

COMMERCIAL LINE

DUPLEX Flexi 3





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 2012 ATREA marketed a new **DUPLEX Flexi** 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 m³/h
- Residential ventilation
– air handling units from 180–500 m³/h
- Kitchen ventilation
– whole area ventilation ceilings and kitchen hoods
- Passive houses by ATREA



BUSINESS Flexi 3

SELLER CONTENT POLICY

- Installer-friendly construction
- Highly variable and easily adjustable on site
- Indoor and outdoor version in one
- Versatile positioning
- Great compactness
- Floor-standing, ceiling-suspended and rooftop position
- 93 % heat recovery efficiency
- In accordance with VDI 6022
- Integrated electric pre-heater as an option
- Internet interface as a standard
- The units meet requirement in accordance with Commission regulation (EU) No. 1253/2014 (Ecodesign)

MANAGER CONTENT POLICY

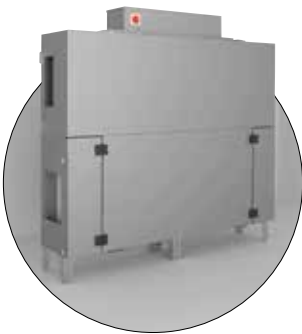
- Off-the-shelf delivery
- Immediately available to customers
- Subsequent competitive advantage
- Optimization of transport costs
- A major decrease in servicing costs as a result of the built-in web server



6in1

Three installation positions with two side orientations

Floor-standing



+

Ceiling-suspended

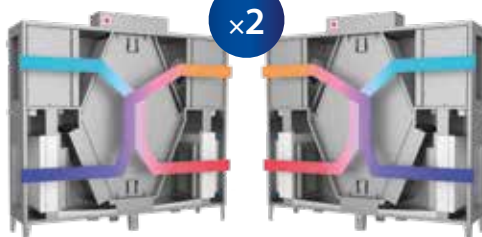


+

Rooftop



x2



Left

Right



BUSINESS Flexi 3



SELLER CONTENT POLICY

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

3. 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.

4. 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. The low weight and depth of the units facilitate their installation, particularly when ceiling-mounted.

5. Floor-standing and ceiling-suspended position* – One of the major advantages of Flexi compact units. The same version of the unit can therefore be installed in positions required by a specific project, which actually means that a single type of the unit can succeed in meeting conditions of various projects.

6. 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. An important ingredient is the fact that the units' efficiency is measured at the ports by a certified lab under supervision by the PHI institute in Darmstadt.

7. Integrated electric pre-heater – In the basic version, Flexi 3 units are equipped with preparation for the addition of a built-in electric preheater, which ensures effective protection of the heat exchanger against icing. The electric preheater can be added to the device during the assembly of the unit itself or even retrospectively, after the commissioning of the ventilation unit.

8. Outdoor version – Using optional accessories such as a roof, hoods and heated condensate drain, the standard indoor unit can be easily modified to an outdoor or rooftop version.

9. 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.

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

*up to DUPLEX 3500 Flexi 3

DUPLEX Flexi 3

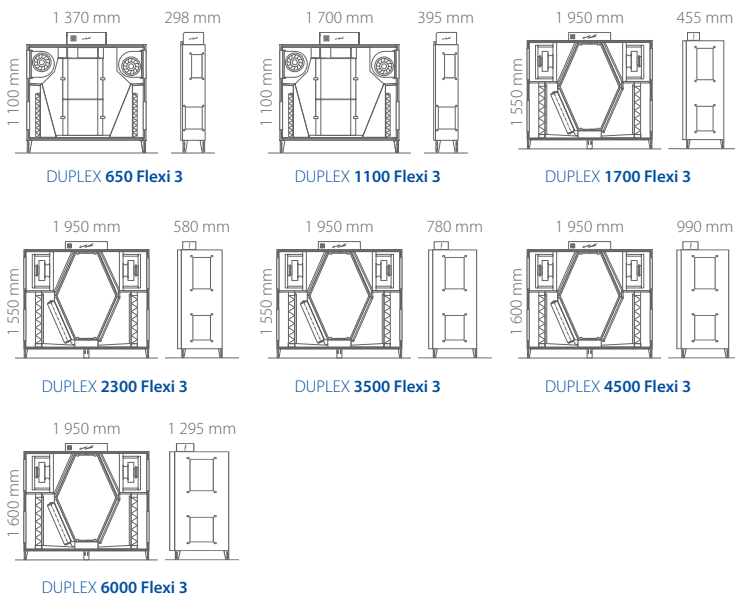
650, 1100, 1700, 2300,
3500, 4500, 6000



MANAGER CONTENT POLICY



Flexi 3 dimensions



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

2. Immediately available for customers – Our customers can thus immediately react to their clients' demand.

3. Subsequent competitive advantage – Delivery times are no longer a concern.

4. Optimizing transport costs – The bulk order option optimizes transport costs.

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.

6. ATREA selection software – All advantages are supported by the company's major marketing tool – its proprietary selection software to help your clients design the Flexi 3 unit easily, intuitively and efficiently. At the same time the software is used to efficiently check various designs for correctness and completion.



SELECTION SOFTWARE



www.atrea.com

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 3 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
- Add-on for Revit
- **Additionally, the selection software includes a full catalogue of ATREA's products in PDF format.**





ENGINEERING Flexi 3

MAIN COMPETITIVE ADVANTAGES

- A complete series of 650, 1100, 1700, 2300, 3500, 4500 and 6000
- 93 % counter-flow heat recovery exchanger
- Indoor and outdoor version in one
- 100 % by-pass
- Floor-standing and ceiling-suspended in one*
- Control system with a web server as a standard
- EC fans – high efficiency, German quality
- Side orientation simply by setting the parameter in the control system
- Constant flow control
- Constant pressure control
- External heating and cooling coils
- Integrated electric pre-heater as an option
- Wide range of additional accessories
- The units meet requirement in accordance with Commission regulation (EU) No. 1253/2014 (Ecodesign)



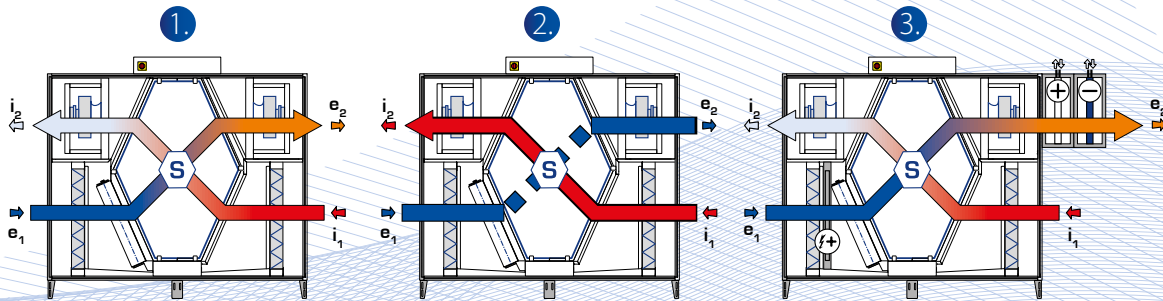
*up to DUPLEX 3500 Flexi 3



ENGINEERING Flexi 3

Equal pressure ventilation

1. with heat recovery
2. without heat recovery (by-pass)
3. with air reheating and/or preheating



TECHNICAL PARAMETERS

FLEXI 3 IS FLEXIBLE

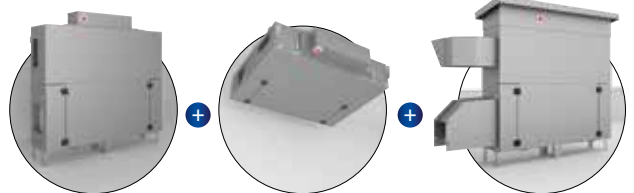
The units are supplied in a versatile version in which the unit is ready for floor-standing, ceiling-suspended and rooftop installation. For all positions standard feet are also used as suspension points.

In addition, the sides of the units can be reversed during installation, i.e. supply and extraction air sides are changed. This ensures a high level of variability during installation on site.

- **The nominal working point of the Flexi series is** 650 m³/h/170 Pa; 1100 m³/h/300 Pa; 1700 m³/h/300 Pa; 2300 m³/h/200 Pa; 3500 m³/h/300 Pa; 4500 m³/h/300 Pa; 6000 m³/h/300 Pa.
- **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. The patented design allows filtration through the filter frame as well.
- **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 hinged door opens fully for easy access to all equipment sets of the unit. They enable easy installation and any servicing of the unit.

6 in 1 Three installation positions with two side orientations

Floor-standing Ceiling-suspended Rooftop



Side changing in the control system

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.



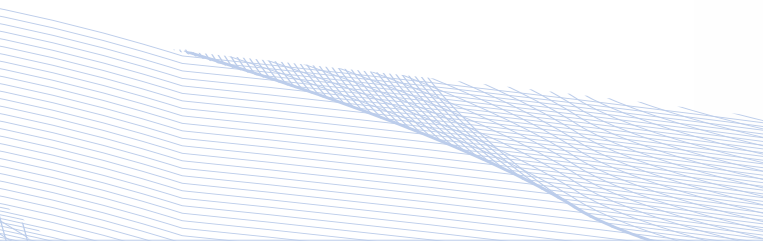
Electric pre-heater

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 3 650, 1100, 1700, 2300, 3500, 4500, 6000



TECHNICAL PARAMETERS

Heat recovery / 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. PHI tested and certified.



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.



Pre-heating, heating and cooling



- **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 or the unit can be provided with an electrical pre-heater (see Accessories).
- **Constant flow** – The units can be equipped with accessories supplied to enable constant flow control.
- **Constant pressure** – Flexi 3 series units can also be provided with accessories for a constant pressure mode.

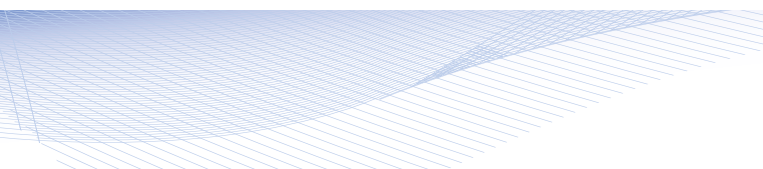


Heating – It is also possible to fit Flexi 3 series units really easily with on-site heating accessories. An electrical heater is available to be used either as an electric re-heater or pre-heater. Another option is using a hot-water air heater – for more information see Accessories.



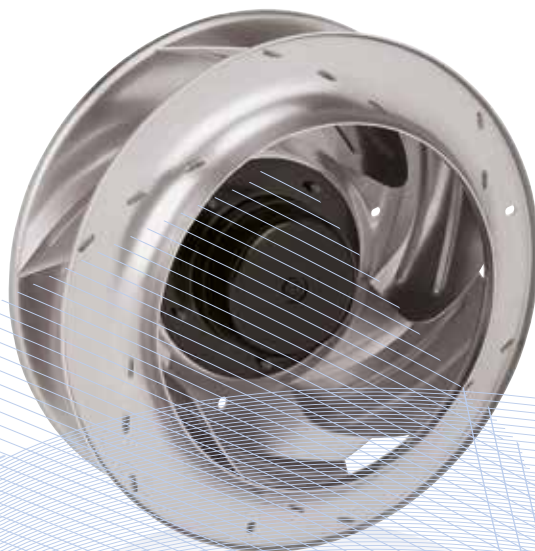
Cooling – The units can be as easily provided with our water cooling coil with a special surface with aluminium fins for the better spreading of water droplets to prevent them from entering the HVAC duct – for more information see the technical sheet or ATREA's selection software.

Water-based and direct coolers – As standard either water-based or direct coolers are supplied; they can also be operated in reverse mode to act as a heat pump.



EC FANS

Fans from the world's top producers ebm-papst and Ziehl Abegg. The outstanding German quality helps eliminate servicing costs. Flexi 3 series units use backward bending blades in a dedicated semi-spiral casing invented by ATREA. ▶



OPTIONAL ACCESSORIES

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.



Flexible flanges

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



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.



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.



supplied separately

Air filtration

As standard DUPLEX Flexi 3 series units are provided with ePM1 55 % (F7) / ePM10 50 % (M5) cassette filters.



HW – water heaters

Hot-water heaters to be installed directly on the units' casing. For systems up to 110 °C and 1.0 MPa. Optimized for low temperature sources.



Electrical heaters

EPO-V electric heaters that ensure frost protection of the heat recovery exchanger when equal-pressure ventilation is permanently required. They are installed in a duct on the fresh air inlet side of the unit.



Accessories for rooftop version

NR – Custom designed roof to protect the unit against weather.

N1.E – Cover for outdoor air inlet port with lamellas and droplet eliminator.

N2 – Adjustable cover for exhaust port with protective grille.

KH – The heating cable helps to protect the condensate drain from freezing.





Versatility

One of the major advantages of Flexi 3 compact units. A single version of the unit can therefore be installed in the position required by a specific project; in practice this leads to simple integration in various project types. The low depth of Flexi 3 units radically facilitates installation below the ceiling. ▶



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.



Electrical heaters

Heaters to be installed in circular or rectangular ducts connected to Flexi units.



CD – direct cooler

Direct coolers to be installed from the outside on to the units' casing. Installation on either a chamber with a hot-water heater or a free chamber. Can be reversible as a heat pump.



CW – water cooler

Chilled water air coolers to be installed from the outside on to the units' casing. Installation on either a chamber with a hot-water heater or a free chamber. For systems up to 1.0 MPa.



VK – free chamber

A chamber for installation on to the unit's casing to supply air outlet e. It is used to make 2 airflows upstream the cooler homogenised. The chamber is installed only when an HW hot-water air heater is not available.



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 3



CONTROL SYSTEM

Flexi 3 series units are provided with a proprietary RD5 control system by ATREA. This control system meets all requirements for demand-controlled ventilation.

The RD5 control system has an integrated web server. As a result Flexi 3 series units can be run from the Internet via devices such as laptops and smart phones.

Moreover, the control system is fitted in the units already in production during which everything is also inspected. DUPLEX Flexi 3 units are therefore supplied as plug-n-play systems. All this increases the ease of installation and reduces costs.

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.
- **CO₂ 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.



DUPLEX Flexi 3



CONTROL SYSTEM

● CP Touch controller (touchscreen)



CP Touch color variations

● Control via internet



● Smartphones application



BUILT-IN WEB SERVER AS A STANDARD

Remote control via the Internet and an option to check all settings of the unit to enable service technicians to determine the kind of malfunction before departing for servicing or even remotely "fix" the unit.

- Remote access firmware updates with maintaining the user parameter settings.
- Displaying current error messages.
- Displaying error message history. The unit records the time and date of power-on; also malfunctions resulting from power cuts can therefore be identified.
- An intuitive user interface with a well-arranged menu of all service parameters and more user-friendly display of all user settings



Flexi 3 EFCE factor

E Easy – Flexi 3 is easy to understand, easy to adjust and easy to install.

F Flexible – However easy, Flexi 3 is still flexible for different kinds of projects

C Compact – Flexi 3 is small and compact – a great advantage for the ceiling-suspended position.

E Efficient – However compact, Flexi 3 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.

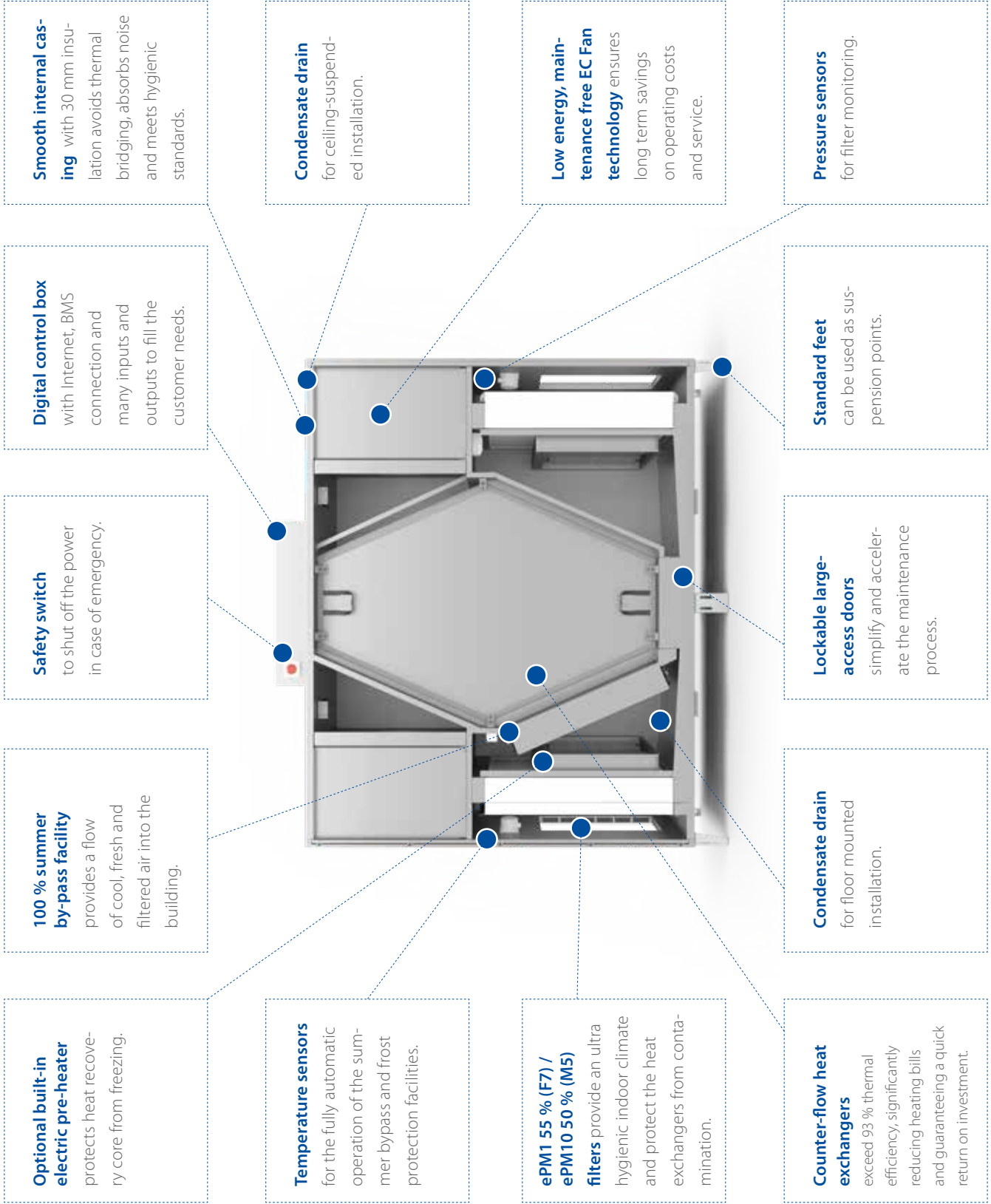


Flexi 3 Is the Way





ENGINEERING Flexi 3





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