

# ECO 190



- Compact dimensions  
– suitable for integration into false ceilings
- Extremely high capacity
- Low energy consumption

ECO 190 is a ventilation unit for heat recovery with a highly efficient counterflow exchanger that has a temperature efficiency of up to 94% and fans with energy saving EC motors. ECO 190 is used in homes or small businesses where comfort and low energy consumption are priorities.

ECO 190 is ideal for installation in buildings where space is limited and easy mounting is required. The unit is compact and extremely easy to service. ECO 190 can be used for both right or left-connected systems (defined by the extract air connection). ECO 190 comes with G4 filters on the fresh air intake and on extract air (M5/F7 filter is supplied as an accessory).

Two models are available: ECO 190 CL has forward curved blades and is designed for larger air volumes. ECO 190 CS has backward curved blades and is designed for smaller air volumes with lower energy consumption. ECO 190 can be equipped with a heat exchanger made of PET (plastic) or made of aluminium. The PET heat exchanger is most suitable when heat recovery is the highest priority. In order to achieve the lowest possible power consumption, select an aluminium heat exchanger.

#### The unit is delivered with an Optima 251 controller:

- Passive comfort cooling with fully automatic bypass
- Reduction of energy consumption using modulating humidity control and calendar programme
- Connection to electric pre-heating or residual heating surface that adjusts the temperature according to preferences
- Can be connected to a building management system via Modbus communication

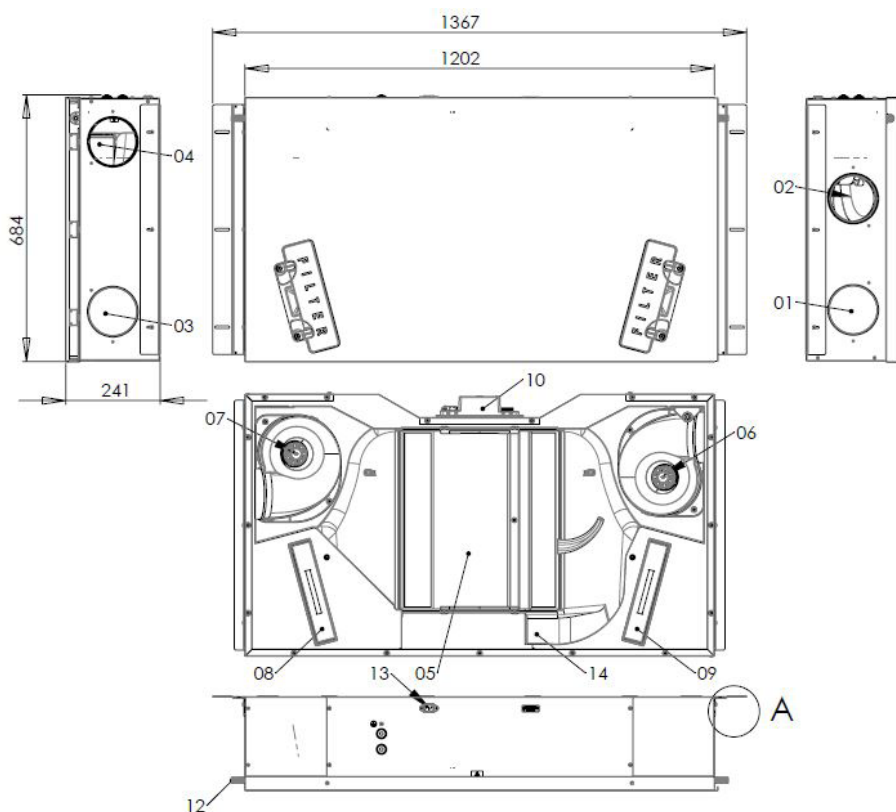


## Dimensions diagram

(the legend refers to a machine configured to the right)

Dimensions in mm.

1. Fresh air
2. Exhaust air
3. Extract air
4. Supply air
5. Counterflow exchanger
6. Supply air fan
7. Extract air fan
8. Fresh air filter
9. Extract filter
10. Electrical connection
11. Condensation tray
12. Condensation drain
13. 230 V/50 Hz
14. Bypass



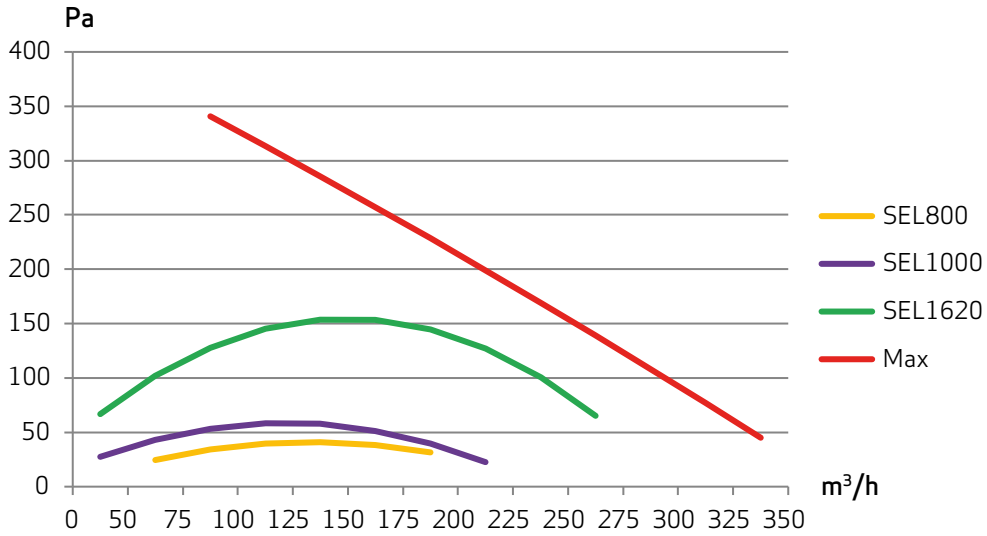
## Technical data

	ECO 190 CL	ECO 190 CS
Electrical connection	1 x 230 V +N +PE 10 A, 50 Hz	
Fans	Ø140 mm forward curved blades	Ø133 mm backward curved blades
Motor	EC motor with integrated electronics	
Insulation class for fan	B	
Protection class for fan	IP 54	
Fan speed	2020 revolutions per minute	3770 revolutions per minute
Absorbed power (max per motor)	100 W	27 W
Power consumption for fan:	0.85 A	0.27 A
Dimensions (h x l x d) excl. duct connections	241x684x1367 mm	
Housing	Exterior: Galvanised steel plate 0.9 mm Interior: Neoprene/EPS	
Duct connection	Ø125 mm	
Front	Exterior: Galvanised steel plate 0.7 mm powder coated Interior: Neoprene/EPS	
Ceiling mount	Ceiling mounting plate with 6.5 mm holes	
Counterflow heat exchanger	Aluminium or PET plastic (both types are available)	
Work area counterflow exchanger	-20 °C to +50 °C	
Condensation drain	15 mm ABS	
Filters	G4 filter (fresh air), G4 filter (exhaust air) – F7 accessory filter	
Sound pressure level (LW) at 1 m	50 dB(A) @ 250 m <sup>3</sup> /h, 140 Pa	47.4 dB(A) @ 105 m <sup>3</sup> /h, 50 Pa
Weight	25 kg (31 kg with base plate)	
Energy class	A	

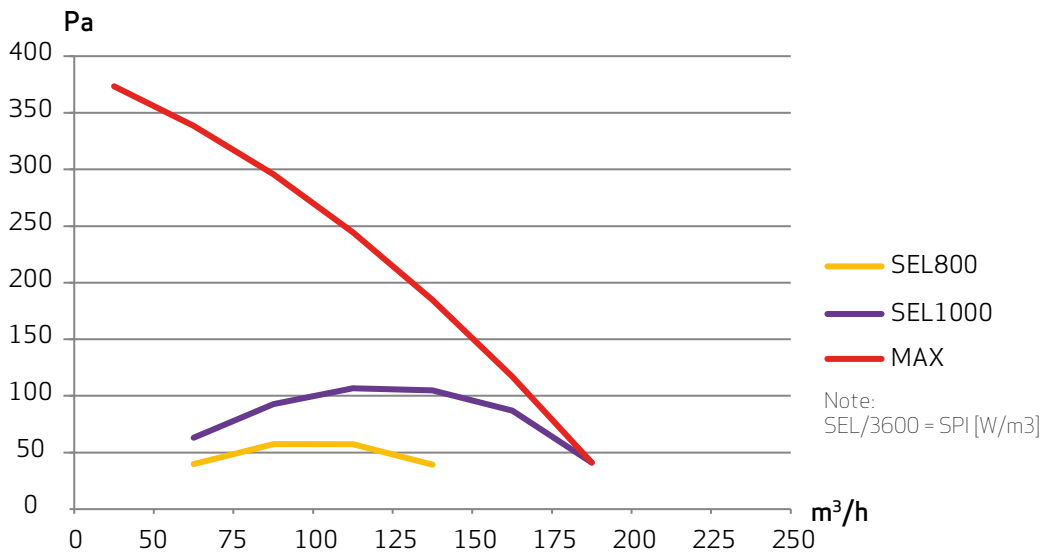
# Capacity

The capacity graphs are based on a mean value of the supply air and exhaust air volume in a unit. The graphs indicate the average external pressure available with a given air volume. When using the PET heat exchanger, the SEL- diagram lines will decrease by 10 Pa.

SEL factors ECO 190 CL - measured according to EN13141-7 (G4/G4:ALU)



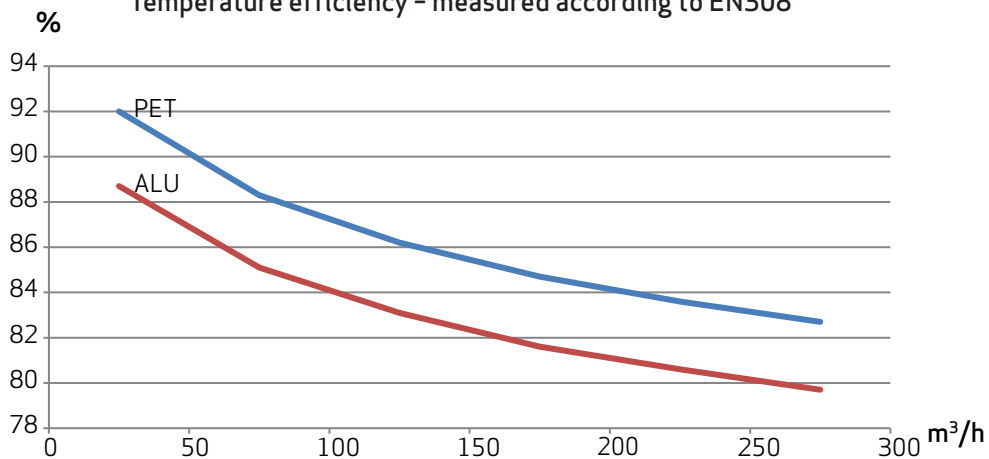
SEL factors ECO 190 CS - measured according to EN13141-7 (G4/G4:ALU)



# Temperature efficiency

"Dry" temperature efficiency according to EN 308 and with identical air flow on the fresh air and exhaust air side. Potential formation of ice on the heat exchanger at low outside temperatures has not been taken into account.

Temperature efficiency - measured according to EN308



## Controller

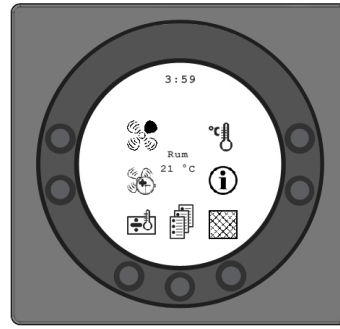
ECO 190 comes with Optima 251 print circuit board. The Optima Design control panel, that connects to the Optima PCB, comes with a factory setting that makes it possible to put the system into operation without first needing to set the system's operational menu.

The factory setting is only a basic setting that can be changed based on the customer's operational preferences and requirements for the building.

### ECO 190 can be delivered with the following accessories:

- Water-based residual heating surface
- Electric preheating surface and electric residual heating surface for mounting in ventilation duct
- Base plate (galvanized steel)
- Condensation level switch (safety switch)
- Optima 260 control unit (available without display with Opus control panel or Optima 100 Design panel)

## Control panel



### Speed (1)

This function makes it possible to set the fan speed in steps 0-1-2-3-4.



### Extended operation (2)

This function makes it possible to set the time counter for forced operation between 0 and 9 hours.



### Residual heat (3)

This function makes it possible to turn the supplementary residual heat function on and off.



### Main menu (4)

This function makes it possible to enter the main menu where the following sub-menus are found: calendar, user menu, display, information menu, and service menu.



### Filter (5)

This function makes it possible to reset the filter alarm.



### Information (6)

This function makes it possible to obtain a good overview of the system's current operating mode, e.g. temperature, fan setting, relay status/ features, alarm, time counter, etc.



### Temperature (7)

This function makes it possible to set the desired temperature.

## Contact us

