



# CIVIC EC LB

## Single-room heat recovery unit

Air flow up to 341 CFM

Heat recovery efficiency up to 97 %



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## Single-room Air Handling Units



### Features

- The **CIVIC EC LB** units are designed for single-room ventilation of schools, offices and other public and commercial premises. Offer the ideal simple and efficient ventilation solutions for existing and renovated buildings and require no layout of air ducts.
- Efficient supply and extract ventilation for separate premises.
- EC fans with low energy consumption.
- Low-noise operation.
- Simple mounting.



**Air flow:**  
up to 341 CFM



**Heat recovery efficiency:**  
up to 97%



### Design

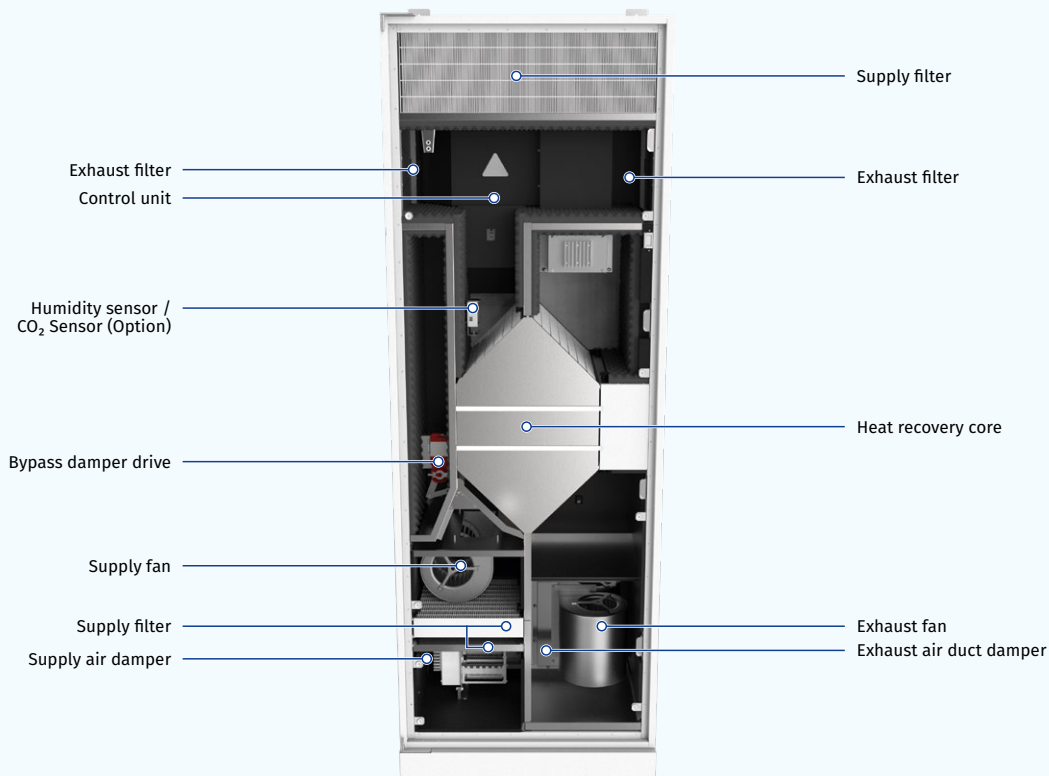
- Made of high-quality polymer coated steel, internally lined with heat- and sound insulation of mineral wool or other materials.

### Air filtration

- Supply air is cleaned with MERV8 and MERV14 (PM2.5 > 75%) supply cassette air filters.
- Cassette MERV8 filter is used for extract air filtration.

### Fans

- High efficient electronically commutated motors with external motor and impeller with forward curved blades. Such motors are the most state-of-the-art energy saving solution.
- EC motors are featured with high performance and total speed controllable range. High efficiency reaching 90% is the premium advantage of the electronically commutated motors.



**Designation key**

Model	Motor type	Mounting	Bypass	Nominal air flow [m³/h]	Heat exchanger type	Control
CIVIC	EC: synchronous electronically commutated motor	L: floor mounting	B: integrated bypass	300; 500	-: heat recovery -E: energy recovery	S17: th-Tune control panel S18: pGD control panel

**Bypass**

- The units are equipped with a bypass. The bypass damper opens for free cooling ventilation mode in summer.

**Air dampers**

- The automatic supply and extract air dampers are used to prevent uncontrollable air draughts during the unit standstill.

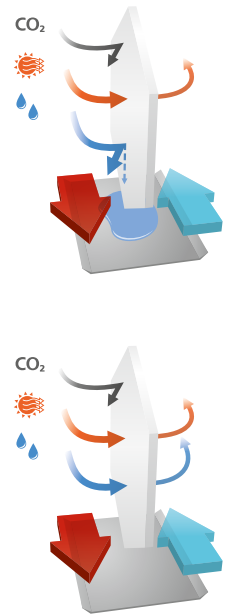
**Functioning**

- Cold outside air flows through the filters and heat exchanger and is moved to the room with a supply centrifugal fan.
- Warm polluted air from the premise flows through the filter and the heat exchanger and is exhausted outside with an extract centrifugal fan.





**Heat recovery core**

- The **CIVIC EC LB** unit has a counter-flow heat recovery core made of polystyrene and aluminium.
  - In cold season the heat energy of the extract air flow is absorbed by intake air flow, thus decreasing the heat losses caused by ventilation. Condensate generated during heat recovery is collected in a drain pan and removed to the sewage system.
  - In warm season the heat of the outdoor air is absorbed by extract air flow. This way the supply air temperature decreases and heat recovery reduces operation loads for the air conditioner.
- The **CIVIC EC LB E** unit is equipped with a counter-flow heat recovery core made of enthalpy membrane.
  - In cold season the heat and moisture of the extract air are absorbed by supply air through the enthalpy membrane, thus decreasing the heat losses caused by ventilation.
  - In warm season the heat and moisture of the outdoor air is absorbed by extract air flow through the enthalpy membrane. This way the supply air temperature and humidity decreases and heat recovery reduces operation loads for the air conditioner.



**Control**

- The ventilation units may be operated with an integrated or an external control panel.

	S17	S18
		
Built-in control panel	•	•
External control panel	•	•
Humidity sensor	◦	◦
CO <sub>2</sub> sensor	◦	◦
<b>Functions</b>		
MODbus	◦	◦
Speed control from 0 to 100 %	•	•
Bypass control	Auto	Auto
Filter maintenance indicator	•	•
Alarm indicator	•	•
Timer scheduled operation	•	•
Week scheduled operation	•	•
Supply air temperature setup	•	•

• - available; ◦ - option.

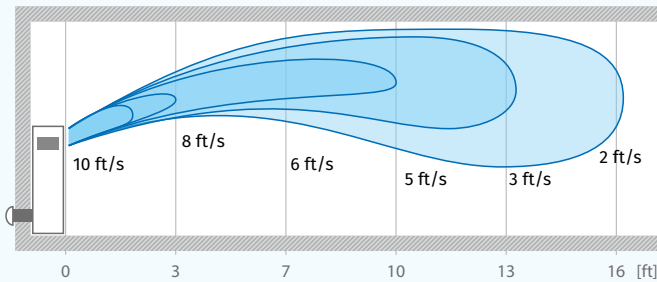
**FREEZE PROTECTION**

- The freeze protection function may be realized by two ways.
  - For the units without preheater: the supply fan shuts down on a signal from the exhaust air temperature sensor to let warm extract air flow warm up the heat exchanger. Then the supply fan turns on and the unit operates normally.

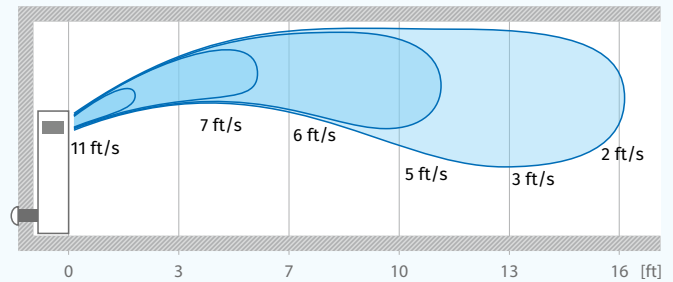
### Technical data

Parameters	CIVIC EC LB 300	CIVIC EC LB 300-E	CIVIC EC LB 500
Voltage [V / 50 (60) Hz]		1~120	
Power consumption [W]	123	123	232
Max. current consumption [A]	1.8	1.8	3.4
Maximum air flow [CFM (l/s)]	188 (89)	188 (89)	341 (161)
RPM [min <sup>-1</sup> ]	2150	2150	1280
Noise level at 10 ft [Sones]	1.6	1.6	1.6
Transported air temperature [°F (°C)]		-13...+122 (-25...+50)	
Casing material		painting steel	
Insulation		1 9/16" mineral wool	
Extract filter		MERV8	
Supply filter		MERV8 and MERV14	
Connected air duct diameter [in]	7 7/8	7 7/8	9 13/16
Weight [lb]	304±3%	300±3%	421±3%
Heat exchanger type		counter-flow	
Heat recovery core material	polystyrene	enthalpy membrane	aluminium
Heat recovery core efficiency [%]	82...97	76...90	79...93
SEC class	A	A	A

Fresh air flow distance for CIVIC EC LB 300(-E)



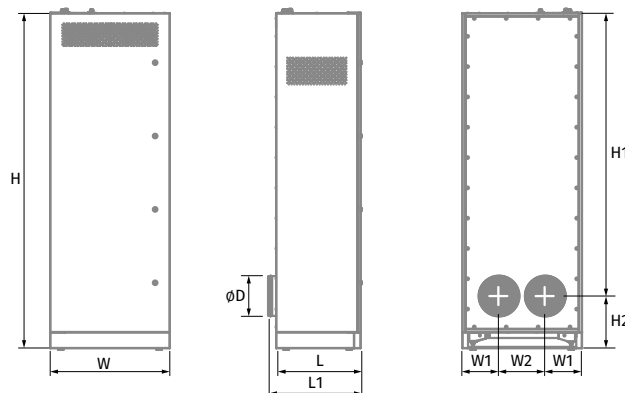
Fresh air flow distance for CIVIC EC LB 500



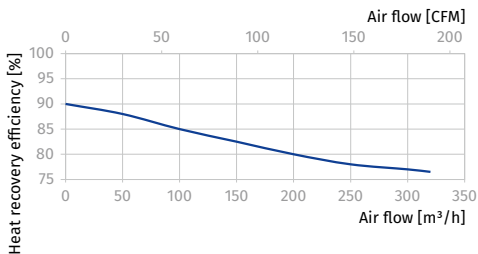
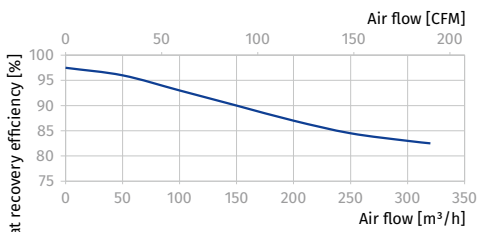
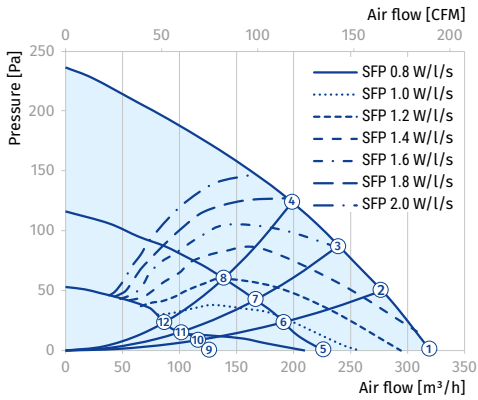
### Overall dimensions [in]

Model	D	H	H1	H2	L	L1	W	W1	W2
CIVIC EC LB 300(-E)	7 7/8	69 11/16	58 1/8	11 9/16	18 1/2	20 1/2	24 7/16	9 1/16	7 11/16
CIVIC EC LB 500	9 13/16	85 7/16	72 3/16	13 1/4	21 1/16	23	29 1/2	11 7/16	9 1/16

The unit is rated for indoor application with the ambient temperature ranging from +34 °F to +104 °F and relative humidity up to 80%.



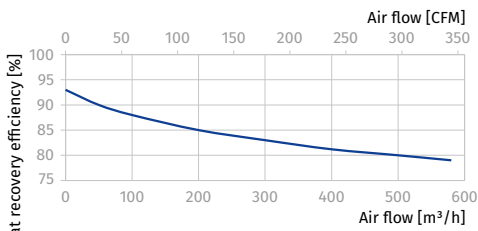
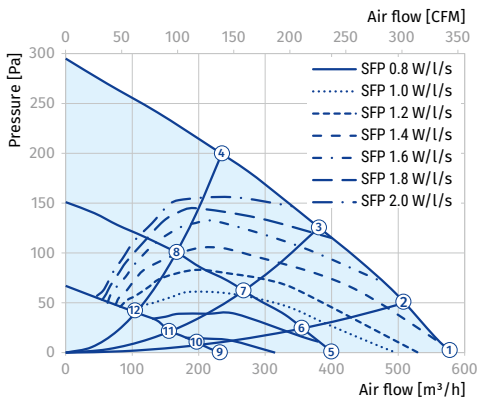
**CIVIC EC LB 300(-E)**



**Unit power [W]**

Point	CIVIC EC LB 300(-E)
1	123
2	113
3	108
4	100
5	55
6	52
7	50
8	45
9	24
10	23
11	23
12	23












**CIVIC EC LB 500**



**Unit power [W]**

Point	CIVIC EC LB 500
1	232
2	215
3	170
4	168
5	98
6	92
7	85
8	75
9	33
10	31
11	30
12	29

**Accessories**

		CIVIC EC LB 300(-E) S17 CIVIC EC LB 300(-E) S18	Civic EC LB 500 S17 Civic EC LB 500 S18
MERV8 extract filter		FP 308x238x22 G4 PPI	FP 450x257x27 G4 PPI
MERV8 supply filter		FP 265x213x48 G4	FP 318x290x22 G4
MERV14 supply filter		FP 384x273x60 F7	FP 318x290x60 F7
Outer ventilation hood made of brushed stainless steel		AH Civic 300 LB chrome	AH Civic 500 LB chrome
Outer ventilation hood made of white coated steel		AH Civic 300 LB white	AH Civic 500 LB white
Humidity sensor		FS2	FS2
External VOC sensor		DPWQ30600	DPWQ30600
External CO <sub>2</sub> sensor		DPWQ40200	DPWQ40200
External humidity sensor		DPWC11200	DPWC11200
Humidity sensor		HR-S	HR-S
Assembled U-trap		SFK 20x32	SFK 20x32

Blauberg North America  
1501 Veterans Memorial Pkwy E, Ste. 202,  
Lafayette, IN 47905  
tel.: 765 780 7139

[info@blauberg-na.com](mailto:info@blauberg-na.com)  
[blauberg-na.com](http://blauberg-na.com)