

# FRESHBOX 100

## Single Room Heat & Energy Recovery Units



### APPLICATIONS

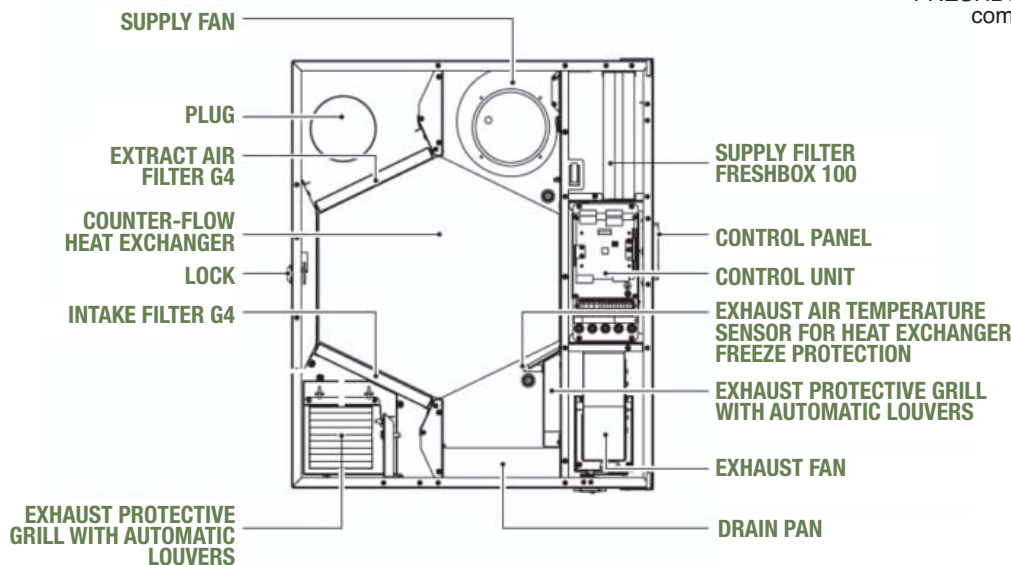
- Heat recovery single-room air handling unit for supply and exhaust ventilation.
- Efficient energy-saving single-room ventilation of apartments, houses, cottages, social and commercial premises.
- Ideal solution for simple and efficient ventilation of new or refurbished premises.
- Heat recovery minimizes ventilation heat losses.
- Controllable air exchange creates individually set microclimate.



FRESHBOX 100 application in a compact residential space.

### DESIGN

- Polymer coated metal casing with an acrylic front panel.
- Heat and noise insulation is ensured by a layer of 3/8" cellular synthetic rubber.
- The front panel provides convenient access for filter maintenance and has a lock for extra security.
- The unit has two Ø 3 15/16" pipes for fresh air intake and stale air extraction outside.
- The third Ø 3 15/16" pipe can be additionally fitted to the unit to connect the exhaust air duct from the bathroom.



### FAN

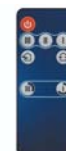
- The units feature efficient electronically commutated (EC) motors with an external rotor and impellers with forward curved blades.
- These state-of-the-art motors are the most advanced solution in energy efficiency today.
- The efficiency of electronically commutated motors reaches very impressive levels of up to 90 %.
- The unit is equipped with supply and exhaust air dampers which activate automatically to prevent drafts while the unit is off.

### CONTROL

- The unit is equipped with a control panel.
- The remote control is included.

Following functions are available:

- Speed changeover
- Filter replacement indicator
- Alarm indication
- Speed setting
- Timer
- Weekly schedule



# FRESHBOX 100

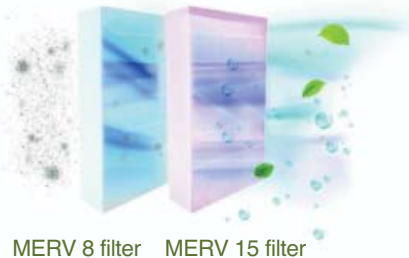
## Single Room Heat & Energy Recovery Units

### HEAT RECOVERY

- FRESHBOX 100 units are equipped with a counter-flow polystyrene heat recovery core.
- In the cold season the exhaust air heat is captured and transferred to the supply air stream which reduces the ventilation-generated heat losses. Some condensate may form during heat recovery. The condensate is collected in the drain pan and is removed from the exhaust air duct.
- In the warm season the intake air heat is transferred to the extract air stream. This allows for a considerable reduction of the supply air temperature which, in turn, reduces the air conditioning load.
- The FRESHBOX 100 ERV units are equipped with a counter-flow core with an enthalpy membrane at the core.
- In the cold season the exhaust air heat and moisture are transferred to the supply air stream through the enthalpy membrane reducing the heat losses through ventilation. Consequently, it is the intake air heat and moisture transferred to the extract air stream through the enthalpy membrane in the warm season. This allows for a considerable reduction of the supply air temperature and humidity which, in turn, reduces the air conditioning load.

### AIR FILTRATION

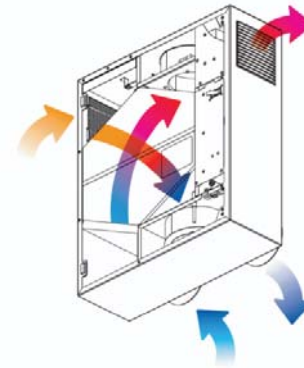
- Supply air cleaning is provided by the MERV 8 and MERV 15 panel filters (PM2.5 > 75 %).
- To meet more stringent air purity requirements the MERV 15 filter can be replaced with an HEPA Filters (PM2.5 > 95 %) (purchased separately).
- Exhaust air is cleaned by the panel filter MERV 8.



MERV 8 filter MERV 15 filter

### OPERATION

- The cold outdoor air passes through the filters and the core and then is delivered to the serviced space by the supply centrifugal fan.
- Warm stale air from indoors passes through the filter and the core and is discharged outdoors by the centrifugal fan.
- The supply and exhaust air flows are fully separated which helps eliminate the possibility of odour or microbial transfer between the streams.



### MOUNTING

- Each space requiring proper ventilation is equipped with one or several FRESHBOX 100 units.
- A single unit is capable of ensuring efficient ventilation in spaces with area up to 645.3 ft<sup>2</sup>.
- The FRESHBOX 100 units can be upgraded with a bathroom exhaust air duct.
- To enable such a configuration the units can be additionally equipped with an optional Ø 3 15/16" spigot (included).

### FREEZE PROTECTION

FRESHBOX 100 features an exhaust air temperature sensor downstream of the core which disables the supply fan to let the warm extract air heat up the core. After that the supply fan is turned on and the unit reverts to the normal operation mode.

### SPECIFICATIONS

MODEL	SPEED	VOLTAGE	MAX. UNIT POWER (W)*	CFM	RPM	SONES**	MAX. TRANSPORTED AIR TEMP (F)	CASING MATERIAL	INSULATION	DUCT DIAMETER (IN)	HEAT RECOVERY EFFICIENCY (%)	CORE TYPE	CORE MATERIAL	ENERGY EFFICIENCY CLASS
Freshbox 100	1	120-230	12	18	2200	0.6	-13 up to +140	Polymer coated steel	10	3 15/16"	96	Counter-flow	Polystyrene	A
	2		21	36		1.1					92			
	3		45	59		2.4					87			
Freshbox 100 ERV	1	120-230	12	18	2200	0.6	-13 up to +140	Polymer coated steel	10	3 15/16"	90	Counter-flow	Enthalpic membrane	A
	2		21	36		1.1					86			
	3		45	59		2.4					80			

\* Max. unit power without an electric heater

\*\* Noise level at 9.9 Ft.

### DIMENSIONS

