with a high filtration efficiency will not let in harmful dust, resin and smog, and the internal noise insulation of the ventilator provides peace and silence at your home.

MODERN AND SILENT

FUNCTIONAL

The ventilator is controlled via a wall-mounted LCD panel or a remote control.

SILENT

The operation is silent but still very effective.

RELIABLE

Low power consumption as well as motor overheating protection will ensure long service life.

G3 filters provide coarse air filtration from dust and soot. The F8 filter with PM 2.5 filtration efficiency is available as an option.

Sound-insulating material suppresses street noise.

Two ventilators are controlled by means of one control panel.

Easy control via a wall-mounted LCD panel or a remote control.

Operation modes:

- Speed setup
- Operation mode setup
  - Ventilation
  - Regeneration
- Timer setup
  - 4 hours at the speed III
  - 8 hours at the speed I
  - Optimal speed – II

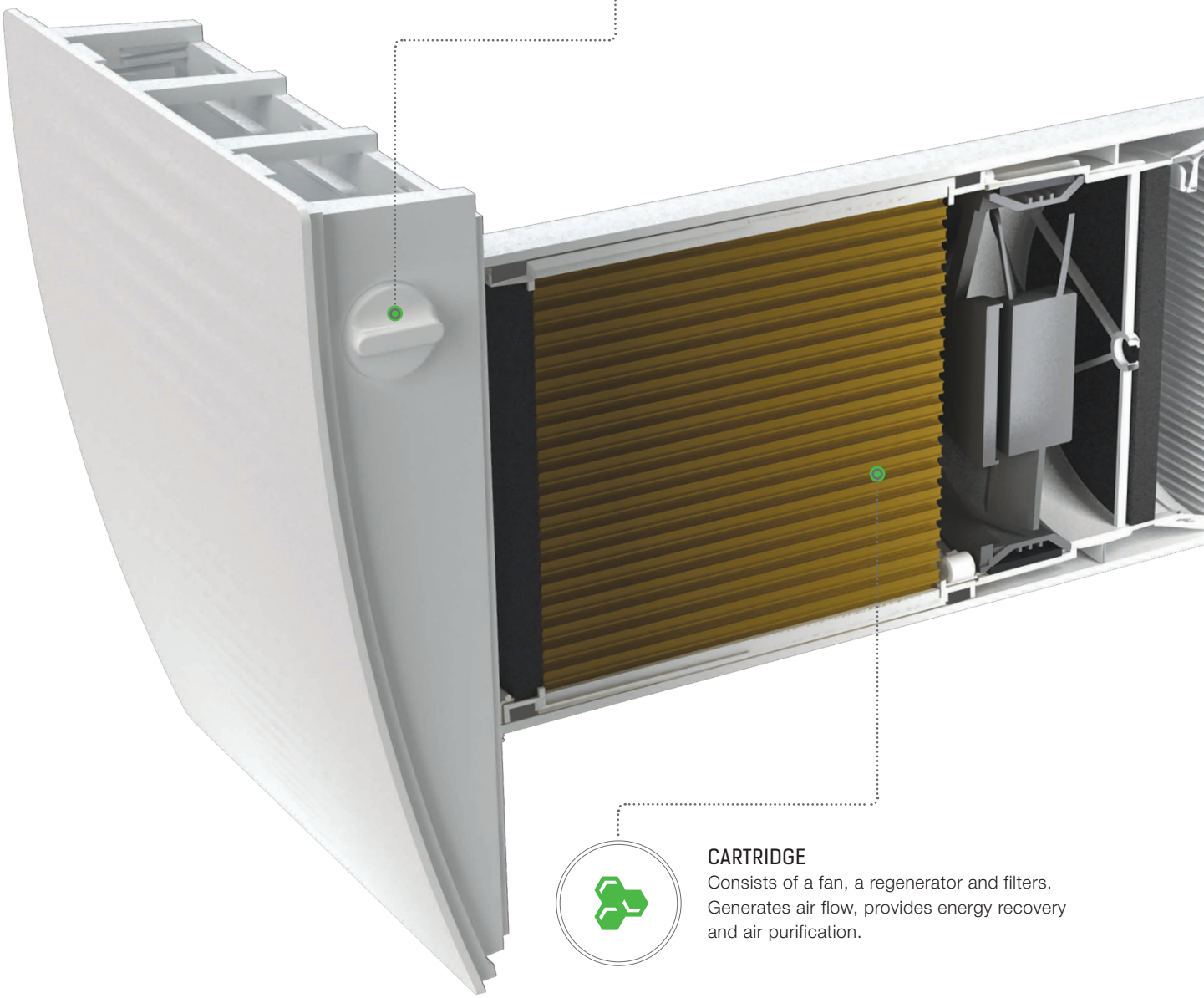
VARIETY OF OPTIONS

ADVANTAGES

- Connection of two ventilators to a single control panel.
- Simple unit control by a remote control or a wall-mounted panel without using other automatic devices.
- Manual hermetic damper shutoff when the unit is switched off to be 100 % sure there will be no drafts.
- Noise at the level of rustling leaves (12-20 dBA).
- High efficiency – up to 92%.
- Operation at temperatures up to -30 °C when using appropriate accessories.
- Filter (F8) of high filtration efficiency can additionally purify air.
- Ventilation of premises with the area of about 40 m² (the area is approximate and depends on the ventilation standards in your country).

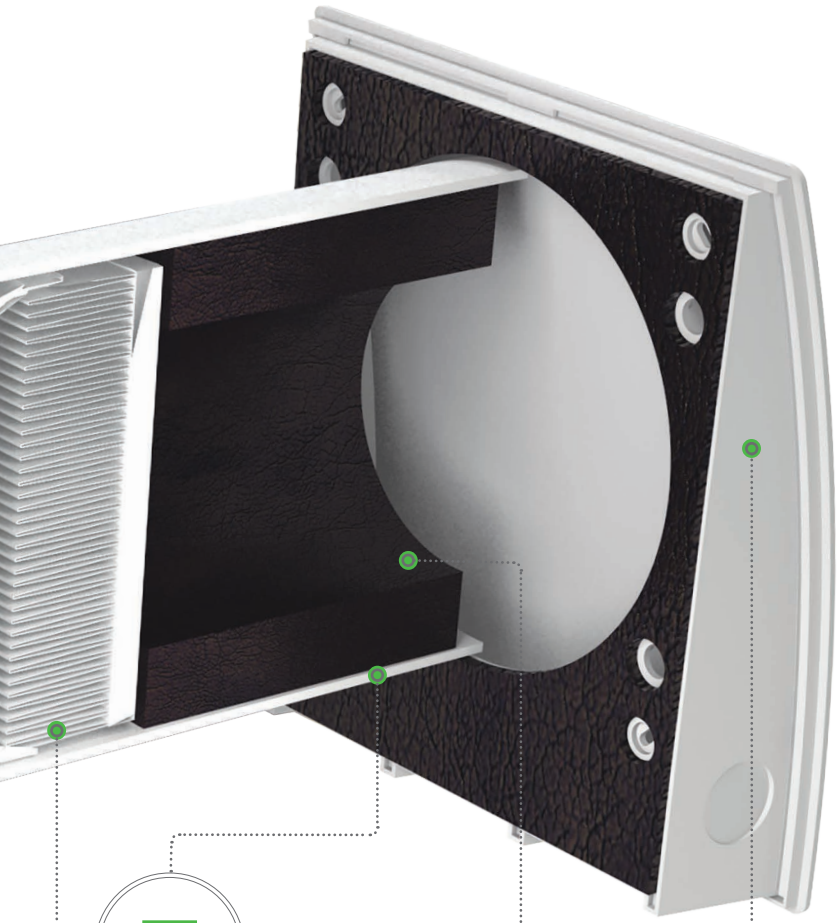
HOW IS IT DESIGNED?

INTERNAL GRILLE
Equipped with a manually actuated air damper



CARTRIDGE
Consists of a fan, a regenerator and filters. Generates air flow, provides energy recovery and air purification.

F8 FILTER (OPTIONAL)
Provides PM2.5 purification efficiency of 99 %.



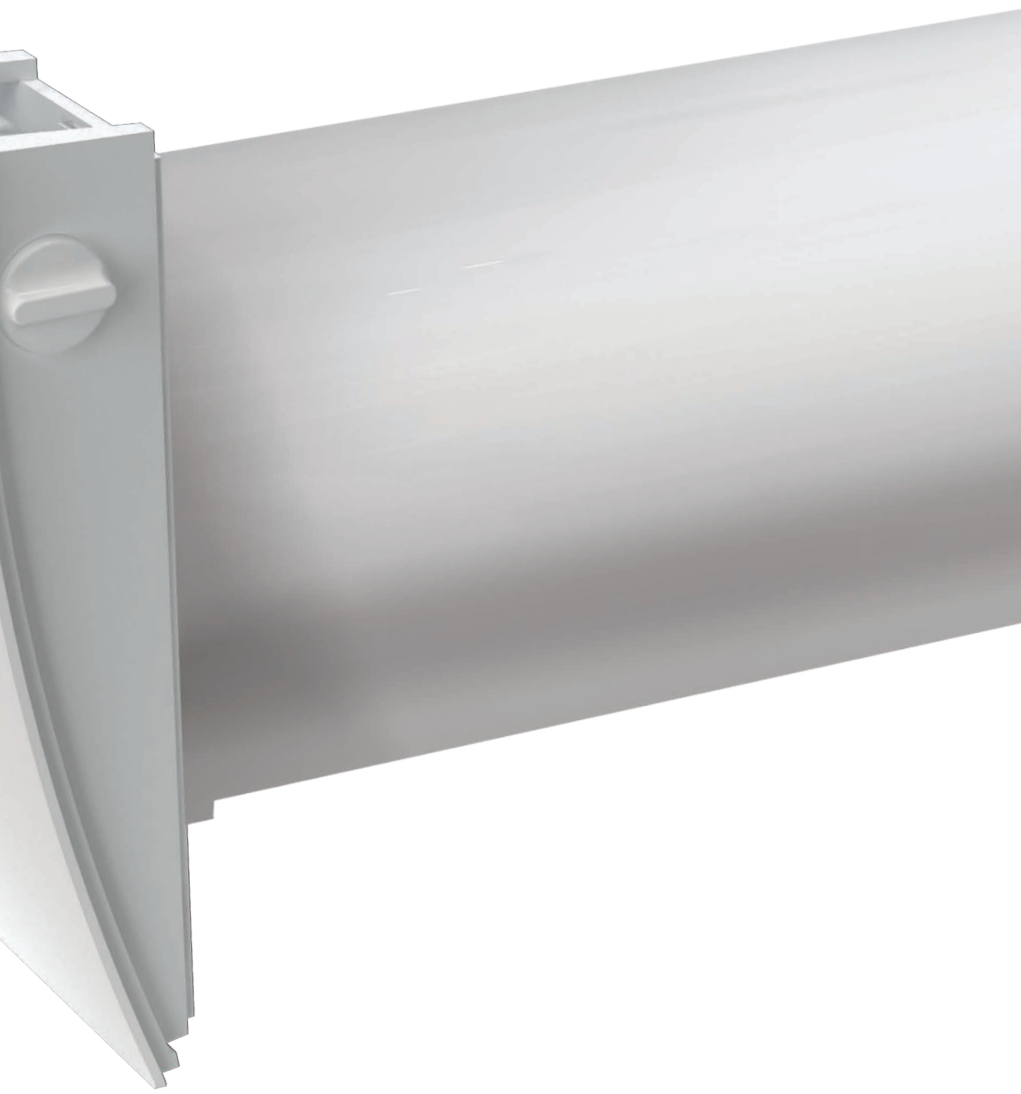
AIR DUCT

SOUND ABSORBING MATERIAL

A layer of sound-absorbing material for attenuation of noise generated during the ventilator operation

OUTER HOOD

Protects the ventilator from ingress of water and foreign objects



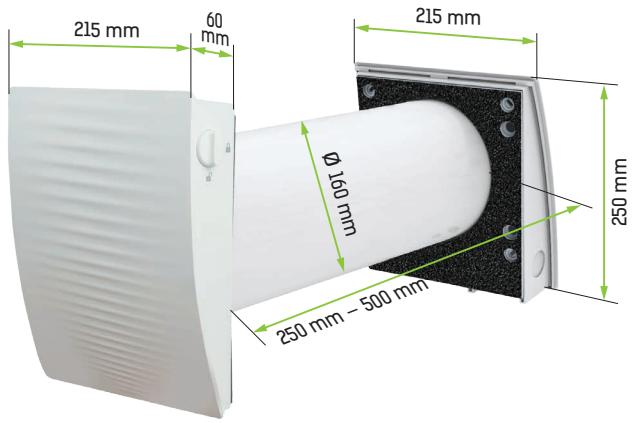
TECHNICAL DATA

Model	TwinFresh Easy RL7-50-17			TwinFresh Easy-D RL7-50-17		
Speed	I	II	III	I	II	III
Unit voltage [V/50 (60) Hz]	100-240 / 50-60			100-240 / 50-60		
Power [W]	1	2.1	4.3	2.37	3.8	7.61
Current [A]	0.017	0.025	0.041	0.033	0.047	0.080
Air flow in ventilation mode [m³/h (l/s)]	15 (4)	30 (8)	50 (14)	15 (4)	30 (8)	50 (14)
Air flow in energy recovery mode [m³/h (l/s)]	8 (2)	15 (4)	25 (7)	15 (4)	30 (8)	50 (14)
SFP [W/l/s]	0.48	0.50	0.62	0.57	0.46	0.55
Filter	G3 (F8 optional)					
Transported air temperature [°C]	-15*...+40					
Sound pressure level at 1 m distance [dBA]	21	27	29	21	27	29
Sound pressure level at 3 m distance [dBA]	12	18	20	12	18	20
Outdoor sound pressure attenuation in accordance with DIN EN 20140 [dBA]	41					
The classification of the airflow sensitivity to pressure variations, according to EN 13141-8 [%]	–	–	S3	–	–	S3
The classification of the indoor/outdoor air tightness, according to EN 13141-8 [m³/h]	D1					
Heat recovery efficiency in accordance with DIBt LÜ-A 20 [%]	≤ 92			≤ 92		
F8 filter filtration rate PM2.5 [%]	99					
Air flow with F8 filter applied [m³/h]	40					

*-30 °C when the C3 TwinFresh cartridge and the EH-13 hood are applied.

OVERALL DIMENSIONS

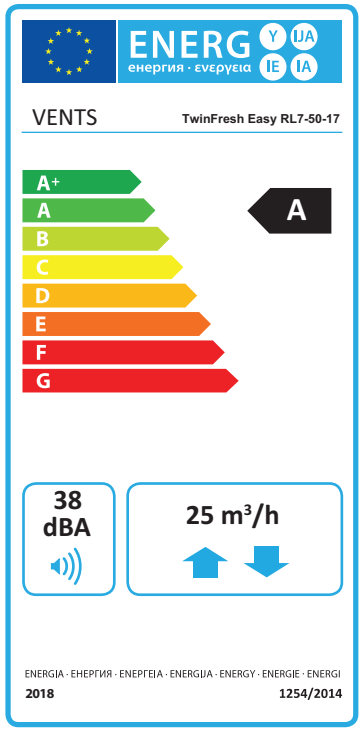
- TwinFresh Easy RL7-50-17
- TwinFresh Easy-D RL7-50-17

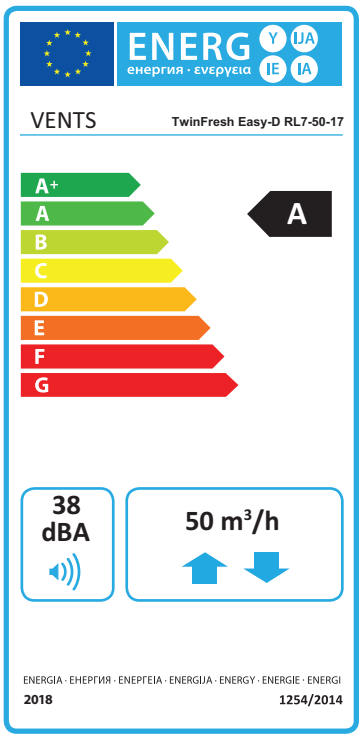


TwinFresh Easy RL7-50-2
with a hood for thin walls

ECODESIGN

Model	TwinFresh Easy RL7-50-17						TwinFresh Easy-D RL7-50-17					
Specific energy consumption (SEC) [kWh/(m².a)]	Cold		Average		Warm		Cold		Average		Warm	
	-76	A+	-37	A	-14	E	-76.2	A+	-37	A	-15	E
Type of ventilation unit	Bidirectional											
Type of drive installed	Three-speed											
Type of heat recovery system	Regenerative											
Thermal efficiency of heat recovery [%]	76						76					
Maximum air flow rate [m³/h]	25						50					
Power [W]	4.3						7.6					
Sound power level [dBA]	38						38					
Reference air flow rate [m³/s]	0.004						0.008					
Reference pressure difference [Pa]	0						0					
Specific power input (SPI) [W/(m³/h)]	0.14						0.127					
Control typology	Clock control											
Maximum internal leakage rate [%]	2.7											
Maximum external leakage rate [%]	0											
Mixing rate of bidirectional units [%]	1											
The classification of the airflow sensitivity to pressure variations, according to EN 13141-8 [%]	26											
The classification of the indoor/ outdoor air tightness, according to EN 13141-8 [m³/h]	2.4											
Internet address	http://www.ventilation-system.com											
The annual electricity consumption (AEC) [kWh electricity/a]	Cold		Average		Warm		Cold		Average		Warm	
	179		179		179		162		162		162	
The annual heating saved (AHS) [kWh primary energy/a]	Cold		Average		Warm		Cold		Average		Warm	
	8024		4140		1855		8024		4140		1855	

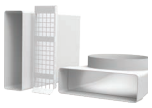




ACCESSORIES

Hoods	EH-14 white 160		Plastic hood. Colour options: White, Black, Grey, Terracotta, Brown, Beige
	EH-14 chrome 160		Grey plastic outer hood with a brushed stainless steel cover
	EH-17 white 160		Plastic hood. Colour options: White, Black, Grey, Terracotta, Brown, Beige
	EH-2 grey 160		Grey painted stainless steel outer hood for thin walls
	EH-2 chrome 160		Brushed stainless steel hood for thin walls
	EH-13 white 160		White painted aluminium outer hood for cold climate
	EH-13 chrome 160		Stainless steel ventilation hood for cold climate
	MVVM 162 05		Ventilation hood for indoor mounting

Grilles	MVMO 150 bVIs An		Round metal grille
	MVM 152 bVs N		Round stainless steel hood

Angular mounting	NP white 160		Kit for angular mounting with a white grille
	NP chrome 160		Kit for angular mounting with a stainless steel outer grille

Mounting elements	Duct 160-500		Round air duct (Ø 160, length – 500 mm) with a polystyrene plug
	Duct 160-700		Round air duct (Ø 160, length – 700 mm) with a polystyrene plug
	C3 TwinFresh		Cartridge for cold climate

For ventilator control	RC TwinFresh Easy RL-50		Remote control
	KV TwinFresh Easy RL-50		LCD control panel

Filters	SF TwinFresh Easy R-50 G3		G3 filter kit (2 pcs.)
	SF TwinFresh Easy R-50 F8		F8 filter (supplied with a plastic cup)

TWINFRESH **COMFO RB1-50-14**

TWINFRESH **COMFO RB1-85-14**

TWINFRE

Power from

4.5 W

Air flow up to

50 m³/h

Sound pressure level from

13 dBA

Power from

4.74 W

Air flow up to

85 m³/h

Sound pressure level from

19 dBA

SH

The TwinFresh Comfo user-friendly ventilator ensures fresh and clean air with an ideal level of humidity in your house.

FUNCTIONAL AND RELIABLE

UNIVERSAL

Many units can be connected to one network.

EFFICIENT

The ventilator can operate in a passive supply mode: the air shutters are open providing a natural air flow.

USER-FRIENDLY

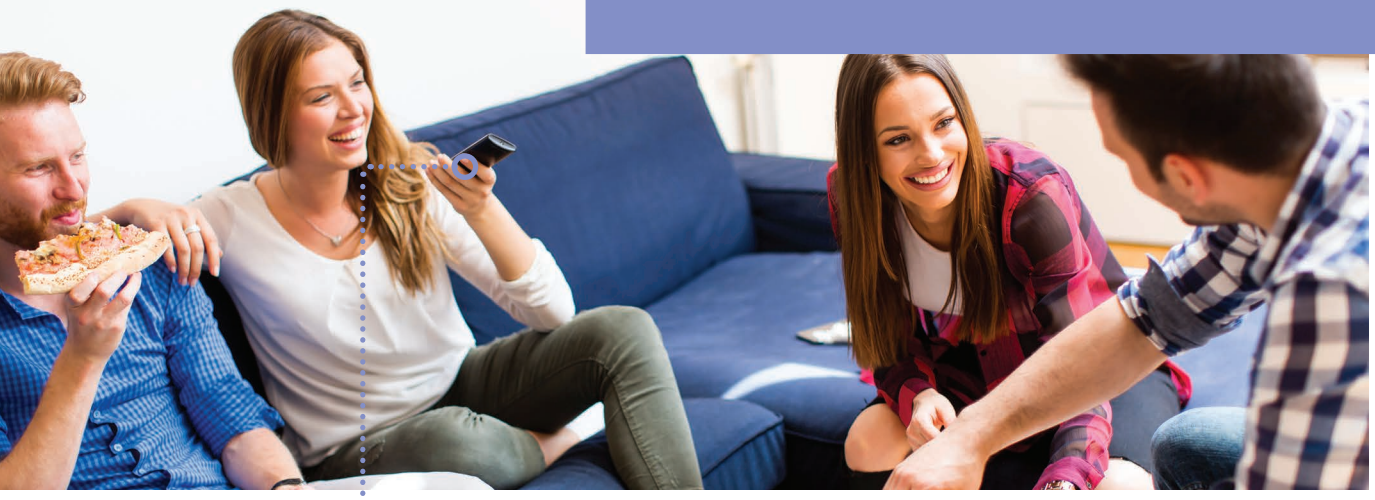
The design of the unit allows easy maintenance of the ventilator.

The humidity threshold in the room can be controlled by choosing one of three modes on the remote control.

Night mode
The ventilator switches to the first speed in the dark time of the day.

Easy mounting of the mounting plate by means of magnets.

EASY CONTROL

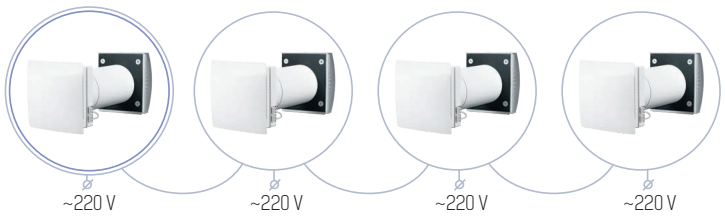


The TwinFresh Comfo series ventilators are equipped with a remote control.

Operation modes:

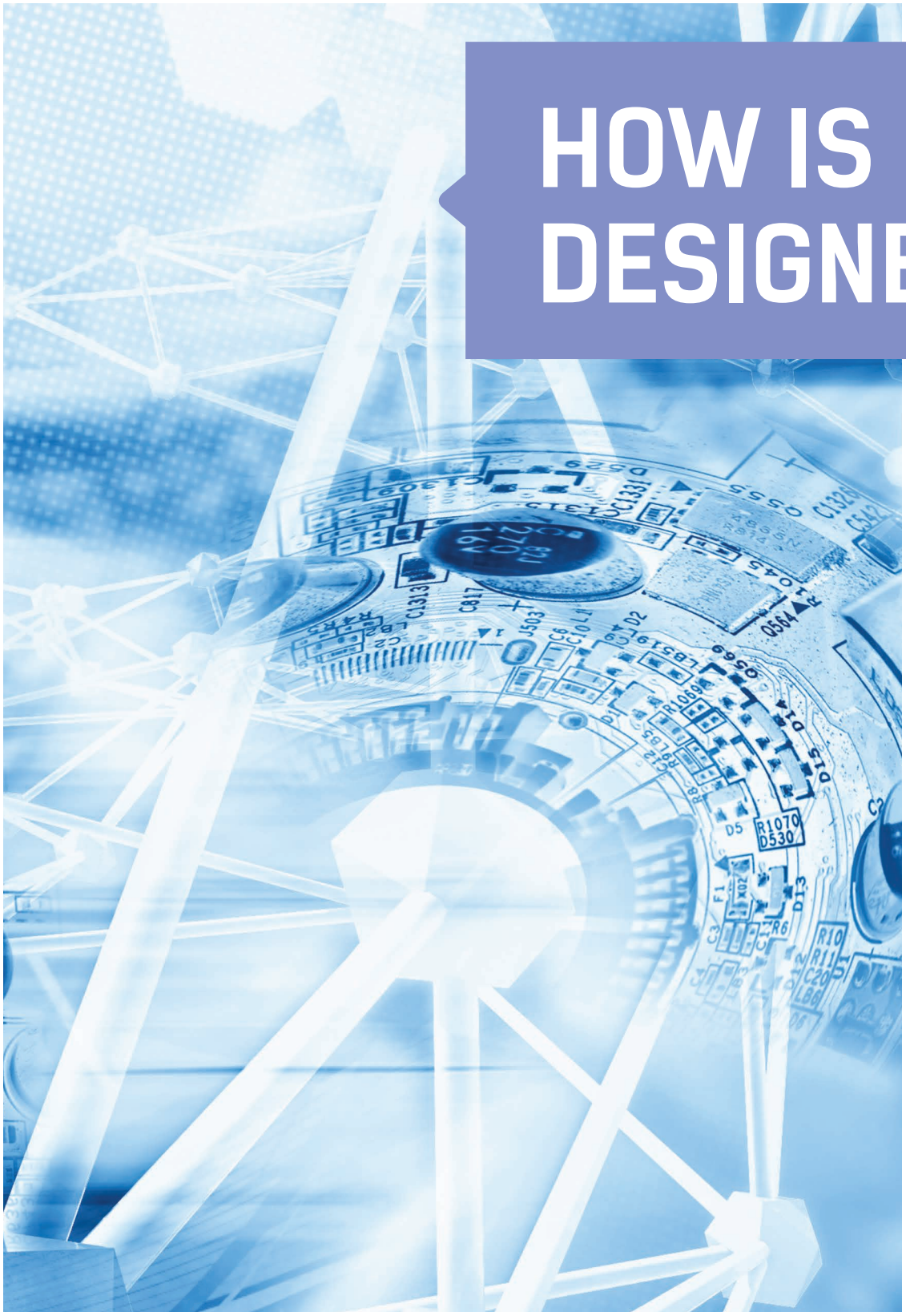
- Night mode
  The integrated light sensor sends a signal to switch the ventilator to low speed mode.
- Speed switching
- Passive air supply
  In this mode the shutters are open, but the fan does not operate.
- Air supply
  In this mode all ventilators will operate in supply mode irrespective of the maximum air supply setting.
- Ventilation
  All the ventilators in the network operate in permanent air extract or air supply mode. To ensure balanced ventilation at the stage of installation it is advisable to set one half of the ventilators to air supply mode and the other part of the ventilators to air extract mode.
- Ventilation with heat recovery
- Humidity control mode selection

To provide centralised control all ventilators should be connected to one network. However, only Master responds to the signals from the control panel, the remote control, and the humidity sensor.



- Simple mounting – you need only to mount it, plug into a socket and use!
- The unit properly operates at temperatures up to -20 °C (-30 °C if it is equipped with a ventilation hood for cold climate).
- Many units can be connected to one network by control cables.
- Automatic drafts shutoff when the ventilator is off.
- Ventilation of premises with the area of about 40 m² (the area is approximate and depends on the ventilation standards in your country).
- High efficiency – up to 90%.
- Integrated humidity sensor for the automated unit operation.
- Control is provided by the remote control or buttons on the casing.
- Noise level is from 13 up to 34 dBA.
- F8 filter of high filtration efficiency can additionally purify supply air.

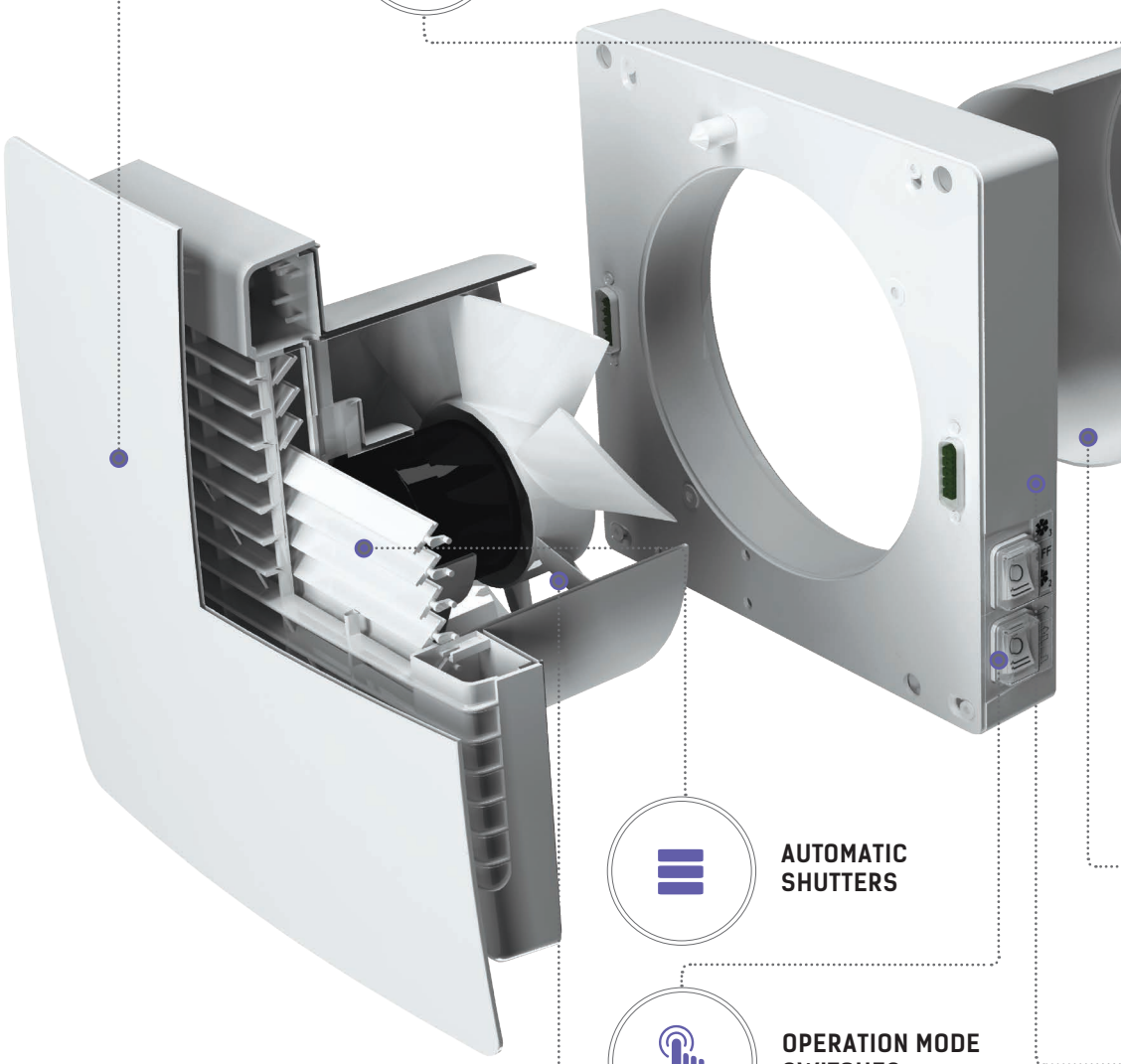
ADVANTAGES



HOW IS IT DESIGNED?

FRONT PANEL

AIR FLOW RECTIFIER

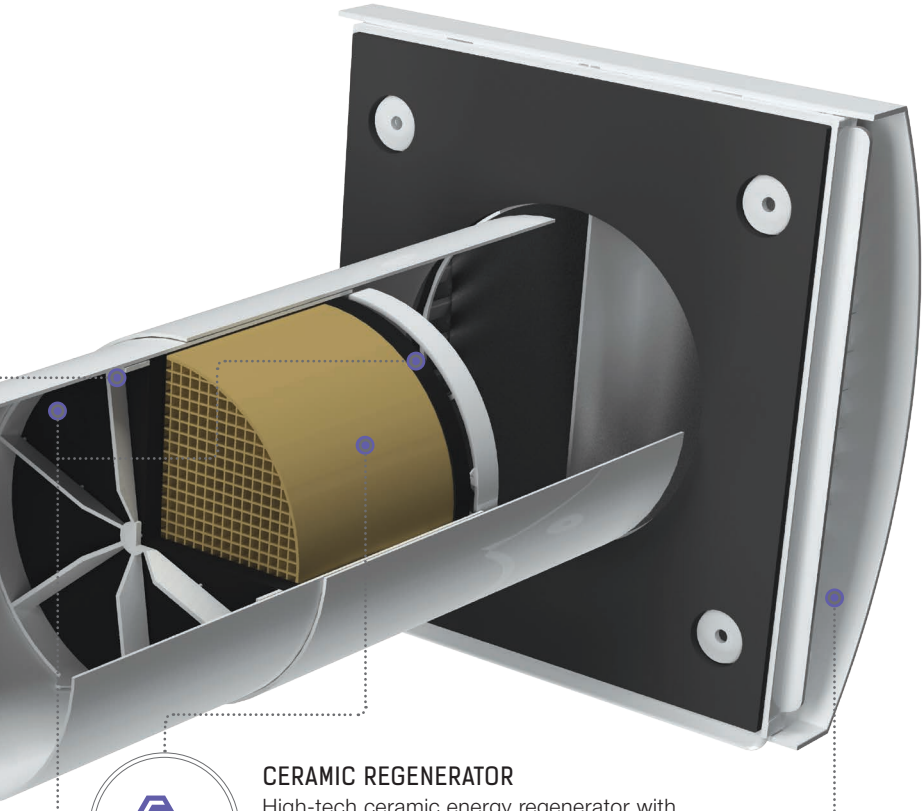


AUTOMATIC SHUTTERS

OPERATION MODE SWITCHES

DC FAN

Reversible axial fan with a DC motor and 12 V power supply.



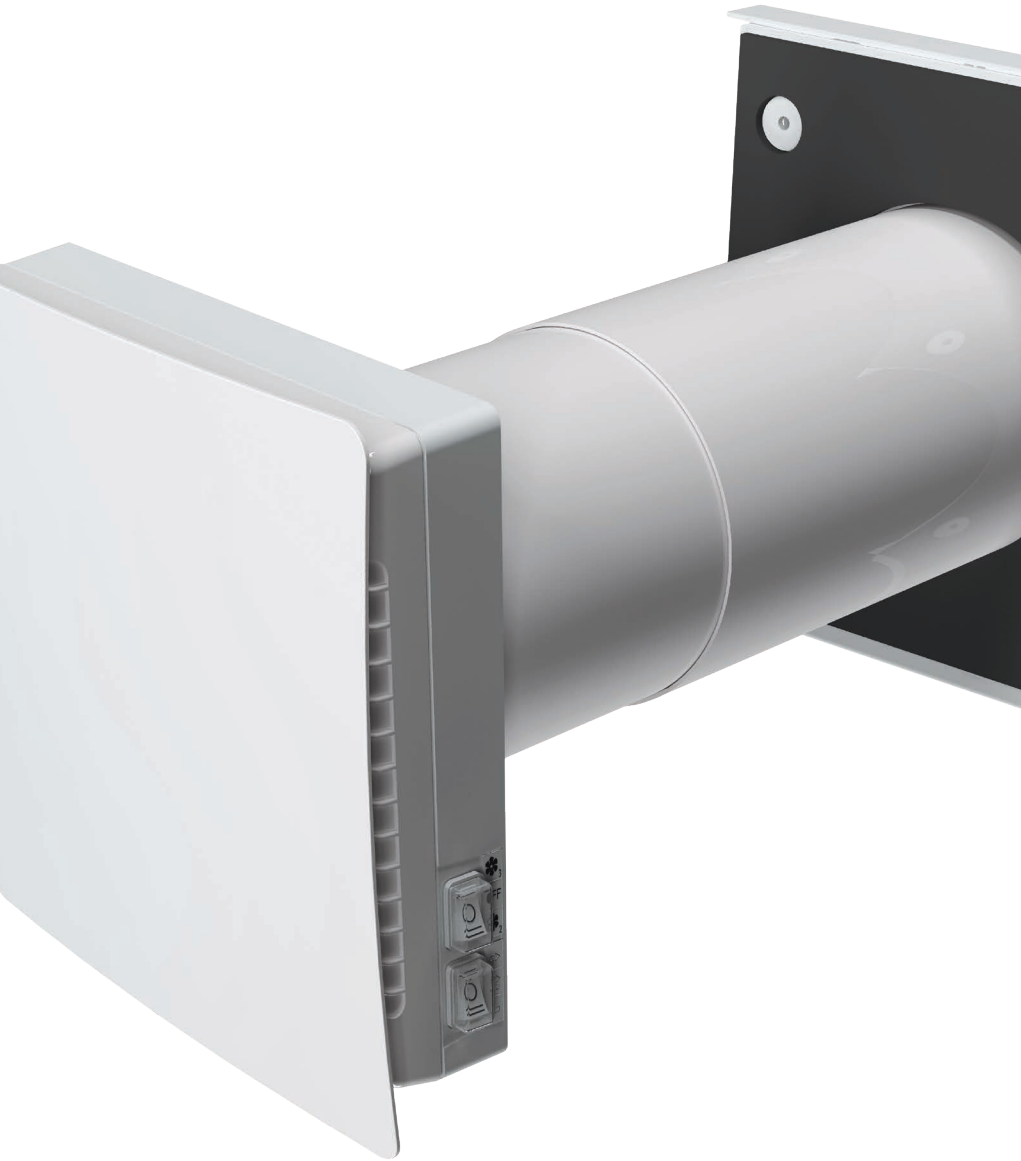
CERAMIC REGENERATOR
High-tech ceramic energy regenerator with the regeneration efficiency of up to 90%

FILTERS
The G3 air filter provides supply and extract air filtration.
F8 filter is available as an option.

AIR DUCT

MOUNTING PLATE
Used as a mounting box for installation the ventilation unit on the wall and connecting the ventilator to power supply.

OUTER HOOD
Protects the ventilator from ingress of water and foreign objects.



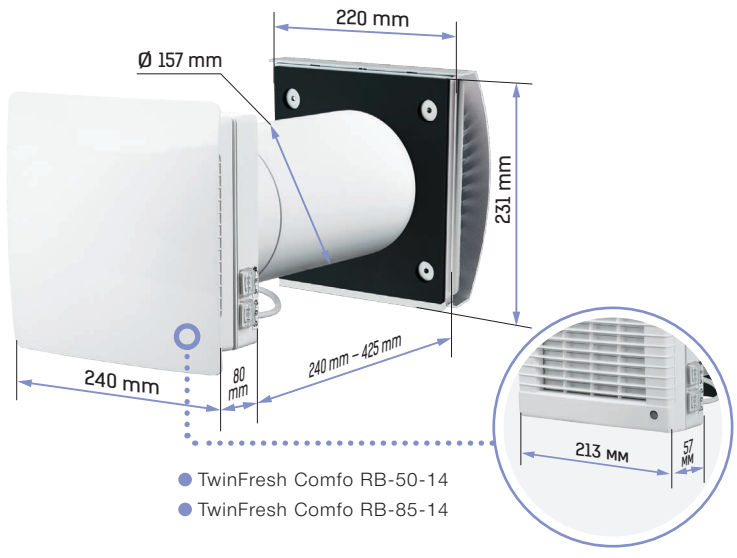
TECHNICAL DATA

Model	TwinFresh Comfo RB1-50-14			TwinFresh Comfo RB1-85-14		
Speed	I	II	III	I	II	III
Unit voltage [V/50 (60) Hz]	100-240 / 50-60			100-240 / 50-60		
Power [W]	4.5	5	7	4.74	6.56	9.65
Current [A]	0.024	0.026	0.039	0.034	0.050	0.071
Air flow in ventilation mode [m³/h (l/s)]	21 (6)	32 (9)	50 (14)	36 (10)	59 (16)	85 (24)
Air flow in energy recovery mode [m³/h (l/s)]	11 (3)	16 (4)	25 (7)	18 (5)	30 (8)	43 (12)
SFP [W/l/s]	1.54	1.12	1.01	0.95	0.8	0.82
Filter	G3 (F8 optional)					
Transported air temperature [°C]	-20*...+40					
Sound pressure level at 1 m distance [dBA]	22	29	32	29	35	44
Sound pressure level at 3 m distance [dBA]	13	20	23	19	25	34
Outdoor sound pressure attenuation in accordance with DIN EN 20140 [dBA]	40					
Heat recovery efficiency in accordance with DIBt LÜ-A 20 [%]	≤ 88			≤ 90		
Protection class	IP24					

* -30 °C when the EH-13 hood is applied.

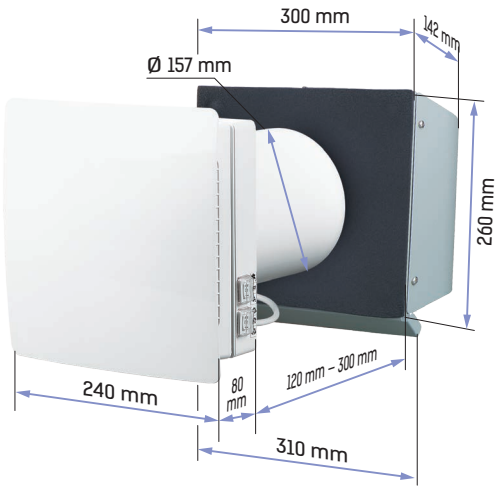
OVERALL DIMENSIONS

- TwinFresh Comfo RB1-50-14
- TwinFresh Comfo RB1-85-14



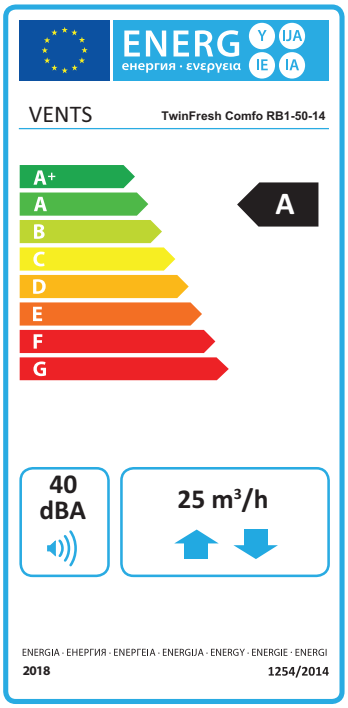
- TwinFresh Comfo RB-50-14
- TwinFresh Comfo RB-85-14

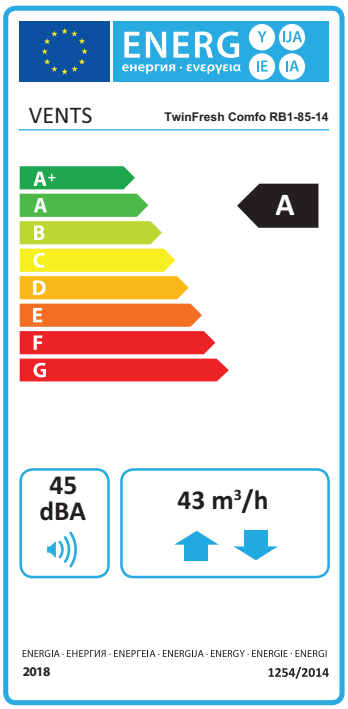
- TwinFresh Comfo RB1-50-2
- TwinFresh Comfo RB1-85-2 with a hood for thin walls



ECODESIGN

Model	TwinFresh RB1-50-14						TwinFresh RB1-85-14					
Specific energy consumption (SEC) [kWh/(m².a)]	Cold		Average		Warm		Cold		Average		Warm	
	-81	A+	-39	A	-14	E	-78	A+	-38	A	-15	E
Type of ventilation unit	Bidirectional											
Type of drive installed	Three-speed											
Type of heat recovery system	Regenerative											
Thermal efficiency of heat recovery [%]	80						69					
Maximum air flow rate [m³/h]	25						43					
Power [W]	7						9.65					
Sound power level [dBA]	40						45					
Reference air flow rate [m³/s]	0.004						0.008					
Reference pressure difference [Pa]	0						0					
Specific power input (SPI) [W/(m³/h)]	0.313						0.222					
Control typology	Local automatic control											
Maximum internal leakage rate [%]	2.7											
Maximum external leakage rate [%]	0											
Mixing rate of bidirectional units [%]	1											
The classification of the airflow sensitivity to pressure variations, according to EN 13141-8 [%]	-											
The classification of the indoor/ outdoor air tightness, according to EN 13141-8 [m³/h]	-											
Internet address	http://www.ventilation-system.com											
The annual electricity consumption (AEC) [kWh electricity/a]	Cold		Average		Warm		Cold		Average		Warm	
	226		226		226		161		161		161	
The annual heating saved (AHS) [kWh primary energy/a]	Cold		Average		Warm		Cold		Average		Warm	
	8695		4445		2010		8205		4194		1897	





ACCESSORIES

Hoods	EH-14 white 160		Plastic hood. Colour options:  White Black Grey Terracotta Brown Beige
	EH-14 chrome 160		Grey plastic outer hood with a brushed stainless steel cover
	EH-17 white 160		Plastic hood. Colour options:  White Black Grey Terracotta Brown Beige
	EH-2 grey 160		Grey painted stainless steel outer hood for thin walls
	EH-2 chrome 160		Brushed stainless steel hood for thin walls
	EH-13 white 160		White painted aluminium outer hood for cold climate
	EH-13 chrome 160		Stainless steel ventilation hood for cold climate
	MVVM 162 05		Ventilation hood for indoor mounting

Grilles	MVMO 150 bV1s An		Round metal grille
	MVM 152 bVs N		Round stainless steel hood

Angular mounting	NP 60x204-0021		Kit for angular mounting with a white grille
	NP 60x204-0082		Kit for angular mounting with a stainless steel outer grille
Mounting elements	3805		Round telescopic air duct 300-500 mm
	3810		Round telescopic air duct 500-1000 mm
Kits for separate mounting	TwinFresh R-50-14 pre-installation kit		Pre-installation kit
	TwinFresh Comfo RB-50 completion kit		TwinFresh Comfo RB-50-14 completion kit
	TwinFresh Comfo RB1-50 completion kit		TwinFresh Comfo RB1-50-14 completion kit
For ventilator control	RC TwinFresh COMFO R-50		Remote control
Filters	SF TwinFresh R50 G3		G3 filter kit (2 pcs.)
	SF TwinFresh R50 F8		F8 filter (supplied with a plastic cup)

TWINFRESH COMFO RA1-25-14

Power from

3.5 W

Air flow up to

24 m³/h

Sound pressure level

22 dBA

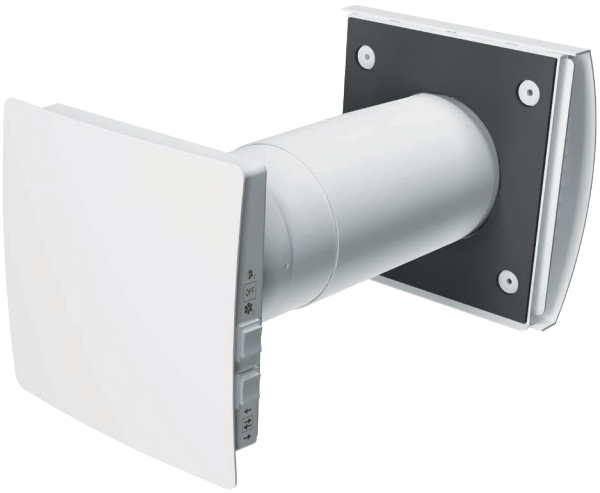
SH

The TwinFresh Comfo RA1-25-14 user-friendly ventilator is the most suitable solution for small rooms.
Supply of clean and fresh air 24 hours a day.

SILENT OPERATION AND VERSATILITY

SIMPLE

Control using the buttons on the front panel or remote control.



NO DRAFTS

Closed air shutters prevent drafts when the ventilator is switched off.

CARING

Clean and fresh air 24 hours a day.

Energy efficient DC fan is a recipe for silence and energy saving.

The simple operation logic of the regenerator will provide clean and fresh air in your house.

Manual control has never been so easy!

EASY CONTROL!

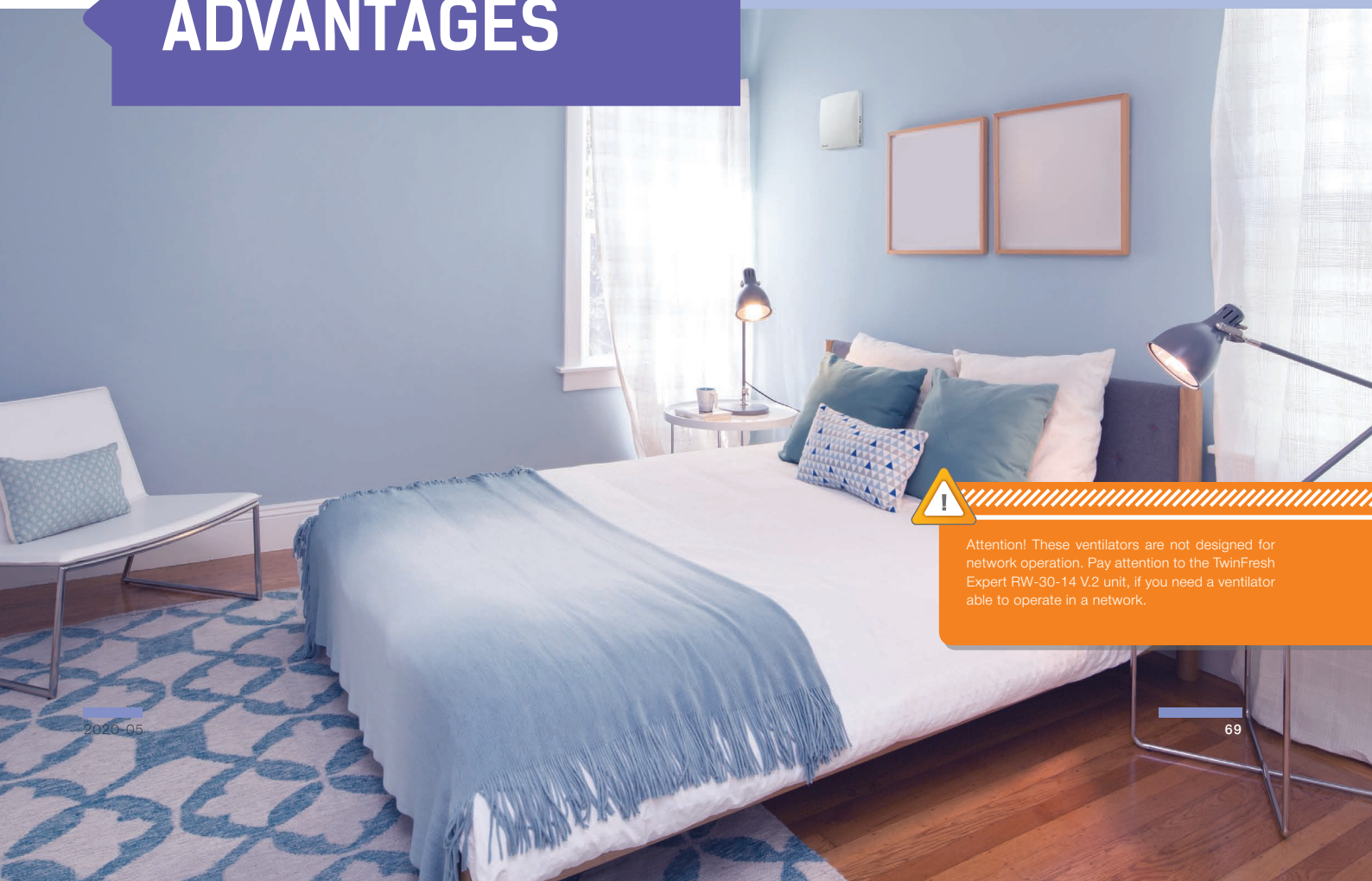
To provide convenient and simple control the TwinFresh Comfo units are completed with a remote control.

Operation modes:

- Night mode
  The integrated light sensor sends a signal to switch the ventilator to low speed mode.
- Speed switching
- Passive air supply
  The automatic shutters are opened but the fans are off in this mode.
- Air supply
  In this mode all ventilators will operate in supply mode irrespective of the maximum air supply setting.
- Ventilation
  All the ventilators in the network operate in permanent air extract or air supply mode. To ensure balanced ventilation it is advisable to set one half of the ventilators to air supply mode and the other part of the ventilators to air extract mode.
- Ventilation with heat recovery
- Humidity control mode selection

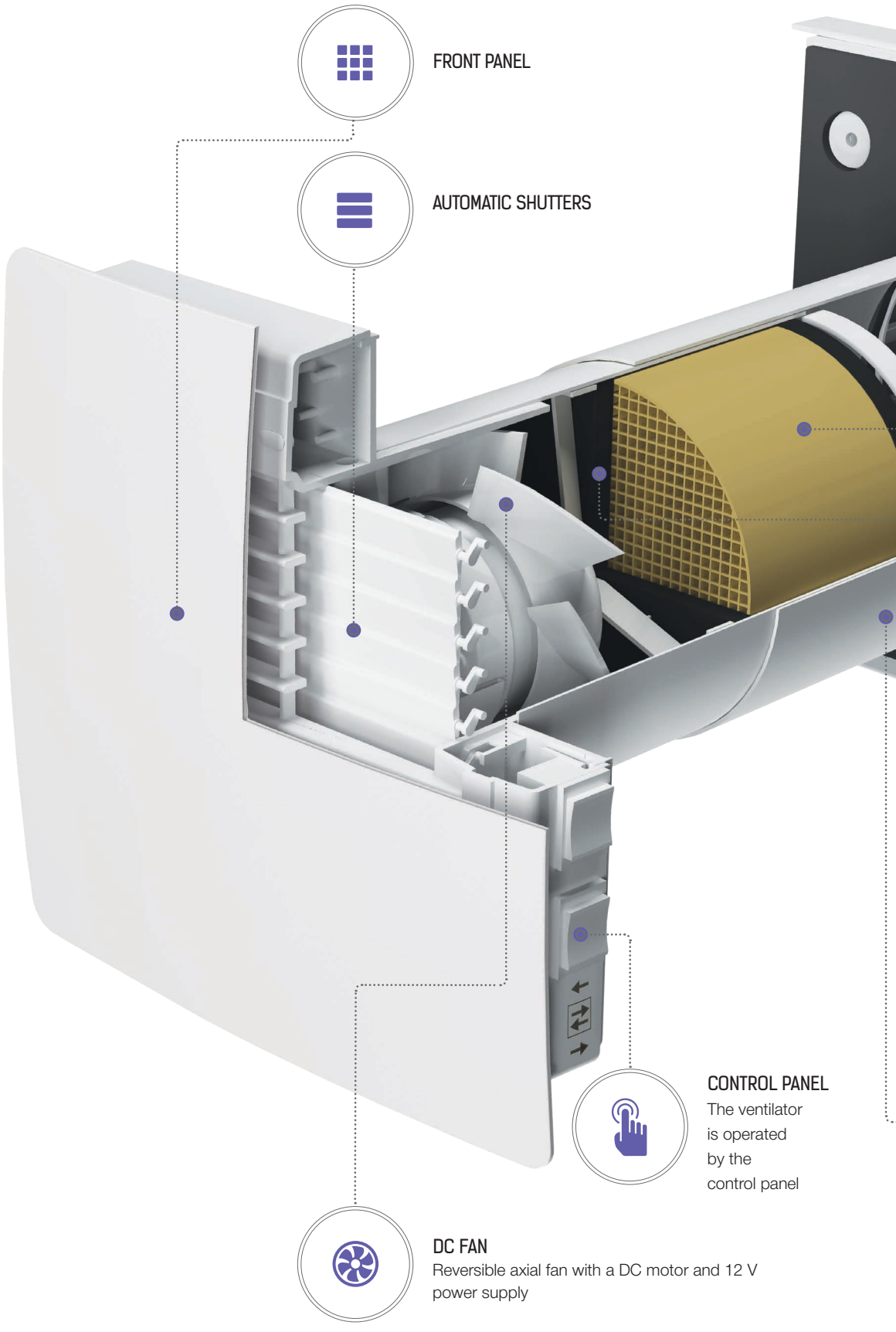
- Simple mounting – you need only to mount it, plug into a socket and use!
- The unit properly operates at temperature range up to -20 °C.
- Can be mounted inside a prepared hole (from ∅ 100 mm) in a wall.
- Automatic drafts shutoff by shutters when the ventilator is off.
- Ventilation of premises with the area of about 15 m² (the area is approximate and depends on the ventilation standards in your country).
- High efficiency – up to 85%.
- Integrated humidity sensor for the automated unit operation.
- Simple ventilator control
- Noise at the level of subdued conversation (22-33 dBA).
- Night mode. The ventilator switches to low speed in the dark time of the day (by a light sensor).

ADVANTAGES



Attention! These ventilators are not designed for network operation. Pay attention to the TwinFresh Expert RW-30-14 V.2 unit, if you need a ventilator able to operate in a network.

HOW IS IT DESIGNED?

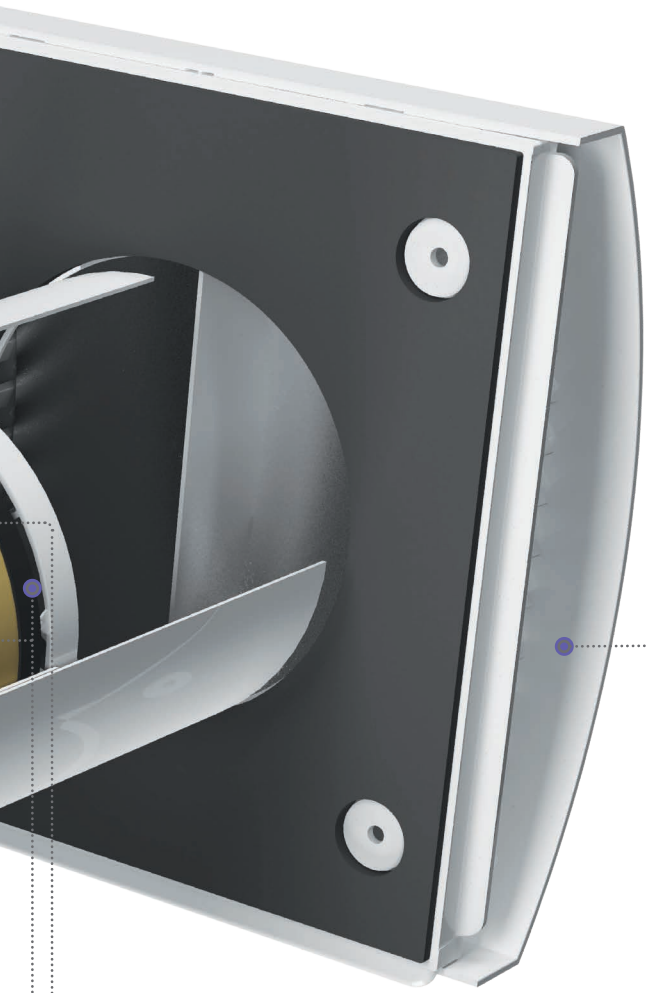


FRONT PANEL

AUTOMATIC SHUTTERS

CONTROL PANEL
The ventilator is operated by the control panel

DC FAN
Reversible axial fan with a DC motor and 12 V power supply



CERAMIC REGENERATOR
High-tech ceramic energy regenerator with the regeneration efficiency of up to 85%

FILTERS
The G3 air filter provides supply and extract air filtration. F8 filter is available as an option.

AIR DUCT

OUTER HOOD
Protects the ventilator from ingress of water and foreign objects


2
OFF
3

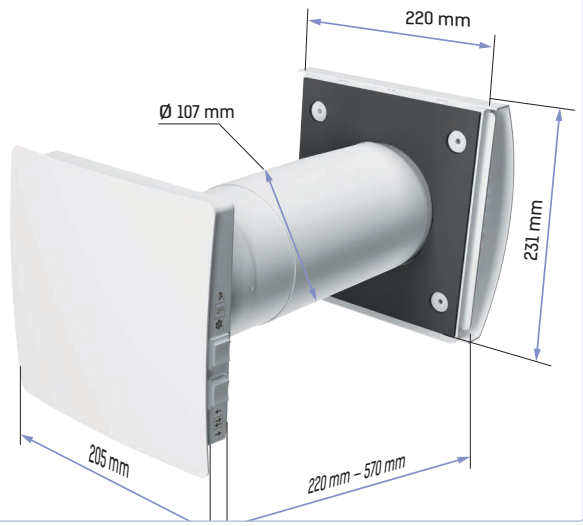
TECHNICAL DATA

Speed	I	II	III
Unit voltage [V/50 (60) Hz]	100-240 / 50-60		
Power [W]	3.5	3.95	5.32
Current [A]	0.023	0.026	0.036
Air flow in ventilation mode [m³/h (l/s)]	7 (2)	15 (4)	24 (7)
Air flow in energy recovery mode [m³/h (l/s)]	4 (1)	8 (2)	12 (3)
SFP [W/l/s]	3.6	1.9	1.6
Transported air temperature [°C]	-20*...+40		
Sound pressure level at 1 m distance [dBA]	31	35	43
Sound pressure level at 3 m distance [dBA]	22	25	33
Outdoor sound pressure attenuation in accordance with DIN EN 20140 [dBA]	40		
Heat recovery efficiency in accordance with DIBt LÜ-A 20 [%]	≤ 85		
Filter	G3		
Protection class	IP24		

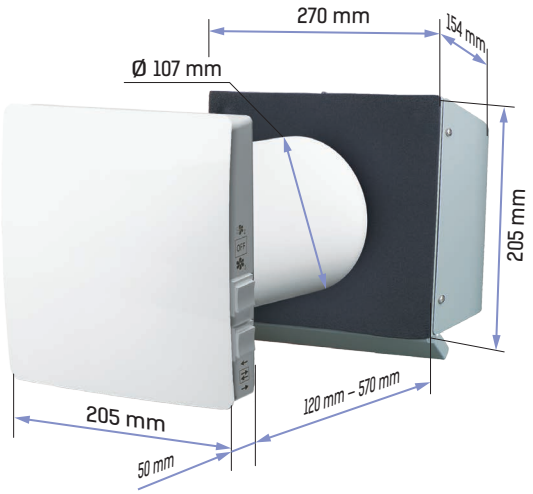
* -30 °C when the EH-13 hood is applied.

OVERALL DIMENSIONS

TwinFresh Comfo RA1-25-14

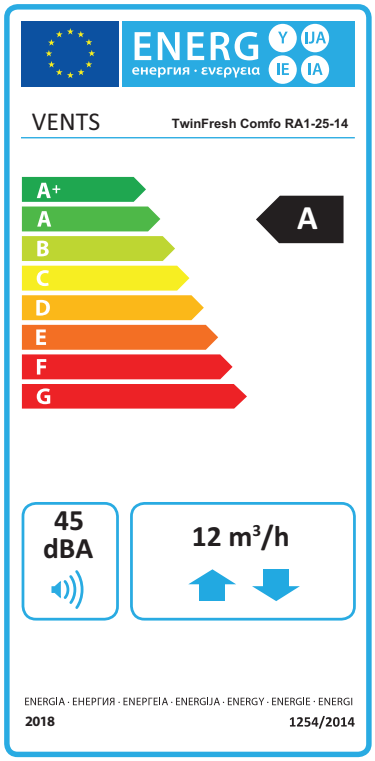


TwinFresh Comfo RA1-25-2
with a hood for thin walls



ECODESIGN

Specific energy consumption (SEC) [kWh/(m².a)]	Cold		Average		Warm	
	-77	A+	-35	A	-11	E
Type of ventilation unit	Bidirectional					
Type of drive installed	Three-speed					
Type of heat recovery system	Regenerative					
Thermal efficiency of heat recovery [%]	80					
Maximum air flow rate [m³/h]	12					
Power [W]	5.32					
Sound power level [dBA]	45					
Reference air flow rate [m³/s]	0.002					
Reference pressure difference [Pa]	0					
Specific power input (SPI) [W/(m³/h)]	0.527					
Control typology	Local automatic control					
Maximum internal leakage rate [%]	2.7					
Maximum external leakage rate [%]	0					
Mixing rate of bidirectional units [%]	1					
The classification of the airflow sensitivity to pressure variations, according to EN 13141-8 [%]	-					
The classification of the indoor/outdoor air tightness, according to EN 13141-8 [m³/h]	-					
Internet address	http://www.ventilation-system.com					
The annual electricity consumption (AEC) [kWh electricity/a]	Cold		Average		Warm	
	380		380		380	
The annual heating saved (AHS) [kWh primary energy/a]	Cold		Average		Warm	
	8695		4445		2010	



ACCESSORIES

Hoods	EH-14 white 100		Plastic hood. Colour options: White, Black, Grey, Terracotta, Brown, Beige
	EH-14 chrome 100		Grey plastic outer hood with a brushed stainless steel cover
	EH-17 white 100		Plastic hood. Colour options: White, Black, Grey, Terracotta, Brown, Beige
	EH-2 grey 100		Grey painted stainless steel outer hood for thin walls
	EH-2 chrome 100		Brushed stainless steel hood for thin walls
	EH-13 white 100		White painted aluminium outer hood for cold climate
	EH-13 chrome 100		Stainless steel ventilation hood for cold climate

Grilles	MVMO 100 bVIs An		Round metal grille
	MVM 102 bVs N		Round stainless steel hood

Angular mounting	NP 100 white-0078		Kit for angular mounting with a white grille
	NP 100 chrome-0079		Kit for angular mounting with a stainless steel outer grille
Mounting elements	1810		Round telescopic air duct 500-1000 mm
For ventilator control	RC TwinFresh COMFO R-50		Remote control
Filters	SF TwinFresh R25 G3		G3 filter kit (2 pcs.)

TWINFRESH
RA-50-14

TWINFRE

Power from

3.5 W

Air flow up to

50 m³/h

Sound pressure level from

14 dBA

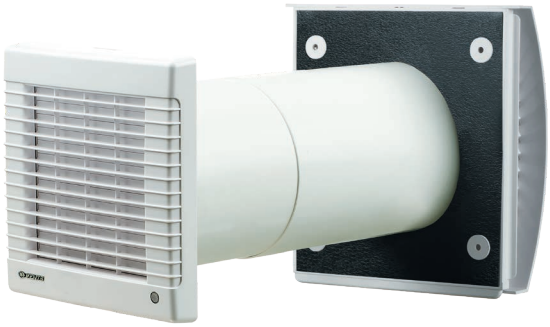
SH

The TwinFresh RA-50-14 basic model is an effective solution for premises of average size.
Easy control and mounting. Many ventilators can be connected to one network.

PRACTICAL AND VERSATILE

EASY MOUNTING

The telescopic air duct provides simple installation.



NO DRAFTS

The protective air shutters prevent backflow.

RELIABLE PROTECTION

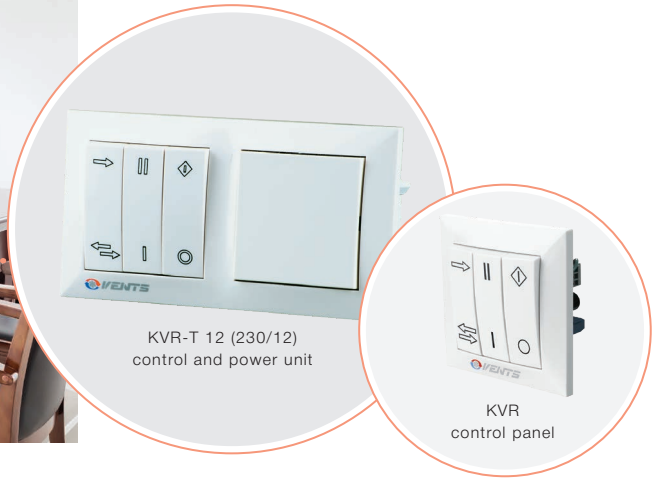
The outer hood protects the ventilator from direct ingress of water and large foreign objects.

Easy manual control.

The filters clean the supply air protecting it from dust and insects.

Several ventilators can be controlled by one control panel.

EASY CONTROL

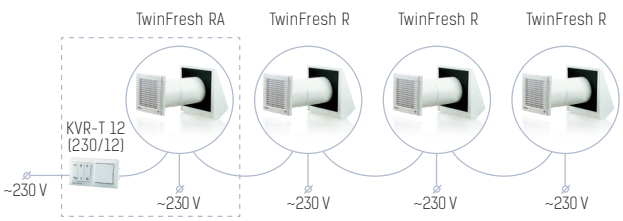


The ventilator is operated by the KVR control panel or the KVR-T 12 (230/12) control and power unit.
The KVR-T 12 (230/12) control and power unit with power of 12 W is included in the delivery set of the TwinFresh RA-50-14 ventilator and comprises the KVR control panel and the TRF 220/12-12 transformer under one casing.
The TRF 220/12-12 transformer with power of 12 W can supply power to up to 4 ventilators.
The TRF 220/12-40 transformer with power of 40 W can supply power to up to 11 ventilators.
The KVR panel is not equipped with a power supply unit and is designed for mounting with a TRF transformer.

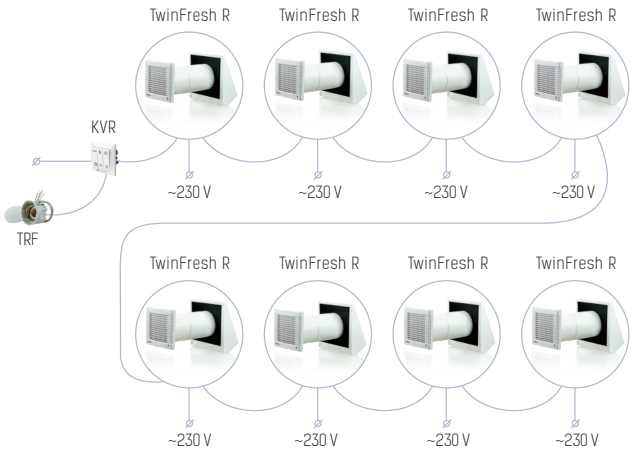
Operation modes:

- Ventilation mode (extract or supply) at Speed I.
- 2. Ventilation mode (extract or supply) at Speed II.
- 3. Reversible operation mode (regeneration) at Speed I.
- 4. Reversible operation mode (regeneration) at Speed II.

Up to three TwinFresh R ventilators can be connected to one ventilator (e.g. TwinFresh RA) equipped with a control and power unit without the need to use additional accessories.



To connect a large number of ventilators into a single network, one KVR control panel can be used together with several transformers.



ADVANTAGES

Simple control – by a button switch. No sensors, timers and automation.

Ventilation of premises with the area of about 40 m^2 (the area is approximate and depends on the ventilation standards in your country).

Noise at the level of human whisper (14-24 dBA).

Many ventilators can be connected to one network.

Normal operation at temperatures up to -20 °C.

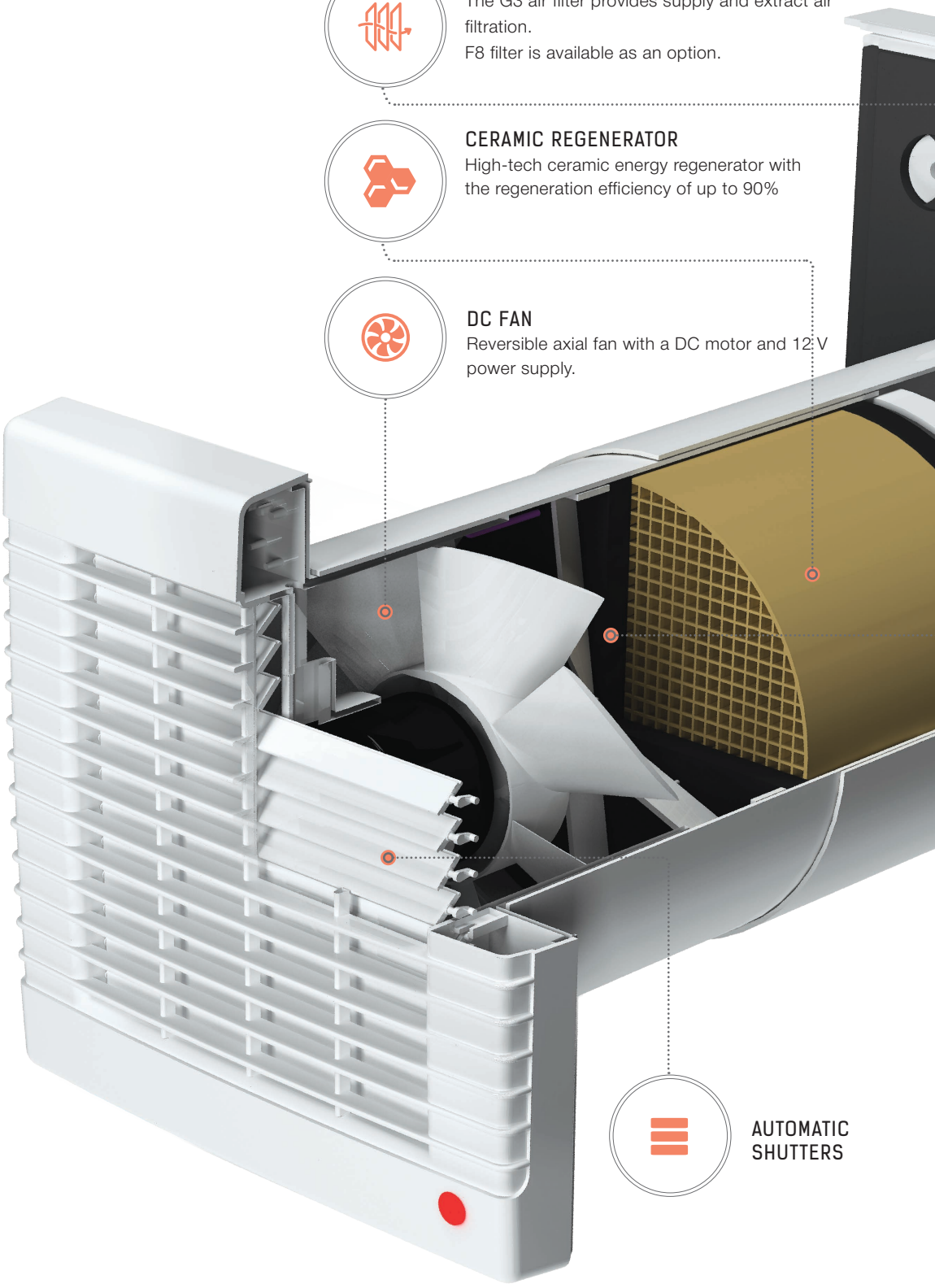
Automatic drafts shutoff by automatic shutters when the ventilatoris is off.

HOW IS IT DESIGNED?

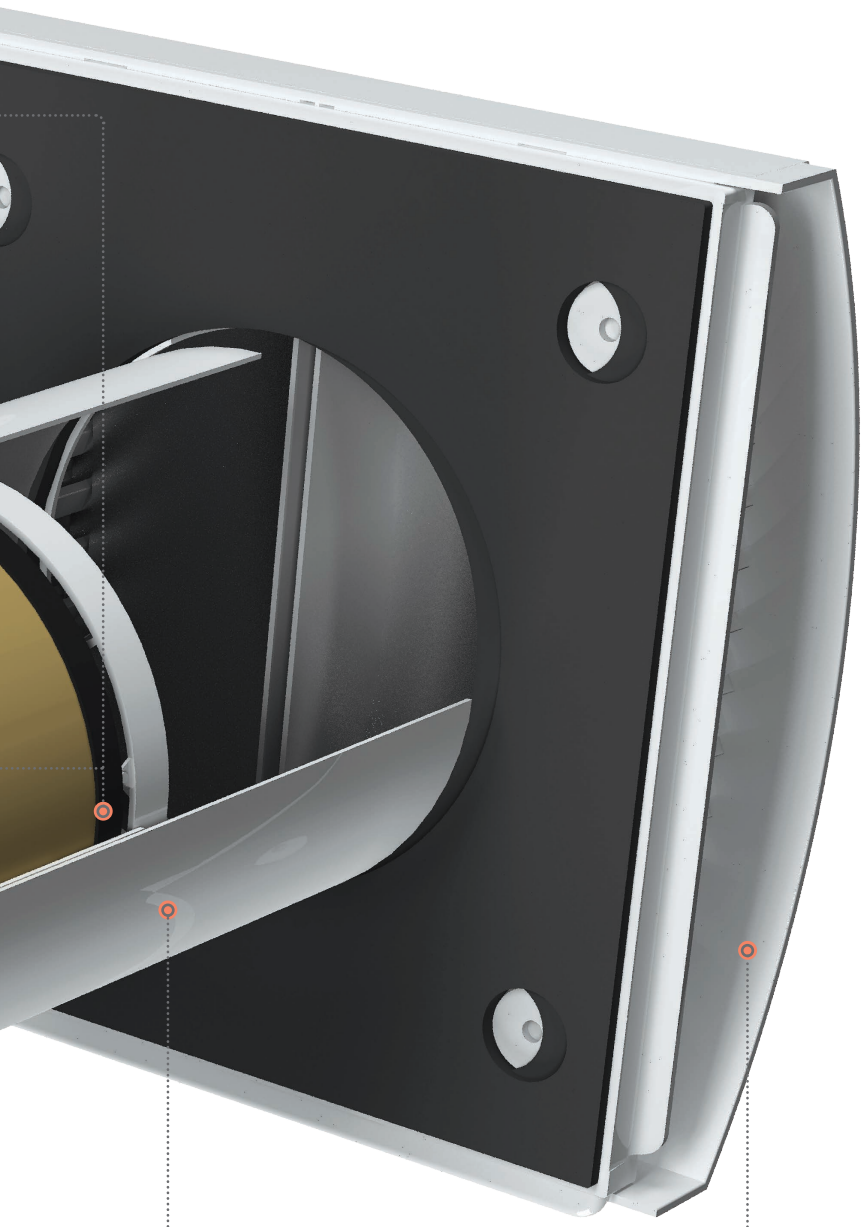
FILTERS
The G3 air filter provides supply and extract air filtration.
F8 filter is available as an option.

CERAMIC REGENERATOR
High-tech ceramic energy regenerator with the regeneration efficiency of up to 90%

DC FAN
Reversible axial fan with a DC motor and 12 V power supply.



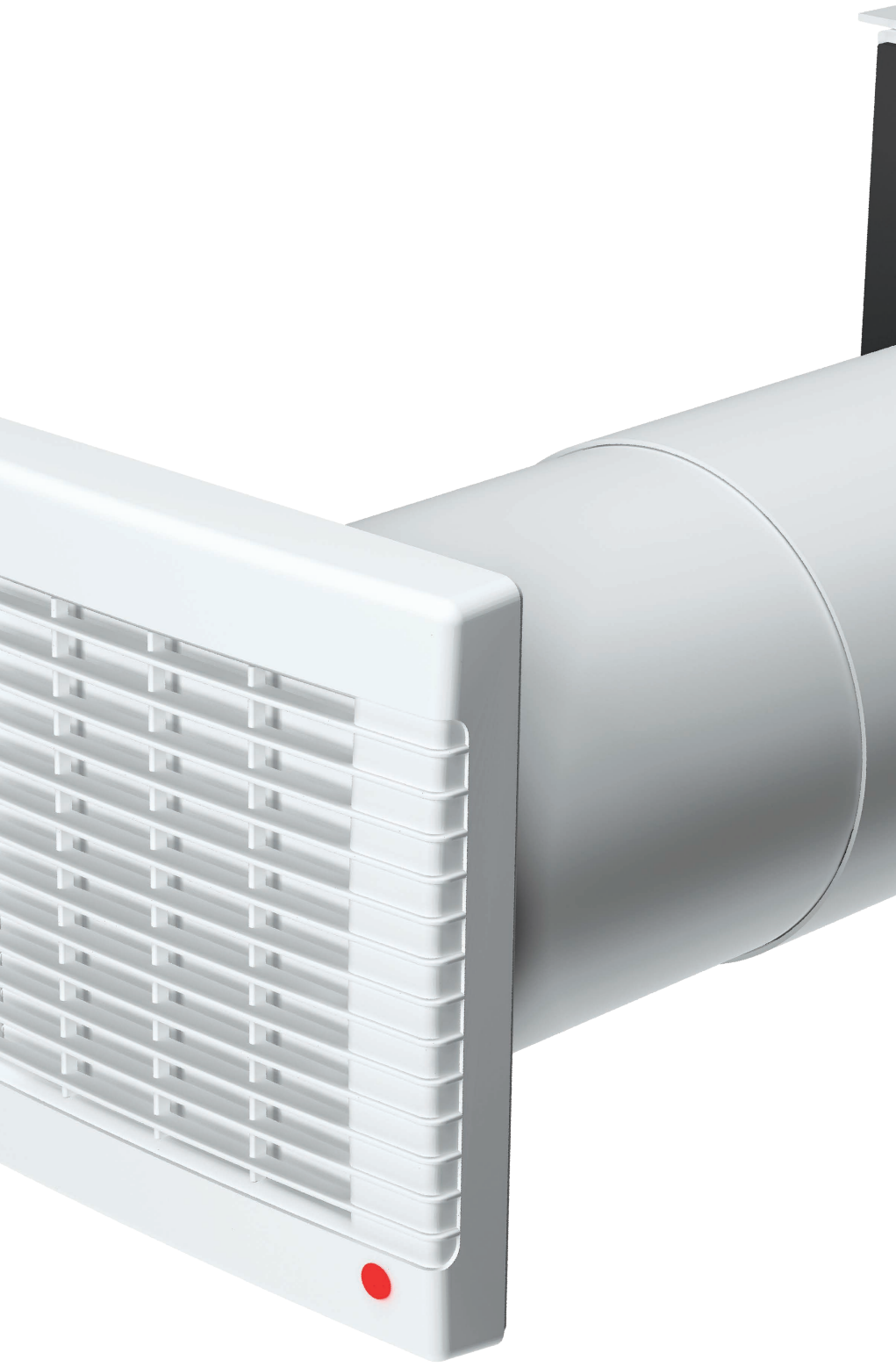
AUTOMATIC SHUTTERS



AIR DUCT

OUTER HOOD

Protects the ventilator from ingress of water and foreign objects



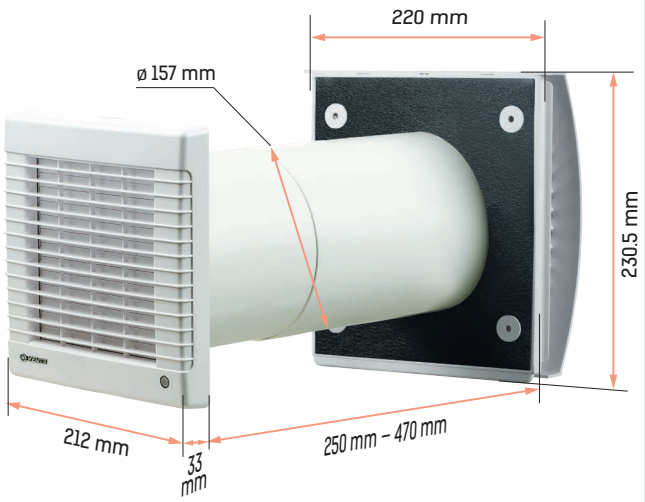
TECHNICAL DATA

Speed	I	II
Unit voltage [V/50 (60) Hz]	220-240/50-60	
Power [W]	3.5	4.6
Current [A]	0.020	0.025
Air flow in ventilation mode [m³/h (l/s)]	25 (7)	50 (14)
Air flow in energy recovery mode [m³/h (l/s)]	13 (3)	25 (7)
SFP [W/l/s]	1.01	0.66
Transported air temperature [°C]	-20*...+40	
Sound pressure level at 1 m distance [dBA]	24	34
Sound pressure level at 3 m distance [dBA]	14	24
Outdoor sound pressure attenuation in accordance with DIN EN 20140 [dBA]	40	
Heat recovery efficiency in accordance with DIBt LÜ-A 20 [%]	≤ 90	
Filter	G3	
Protection class	IP24	

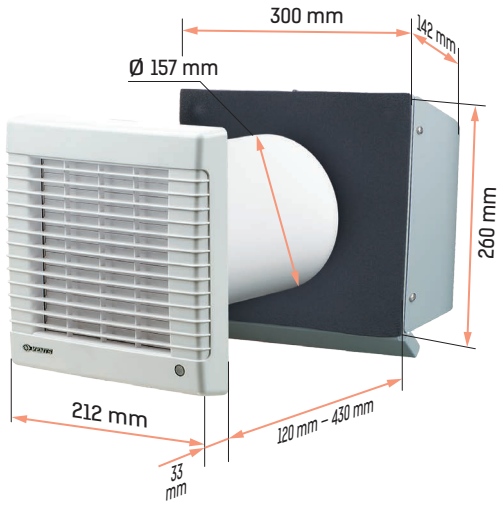
* -30 °C when the EH-13 hood is applied.

OVERALL DIMENSIONS

TwinFresh RA-50-14

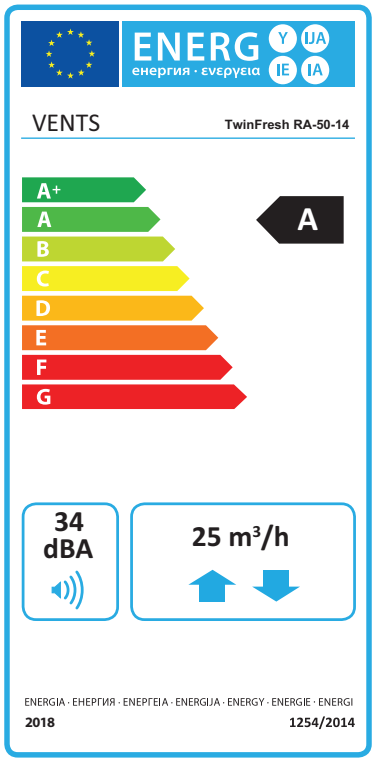


TwinFresh RA-50-2
with a hood for thin walls



ECODESIGN

Specific energy consumption (SEC) [kWh/(m².a)]	Cold		Average		Warm	
	-73	A+	-33	A	-10	E
Type of ventilation unit	Bidirectional					
Type of drive installed	Three-speed					
Type of heat recovery system	Regenerative					
Thermal efficiency of heat recovery [%]	81					
Maximum air flow rate [m³/h]	25					
Power [W]	4.6					
Sound power level [dBA]	34					
Reference air flow rate [m³/s]	0.003					
Reference pressure difference [Pa]	0					
Specific power input (SPI) [W/(m³/h)]	0.28					
Control typology	Manual control					
Maximum internal leakage rate [%]	2.7					
Maximum external leakage rate [%]	0					
Mixing rate of bidirectional units [%]	1					
The classification of the airflow sensitivity to pressure variations, according to EN 13141-8 [%]	-					
The classification of the indoor/outdoor air tightness, according to EN 13141-8 [m³/h]	-					
Internet address	http://www.ventilation-system.com					
The annual electricity consumption (AEC) [kWh electricity/a]	Cold		Average		Warm	
	386		386		386	
The annual heating saved (AHS) [kWh primary energy/a]	Cold		Average		Warm	
	8284		4235		1915	



ACCESSORIES

Hoods	EH-14 white 160		Plastic hood. Colour options: White, Black, Grey, Terracotta, Brown, Beige
	EH-14 chrome 160		Grey plastic outer hood with a brushed stainless steel cover
	EH-17 white 160		Plastic hood. Colour options: White, Black, Grey, Terracotta, Brown, Beige
	EH-2 grey 160		Grey painted stainless steel outer hood for thin walls
	EH-2 chrome 160		Brushed stainless steel hood for thin walls
	EH-13 white 160		White painted aluminium outer hood for cold climate
	EH-13 chrome 160		Stainless steel ventilation hood for cold climate
	MVVM 162 05		Ventilation hood for indoor mounting
Grilles	MVMO 150 bV1s An		Round metal grille
	MVM 152 bVs N		Round stainless steel hood

Angular mounting	NP 60x204-0021		Kit for angular mounting with a white grille
	NP 60x204-0082		Kit for angular mounting with a stainless steel outer grille

Mounting elements	3805		Round telescopic air duct 300-500 mm
	3810		Round telescopic air duct 500-1000 mm

Control	KVR		Control panel
	KVR-T 12 (230/12)		Control unit
	TRF 220/12-12		12 W power supply transformer
	TRF 220/12-40		40 W power supply transformer

Filters	SF TwinFresh R50 G3		G3 filter kit (2 pcs.)

SOLO

Power from

1.36 W

Air flow up to

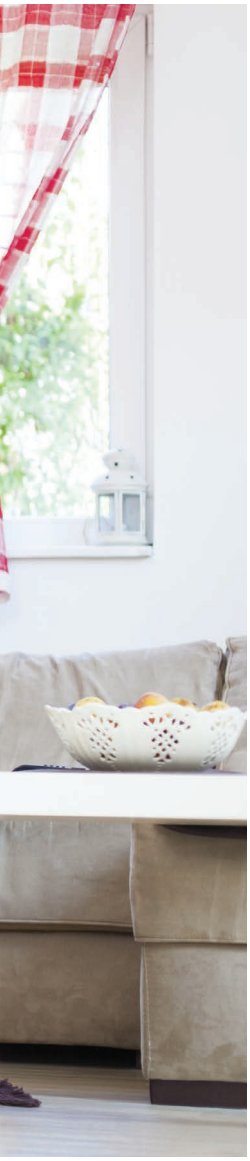
46 m³/h

Sound pressure level from

27 dBA

The Solo ventilator is the most suitable solution for utility rooms, closets, and cloakrooms.
Low power consumption will save electricity by providing clean and fresh air to any room with the area of up to 15 m².

ENERGY-SAVING AND AFFORDABLE



USER-FRIENDLY

Simple operation mechanism: speed switching using a pull cord switch.

CARING

Recovers heat energy and warms up supply air.

PRACTICAL

Prevents ingress of dust and foreign objects.

Easy control.

Fresh and clean air where it is needed.

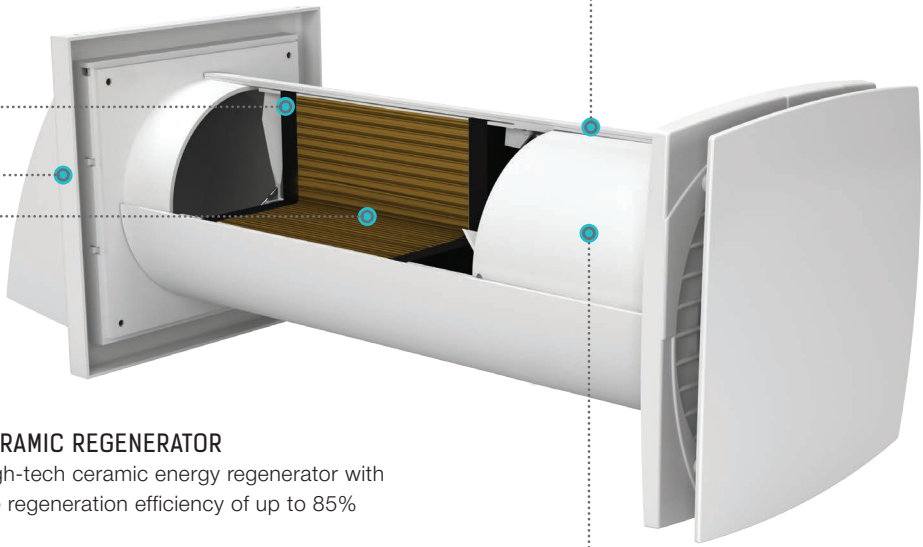
In the cold season it heats up fresh intake air while removing exhaust air from a premise.

Speed control by a pull cord switch – as easy as turning on the light.

SIMPLICITY AND COMFORT

FILTER
Cleans the air flowing through the ventilator of dust and foreign objects. Prevents contamination of the regenerator.

AIR DUCT



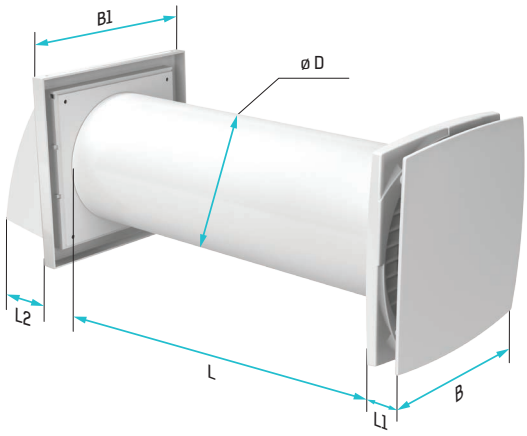
CERAMIC REGENERATOR
High-tech ceramic energy regenerator with the regeneration efficiency of up to 85%

OUTER HOOD
Protects the ventilator from ingress of water and foreign objects

REVERSIBLE FAN
Generates air flow by means of the fan rotation. Equipped with a decorative front panel

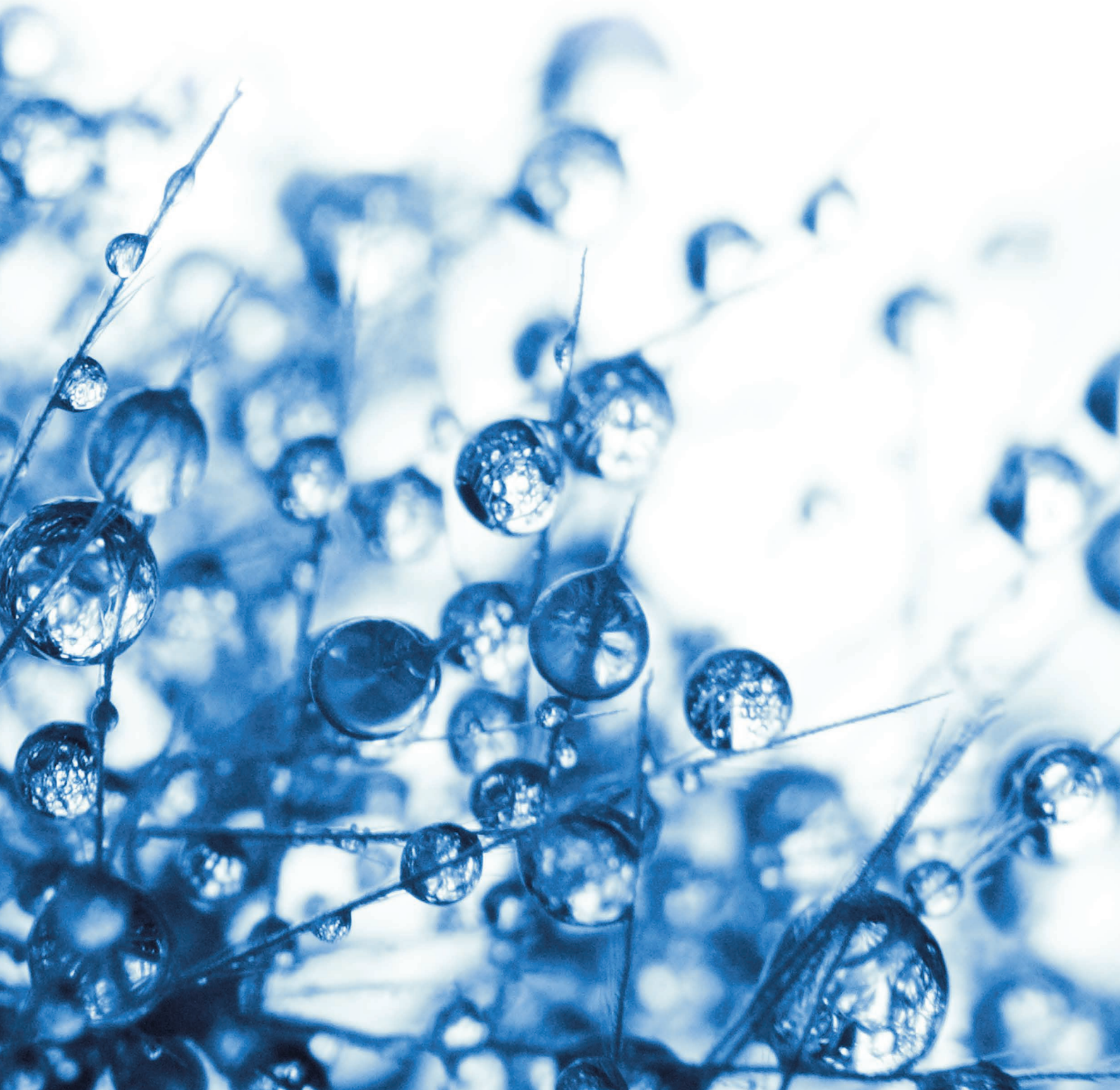
TECHNICAL DATA

Speed	I	II
Unit voltage [V/50 (60) Hz]	230	
Power [W]	1.36	1.89
Current [A]	0.031	0.034
Air flow in ventilation mode [m³/h (l/s)]	30	46
Sound pressure level at 3 m distance [dBA]	27	32
SFP [W/l/s]	1.01	0.66
Transported air temperature [°C]	-15...+40	
Heat exchanger type	Ceramic	
Heat recovery efficiency in accordance with DIBt LÜ-A 20 [%]	≤ 85	
SEC class	A	
Protection class	IP24	



Model	Dimensions [mm]					
	D	B	B1	L	L1	L2
Solo RA1-35-9 R	103	150	153	305-380	30	84
Solo RA1-35-L07-9 R	103	150	153	305-700	30	84

DESIGN PECULIARITIES



REVERSIBLE DC FAN

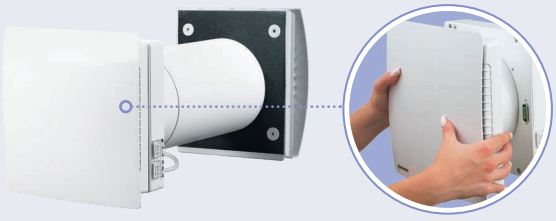
Reversible axial fan with the DC motor is used for supply and exhaust ventilation.

- Due to DC technologies the fan is featured with low energy consumption.
- The fan is powered by safe voltage 12 V.
- The fan motor is equipped with an in-built overheating protection and ball bearings for long service life.

MOUNTING PLATE

The TwinFresh Comfo* series models are equipped with a mounting plate which facilitates servicing of the fan, filters, and the regenerator.

- The ventilation unit is fixed to the mounting plate by special magnets and contact sockets.
- The ventilator inner parts are accessible by pulling the ventilation unit by hand.
- The contacts sockets on the ventilator mounting plate serve to integrate numerous ventilators into a single ventilation network and enable their synchronous operation.



*The model TwinFresh Comfo RA1-25 has no mounting plate and is not suitable for integration of several ventilators into a single network.

AIR FILTERS

Two built-in filters with total filter class G3 are used to clean supply and extract air flows.

- Ensure fresh air cleaning of dust and insects.
- Prevent the ventilator parts from soiling.
- Have antibacterial treatment.
- Can be cleaned either with a vacuum cleaner or flushed with water with no harm to the antibacterial treatment.
- The filter F8 with filter class PM2.5 99% is optional. If installed it reduces air flow rate and increases mounting dimensions.

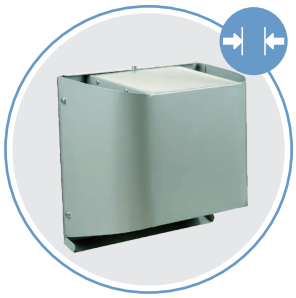
OUTER VENTILATION HOOD

The specially designed outer hood enables removal of extract air flow and condensate that is generated inside of the outer hood from the building wall. Besides, the outer hood prevents ingress of water and foreign objects in the ventilator.

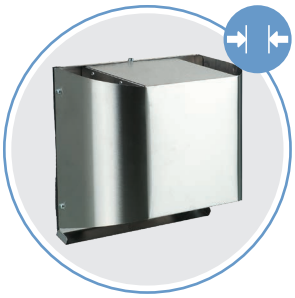
EH-14
Plastic hood for mounting into walls of standard thickness. Air outlet and inlet through the sides.

EH-17
Plastic hood for mounting into walls of standard thickness. Air outlet and inlet through the lower part of the hood.

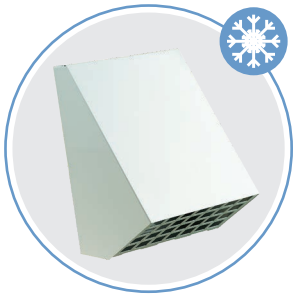
Grey	Beige	Brown	Terracotta	Black	With a brushed stainless steel cover
					
					○



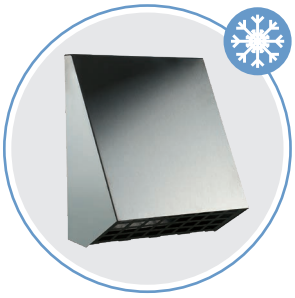
EH-2 GREY
Grey painted stainless steel outer hood for thin walls



EH-2 CHROME
Stainless steel hood for thin walls



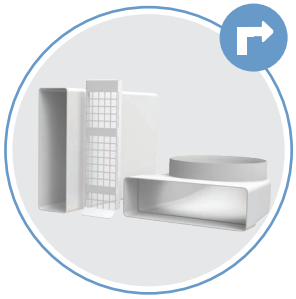
EH-13 WHITE
White aluminium hood for cold climate. Equipped with a heating device for the hood freeze protection at temperatures below -5 °C



EH-13 CHROME
Stainless steel hood for cold climate. Equipped with a heating device for the hood freeze protection at temperatures below -5 °C

MVM
Stainless steel hood with a metal screen. Fastened to the wall with dowels

MVVM
Plastic hood for mounting from inside



NP 160 WHITE
Angular mounting kit with a white grille for air extraction into the window aperture.

NP 160 CHROME
Angular mounting kit with a stainless steel grille for air extraction into the window aperture.

Mounting into the wall of standard thickness using the hood EH-17

Angular mounting using the NP 160 white mounting kit

Mounting into a thin wall using the EH-2 outer hood

KV TWINFRESH EXPERT RW

The KV TwinFresh Expert RW control panels are designed to control TwinFresh Expert RW V.2 single-room ventilators with energy regeneration.
The control panel allows to switch between main operating modes remotely.
The ventilators and the control panel are connected via Wi-Fi.

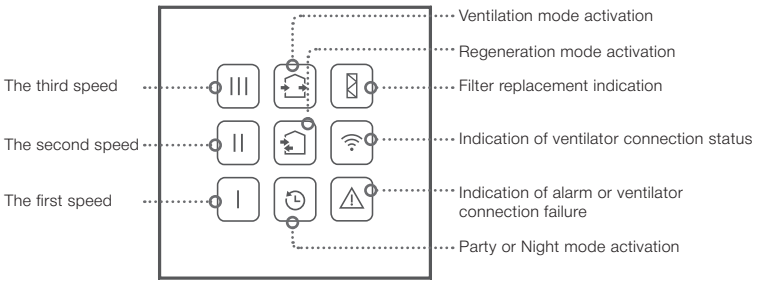
The KV TwinFresh Expert RW control panel is suitable both for wall surface and flush mounting.
For this the fan delivery set includes MKV-1 mounting boxes for flush mounting and MKN-5 mounting boxes for surface mounting.

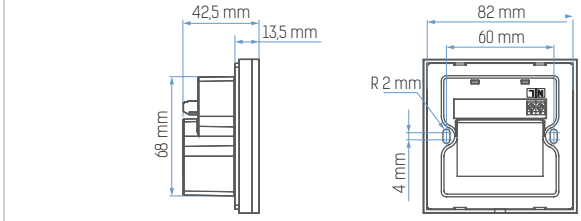
The control panel is connected according to the User's manual of the unit.

KV TwinFresh Expert RW	
Supply voltage [V/50 (60) Hz]	110-230
Max. current [A]	0.012
Cable type	2x0.35 mm^2
Temperature range [°C]	+10...+45
Humidity range [%]	10-80 (without condensation)
Casing material	Plastic
Sensor surface material	Glass
Protection class	IP40
Weight [g]	190

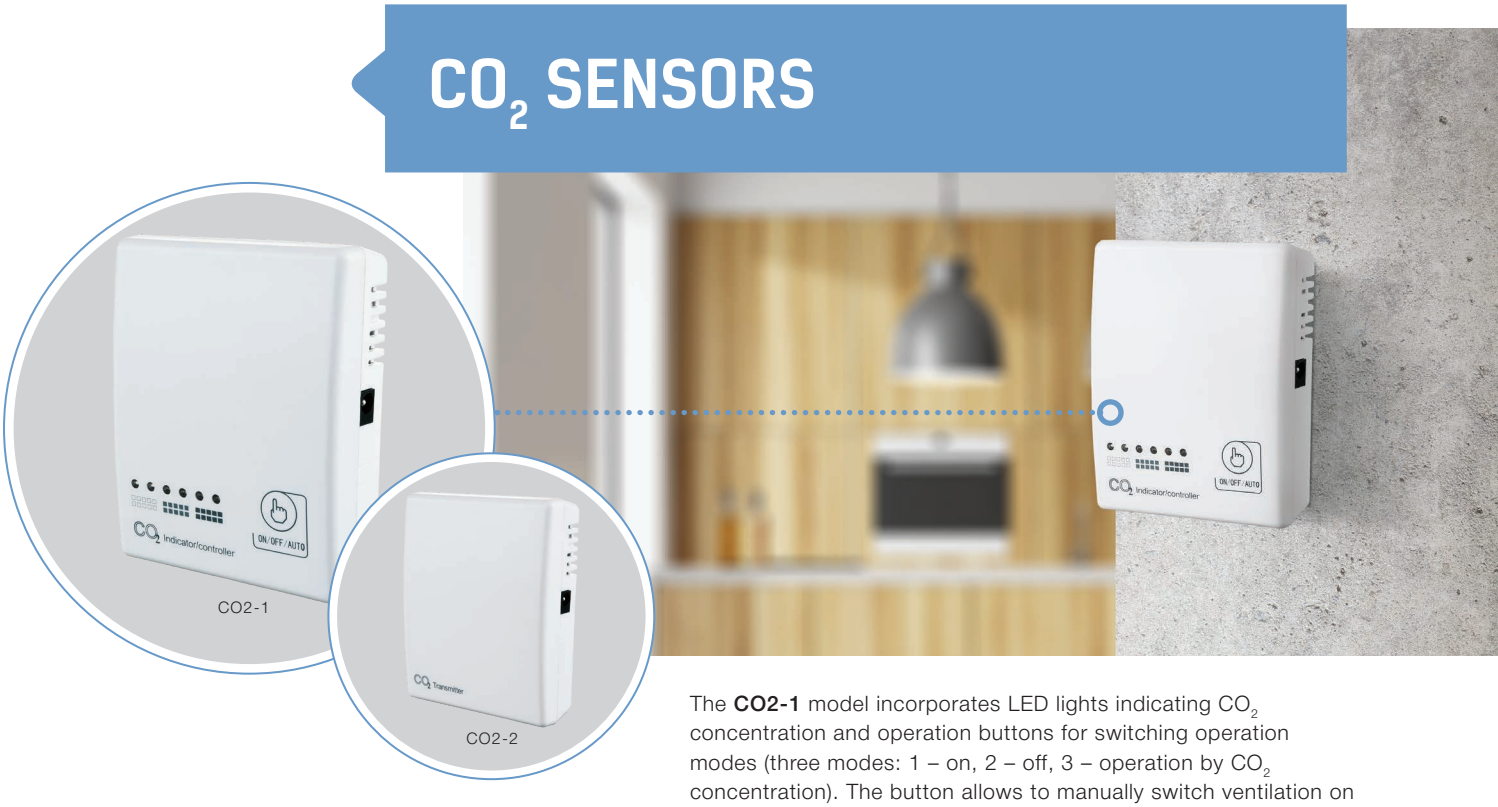
Wi-Fi characteristics	
Standard	IEEE 802.11 b/g/n
Frequency range [GHz] 2,4	2.4
Transmitter power [mW] (dBm)	100 (+20)
Network	DHCP
WLAN-security	WPA, WPA2

CONTROL PANEL FUNCTIONS





CO_2 SENSORS



CO2 reacts to CO_2 concentration inside buildings, offices, residential and non-residential premises.
The sensor regulates the fan rotation speed when CO_2 level changes.
The fan switches to higher speed when CO_2 concentration increases. As CO_2 concentration falls down below the set point, the unit reverts to the previous operation mode.

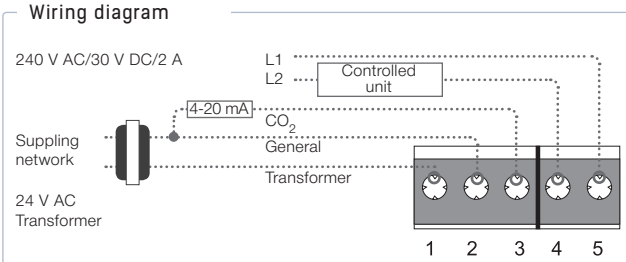
The **CO2-1** model incorporates LED lights indicating CO_2 concentration and operation buttons for switching operation modes (three modes: 1 – on, 2 – off, 3 – operation by CO_2 concentration). The button allows to manually switch ventilation on or off, when CO_2-based ventilation control is not required.

The **CO2-2** model has no LED lights and ON/OFF button. This model is applied for school classes, for example, to prevent from manual switching of the operation modes.

CO_2 INDICATORS

- 1st green light is on when CO_2 concentration is less than 600 million^{-1}
- 1st and 2nd green lights are on when CO_2 concentration is between 600 and 800 million^{-1}
- 1st yellow light is on when CO_2 concentration is between 800 and 1200 million^{-1}
- 1st and 2nd yellow lights are on when CO_2 concentration is between 1200 and 1400 million^{-1}
- 1st red light is on when CO_2 concentration is between 1400 and 1600 million^{-1}
- 1st and 2nd red lights are on when CO_2 concentration is more than 1600 million^{-1}

Wiring diagram



Parameters	Values
Power source	24 V AC (50/60 Hz±10 %), 24 V DC/ max. 1,6 W
Gas detection analyzer	Non-dispersive infra-red sensor (NDIR) with self-calibration
CO_2 measuring range	0-2,000 million^{-1} (parts per million)
Accuracy at 25°C, 2000 million^{-1}	± 30 million^{-1} + 5 % of reading
Response time	max. 2 min for the step change 90 %
Warm up time for each turning-on	2 hours (first time), 2 minutes (operation)
Analogue output	0-10 V DC (default), 4-20 mA selectable by jumpers
On/Off output	1X2 A switch load. Four set points selectable by jumpers
Operating/Storage conditions	0-50 °C; 0-95 % relative humidity without condensate/0-50 °C
Weight/Dimensions	0.120 kg / 100x80x30 mm

		Maximum air flow [m³/h]	Sound pressure level [dBA]		Air duct diameter [mm]
			min	max	
TwinFresh Expert RW-30-14 V.2		30	21	31	100
TwinFresh Easy RL7-50-17		50	12	20	160
TwinFresh Easy-D RL7-50-17		50	12	20	160
TwinFresh Comfo RB1-50-14		50	13	23	150
TwinFresh Comfo RB1-85-14		85	19	34	150
TwinFresh Comfo RA1-25-14		24	22	33	100
TwinFresh RA-50-14		50	14	24	150
Solo ventilator		46	27	32	100

	Shutters		Control						
	Automatic	Manual	Built-in control panel	Wall LCD control panel	Wall sensor control panel	Wall three-button control panel	Remote control	Wi-fi	Pull-cord switch
TwinFresh Expert RW-30-14 V.2	●		●		●			●	
TwinFresh Easy RL7-50-17		●		●			●		
TwinFresh Easy-D RL7-50-17		●		●			●		
TwinFresh Comfo RB1-50-14	●		●				●		
TwinFresh Comfo RB1-85-14	●		●				●		
TwinFresh Comfo RA1-25-14	●		●				●		
TwinFresh RA-50-14	●					●			
Solo ventilator									●

Sensors			Timers					Number of units in the network		
Humidity sensor	Light sensor	CO_2 sensor	4 hours at high speed	8 hours at low speed	Party	Weekly schedule	Night mode	1	2	∞
●		○			●	●	●			●
			●	●					●	
			●	●				●		
●	●									●
●	●									●
●	●							●		
										●
								●		

Delivery set includes – ● Optional – ○

Description	Page
• Round telescopic air duct (Ø 100 mm, length – 350-500 mm). • Outer ventilation hood EH-14 white 100. • Cartridge, consisting of a ceramic heat exchanger (regenerator), two G3 filters, a reversible axial fan with a DC motor. • In-built automatic air damper with thermal activation. • In-built sensor control panel. • Control by a mobile application Vents TwinFresh V.2. via Wi-Fi • Weekly schedule • External relay sensor connection.	28
• Air duct (Ø 160 mm, length – 500 mm). • Outer ventilation hood EH-17 white 160, made of UV-resistant ASA plastic. • Cartridge, consisting of a ceramic heat exchanger (regenerator), two G3 filters, a reversible axial fan with a DC motor. • Internal decorative white panel, made of ABS plastic and equipped with a manually actuated damper. • Sound-absorbing material for street noise protection. • LCD control panel • Remote control.	40
• Two air ducts (Ø 160 mm, length – 500 mm). • Two outer ventilation hoods EH-17 white 160, made of UV-resistant ASA plastic. • Two cartridges, consisting of a ceramic heat exchanger (regenerator), two G3 filters, a reversible axial fan with a DC motor. • Two internal decorative white panels, made of ABS plastic and equipped with a manually actuated damper. • Sound-absorbing material for street noise protection. • One LCD control panel • One remote control.	40
• Round telescopic air duct (Ø 150 mm, length – 250-470 mm). • Control unit with a mounting plate. • Outer ventilation hood EH-14 white 160, made of UV-resistant ASA plastic. • Ceramic heat exchanger (regenerator) • Two G3 filters. • Reversible axial fan with a DC motor. • Flat decorative panel made of white ABS plastic. • In-built automatic shutters with thermal activation. • In-built automation. • Remote control. • In-built power cable with a europlug.	52
• Round telescopic air duct (Ø 150 mm, length – 250-470 mm). • Control unit with a mounting plate. • Outer ventilation hood EH-14 white 160, made of UV-resistant ASA plastic. • Ceramic heat exchanger (regenerator) • Two G3 filters. • Reversible axial fan with a DC motor. • Flat decorative panel made of white ABS plastic. • In-built automatic shutters with thermal activation • In-built automation. • Remote control. • In-built power cable with a europlug.	52
• Round telescopic air duct (Ø 100 mm, length – 350-500 mm). • Outer ventilation hood EH-14 white 100, made of UV-resistant ASA plastic. • Ceramic heat exchanger (regenerator) • Two G3 filters. • Reversible axial fan with a DC motor. • Flat decorative panel made of white ABS plastic. • In-built automatic shutters with thermal activation. • In-built automation. • Remote control. • In-built power cable with a europlug.	64
• Round telescopic air duct (Ø 150 mm, length – 250-470 mm). • Outer ventilation hood EH-14 white 160, made of UV-resistant ASA plastic. • Ceramic heat exchanger (regenerator) • Decorative panel made of white ABS plastic. • In-built automatic shutters with thermal activation. • Two G3 filters. • Reversible axial fan with a DC motor. • In-built automation. • Wall-mounted control panel with an in-built transformer.	76
• Round air duct (Ø 100 mm, length – 700 mm). • White plastic UV-resistant outer hood MV 102 V. • Ceramic heat exchanger (regenerator) • Flat decorative panel made of white ABS plastic. • Two G3 filters. • Reversible axial fan with a DC motor. • Pull-cord switch. • In-built power cable with a europlug.	88

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