



# AEROSTAR

Participant: Vent-Service LTD.  
Commercial range name: GreenStr.  
Aeroselect selection software version 2.0.0.0 (27-09-2021)  
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www.eurovent-certification.com

# GreenSTR

Multifunctional air handling unit

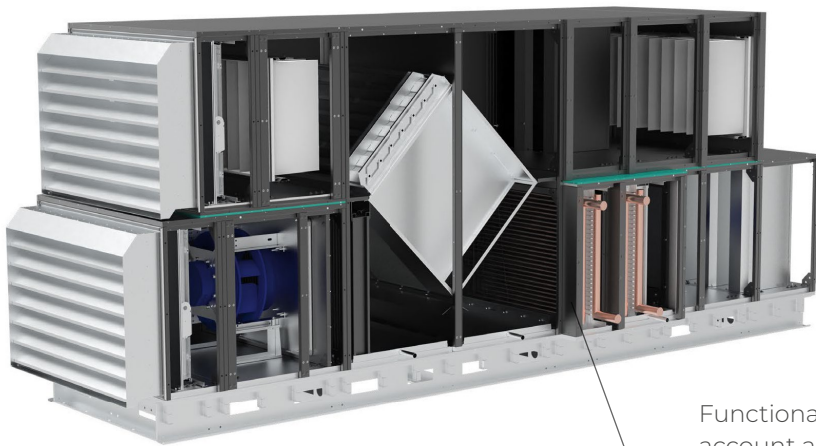
**CAPACITY: from 1 500 m<sup>3</sup>/hour up to 25 000 m<sup>3</sup>/hour**



**Solutions that work**

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**AREA OF USAGE:**

for facilities of various assignments, including medical institutions and other premises with high requirements for cleanliness conditions.

Functional units are designed taking into account all the necessary parameters: the size of the mounting and construction slots that highly simplifies the process of assembling of ventilation units on the site.

**ADVANTAGES**

**Resources savings 88%:**



**80% RECUPERATORS**

Reduce of energy consumption up to 80% and ensure the protection of environment.



**5% EC-MOTORS**

Energy efficient EC-motors allow reducing of operating costs at least for 5%.



**3% IMPELLERS**

Improved backward-bladed fans:  
 - increase the efficiency;  
 - reduce the energy consumption by 3%;  
 - minimize the noise level.



Automation system is developed individually for each particular unit. Allows controlling the parameters of the equipment with maximum efficiency.



High-accuracy designing and exclusive selection program AeroSelect.



The units are equipped with a number of energy-saving technologies that allow users to gain the maximum efficiency at the minimum resource costs.



Minimum manufacturing time of equipment.



Medical modification of unit is possible.



Non-standard solutions for the premises of all types.

## BASIC CONFIGURATION

### ANTI-CORROSION COATING

Metal with high zinc content and extra-strong anti-corrosion coating allow installation of equipment inside and outside the buildings of all types.

- In case of outside installation the units are equipped with an air intake covers, protective deflectors and roof. In this case the air valves and automatic equipment are mounted inside.

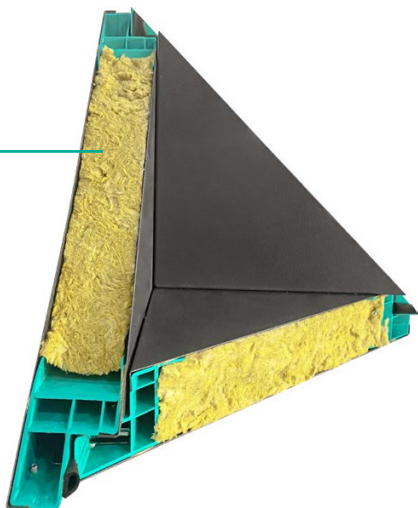


### SANDWICH PANELS

provide increased structural strength, heat and sound insulation.

**Thickness** – 50 mm.

**Filling compound** – mineral wool with a density 50 kg/m<sup>3</sup>.



- Minimization of heat losses.
- Air valve of increased tightness (with a function of heating).
- Minimal energy losses per square meter of surface.
- PVC profiles are armed with a reinforced insert.
- increased mechanical strength.

### INNOVATIVE CASE MADE OF PVC-PROFILE

- Powder epoxidized coating on the outside and inside surfaces of the case.
- Simple and tight interconnection of the sections.
- Reduced weight of the unit.
- Reduced production time.
- Sandwich panels with thickness 50 mm made of rock wool (from molten erupted rocks) with a density of 50 kg/m<sup>3</sup>



### ITALIAN ACCESORIES

The unit is equipped with high-quality ergonomic Italian accessories: locks, handles, hinges.

The doors can be opened in either direction or can be removed.

## FAN GROUP WITH DIRECT DRIVE

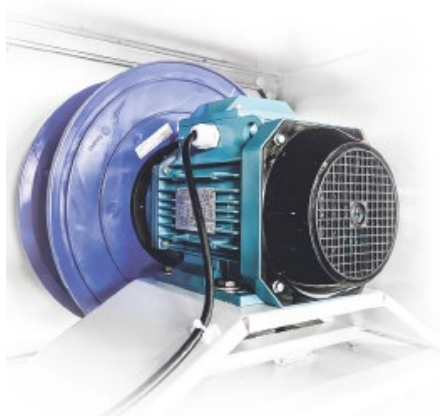
Impeller is mounted on the electric motor shaft that highly increases efficiency of the fan.



## OBĚŽNÉ KOLO

- ⊕ 3 types of impellers - metal, composite, special performance - explosion protected;
- ⊕ Welded steel construction;
- ⊕ Static pressure up to 2500 Pa;
- ⊕ Static efficiency up to 73%;
- ⊕ Quality balancing G2.5
- ⊕ 3D blades in the form of water drops;

**Airfoil blade.**  
**Low noise level.**



## AC-MOTOR

Is placed on a vibration-resistant frame separated from the body of the unit. Perfectly adjusted to the aerodynamics of the ventilation network, it is possible to adjust the parameters if necessary.

Energy efficiency classes: IE2, IE3.  
Protection class: IP 55

For ERP compliance an IE2 motor is required to be equipped with a frequency inverter.



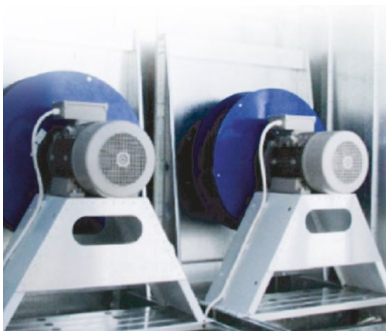
## EC-MOTOR

Brushless synchronous motor with electronic control highly reduces noise level.

High working pressure: up to 2500 Pa.  
Wide range of nominal voltage: 200-277V and 380-480 V  $\pm$ 15%.  
Long service life: more than 80 000 of continuous work.

## EC-ELECTRIC MOTOR WITH EFFICIENCY HIGHER 90%

- ⊕ Saves at least 30% more electricity than an AC motor. Complies with the ErP 2015 directive.
  - ⊕ Built-in EMC filter protects against phase loss and low voltage in the network.
  - ⊕ Protection against overheating of the motor and electronics, and protection against rotor lock.
  - ⊕ No starting currents.
  - ⊕ No service needed.
  - ⊕ The absence of the frequency converter saves installation space.
  - ⊕ Allows you to increase productivity fan up to 10%.
  - ⊕ EC-motor optionally has MODBUS RTU protocol.
- Option. Application of the **Flow Grid** technology: air flow rectifier.



## DUAL FAN

- ⊕ Dual fan system. This configuration is **50% more reliable than a system with one powerful fan.**
- ⊕ Occupies less space.

## FAT TRAP FILTERS

The fat trap filter FVP-ZhKS consists of corrugated grids layers, placed in the cassette cartridge.



The filter casing of galvanized steel makes protection to corrosion and high temperatures, and the polymer coating provides protection against all types of mechanical damage.

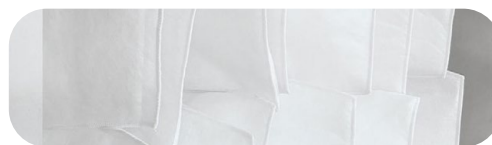
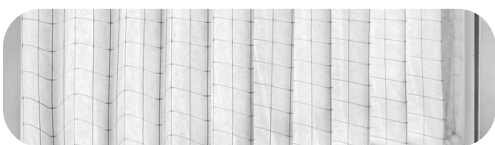
Filtration class EN 779: G2  
 Filtration class Eurovent 4/5: EU2  
 Filter material: galvanized / stainless steel grid  
 Frame material: galvanized painted steel

Fire safety class DIN 53438:  
 Fire resistance  
 Working temperature: ≤ 200°C  
 Working humidity: ≤ 100%  
 Filtration efficiency [Ea]: 75%

## MODULAR FILTERS

Filtration classes ISO 16890: Coarse ( $0,3 \leq x \leq 10$ ), ePM10 ( $0,3 \leq x \leq 10$ ), ePM2,5 ( $0,3 \leq x \leq 2,5$ ), ePM1 ( $0,3 \leq x \leq 1$ ).  
**Prevent the migration of dust particles through the filter material.**

Filter groups	Particle size (micron)	Classification criteria
ISO Coarse	$0,3 \leq x \leq 10$	Average efficiency < 50%
ISO ePM10	$0,3 \leq x \leq 10$	Average efficiency ≥ 50%
ISO ePM2,5	$0,3 \leq x \leq 2,5$	Minimum efficiency ≥ 50%
ISO ePM1	$0,3 \leq x \leq 1$	Minimum efficiency ≥ 50%



## CASSETTE FILTER

- ⊕ Durable galvanized metal frame.
- ⊕ The filter material is fixed on the mesh.
- ⊕ Made of polyester fibres.

Filtration class acc. to ISO 16890: Coarse 70%, ePM10 60%, ePM2,5 75%  
 Working environment temperature: up to 80°C.  
 Humidity of the working environment: ≤100%.

## POCKET FILER

The pocket design **guarantees the increase of filtration area** and provides maximum efficiency. Made of a durable painted metal frame.

Filter material: polyester / micro-fibreglass.  
 Filtration class acc. to ISO 16890: Coarse, ePM10, ePM2.5, ePM12,5 75%  
 Working environment temperature: up to 80°C.  
 Humidity of the working environment: ≤100%.

## RECUPERATOR

The recuperation system allows reusing of the energy of the exhaust air from the room to heat up and cool down the air from the outside.

Recuperator allows to regenerate up to 90% of the exhaust air energy.



### ROTOR RECUPERATOR

In rotary recuperators, heat transfer from the exhaust air to the supply air is carried out by means of a movable matrix with different types of coatings. The matrix of the rotary recuperator consists of two layers of aluminium foil, smooth and corrugated, alternately applied to each other. The recuperation efficiency will vary depending on the height of the corrugated tape, as well as the rotation speed of the wheel.

Reduction of heat exchange areas and speed of rotation in 10 rpm allows reducing energy consumption by 80%.

**Foil thickness:** from 1,4 to 1,8 mm.  
**Wave height of the foil:** from 1,6 to 2,5 mm.

**Efficiency:** up to 88% depending on the type, size and operating parameters.



### COUNTER-FLOW RECUPERATOR

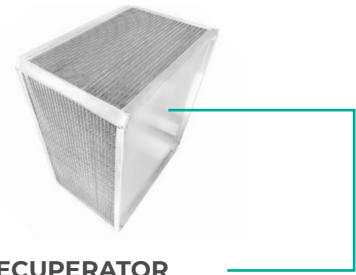
Counter-flow movement of an air stream provides high productivity at low expenses of pressure on all surface of air distribution.

Five different device sizes with air volume up to 1300 m<sup>3</sup>/h in one unit.

The use of aluminum resistant to sea water impact. Accurate factory production. Precise execution - perfectly smooth surfaces.

Provides tightness of air conditioning systems. The heat exchanger is made without usage of screws and rivets.

High strength. Frost resistance. Resistant to overheating. No possibility of leakage of hazardous fumes in case of fire.



### CROSS-FLOW RECUPERATOR

Thanks to the plate heat exchangers, two air streams, a warm exhaust air stream and a cold supply air stream, pass next to each other through thin plates without any contact.

Energy exchange occurs on the surface of the heat exchanger plates. At the same time there is no mixing of two air streams.

**Efficiency:** up to 85%, depending on the type, size and operating parameters.

- ⊕ Corrosion-resistant aluminum foil.  
\* Epoxy coating is possible optional.
- ⊕ Strong connection of plates thanks to double folding, pressure stability thanks to five-fold thickness of material.

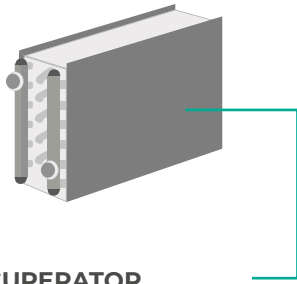
**Plate structure:** embossed plates, distance between plates from 3,8 to 11,5 mm.  
**Air productivity:** up to 25 000 m<sup>3</sup>/h.

Epoxy coated device designed for use in indoor pools or in household outbuildings. The scope of supply includes the air valve of the bypass channel.

The plates form a sealed housing due to the diffusion of the adhesive sealant, so the device is characterized by:

- high tightness;
- hygienic use due to complete drainage of condensate.

**Up to 90% efficiency is guaranteed by patented technology.** Perfect geometrical arrangement of the plates connected by double-edge technology. Low pressure loss due to computer modeling. 100% of the products are checked for leak tightness. Eurovent, RLT and AHRI certification. Bypass installation is possible. COMBI solution. Epoxy version.



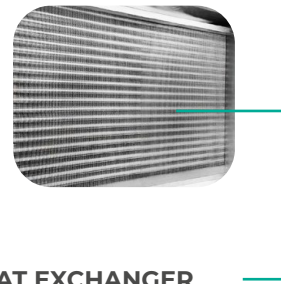
## GLYCOL RECUPERATOR

Consists of two **heat exchangers**: one in the exhaust air flow, the other one in the supply air flow.

**The main advantage of this recuperator is** the possibility of its application in case of air streams are at a distance from each other.

To be used in systems where it is NOT allowed mixing of air flows.

The heat exchanger located in the stream of exhaust air takes away thermal energy and transfers it with the help of circulating thermal medium: a solution of water and glycol, of the heat exchanger mounted in a stream of supply air.



## HEAT EXCHANGER

Suitable for thermal mediums of any types: freon, steam, water, glycol solution.

### Basic configuration

Slat block:

- corrugated surface;
- internal notches, arranged in a chessboard order;
- number of tubes rows: 1-12;
- distance between the ribs: 1,6-5,0 mm;
- thickness of plates: 0,1-0,19 mm.

Maximum working pressure: 20 atm.

Copper pipes: diameter - 9,52 mm, wall thickness – 0,27 mm / 0,33 mm.

Collector made of copper or steel pipes.

Slats: Al OR Alepox

## ADDITIONAL OPTIONS

- ⊕ **NON-STANDARD DESIGNING**  
Allows adapting to any parameters and solve the problems of different levels of engineering complexity.
- ⊕ **POSSIBILITY OF INSTALLATION OF THE HEAT PUMP of any complexity level:**
  - heating of supply air,
  - cooling of supply air,
  - heating / cooling of supply air by means of the energy-efficient heat pump working on ozone-safe freon R410a.
- ⊕ **INSPECTION WINDOWS**  
Allow inspecting the unit without opening the door.
- ⊕ **PAINTING IN ANY COLOUR OF THE RAL PALETTE**

## Different types of controllers are adapted to the solution of any problem and perform the control over:

- fan;
- Electric heater / water heater;
- Water cooler;
- compressor air and condensate unit;
- Humidifier;
- Air mixing chamber;
- Glycol or rotary recuperator.





**REALISED PROJECTS**



Cosmopolit Mall, Kyiv,  
Vadyma Hetmana Str.



Epicenter (Logistic center),  
Kalynivka village



ATB, Volodymyr-Volynskyi,  
Kovelska Str.



Ice arena, Kramatorsk



Cottage community "Green  
Hills" (sports complex),  
Vita-Poshtova village



Real estate house,  
Kharkiv, Pavlivska Str.



Novus, Kyiv, Bohatyrsk Str.



Novus, Kyiv, Ivana Puliuia Str.



Novus, Kyiv, Bratislavsk Str.



Novus, Chaiky village



Novus, Kyiv, Peremohy Ave.



Novus, Bucha,  
Kyievo-Myrotska Str.

**REALISED PROJECTS**



Bandurskiy oil extraction factory LLC,  
Bandurka village, Mykolaiv region



PrJSC Myronivska Poultry Farm,  
Canteen, Stepani village,  
Kaniv district, Cherkasy region



Office center, Kyiv,  
Olenivska Str.



Unit City Campus B11, B14, B15,  
Kyiv, Sim'i Khokhlovykh Str.



Office premises, Kyiv,  
M.Maksymovycha Str.



Lyceum "Design-education",  
Boryspil



Toys factory "New Horizons",  
Kyiv, Korabelna Str.



Procredit Bank, Residential  
Complex San Francisco, Kyiv,  
Premohy Ave.



Residential Complex  
Respublika (school and  
nursery school), Kyiv



Country residence,  
Chubynske village, Kyiv region



Casino, Zhytomyr



Cinema "Krakiv", Kyiv,  
Rusanivska Embankment

**REALISED PROJECTS**



Casino, Petropavlivska  
Borshchahivka



Casino, Odesa



Casino, Chernivtsi



DR. BOGOMOLETS institute  
of dermatology and cosmetology,  
Kyiv, Tarasa Shevchenka blvd.



Casino, Khmelnytskyi



Casino in "Atmosfera"  
shopping mall, Kyiv



"Nashe Nebo" shopping mall,  
Kriukivshchyna village, Kyiv region



Ibis Hotel, Kyiv



Warehouse complex  
of "BaDM" corporation,  
Dnipro



Blockbuster Mall, Kyiv,  
Stepana Bandery Ave.



Residential complex Smart  
Plaza Obolon, Kyiv



Toys factory "New Horizons",  
Kyiv, Korabelna Str.

# Convenient unit control from your smartphone with Aerostar APP



Makes it simple at any time and from anywhere in the world:

- ⊗ control the parameter of equipment operation
- ⊗ manage the settings
- ⊗ receive notifications of emergencies
- ⊗ consult customer service of AEROSTAR



**FOR ANDROID  
DEVICES**



**FOR IOS  
DEVICES**

individual settings

all settings on one screen

individual schedule

reports

instant notifications of accidents or emergencies

service support

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