

Twin Fresh Heat Exchange Ventilator

Reversing ventilator, fresh air in, stale air out, with ceramic energy regenerator

Item #	Description
VERA-50-1	TwinFresh suitable for existing houses, round telescopic tube, stainless external cowl
VERL7-50-17	TwinFresh Easy (available on indent) also Easy-Double - two ventilators per set.



TwinFresh ventilators offer a cost and energy saving solution for most indoor environments.
Secure: TwinFresh can provide the required air exchange without having to open a window.
Simple through-wall system, easy to install, no ducted system required
Suitable for houses and apartments, community and commercial premises.

TwinFresh Technical Data

	VERA-50-1		VERL7-50-17		
	1	2	1	2	3
Speed	1	2	1	2	3
Voltage, 50Hz	230V		230V		
Power	1.4W	3.0W	1 W	2.1W	4.3W
Max Air Capacity	25m ³ /h	50m ³ /h			
Sound pressure level @3m	22dBA	29dBA	12dBA	18dBA	20dBA
Max transported air temperature	from -15°C up to +50°C				
Recupertaion efficiency	up to 91%				
Recuperator type	Ceramic				
Protection rating	IP24		IP24		

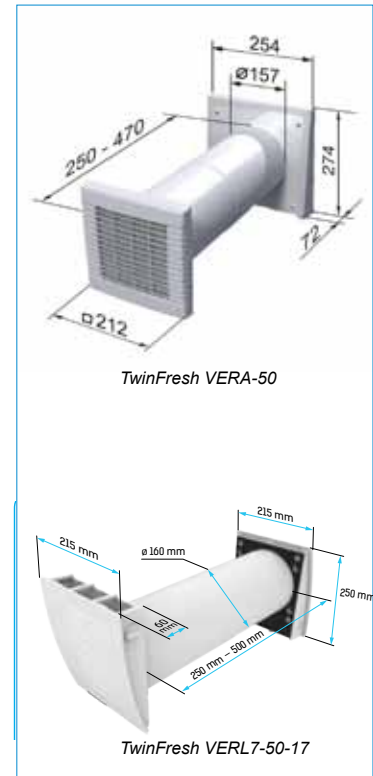
TwinFresh ventilator features:

- Efficient supply and exhaust single room ventilation
- High-tech ceramic energy accumulator with heat recuperating efficiency of up to 91%
- Reversible EC ventilator with low energy demand up to 3W and safe voltage 12V (transformer included with control)
- Integrated automation
- Quiet operation (22-29dBA)
- Simple installation
- Air filtration with G3 filters
- Rated for continuous operation
- No condensate

TwinFresh ventilators do not heat or cool, they reuse the heat or coldness of the outgoing air to warm or cool the incoming air, thereby sustaining room temperature.

Installation of two TwinFresh ventilators creates an efficient complete ventilation system.

The VERL7-50-17-D Easy-Double comprises of two units working in combination controlled with one controller.



TwinFresh sets

TwinFresh RA-50

VERA-50-1 comes with
VEMVM152bVsN
Stainless external Cowl



1. Round telescopic duct, 250-470 mm long.
2. Outer aluminium hood with white polymer coating.
3. Ceramic energy accumulator (regenerator).
4. Decorative front grille from white ABS plastic.
5. Automatic louvre shutters with a thermal actuator.
6. Two G3 filters.
7. Reversible axial EC fan.
8. Integrated automation with four operation modes.
9. Control block with transformer for connection to 220 V / 50 Hz power mains.

- See <https://ventilation-system.com/catalog/single-room-reversible-twinfresh-units> for more information

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Twin Fresh Heat Exchange Ventilator (continued)

Design of TwinFresh ventilators



Ceramic energy accumulator (regenerator)

The ventilator incorporates a high-tech ceramic energy accumulator with regenerating efficiency up to 91%. Due to the cellular structure, the energy accumulator has larger air contact area and excellent heat conducting and accumulating properties.

Telescopic duct

Depending on the TwinFresh ventilator type the telescopic duct is made of PVC plastic or metal and has an adjustable length from 120 to 470 mm.

Outer hood

Designed to prevent ingress of water and foreign particles into the ventilator. Depending on the TwinFresh model the outer hood is made of polymer coated aluminium or stainless steel.

Air filters

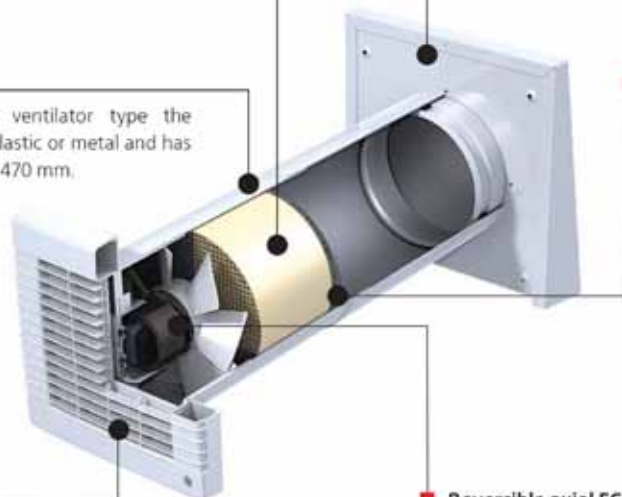
Two G3 built-in filters provide supply and extract air filtration and ensure supply of fresh air free of dust, pollen, insects and protect the ventilator internals from soiling.

Front grille

The modern front grille design let it match well with any interior. The grilles is equipped with automatic shutters that are opened during the unit start-up and are closed during the unit shutdown (except for the models TwinFresh S-60 / SA-60).

Reversible axial EC fan

Air is supplied or extracted by a reversible axial EC fan. Due to EC technology the fan has low energy demand up to 3 W. The fan is powered by safe voltage 12 V. The motor has integrated overheating protection and ball bearings for longer service life.



Fan is off
- the louvre shutters are closed



Fan is on
- the louvre shutters are opened

Versatile

TwinFresh single room ventilators can be considered at any project stage and are suitable for any room. From design of a ventilation system during construction, to retrofitting of existing buildings, especially where installation of a centralised ventilation system is unfeasible.

The ventilators have user-friendly design depending on application, eg the TwinFresh S model with a square telescopic duct is normally used for new facilities under construction, whereas the TwinFresh R models with a round telescopic duct can be used for preexisting buildings.



TwinFresh R
with a round Ø 150 mm air duct

Efficient, reliable, energy-saving and cost-efficient TwinFresh ventilators work around the clock to:

- supply clean fresh air
- remove stale air
- clean the air from dust, insects, pollen and other allergens and pollutants
- prevent excessive humidity and development of mould
- protect against outdoor noise
- recuperate heat and provide humidity balance inside
- reduce heating and air conditioning costs
- have low energy demand

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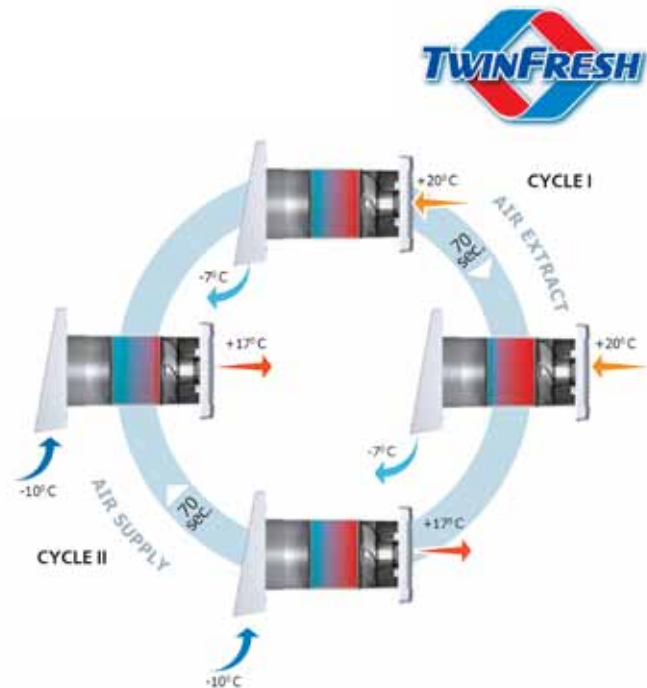
Operating logic of the TwinFresh ventilators

The ventilator can be operated in either cycling mode with heat and moisture recuperation, or for either supply or extract mode (depending on installation) with no recuperation.

In Cycling Mode:

CYCLE I Extraction: Warm stale air is extracted from the room, passing through the ceramic energy accumulator, both heating and moistening the accumulator, and transferring up to 91% of the contained thermal energy. After 70 seconds, once the ceramic accumulator is heated, the ventilator switches to supply mode automatically.

CYCLE II Supply: Clean fresh air from outside passes through the ceramic energy accumulator, absorbing moisture and heating to near room temperature using the accumulated heat. After a further 70 seconds, once the temperature of the accumulator has dropped, the fan switches to extract mode and the cycle is renewed.



Energy Saving

The great advantage of TwinFresh ventilators is their ability to recuperate heat and humidity in the premises due to a special ceramic thermal accumulator. The energy recuperation principle is based on utilization of heat and humidity contained in the extracted air to warm and moisturise fresh air from outside. Considering the potential for normal heat losses from a room, technology that re-utilises the heat from stale air is paramount for cost and energy saving.

High Efficiency

The heat and energy regeneration rate of TwinFresh ventilators is very high and can reach 91%.

A single TwinFresh unit provides permanent balanced air exchange and air filtration for the area up to 50m².

While a single TwinFresh unit provides balanced air exchange and air filtration for areas up to 50m², to attain the best result, it is recommended to install two TwinFresh units. This will facilitate air movement throughout the area.



Normal heat loss sources:

- Floor – up to 15%
- Outer walls – up to 15%
- Windows, doors – up to 17%
- Ventilation system – up to 50%
- Insulated Roof – up to 10%

Simple and easy to install

The TwinFresh compact ventilators do not require roof space or any extra components or air ducts. They are ready for use. The ventilators are designed for through-wall installation to the outer wall of the buildings. The only requirement is a hole in the wall. The external inlet/outlet is covered with an outer hood for prevention of direct penetration of water and foreign particles into the ventilator.

TwinFresh ventilation system installation example



Installation into a wall with thickness from 250 to 470 mm (model TwinFresh RA-50)

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TwinFresh ventilation system arrangement example

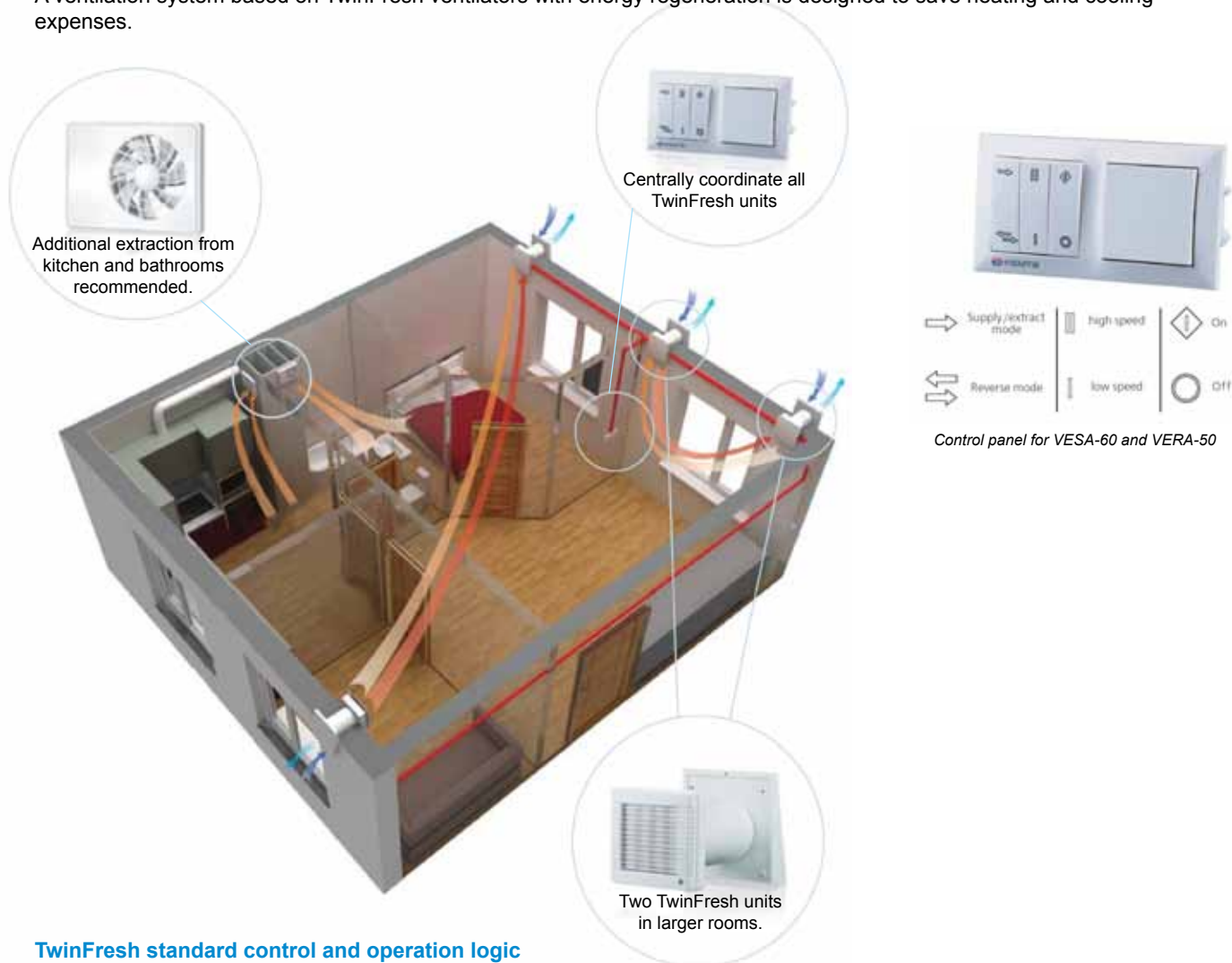
To arrange a ventilation system based on TwinFresh ventilators, install one unit in each room. For larger rooms, install two ventilators.

Connect all the units to a central control panel (the KV controllers with SA & RA can control up to three TwinFresh Ventilators).

Wire the ventilators in such a way as to set half the units to supply mode and the other half to extract mode. In reversing mode operation, the central controller coordinates the TwinFresh ventilators so they are switched into opposing modes in any set time period transferring the heat and moisture from extract air to supply air.

Air flows from one room to another through doors, gaps or halls providing the required circulation.

A ventilation system based on TwinFresh ventilators with energy regeneration is designed to save heating and cooling expenses.



TwinFresh standard control and operation logic

The operating modes are controlled by a three-key control panel. The ventilator automation system enables operation in four modes:

1. Low speed Ventilation (extract or supply mode, depending on initial wiring)
2. High speed Ventilation (extract or supply mode, depending on initial wiring)
3. Low speed Cycling ventilation (heat recuperation)
4. High speed Cycling ventilation (heat recuperation)

VESA-60 and VESA-50-1 are supplied with a control panel and 12V transformer.

Up to three TwinFresh S and TwinFresh R units may be extra connected to one control panel.

To integrate a larger number of the ventilators into the unified control system, purchase TRF 220/12-12 transformer (for 4 items) or TRF 220/12-40 transformer (for 11 items).

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