AEROSTAR

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

Participant: Vent-Service LLC.
Commercial range name: CrossStar.
Aeroselect selection software version 2.0.4.24 (10-11-2024)
Certificate number: 19.04.077
www.eurovent-certification.com

CrossStar

Energy saving supply and exhaust unit
with rotary recuperator

CAPACITY
1000 m³/h – 14 000 m³/h



Solutions that work



Area of usage:
public buildings such as schools, nursery schools, offices, banks, restaurants, shops, houses and other facilities where savings due to minimal energy consumption are important.

Advantages

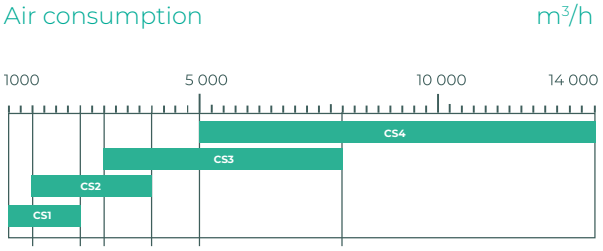
Saves up to 85% of energy
and operating costs due to the most energy-efficient components.

Does not require commissioning works.
It is enough to connect the installation to the electric network and mount the air duct system.

Built-in automation.
The controllers and all control elements are already set up and ready to go. The units are equipped with flow / pressure support sensors.

Comfortable control and management.
Control the unit at any time from anywhere in the world with all convenient devices.

Standard model range is presented with 4 standard sizes:



TECHNICAL PARAMETERS

TECHNICAL DATA		CS-1	CS-2	CS-3	CS-4
AIR CONSUMPTION, m³/h		600 – 1 800	1 500 – 3 600	3 000 – 7 900	5 000 – 14 000
Dimensions of the unit	Horizontal design HxWxL, mm	1000x1030x1448	1100x1130x1448	1360x1440x1885	1890x1920x1885
	Vertical design HxWxL, mm	1000x1030x1885	1100x1130x1885	1360x1440x2512	1890x1920x2512
Height of the frame, mm		85 / 200			
Connection sizes of the unit	Horizontal design, mm	930x400	1030x450	1340x580	1820x845
	Vertical design, mm	400x250	500x300	700x400	800x700
Maximum power consumption without additional options, kW		1,1	5,1	7,9	11,0

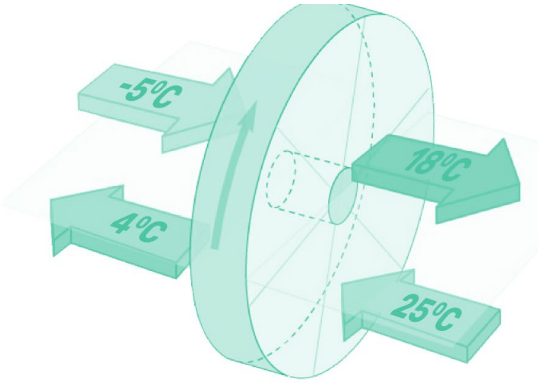
Up-to-date parameters of equipment are available in the selection program AeroSelect. Don't forget to check them with your manager

OPERATION PRINCIPLE

Operation without heater during transition period up to -5 °C

The unit does not require additional heating of air in the range up to -5 °C of external air at a temperature of the exhausted air about 25 °C.



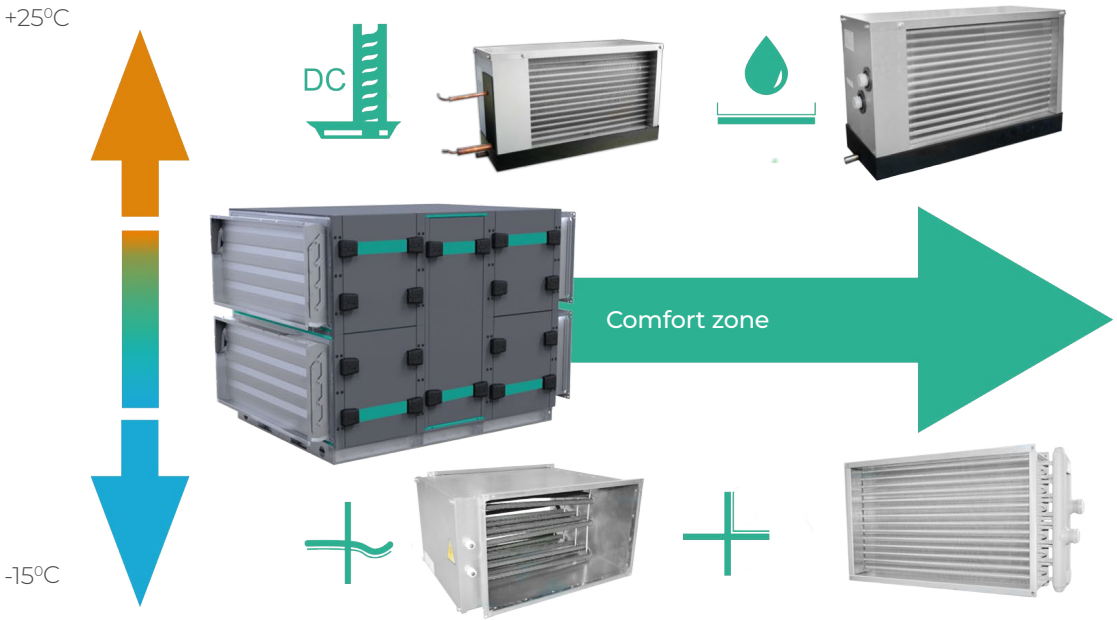


Expanding of operating range

CrossStar unit in a basic configuration provides fresh air with acceptable parameters almost all year round.

At «peak» summer loads conditioning mode can be realized with the help of built-in reversible freon heat exchanger or optionally with freon or water cooler from the channel series of the equipment.

At low temperatures, comfortable conditions are achieved by built-in water heater or optionally by channel electric or water heater.



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BASIC CONFIGURATION

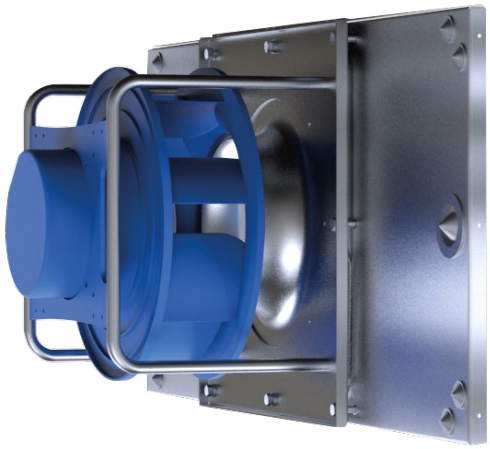
EC-MOTOR

Brushless synchronous motor with electronic control highly reduces noise level.

- Complies with the ErP 2015 Directive

EC-electric motor with efficiency above 90% saves at least 30% more electricity than AC motor.

- High working pressure: up to 2500 Pa.
- Wide range of rated voltage: 200-277V an 380-480V +/-15%
- **Long service life: more than 80 000 hours of continuous operation.**
- 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.
- The absence of the frequency converter saves installation space.
- Allows reduction of the fan capacity up to 10%.
- EC-motor is optionally equipped with MODBUS RTU protocol.

*Option. Use of Flow Grid technology: air flow rectifier

POCKET FILTER

The pocket design guarantees the increase of filtration area and provides maximum efficiency of dust collection.

Filtration class acc. to ISO16890: Coarse, ePM10, ePM2.5, ePM1





IMPELLER

- Ultralight composite material ZAmid.
- 3D blades in the form of water drops.
- Profiled blade.
- Low tonal noise.

INNOVATIVE CASE WITH PVC-PROFILE

- Minimal energy losses per square meter of surface.
- Improved thermal insulation.
- Increased mechanical strength.

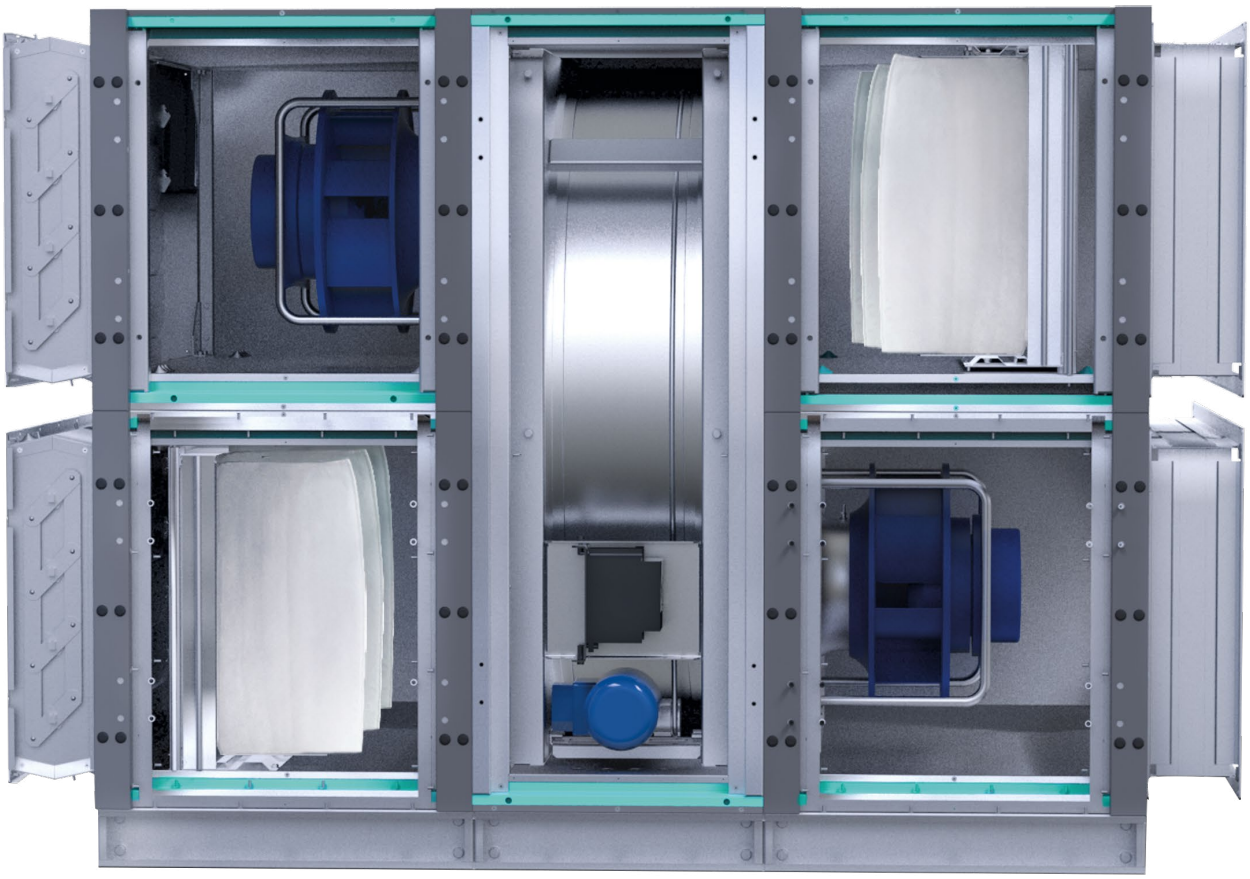
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ROTARY RECUPERATOR

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 recovery efficiency will vary depending on the height of the corrugated tape, as well as the speed of rotation of the wheel.

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

- Foil thickness: from 1.4 to 1.8 mm.
- Height of foil waves: from 1.6 to 2.5 mm.
- Efficiency: up to 88%, depending on the size and operating parameters.
- Recuperation depends on the temperature difference between the outside and exhaust air.
- Equipped with a highly efficient brush seal.
- Electric drive with a variable speed of rotation for maintenance of maximum efficiency and regulation of the degree of energy utilization.



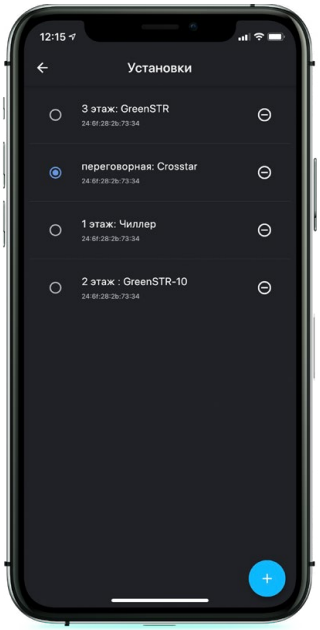
Up-to-date parameters of equipment are available in the selection program AeroSelect. Don't forget to check them with your manager

CONTROL

- Switching ON and OFF the unit from the control panel.
- Automatic pressure maintenance with the function of automatic reduction of productivity at low temperatures of outside air.
- Regulation of power of electric preheating at low outside air temperatures.
- Automatic reduction of fan speed in case of insufficient preheating power.
- The function of heating of air (at choice: water or electric heating) is provided in the controller.
- The heating temperature is set during adjustment in the range from +16 to +26 °C.
- Connection of electric drives of air gates is provided.
- Input for alarm signal from the fire alarm system is provided.
- Relay input for connection of the sensors of CO2 / humidity / IAQ or any other sensor at the signal of which the unit switches to maximum speed.
- Control of filter clogging on the counter of motor hours.
- Setting the operation of the unit on a daily timer.







Up-to-date parameters of equipment are available in the selection program AeroSelect. Don't forget to check them with your manager

ADDITIONAL OPTIONS

- Water heating
- Electric heating
- Water / Freon cooling
- Connection of the air quality sensor
- Connection of the moisture sensor

REALISED PROJECTS



Business centre Avenue 53, Kyiv



Residential complex “Lisova Kazka”, Kyiv



Residential complex “Panorama”, Dnipro



Ibis Hotel
Kyiv



Business centre “TSARSKY City Resort”, Kyiv



Shopping Mall “Cloud Square”, Vinnytsia

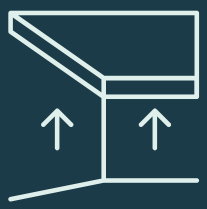


Cottage community “Green Hills” (sports complex), Vita-Poshtova village

Up-to-date parameters of equipment are available in the selection program AeroSelect. Don’t forget to check them with your manager

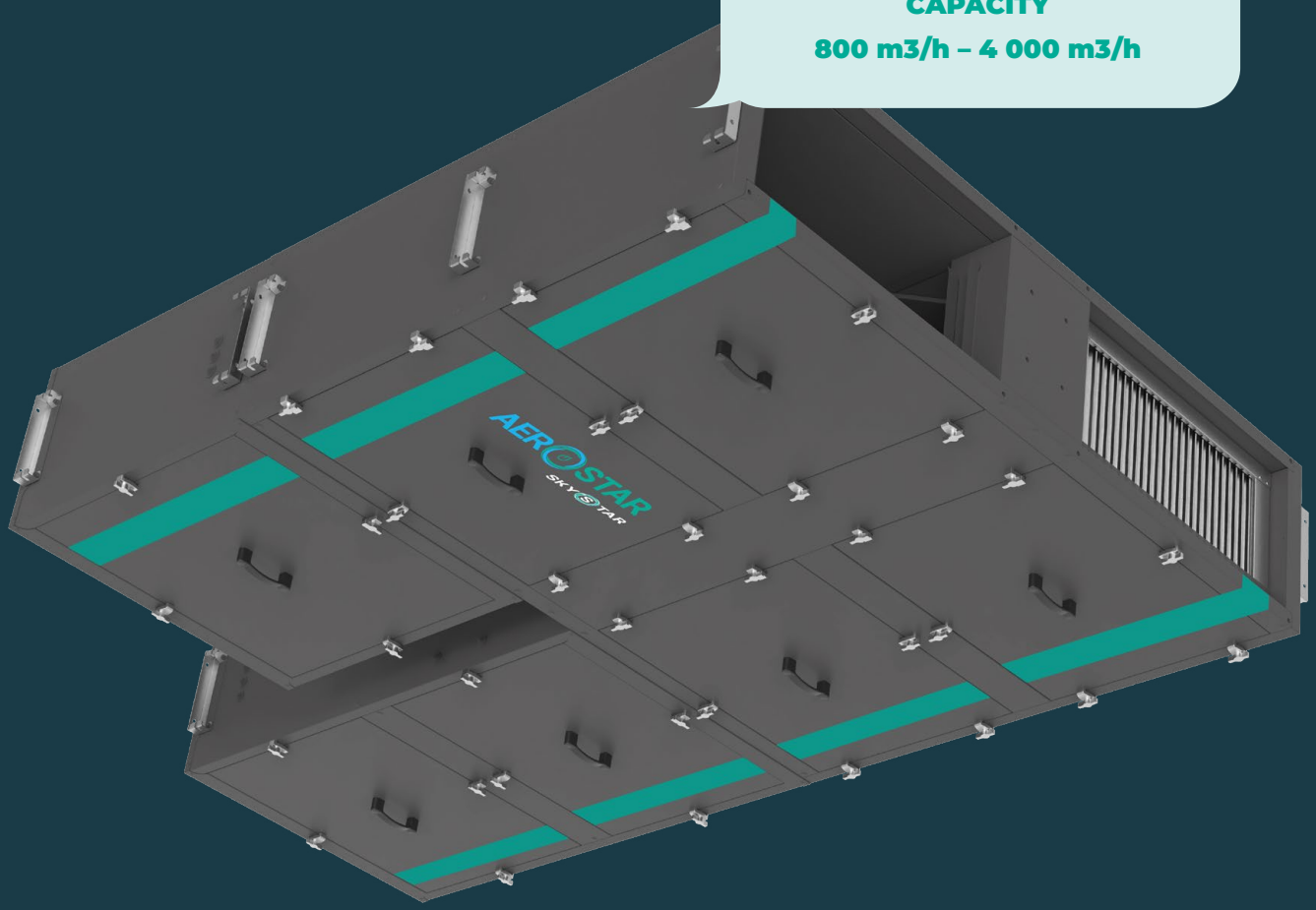
AEROSTAR

SkyStar



Compact systems with suspended mounting

CAPACITY
800 m3/h – 4 000 m3/h



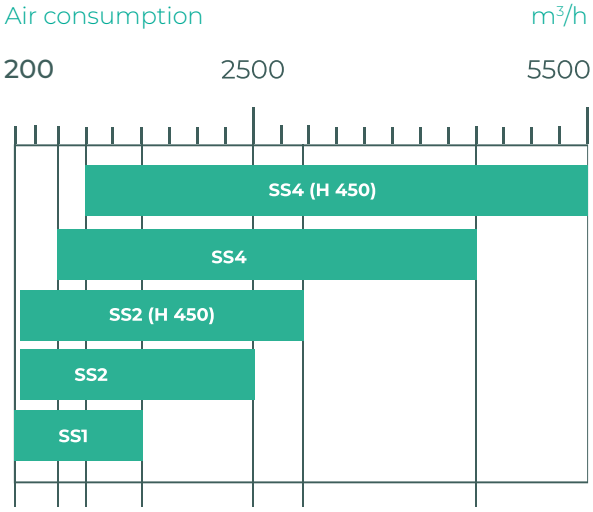
Solutions that work

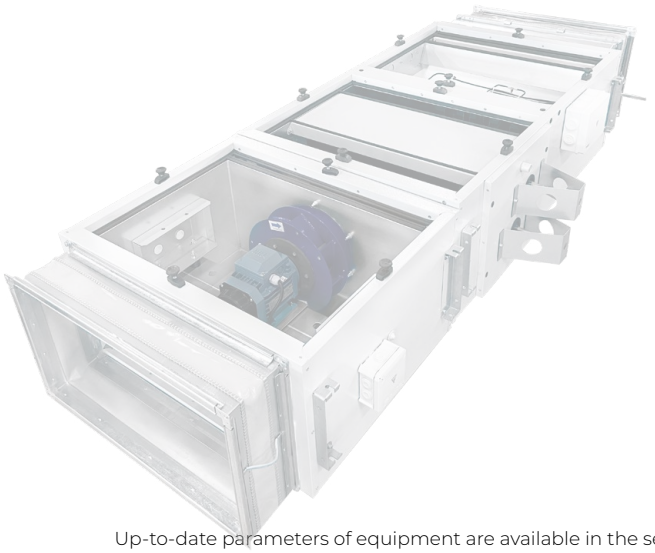




Area of usage:
Facilities of various purposes.

Standard model range is presented with 5 standard sizes





Advantages

Saves useful space of expensive commercial real estate, as it is mounted on the ceiling.

Easy to install even over a suspended ceiling, due to a minimum size with height 338 mm.

High noise and heat insulation of the unit (panel thickness 30 mm (up/down) and 50 mm (side)).

The automation system provides full control over regulation and protection of the entire ventilation system.
*Optionally

Up-to-date parameters of equipment are available in the selection program AeroSelect. Don't forget to check them with your manager

BASIC CONFIGURATION

PLATE RECUPERATOR

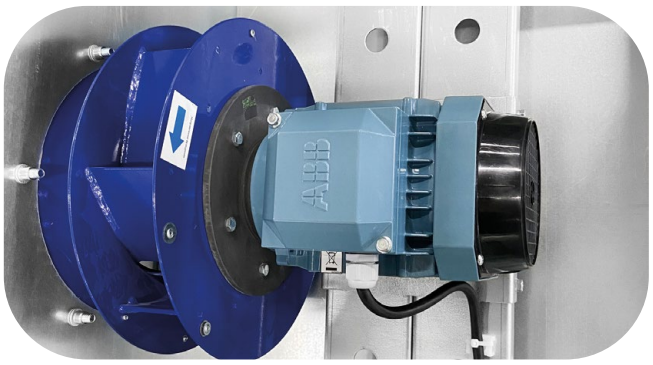
High-quality aluminium recuperator reduces overall energy consumption up to 60%.



FAN WITH DIRECT DRIVE

Ideally adapted to the aerodynamics of the ventilation network, parameters can be adjusted if necessary.

Energy efficiency class: IE2



FAN WITH EC-MOTOR

Reduces energy consumption due to smooth regulation of capacity.
Reduces the overall noise level due to the absence of phase noises.
Saves space inside the installation and the total weight of the unit.

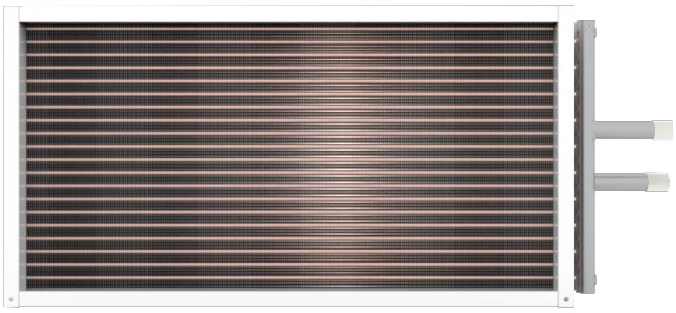
High efficiency: up to 90%



WATER HEATER

2-6-row water heaters are used.
The case is made of galvanized sheet.
Pipe collectors are welded from steel or copper pipes with a surface covering by synthetic paint.

Maximum working pressure: 20 atm.
Copper pipes: diameter - 9.52 mm,
Wall thickness: 0.27 mm / 0.33 mm.



NOISE ABSORBER

Provides minimal pressure losses and equalizes airflow. Air fairings are installed in front of the noise-absorbing plates, thus the air flow in the cross section of the channel is equalized.

Up-to-date parameters of equipment are available in the selection program AeroSelect. Don't forget to check them with your manager

FILTER

Cassette or pocket filter is used if needed.
Filters are used to clean the supply air.

Filter material: polyester / micro-fibreglass.
Cleaning class acc.to ISO 16890:
Coarse. ePM10. ePM2.5. ePM1
Operating medium temperature: up to 80°C



FREON COOLER

The body of the cooler is made of galvanized sheet with insulation from moisture condensation.
The heat exchange surface is created by aluminium plates with thickness 0.1 mm, stretched over copper tubes.

Evaporators are filled with nitrogen during production process.
Production with the right or left connection of refrigerant is possible.
Equipped with a dropseparator with an insulated tray for condensate drainage.



ELECTRIC HEATER

The heater case is made of galvanized steel with high zinc content.
Heating rods – made of stainless steel.

Protection class: IP 20
Operating temperature: -30°C to + 40°C

AIR DAMPER

Consists of rotating slats with optimal aerodynamic characteristics.
A rubber seal is provided between the flaps and the valve body, which prevents air suction and freezing of the plates.

Smooth regulation of an air stream is provided by the metal force distributor.

Basic configuration includes the control panel:



Aerostar IQHMI3.5

The panel allows you to control and manage the operation of individual ventilation system, regardless of the configuration of the ventilation equipment.
The panel allows switching of operation modes of ventilation system, using the conditional scripts.
The script can be activated both manually and on the timer.

Model	IQHMI3.5
Display size:	3.5"(length: width = 4:3)
Resolution:	320x234
Brightness:	350 cd/m2
Contrast:	400: 1
Colour:	262, 144 колір
Backlight:	LED
Control panel:	4-wire high-precision, electrical resistance, touch screen
COM	1 X COM (RS485)
USB port download of the USB device:	YES
Storage:	DDR2 32 MB
Processor:	U32905U1DN
Power supply:	DC: 24 V (± 15%), 6 W
Power consumption:	3 W
Compatibility with FCC:	FCC, Class
CE certification:	EN55022 EN55024
Operating temperature:	-10 ~ 65^{0}
Humidity:	10 ~ 90% RH (without condensation)
Degree of impact resistance:	10-25 Hz (X Y Z size 2G / 30 min)
Protection level:	IP65 (front panel)
Material:	engineering plastic ABS + PC
External dimensions:	86*86*40.5 (mm)
Size of portiforium:	69x69 (mm)
Weight:	about 0.2 kg

The following control panels are available on the customer's request



Modicon M172 Display Color TouchScreen, Temperature built-in sensor



Th-Tune display CAREL

ADDITIONAL OPTIONS

- Water cooling
- Water heating
- Freon cooling
- Connection of the air quality sensor/moisture sensor

REALISED PROJECTS



"Elektrokontakt Ukraine" Plant,
Lviv region, Brody



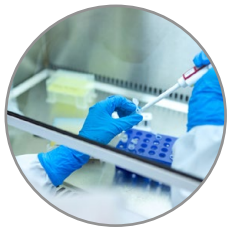
Warehouse complex of "BaDM" corporation,
Dnipro



Ekotrans LLC,
Mykolaiv



Workshop for the production of polyurethane foam «Katerynoslav furniture workshops»,
Kirovograd region, Oliksandria



PJSC Pharmaceutical Factory «Viola»,
Zaporizhia



Dnipro specialized clinical center of mother and child named after prof. Rudnev, Dnipro



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



Toys factory "New Horizons",
Kyiv



Municipal organisation "KMKDC" ("KCCDC"), Kyiv



Office center,
Kyiv, Olenivska Str.



Medical center "ON Clinic Kharkiv", Kharkiv



"Bone marrow transplantation center", Lviv

Up-to-date parameters of equipment are available in the selection program AeroSelect. Don't forget to check them with your manager

REALISED PROJECTS



Residential Complex Respublika (school and nursery school), Kyiv



Ukrainian IT-factory UNIT Factory, Kyiv



Готель Ibis, Kyiv



NOVUS, Kyiv



KFC Restaurant, Kyiv



Lyceum “Design-education”, Boryspil



Nursery school “Academy Ecoland” in Residential complex “Tetris Hall”, Kyiv



School No.19, Kyiv



“Labor Reserves” Stadium Dnipro



“Kazka” market, Kharkiv



Specialized secondary school No.9, Dnipro



Fitness center Sport life, Kryvyi Rig



Hetman Petro Sahaidachnyi National Army Academy, Training center No.184, Starychi village



Khmelnytskyi City State Veterinary Hospital, Khmelnytskyi



Municipal enterprise «Dnipropetrovsk Regional Clinical Ophthalmologic Hospital», Dnipro

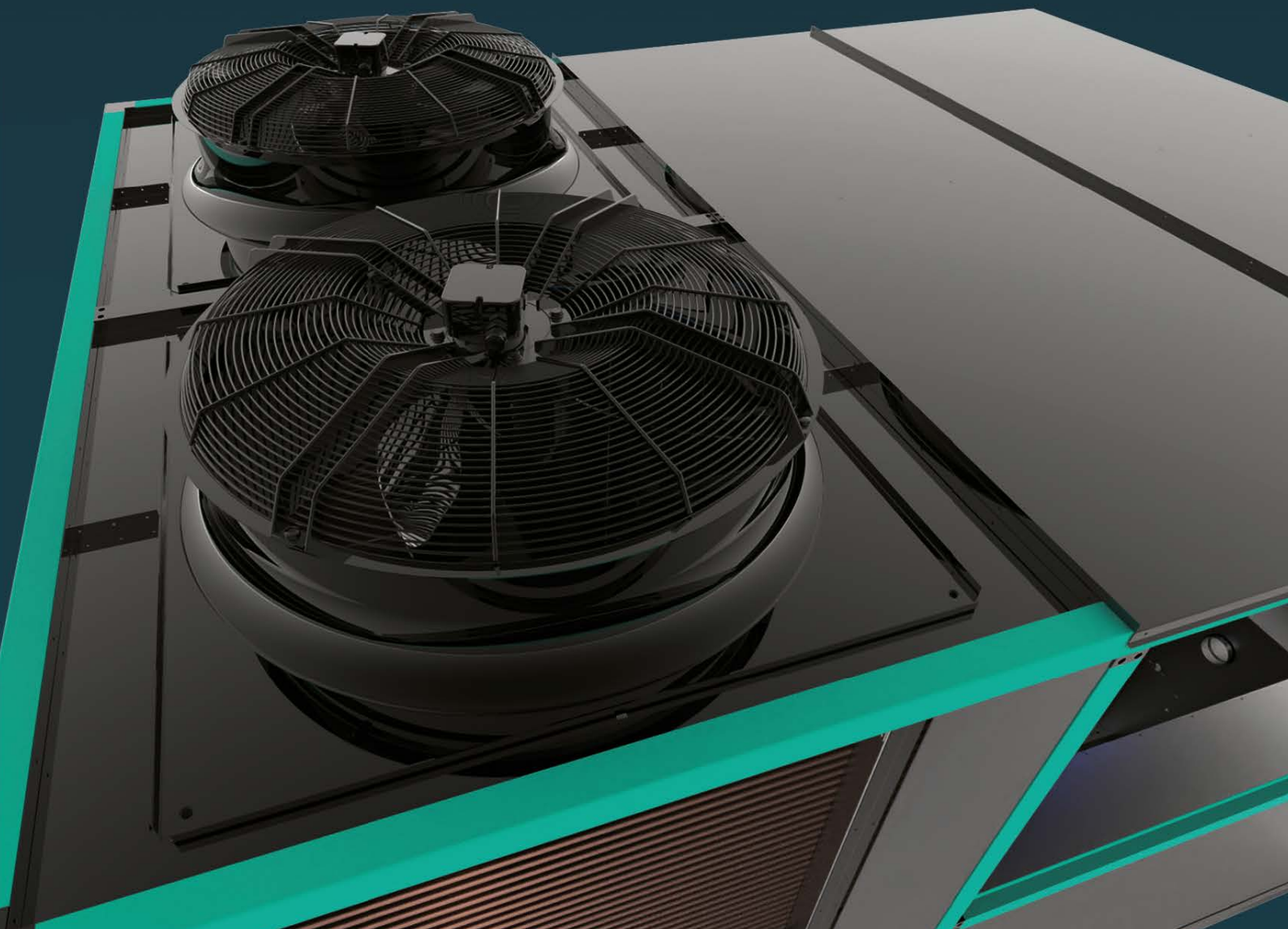
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AEROSTAR

Рішення, які працюють

RoofStar

Roof air conditioner



RoofStar





IT IS A MONOBLOCK REFRIGERATION UNIT WITH AIR COOLING OF THE CONDENSER.

ASSIGMENT
RoofStar can be used for complex air treatment in warehouse terminals, hypermarkets, manufacturing plants, stadiums, restaurants, cafes, theaters and other buildings.

VARIANTS OF EXECUTION
Heat pump, gas heating, electric heating, only cooling, gas heating + heat pump, electric heating + heat pump.

For rooftop air conditioners, it is possible to select additional optional equipment, which improves the individual approach to each object.

It can be installed both on the roof of a building and at ground level on a specially prepared site.

R410A

Filled with highly efficient R410A refrigerant at the manufacturing plant, ensuring their environmental safety and energy efficiency.

ADVANTAGES



SPACE AND RESOURCE SAVINGS

Installed on the roof, it does not require a special camera inside the room, which means
no additional costs for its maintenance.



LOW NOISE LEVEL

By using low-noise fans
and optimizing air flow, it was possible to reduce the noise level of the unit. The compressors are mounted on vibration mounts; to reduce the transmission of vibrations to building structures, the unit can be installed
on anti-vibration spring mounts.



INTEGRATED ECONOMIZER

It allows you to mix and process fresh air and indoor air and release already treated clean air inside. This also means significant savings.



EASY INSTALLATION AND MAINTENANCE

The use of an intuitive control system, innovative design solutions
(e.g., the use of adjustable direct-drive fans) and easy access to unit components simplify equipment maintenance.



HIGH ENERGY EFFICIENCY (EER AND COP)

The high level of comfort created by the unit and the reduction in energy costs are achieved through the use of highly efficient compressors and fans with an intelligent control system.



MONOBLOCK AIR CONDITIONER DESIGN

It reduces the time and cost of installation
work, as it does not require the laying of refrigerant pipe lines in buildings.

INSTALLATION DESIGN

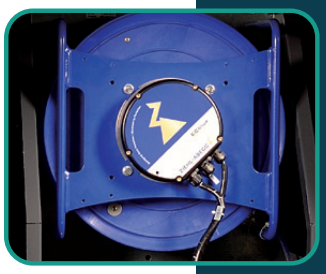
RoofStar units, from size 5 to size 16 inclusive, have a frame structure consisting of aluminum profiles and galvanized panels filled with mineral wool. The panels are galvanized and powder coated on the outside.



REMODABLE PANELS AND DOORS
They provide free access to all elements of the rooftop air conditioner, allowing for easy maintenance work. The RoofStar design allows you to combine the connection side to external power sources and service access. The side is determined by the direction of the air flow, right or left.



FANS
High-tech blades are used in the condenser fans. This has made it possible to reduce air turbulence, increase heat transfer efficiency, and reduce the noise level of the unit.



RECIRCULATION AIR FAN
It is placed in the support frame of the roof air conditioner.

INSTALLATION DESIGN

MODICON M172 CONTROLLER



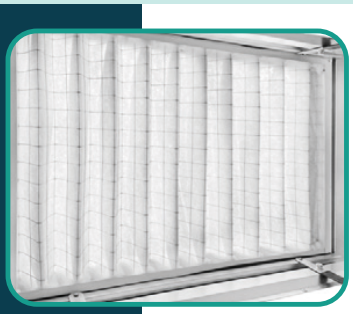
SCROLL COMPRESSOR

Ensures efficient operation of the unit under partial load.



FILTERS

Class G4 (efficiency - over 90%) and fire resistance class M1; the delivery set includes a galvanized frame, which simplifies cleaning and filter replacement. Included in the standard delivery set.



MIXING CHAMBER

Built-in economizer. Allows you to mix and process fresh air and indoor air and deliver treated clean air inside.

