



ECO-FLO *PLUS*

Energy Recovery Ventilator



better AIRFLOW by DESIGN™



ECO-FLO^{Plus} Energy Recovery Ventilator (ERV)

ECO-FLO^{Plus} ERV is the all-in-one ventilation solution for new construction and renovation projects. This compact ventilator is capable of exhausting stale indoor air and supplying fresh filtered outdoor air. The reversible axial fan features an EC motor, characterized by low power consumption and quiet operation. The ceramic energy regenerator provides a regeneration efficiency of up to 97%. The heat recovered from the exhaust air will pre-heat or pre-cool the incoming supply air (depending on the season). ECO-FLO^{Plus} ERV has the added benefit of indoor humidity control, making it ideal for use in both living and working environments.

FEATURES & BENEFITS

- Reversible 3-speed axial fan with an energy efficient EC motor
- High-tech ceramic energy regenerator with heat recovery efficiency up to 97%
- Air purification with a pre-filter and MERV11 (F7) filter
- Built-in temperature sensor
- Automatic shutter prevents backdrafts
- Plain white interior panel
- Simple through-the-wall installation; suitable for wall thickness ranging from 11" to 18.5"
- Frost and condensation free
- Low energy demand 7.8 watts
- Quiet operation (less than 32.7dB(A))
- Supplies fresh outdoor air and exhausts stale indoor air
- Flexible operation, working individually or in groups
- Easily control from the app, remote, or ventilator casing
- CO₂ sensor monitors real-time concentration and dilutes CO₂ concentration with fresh air

THREE REASONS TO ADD AN ECO-FLO^{Plus} ERV

1. Energy Savings

ERV technology is a highly effective and cost beneficial means of energy conservation. The ECO-FLO^{Plus} operates in the heat recovery mode with two cycles that can save more than 30% of the energy from the exhaust fan. The energy recovery efficiency of the ceramic regenerator is up to 97%, which reduces the load on the ventilation system.

2. Improved Indoor Air Quality

Modern construction is designed to be air tight. Homes and buildings are built to retain warm air in the winter and cool air in the summer, trapping pollutants indoors. Pollutants can accumulate to unhealthy levels when the air change rate is too low due to a lack of infiltration, natural ventilation, or mechanical ventilation. Oftentimes, mechanical ventilation is required to expel the concentrations of indoor air pollutants and to bring in fresh air from the outdoors. For this reason, many building codes stipulate that new construction requires the addition of a mechanical ventilation system.

3. Humidity control

Residential and commercial dwellings need ventilation to control moisture and humidity. An ERV (energy recovery ventilator) is designed to supply fresh air and to extract stale air from a dwelling as well as to control humidity.



ERV VS. HRV: WHAT IS THE DIFFERENCE?

An HRV is designed to supply fresh air to a home, and exhaust stale air from the home. The core of an HRV stores heat from the stale exhaust air in winter, and pre-heats the incoming supply air. In the summer, the core is effectively chilled by the exhausted air, and it pre-cools the incoming supply air.

- Suitable in colder climates where there is excess humidity during the heating season.

An ERV does everything that an HRV does. In addition, an ERV allows some of the moisture in the more humid air stream to be transferred to the dryer air stream. This limits the amount of moisture that is expelled in the winter and that enters during the summer.

- Suitable for colder climates with no excess humidity during the heating season, as well as for warmer climates with high outdoor humidity in the cooling season.

SELECTION

The criteria to be considered when designing a ventilation network are regional climate and square footage of the building. The climate is the deciding factor whether an ERV or an HRV will be more effective, while the square footage determines how many ventilators will be required.

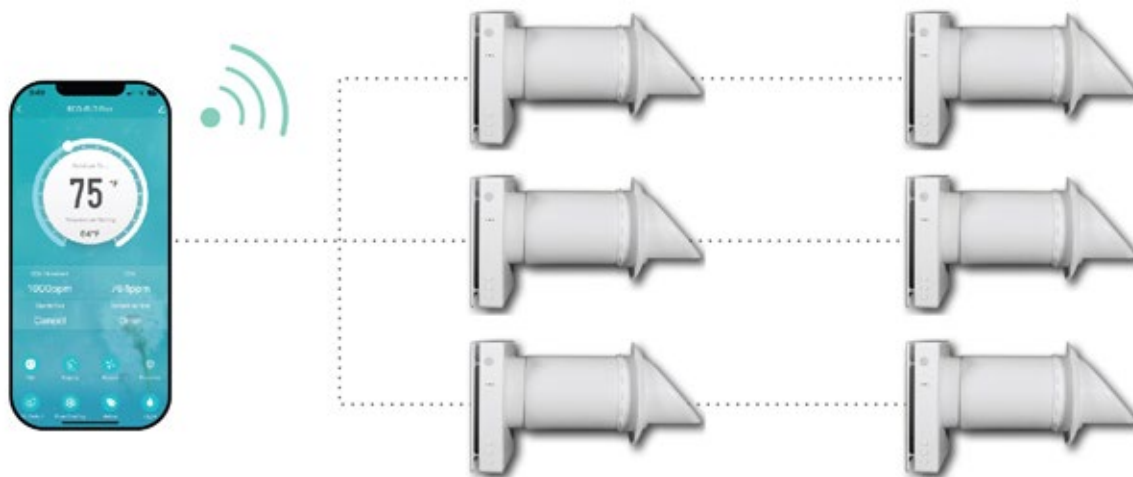
APPLICATIONS

- New construction
- Renovation projects
- Commercial buildings
- Offices
- Homes
- Apartments



A single ECO-FLO^{Plus} ERV in ventilation mode can ventilate a room up to 500 square feet, in accordance with ANSI/ASHRAE Standard 62.2. The fan speed and humidity settings allow for personalized control of each individual room.

Multiple ventilators can operate independently of each other or can work synchronously. The ECO-FLO^{Plus} ERV allows users to install multiple units without hardwiring them together. Instead, an IoT networking operation synchronizes units through a wireless pairing process and Wi-Fi connection. Using the app, the ventilator can be programmed to operate in unison (the same mode) or in complementary (supply and extract) mode. It is recommended that paired units be used to ensure balanced ventilation.



When arranging a ventilation network, install one unit in each room. For larger rooms, install two or more ventilators. The air flows from one room to another through doors, openings, or hallways, ensuring constant circulation. There is no limit to the number of ventilators in a group. A network of ventilators provides an easy, cost-effective solution for larger buildings undergoing construction or renovation.

In the app, the user can create scene(s) according to weather, schedule or device status. For example, when the outdoor relative humidity is higher than 85%, the ventilator can be set to stop or run in exhaust mode. This helps prevent the outdoor humidity from coming inside. The unit will run automatically according to the setting.



A temperature sensor is a standard feature. When the outdoor temperature is comfortable, the ventilator will work in supply mode to introduce fresh air without heat recovery. It is called free cooling. When the unit detects the outdoor temperature is within $\pm 1^{\circ}\text{C}$ of the set temperature, it will automatically switch to supply mode to supply more fresh air.

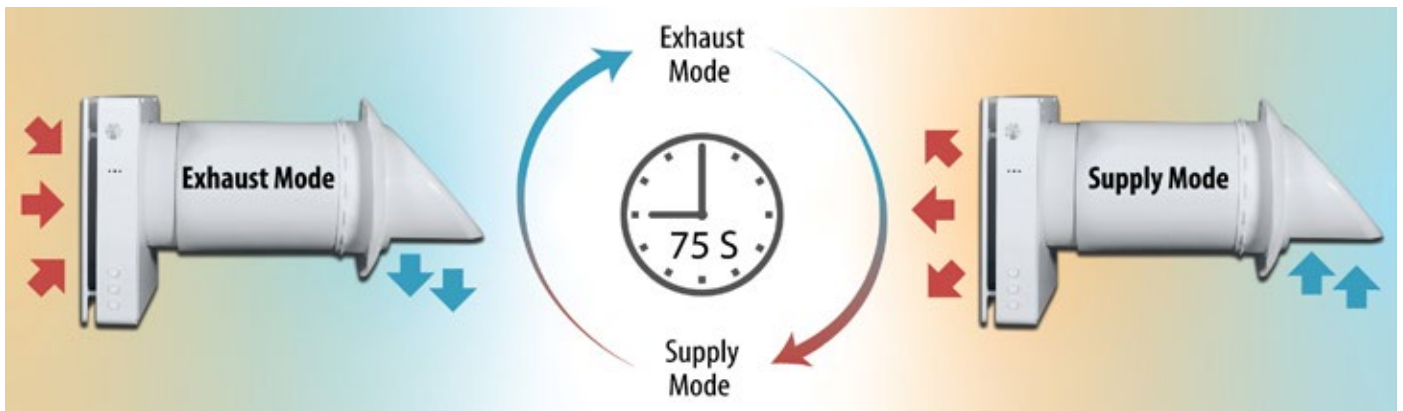
The ECO-FLO^{Plus} ventilator is designed for continuous operation. It can operate both in reversible mode with energy regeneration and in supply or exhaust mode without energy regeneration.

Ventilation Mode: The ventilator runs in exhaust or supply mode at a set speed.

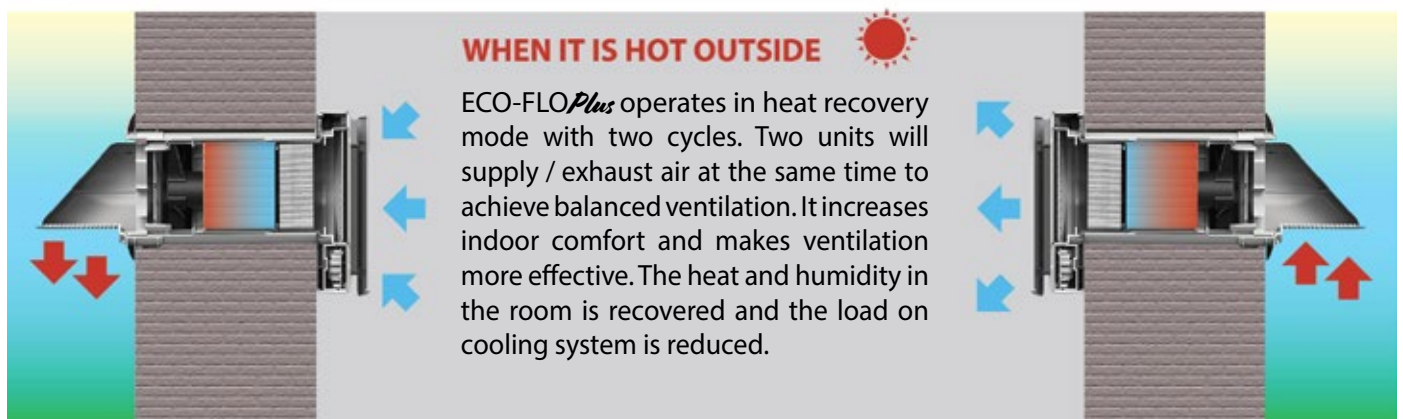
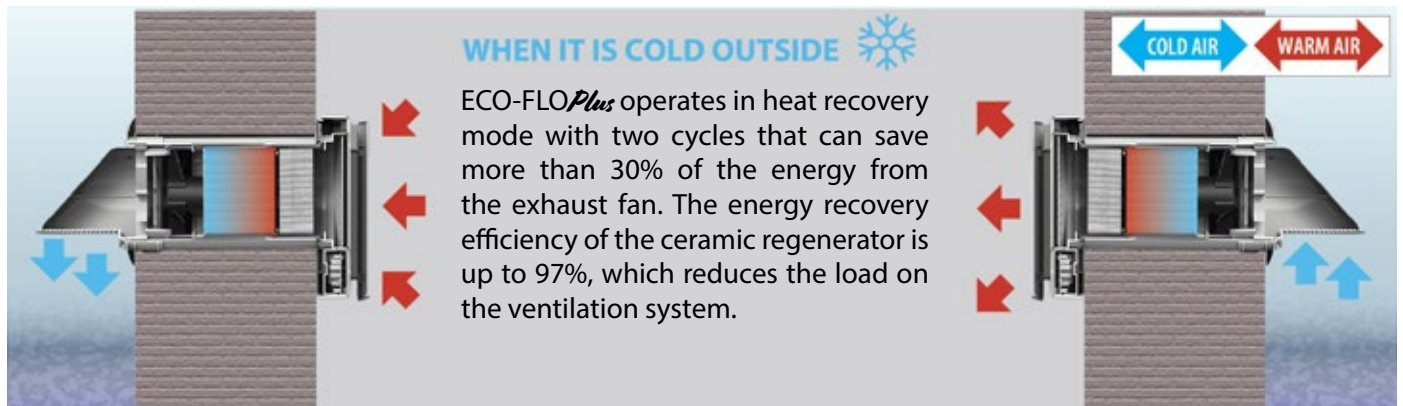
Heat Recovery Mode: The ventilator runs in two cycles of 75 seconds each, providing heat and moisture regeneration.

Cycle I: Warm stale indoor air is extracted from the room. It goes through the ceramic regenerator, which absorbs heat and moisture. After 75 seconds, the ventilator switches to air supply mode.

Cycle II: Fresh outdoor air flows through the ventilator, absorbing the accumulated moisture and thermal energy from the energy regenerator and supplying fresh air into the room. After 75 seconds, the ventilator switches back to cycle I.



When two synchronized ventilators are operating in regeneration mode, one ventilator supplies air while the other ventilator exhausts air. In any other mode, the synchronized ventilators will operate in the same direction.



IoT NETWORKING OPERATION

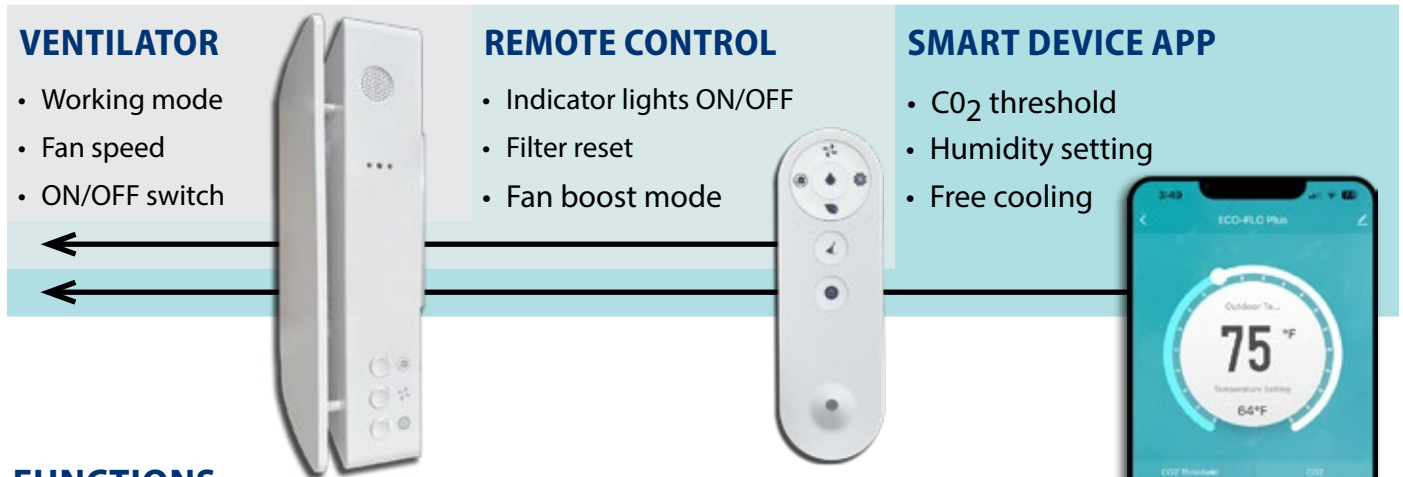
Running wire between ERV units is a thing of the past. The ECO-FLO^{PLUS} ERV allows users to install multiple units without hardwiring them together. Instead, an IoT networking operation synchronizes units through a wireless pairing process. This reduces material and labor costs and saves time on an installation.

The maximum linear unobstructed communication signal distance between primary and secondary ventilators is 49 feet. The signal from the primary ventilator to the secondary ventilator can pass through a 7-inch brick wall.



THREE EASY WAYS TO OPERATE

ECO-FLO^{Plus} ERV operates with either the buttons on the ventilator casing, the remote control, or the app on a smart device. The buttons on the ventilator casing have limited functionality. The remote control has wider control capabilities. The app features the full range of controls as well as a display of information like temperature settings, humidity levels, and real-time CO₂ concentration.



FUNCTIONS



WORKING MODE - Adjusts the (supply, exhaust, or regeneration) mode of the ventilator.



FAN SPEED - Changes the (low, medium, or high) speed of the fan.



POWER ON/OFF - Turns the ventilator ON or OFF.



INDICATOR LIGHT ON/OFF - Light indicates whether the ventilator is ON or OFF.



FILTER RESET - Resets the filter replacement time (720 hours). Reminds users to clean or replace filters in the app.



FAN BOOST MODE - Sets the fan into boost mode, operating the fan at maximum power. After 30 minutes, the boost mode automatically turns off.



CO₂ THRESHOLD - Sets indoor CO₂ levels from 400 to 2000 ppm. If CO₂ concentration exceeds the set value during operation of regeneration mode, the ventilator will switch to supply mode. Fresh air is introduced until CO₂ is lower than the set value.



FREE COOLING - Sets the outdoor temperature between 50°F to 84°F (10°C to 29°C) so that fresh air can be introduced without heat recovery in supply mode.



HUMIDITY SETTING - The ventilator switches from regeneration mode to exhaust mode when indoor humidity level exceeds the set value. The ventilator returns to the previous operation mode when the indoor humidity is <5% of the set range (40-95%).

DOWNLOAD THE SMART VENT APP

Scan the QR code to download the app, or search for "Smart Vent" in the Apple or Google Play store to install the app.



OR



CONSTRUCTION FEATURES



- | | | | |
|------------------------|-------------------------------|-------------------|-----------------------------|
| 1. Ventilation unit | 4. Ceramic energy regenerator | 7. Pre-filter | 10. Temperature sensor |
| 2. MERV 11 (F7) filter | 5. 12V EC fan | 8. Mounting plate | 11. Seal |
| 3. Separation ring | 6. Heat exchanger bracket | 9. Air duct | 12. Exterior rainproof hood |

VENTILATION UNIT

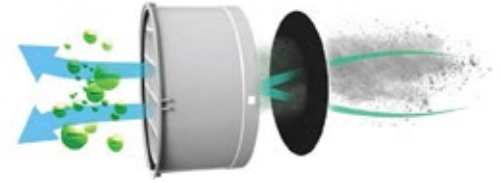
ECO-FLO^{Plus} features a specially designed indoor ventilation unit that magnetically connects to the mounting plate, ensuring an air tight fit. The plain, white ventilation cover provides a sleek design suitable for any interior. The built-in automatic shutter prevents backdrafts.



AIR FILTERS

A pre-filter and MERV 11 (F7) air filter are fitted as standard to provide supply and exhaust air filtration. These filters prevent the ingress of dust and insects into the supply air.

Air filters are easily maintained by washing with water (pre-filter only) or vacuuming. Filters are pretreated to prevent bacterial growth.



CERAMIC ENERGY REGENERATOR



The high-tech ceramic energy regenerator provides a regeneration efficiency of up to 97%. The recovered heat from the exhaust air will heat or cool the supply airflow. Due to its cellular structure, the unique regenerator has a large air contact surface and high heat conducting and accumulating properties.

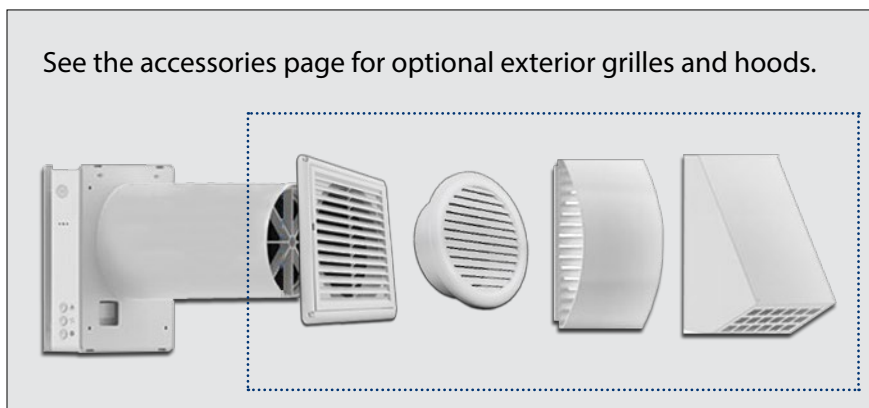
The ceramic energy regenerator is pretreated to prevent bacterial growth.

REVERSIBLE EC MOTOR

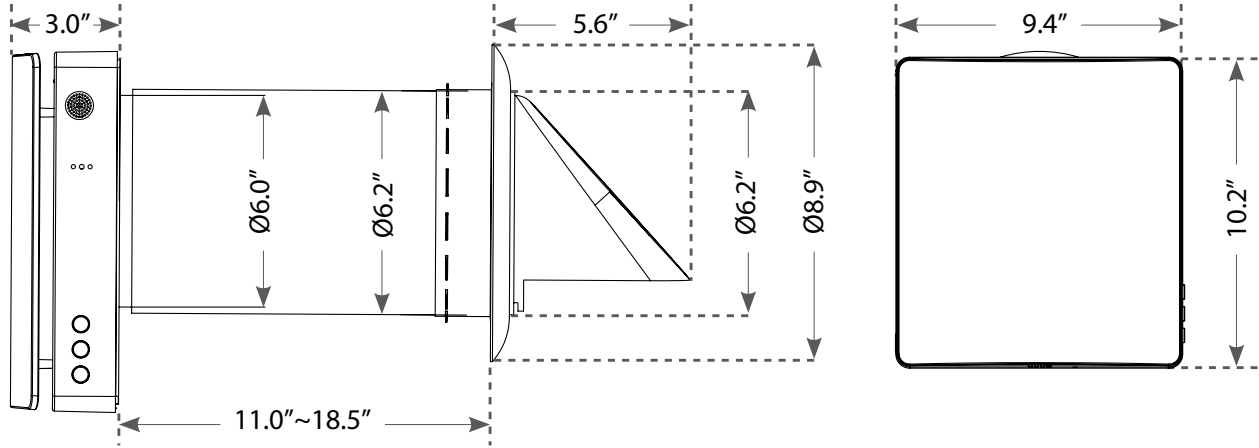
The reversible axial fan features an energy efficient EC motor. The fan is characterized by low power consumption and quiet operation. The motor has built-in thermal protection and ball bearings for long life.

EXTERIOR RAINPROOF HOOD

A white plastic rainproof hood comes standard with the unit (shown). It includes a silica gel seal for a tight fit.



SPECIFICATIONS

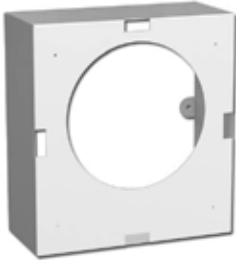


ECO-FLO^{Plus} is suitable for wall thickness ranging from 11" to 18.5".
Options are available for walls that are thicker and thinner than the standard dimensions. Consult factory.

Model	ECO-FLO ^{Plus}		
Voltage	100V~240V AC / 50-60Hz		
Power (W)	6	7	7.8
Current (A)	0.04	0.05	0.06
Airflow in supply/exhaust mode with MERV 11 (F7) filter (CFM*)	11.8	23.5	29.4
Max airflow under fan boost mode (CFM)	35.3		
Sound pressure level (dBA)	32.7		
Regeneration efficiency	Up to 97%		
Ingress protection rating	IP X4		
RPM (max)	2200		
Diameter of duct (in.)	6		
Net Weight (lbs)	9.3		

*The airflow in supply/exhaust mode without the MERV 11 (F7) filter is about 20/33/41.2 CFM.

OPTIONAL ACCESSORIES



Thin wall kit



Metal exterior hood



Low profile metal hood



Plastic square grille



Plastic curved grille



Plastic or metal round grille

REPLACEMENT PARTS



Standard exterior hood



Remote control



Extended pipe



MERV 11 (F7) filter

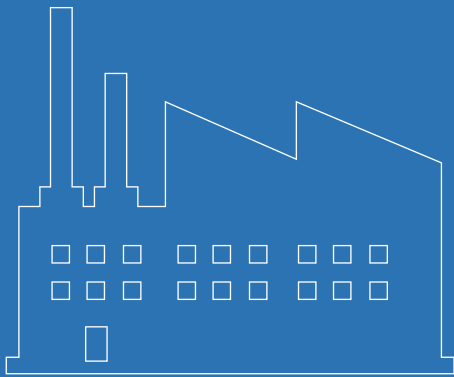


Pre-filter

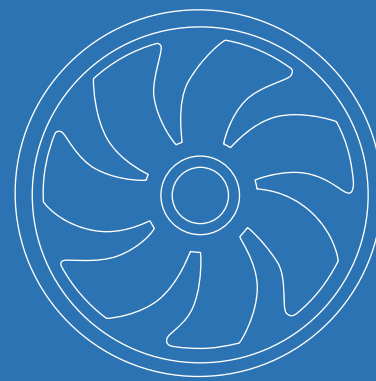


Regenerator cartridge
(fan, pre-filter & F7 filter)

Consult factory for the pricing.



***Industrial Fans
& Blowers***



***OEM Solutions
& Custom Fans***



***Commercial Fans
& Dampers***



***Residential Fans &
Air Purifiers***



ECO-FLO^{Plus} Energy Recovery Ventilator

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