

COMMERCIAL LINE

# DUPLEX Flexi-V





## ATREA HISTORY

**ATREA** was started as a private company in 1990 in the Czech Republic. Very shortly it began to focus on the production of ventilation units with waste heat recovery. The company's founder has authored many authorship certificates, patents and industrial designs in this field.

ATREA's high quality products started to make their mark also in the demanding markets of Western Europe. The economic and geographic proximity led ATREA to focus primarily on the German market where it has established itself really well as a result of a good partnership and top-quality products, with the Netherlands, Switzerland, UK, Italy, Slovenia and other countries to follow.

In 2020 ATREA marketed a new DUPLEX **Flexi-V** concept, appealing to wholesalers and thus significantly increased its market share. The company's export activities then focused on the remaining European markets and introductory negotiations are now taking place with customers from overseas.

## ATREA'S PRODUCT RANGE

- Commercial ventilation  
– air handling units from 500–15 000 m<sup>3</sup>/h
- Residential ventilation  
– air handling units from 180–500 m<sup>3</sup>/h
- Kitchen ventilation  
– whole area ventilation ceilings and kitchen hoods
- Passive houses by ATREA

For more information please visit [www.atrea.eu](http://www.atrea.eu)





# DUPLEX Flexi-V

## FLEXI-V ADVANTAGES:

- Installer-friendly construction
- Highly variable and easily adjustable on site
- Versatility of air flow direction
- Floor-standing position
- Great compactness
- Up to 93 % heat recovery efficiency
- A wide range of on-site modifications
- Internet interface as a standard
- The units meet requirement in accordance with Commission regulation (EU) No. 1253/2014 (Ecodesign)

## ATREA ADVANTAGES:

- Off-the-shelf delivery
- Immediately available to customers
- Subsequent competitive advantage
- Optimization of transport costs
- A major decrease in servicing costs as a result of the built-in web server



## ENGINEERING Flexi-V

- ▣ A complete series of 500, 900, 1800, 2800 and 3500
- ▣ Up to 93 % heat recovery efficiency
- ▣ 100 % by-pass
- ▣ Floor-standing (upright) position
- ▣ Control system with built-in webserver
- ▣ EC fans – high efficiency, German quality
- ▣ Side orientation simply by setting the parameter in the control system
- ▣ Constant flow control
- ▣ Constant pressure control
- ▣ Heating and Cooling (hot-water, direct or electric)
- ▣ Wide range of additional accessories



## BUSINESS Flexi-V



### FLEXI-V ADVANTAGES

**1. Installer-friendly construction** – The unit is designed with a continuous emphasis on the maximum level of comfort of installers. Access to individual equipment sets and the possible variety of individual positions and the unit's settings are fast, easy and intuitive.

**2. Thoughtful and imaginative unit design** offers a wide range of on-site modifications and the possibility to meet conditions of various projects. Units DUPLEX Flexi-V can be additionally modified with:

- **two-stage air filtration on the supply and exhaust,**
- **built-in heater (water or electric),**
- **built-in cooler (water or direct),**
- **built-in electric preheater for heat recovery exchanger frost protection.**

**3. Highly variable** – Despite the wholesale nature of this HVAC unit its ingenious design allows a wide range of on-site modifications.

**4. Versatile positioning** – Simply by entering the parameter in the control system the unit's operation can be changed to the desired direction. The rest of the unit is a plug-n-play, ready-to-use system.

**5. Great compactness** – The unit's design was developed with a constant emphasis on the highest possible level of compactness. As a result the Flexi series achieved outstanding parameters.

**6. Up to 93 % heat recovery efficiency** – Plastic plate counter-flow heat recovery cores made by ATREA enable to achieve a great level of heat recovery and subsequent cost savings.

**7. Internet interface** – An unparalleled advantage for the sales force as well as the customer. Via its built-in web server the units can be remotely controlled through the Internet. This means not only comfort and a remote control option for the user, but also greatly simplified, more convenient and significantly cost-saving servicing. It is this option to utilize the built-in web server for servicing that makes the subsequent operation of the unit vastly cheaper.

**8. Ecodesign** – the units meet requirement in accordance with Commission regulation (EU) No. 1253/2014 (Ecodesign).

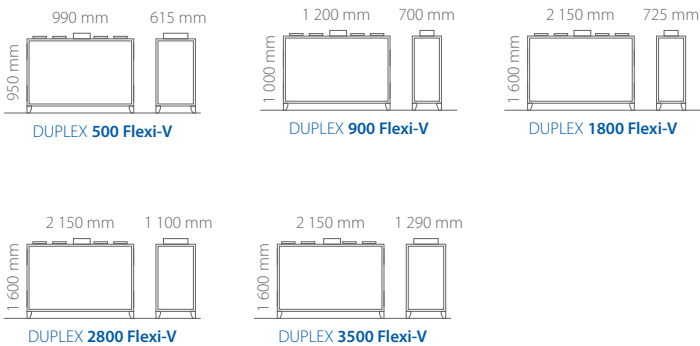
# DUPLEX Flexi-V 500, 900, 1800, 2800, 3500



## ATREA ADVANTAGES



Flexi-V dimensions



**1. Off-the-shelf delivery** – The ingenious design of the units enables their availability in stock.

**2. High quality products** – ATREA products meet the strictest European quality standards.

**3. ATREA selection software** – A sophisticated and customer-friendly tool helps to select the right ventilation unit intuitively and quickly.

**4. Detailed technical documentation** – each technical offer contains all the necessary drawings, calculations, specifications of accessories and other documents.

**5. Vast reduction in servicing costs** – Control via the Internet enables easy servicing including error message history, firmware updates and information on the current settings of the unit. As a result the time costs of the servicing department are vastly reduced.





## SELECTION SOFTWARE



[www.atrea.eu](http://www.atrea.eu)

Try it – ATREA's selection software in 17 European language versions

ATREA offers its proprietary selection software that is a highly useful and practical tool to select the right Flexi unit and provides great marketing support!

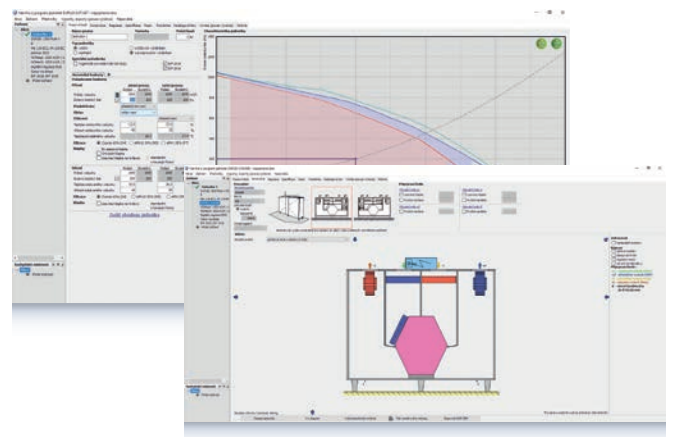
**Very positive feedback from designers of all over Europe gives a good opportunity to easily include ATREA's units in all kinds of projects.**

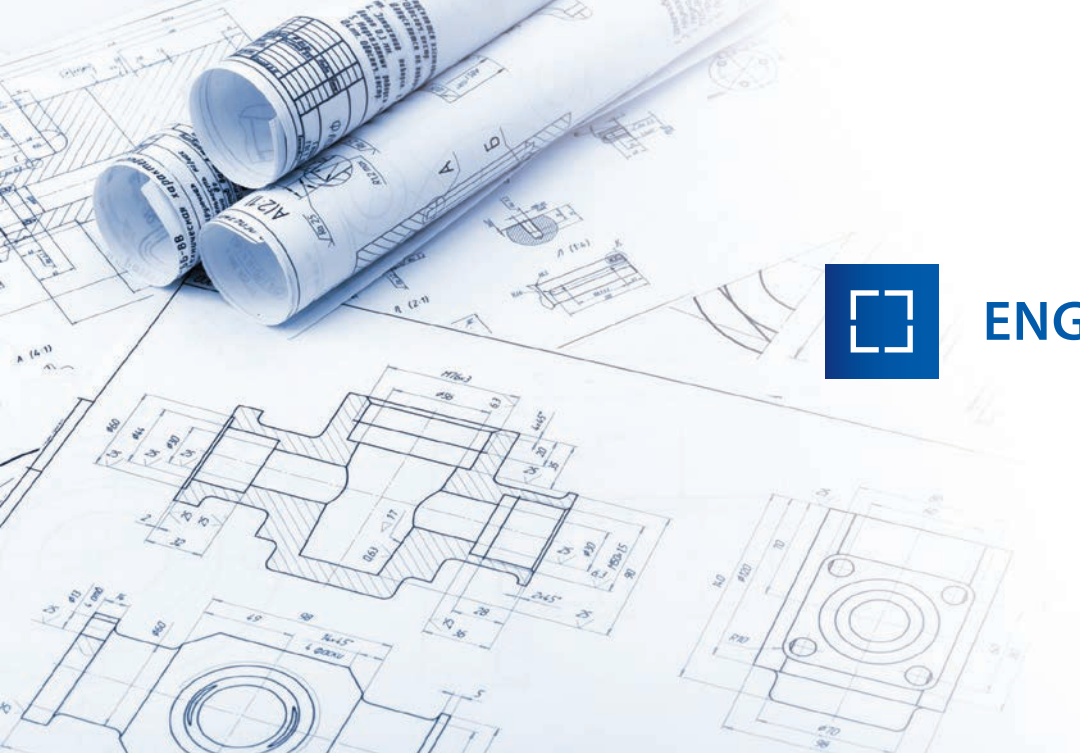
Very detailed calculations on all specifications are standard.

The software checks whether all components were selected and whether the selected system is working. This way you can avoid any possible mistakes.

### It includes:

- Selecting a unit and its accessories
- Showing parameters of the selected appliance
- An option to adjust the various parameters, designs or mounting positions of the units
- Selecting the control system with accessories in a functional set
- Electrical wiring diagrams
- Displaying and printing the components installed, an h-x diagram and HVAC diagrams
- Price specifications of individual components
- Print output to a printer or PDF
- Exporting drawings and diagrams to DXF in 2D or 3D format
- Sending the design and export by e-mail
- **Additionally, the selection software includes a full catalogue of ATREA's products in PDF format.**





**ENGINEERING Flexi-V**

## FLEXI-V ADVANTAGES

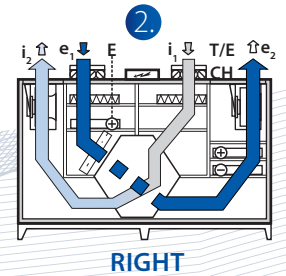
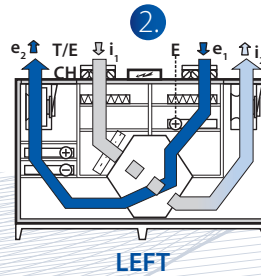
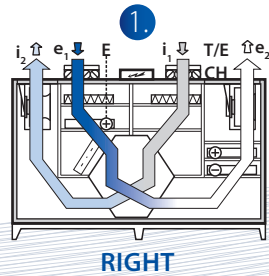
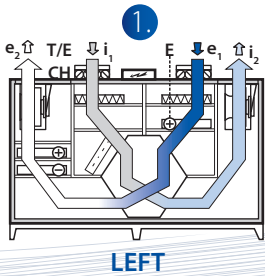
- A complete series of 500, 900, 1800, 2800 and 3500
- Up to 93 % heat recovery efficiency
- 100 % by-pass
- Floor-standing (upright) position
- Control system with built-in webserver
- EC fans – high efficiency, German quality
- Side orientation simply by setting the parameter in the control system
- Constant flow control
- Constant pressure control
- Heating and Cooling (hot-water, direct or electric)
- Wide range of additional accessories
- The units meet requirement in accordance with Commission regulation (EU) No. 1253/2014 (Ecodesign)





# ENGINEERING Flexi-V Operating modes

1. Ventilation with heat recovery with re-heating (with cooling)
2. Ventilation without heat recovery (via by-pass)



## TECHNICAL PARAMETERS

### FLEXI-V IS FLEXIBLE

Units are supplied with all spigots facing upwards. It elegantly solves the sometimes problematic connection of air ducts and brings up new possibilities for installing the units in normally unusable spaces.

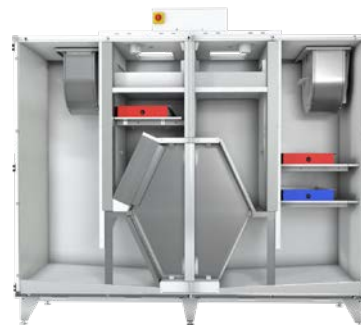
Units can be optionally modified on site with exchangers for:

- air pre-heating (electric)
- air heating (electric or water)
- air cooling (water or direct)

Another advantage is the possibility to change the unit orientation (by swapping the supply and exhaust branches) during the installation, which provides a high level of variability.

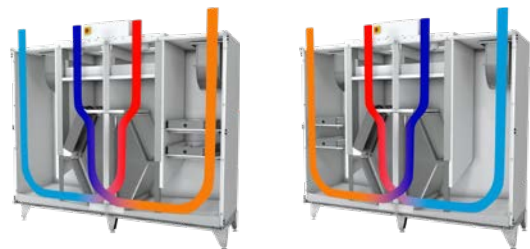
- **The nominal working points of the Flexi-V series are**
  - 500 m<sup>3</sup>/h/200 Pa
  - 900 m<sup>3</sup>/h/200 Pa
  - 1800 m<sup>3</sup>/h/200 Pa
  - 2800 m<sup>3</sup>/h/200 Pa
  - 3500 m<sup>3</sup>/h/300 Pa
- **Unit casing** – Frameless construction. The 30 mm sandwich panels ensure great insulation and acoustic properties.
- **Filters ePM10 50 % (M5) / ePM1 55 % (F7)** – Cassette filters supplied as standard, easy to replace thanks to the ingeniously designed clips. Units can be additionally fitted with two-stage air filtration on supply and exhaust branch.
- **5 temperature and 6 pressure sensors inputs** – A wide range of temperature, air and pressure sensing options, fully compatible with ATREA's own control system RD5.
- **Easy access** – The front door opens fully for easy access to all equipment sets of the unit. They enable easy installation and any servicing of the unit.

### Built-in heating and cooling



### Changing the unit orientation

By entering a parameter in the control system, the unit orientation can be easily changed. The rest of the unit connection is realised by plug-and-play, ready-to-use system – everything is connected and ready.





# DUPLEX Flexi-V<sub>500, 900, 1800, 2800, 3500</sub>



## TECHNICAL PARAMETERS

### Up to 93 % heat recovery efficiency

Plastic plate turbulent counter-flow heat recovery cores made by ATREA enable to achieve a great level of heat recovery and subsequent cost savings.



### Web server

A web server that allows running the unit over the Internet to drastically reduce the cost of servicing and indirectly also the market entry price of the unit.



### Two-stage air filtration

Units can be optionally fitted with two-stage air filtration on supply and exhaust branch in the following combinations:

- ePM1 55 % (F7) / ePM10 50 % (M5),
- ePM10 50 % (M5) / ePM10 50 % (M5),
- ePM1 55 % (F7) / ePM1 55 % (F7),
- ePM10 50 % (M5) / ePM1 55 % (F7).



- **Servo drives** – Top quality Belimo servo drives.
- **Energy factor = 15(-)**; the ratio of useful energy output to the total amount of energy delivered.
- **Low noise** – Very good acoustic properties of our units can be defined for various working points in our selection software.
- **Automatic frost protection** – An option to rearrange fan operation of the unit can be provided with a built-in electrical pre-heater (see Accessories).
- **Constant flow** – The units can be equipped with accessories supplied to enable constant flow control.
- **Constant pressure** – Flexi-V series units can also be provided with accessories for a constant pressure mode.



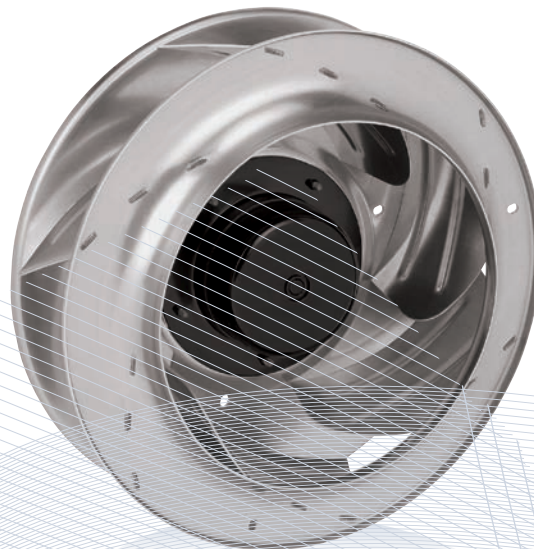
**Heating** – DUPLEX Flexi-V units can be optionally fitted on-site with heating accessories. Built-in electric heater can be used for both heating or pre-heating. Another option is to use built-in water heater – for more detailed information see the Accessories.



**Cooling** – Units can also be optionally fitted with built-in cooler with with a special surface with aluminium fins for the better spreading of water droplets to prevent them from entering the HVAC duct – for more information see the technical sheet or ATREA's selection software. As standard water-based or direct coolers are supplied; they can also be operated in reverse mode to act as a heater.

## EC TYPE FANS

Fans from the world's top producers ebm-papst and Ziehl Abegg. The outstanding German quality helps eliminate servicing costs. Flexi-V series units use backward bending blades in a dedicated special spiral casing invented by ATREA.



## OPTIONAL ACCESSORIES

supplied separately

### Shut-off dampers

Shut-off dampers to be fitted on the suction port (the unit's inlet). The dampers are supplied with a conventional servo drive or a servo drive type with an emergency shut-off function in case of power cuts. Sizes corresponding to the unit's ports.



### Flexible flanges

Flexible flanges to be fitted on both circular and rectangular ports in sizes corresponding to the unit's port.



### HCW – water heated / coolers

Universal built-in water exchanges to be installed directly into the unit. The exchanges can be used for both heating and cooling.



### CD – Direct coolers

Built-in direct coolers to be installed into the unit behind the water heater or separately. Reverse operation (as a heat pump) is also possible.



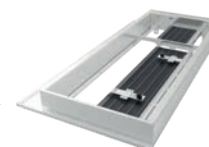
### E – Electric heaters

Built-in electric heaters to be installed into the unit.



### E – Electric pre-heaters

Built-in electric pre-heaters that ensure frost protection of the heat recovery exchanger when equal-pressure ventilation is permanently required. To be installed into the unit on the supply branch.



DUPLEX Flexi-V units are designed with all spigots facing upwards. It solves sometimes problematic connection of air ducts and allows installation in normally unusable places.



supplied separately

## OPTIONAL ACCESSORIES

### Inclined manometers

A filter accessory for the easy visualisation of current pressure loss of the filters. Inclined manometers are mandatory for the hygiene version of the units under VDI 6022.



### Spare filter cassettes

Spare filter cassettes in sizes according to the type of the unit. Filter class ePM10 50 % (M5) or ePM1 55 % (F7).



### Control manifolds for water heaters

They are intended to control the heating performance of the hot-water heaters. They always consist of a three-speed pump, two shut-off ball valves and a three- or four-way mixing manifold with a Belimo servo drive.



### Air filtration

As standard DUPLEX Flexi-V series units are provided with ePM1 55 % (F7) / ePM10 50 % (M5) cassette filters. An ePM1 55 % (F7) filter class can be ordered separately.



### Control manifolds for water coolers

They are designed to control the cooling performance of chilled water coolers.



### Constant flow and pressure control

Used for precise volume and pressure control.







## ENGINEERING Flexi-V



### CPM CONTROL SYSTEM

#### CPM control system with CP 10 RA controller basic controller

- Manual or automatic mode
- Continuous fan control
- Automatic by-pass damper control
- Anti-freeze heat recovery exchanger protection
- Switching of external electric or built-in water heater
- Switching for selected performance according to an external signal
- Automatic operation according to sensors (CO<sub>2</sub>, RH) with 0–10 V output
- Control of the intake and outlet lock dampers
- Settings for minimum and maximum allowed revs
- Optional connection of CO<sub>2</sub> or rH sensor – max. 2 sensors with a switch or 0–10 V output
- Outputs for electric preheater and heater control (pulse 10 V) or hot-water control (0–10 V)

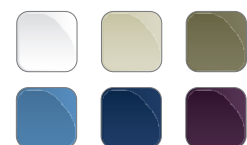
#### CPM control system with CPM controller comfortable controller

- + Graphic touchscreen controller
- + Weekly program
- + “Party” mode – when a higher ventilation performance is requested
- + “Vacation” mode – automatic activation and deactivation according to a set date
- + Warns when the filters need to be changed
- + Automatic operation on a constant output signal – e.g. constant pressure control

#### CP 10 RA controller



#### CPM controller



CPM color variations



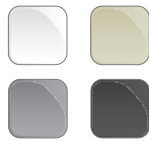
# DUPLEX Flexi-V



## RD5 CONTROL SYSTEM

„high-tech“ control system line with all comfort and possibilities

### ● CP Touch controller (touchscreen)



CP Touch color variations

### ● Control via internet



### ● Smartphone application



### INTEGRATED WEB SERVER AS STANDARD \*

A service technician is able to remotely check the setting, check any defect and promptly fix the problem.

- Remote software update with preserving user settings.
- Show error messages, including history.
- Intuitive and user friendly interface with display both basic and servis parameters.

### Various functions of the RD5 control system:

- **Constant flow** – An option to fit sensors for constant flow control.
- **Constant pressure** – An optional accessory for constant pressure control.
- **CO<sub>2</sub> sensors, relative humidity sensors and air quality sensors** – An option to set the intensity of ventilation automatically based on those parameters.
- **Modbus TCP** – Communication with a higher-ranking system for BMS.
- **User preferences** – including setting weekly programmes for ventilation, heating and cooling modes. Immediate manual override settings for more convenience to the user as well as weekly programme control.
- **External inputs function** – ventilation switches as required.
- **Combined heating and preheating** (electrical or water based)
- **Zoning** – the ability to split the building into zones and define their operation.
- **BACnet / KNX** – optional converter enables connection to the superior system via BACnet or KNX protocol.

(\*) with RD5 control system



## Why DUPLEX Flexi-V?

**E Easy** – Flexi-V is easy to understand, easy to adjust and easy to install.

**F Flexible** – However easy, Flexi-V is still flexible for different kinds of projects.

**C Compact** – Flexi-V's small and compact – a huge advantage for installing confined spaces.

**E Efficient** – However compact, Flexi is perfectly efficient – up to 93 % of heat recovery efficiency.

• Immediately available to customers.

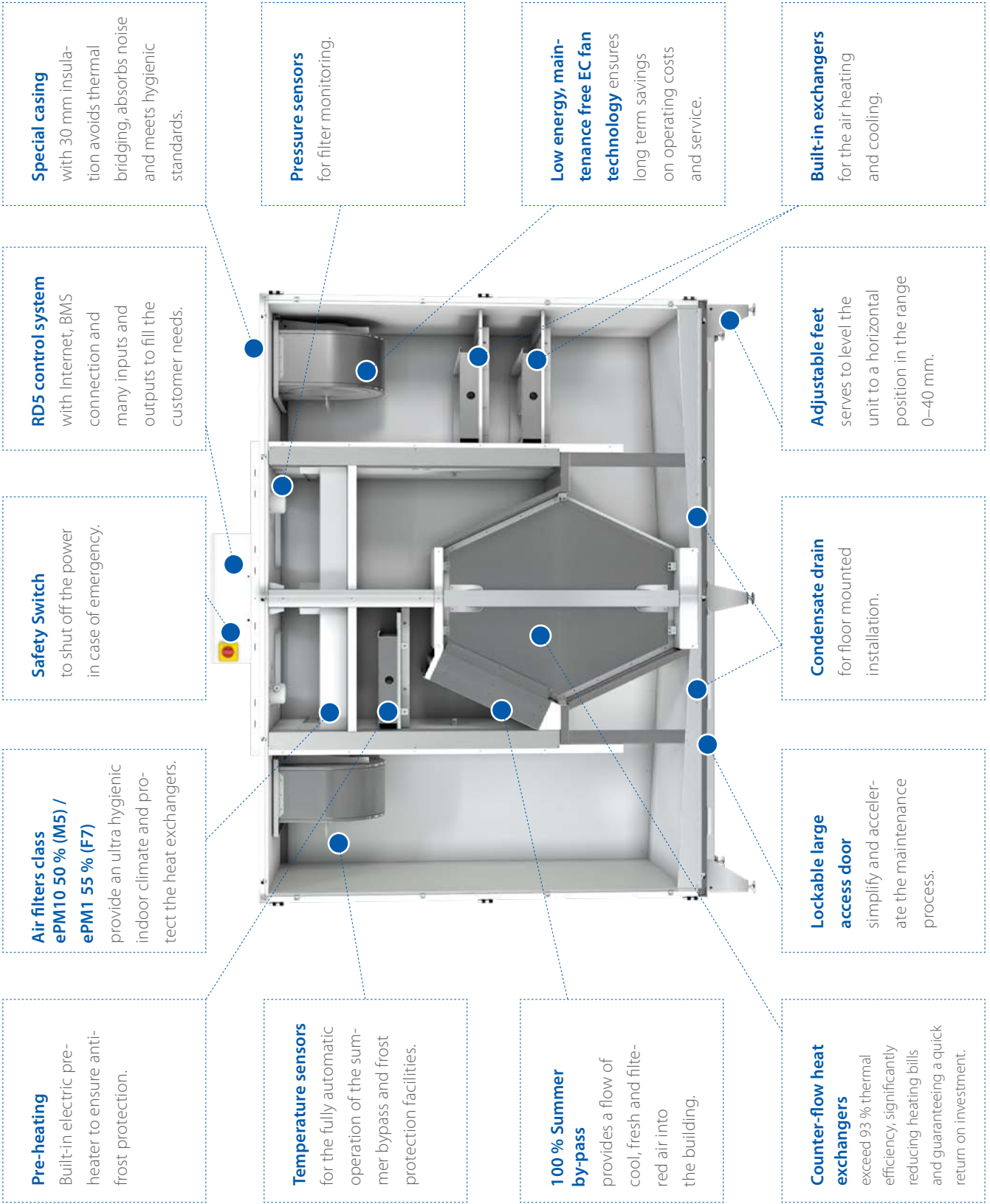
• With a web server as a standard that saves your money.

**Flexi-V Is the Way**





# ENGINEERING Flexi-V





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