



GreenSTR

compact

Energy-efficient air handling unit with plate and rotary heat exchanger

CAPACITY
500 m³/h - 15000 m³/h



MULTIFUNCTIONAL AIR-HANDLING UNIT GREENSTR COMPACT: X / XV / R XV

APPLICATION:

Public buildings such as schools, kindergartens, offices, banks, restaurants, shops, residential and other facilities where cost savings through minimal energy consumption are important.

PARAMETERS THAT DETERMINE COMFORT

- Temperature,
- Humidity (optional)
- Airflow speed,
- Air quality composition.

ADVANTAGES:



Saves up to 85% of energy

and operating costs thanks to highly energy-efficient components.



Convenient control

Operate the unit anytime, anywhere from any convenient device.



No commissioning required

Simply connect the unit to the power supply and install the air duct system.



Compact housing

Thanks to ergonomic design and well-thought-out engineering solutions.



Built-in automation

Controllers and all control elements are pre-set and ready to operate. Units are equipped with sensors for maintaining airflow/pressure.

THE STANDARD MODEL RANGE IS AVAILABLE IN 3 CONFIGURATIONS TYPE:



GreenSTR compact: X
(Horizontal air duct connection)

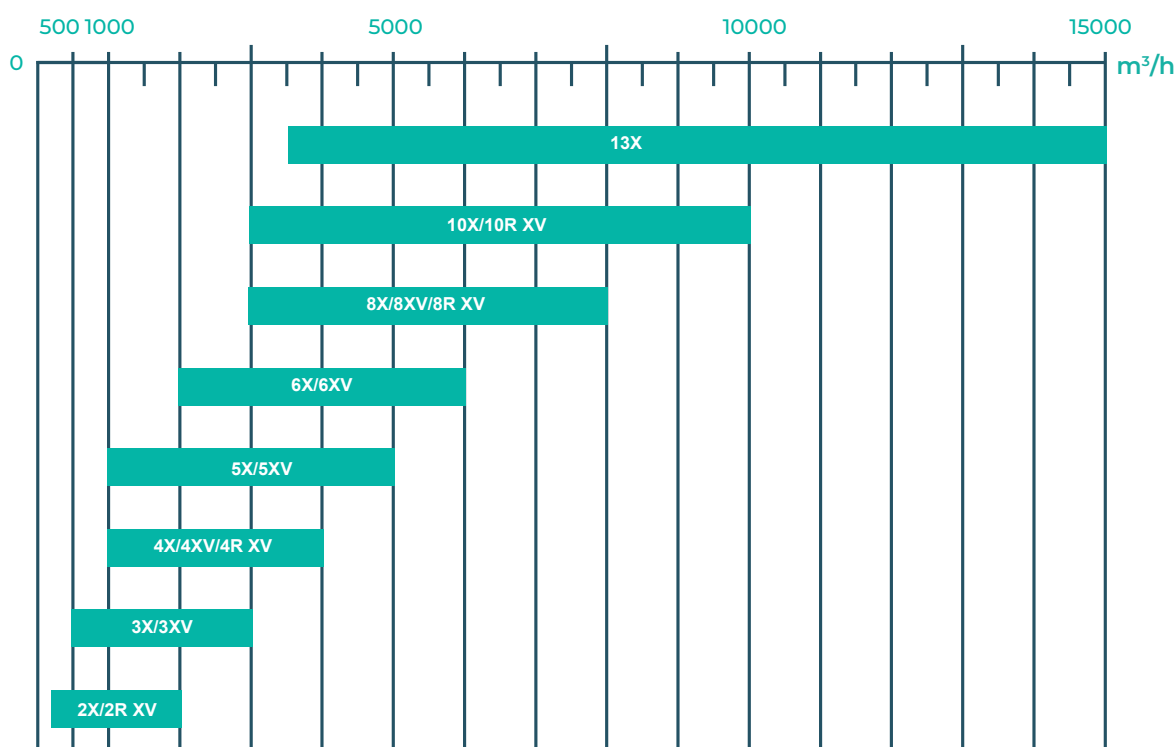


GreenSTR compact: XV
(Vertical air duct connection)



GreenSTR compact: R XV
(Vertical air duct connection with rotary heat exchanger)

AIRFLOW



Current equipment specifications are available in the AeroSelect selection software. Be sure to confirm them with your manager.

GreenSTR compact R XV



Supply and exhaust air handling unit with vertical air duct connection and built-in rotary heat exchanger.

AVAILABLE TYPES OF ROTARY HEAT EXCHANGERS:

- **Condensation** — standard rotary heat exchanger.
- **Enthalpy** — with a microporous material structure that allows water molecules to pass through while blocking the transfer of microorganisms.
- **Epoxy-coated** — with epoxy resin coating for corrosion resistance.
- **Sorption** — transfers moisture from the exhaust air to the supply air.

Model capacity — up to 10,000 m³/h.

AVAILABLE OPTIONS:

- ✓ Water heater
- ✓ Water cooler
- ✓ Electric heater
- ✓ Reversible heat exchanger
- ✓ Freon cooler

The unit's design allows for optional installation of heat exchangers that significantly improve the parameters of supply air, and therefore — the indoor microclimate of the serviced premises.



TECHNICAL SPECIFICATIONS

TECHNICAL DATA		2 R XV	4 R XV	8 R XV	10 R XV
Airflow, m ³ /h		200-2000	1000-4000	3000-8000	1500-10000
Overall dimensions of the unit	(W×H×L), mm	846x1470x1800	1046x1520x2100	1346x1770x2300	1570x1970x2600
Connection dimensions of the unit	LxW, mm	700x400	1200x500	1000x400	1200x500
Max. power consumption, kW		12,1	17,6	32,5	37,8
Frame height, mm		120/200			

OTHER TECHNICAL CHARACTERISTICS:



Casing insulation: mineral wool



Panel thickness: 50 mm



Fans with EC motors

Current equipment specifications are available in the AeroSelect selection software. Be sure to confirm them with your manager.

GreenSTR compact XV



Supply and exhaust air handling unit with vertical air duct connection and built-in Plate heat exchanger.

The plate heat exchanger is made of aluminum sheets or with an epoxy coating.

Type of heat exchanger — counterflow.

The unit's design allows for optional installation of heat exchangers that significantly improve the parameters of the supply air and, consequently, the indoor microclimate of the serviced premises.

Model capacity — up to 8,000 m³/h.

AVAILABLE OPTIONS:

- ✓ Water heater
- ✓ Water cooler
- ✓ Electric heater
- ✓ Reversible heat exchanger
- ✓ Freon cooler

TECHNICAL SPECIFICATIONS

TECHNICAL DATA		3XV	4XV	5XV	6XV	8XV
Airflow, m ³ /h		500-3000	1000-4000	1000-5000	2000-6000	3000-8000
Overall dimensions of the unit	(W×H×L), mm	1100x1540x2100	1200x1540x2400	1300x1870x2614	1430x1870x2614	1540x1970x2814
Connection dimensions of the unit	LxW, mm	700x350	700x400	800x500	900x500	1000x500
Max. power consumption without additional options, kW		1,8	2,0	3	5	7.2
Frame height, mm		120/200				

OTHER TECHNICAL CHARACTERISTICS:



Casing insulation:
mineral wool



Panel thickness:
50 mm



Fans
with EC motors

Current equipment specifications are available in the AeroSelect selection software. Be sure to confirm them with your manager.

GreenSTR compact X



Supply and exhaust air handling unit with horizontal air duct connection and built-in plate heat exchanger.

The plate heat exchanger is made of aluminum sheets or with an epoxy coating.

Type of heat exchanger — counterflow.

The unit's design allows for optional installation of heat exchangers that significantly improve the supply air parameters and, consequently, the microclimate in the serviced premises.

Model capacity — up to 15,000 m³/h.

AVAILABLE OPTIONS:

- ✓ Water heater + Water cooler
- ✓ Water heater + Reversible heat exchanger
- ✓ Reversible heat exchanger + Water heater
- ✓ Electric heater + Reversible heat exchanger
- ✓ Water heater + Freon cooler
- ✓ Electric heater + Water cooler
- ✓ Electric heater + Freon cooler
- ✓ Empty section
- ✓ Sound absorber

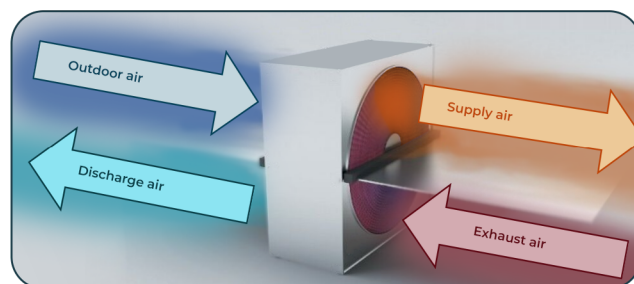
TECHNICAL SPECIFICATIONS

TECHNICAL DATA		2X	3X	4X	5X	6X	8X	10X	13X
Airflow, m ³ /h		200-2000	500-3000	1000-4000	1000-5000	2000-6000	3000-8000	1500-10000	3500-15000
Overall dimensions of the unit	(W×H×L), mm	650x1020x1750	820x1120x2000	820x1220x2200	930x1480x2350	1230x1480x2350	1430x1480x2350	1800x1860x2900	1940x2010x2900
Connection dimensions of the unit	LxW, mm	550x350	620x400	720x450	830x580	930x580	1030x580	1200x770	1340x845
Max. power consumption without additional options, kW		1,5	3	5	7.2	7.2	7.2	7	8.3
Frame height, mm		120/200							

OPERATION PRINCIPLE

BUILT-IN HEATER AND HEAT EXCHANGER IN A COMPACT HOUSING

The supply and exhaust units of the «GreenSTR compact R XV» type feature a compact housing and are equipped with a rotary heat exchanger, which helps reduce electricity consumption for air heating needs.



Directly after the rotary heat exchanger, the design includes an electric heater that heats the air to the set temperature. After that, if necessary, a reversible heat exchanger dehumidifies the air by cooling it.

ROTARY HEAT EXCHANGER



In rotary heat exchangers, heat transfer from exhaust air to supply air occurs through a rotating matrix with various types of coatings.

The matrix of the rotary heat exchanger consists of two layers of aluminum foil — smooth and corrugated — alternately layered on top of each other.

The recovery efficiency varies depending on the height of the corrugated strip as well as the rotation speed of the wheel.

Reducing the heat exchange surface area and operating the wheel at 10 rpm allows energy consumption to be reduced by 80%.



Foil thickness: from 1.4 to 1.8 mm
Foil wave height: from 1.6 to 2.5 mm

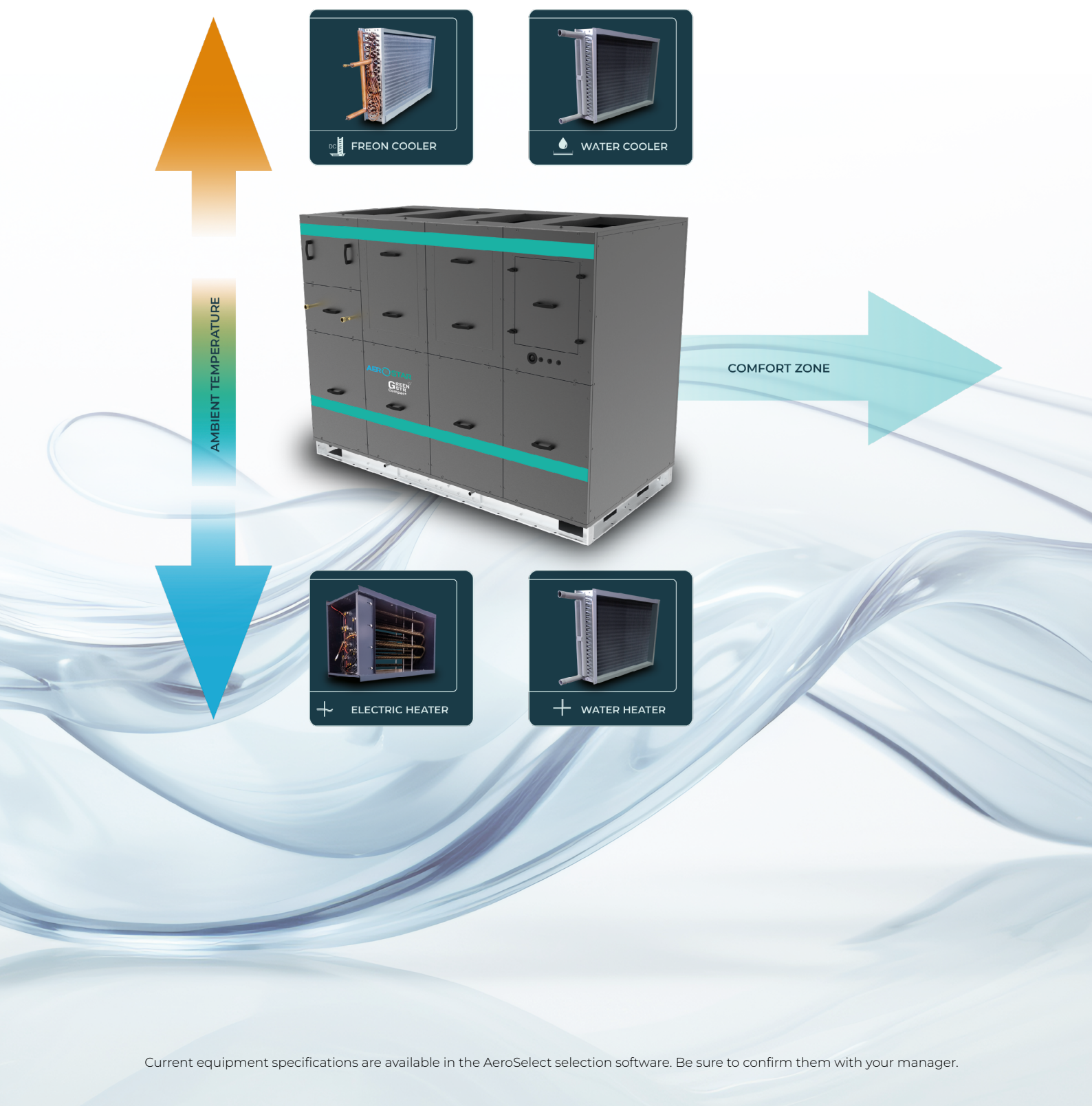


Efficiency: up to 88%, depending on the size type and operating parameters.

EXTENDED OPERATING RANGE

In the standard configuration, supply and exhaust air handling units of the «GreenSTR compact X», «GreenSTR compact XV» and «GreenSTR compact R XV» types are equipped with plate or rotary heat exchangers (depending on the model), ensuring the supply of fresh air with parameters acceptable for most of the year.

«VENT-SERVICE» LLC also provides the possibility to expand the unit's functionality by integrating electric or water heaters, as well as Freon, water, or reversible heat exchangers and other equipment included in the selection program, with the option to install them either inside the unit housing or externally.



STANDARD CONFIGURATION

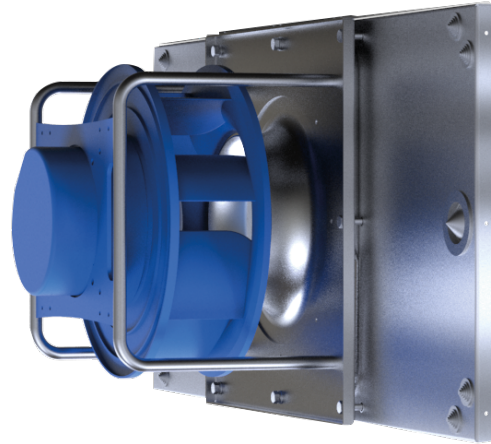
EC motors offer a wider speed range and smooth speed control, providing precise adjustment of the motor's operating point throughout the entire working range.

This means the fan always delivers the exact power needed for uninterrupted operation and high efficiency. Therefore, EC drives outperform AC motors, especially under partial load conditions: they meet the IE5 energy efficiency class and are pioneers from both environmental and economic perspectives.

✓ **High operating pressure:**
up to 2500 Pa.

✓ **Wide nominal voltage range:**
single-phase 200–277 V
or three-phase 380–480 V, 50/60 Hz.

✓ **Long service life:** over 80,000 hours of
continuous operation.



EC MOTOR WITH OVER 90% EFFICIENCY

- EC motors with efficiency above 90% save at least 30% more electricity compared to AC motors.
- Complies with ErP 2015 directive.
- Built-in EMC filter protects against phase loss and undervoltage in the power supply.
- Protection against motor and electronics overheating, as well as rotor lock protection.
- No starting currents.
- Requires no maintenance.
- No frequency converter needed, saving installation space.
- Allows increasing rotation speed by up to 10%.
- Optionally, the EC motor supports MODBUS RTU protocol.

*Optional: Flow Grid technology — airflow straightening grille.

FILTER

All units of the «GreenSTR compact» series, regardless of modification, are equipped with filtering elements meeting **ISO 16890 filtration class**:

- G4 (ISO Coarse 70%);
- M5 (ISO ePM10 85%);
- F7 (ISO ePM1 70%);
- F9 (ISO ePM1 85%).



INNOVATIVE PVC-PROFILE HOUSING

- Minimizes heat loss.
- High-sealing air damper (with optional heating).
- Minimal energy loss per square meter of surface.
- PVC profiles reinforced with a fiberglass insert.
- Powder epoxy coating on both the exterior and interior surfaces of the housing.
- Simple and airtight connection between sections.
- Reduced unit weight.
- Shortened production time.



CONTROL

- + Turning the unit on/off via control panel.
- + Automatic pressure maintenance with a function to reduce capacity automatically at low outdoor temperatures.
- + Adjustment of electric preheating power at low outdoor temperatures.
- + Automatic reduction of fan speed when preheating power is insufficient.
- + Built-in air heating function in the controller (selectable between water heater or electric heater).
- + Heating temperature is adjustable during setup within the range of +16 to +26 °C.
- + Provision for connecting electric actuators for air dampers.
- + Input for alarm signal from the fire alarm system.
- + Relay input for connecting CO₂ / humidity / IAQ sensors or any other sensor that triggers the unit to switch to maximum speed.
- + Filter clogging monitoring based on motor operating hours counter.
- + Unit operation scheduling via daily timer.



Convenient control of the unit via smartphone with the Aerostar APP — personalized features



Allows you to, anytime and from anywhere in the world:

- ⊕ Monitor equipment operating parameters
- ⊕ Change settings
- ⊕ Receive alerts about emergency situations
- ⊕ Consult with AEROSTAR service support



**FOR ANDROID
DEVICES**



**FOR IOS
DEVICES**

aerostar.ua

Personalized
settings

All units displayed
on one screen

Personal schedule

Reports

Instant emergency
notifications

Service support