

CIVIC EC LB

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 580 m³/h
161 l/s



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.
- Available modifications with an integrated preheater and reheater for cold climate applications.

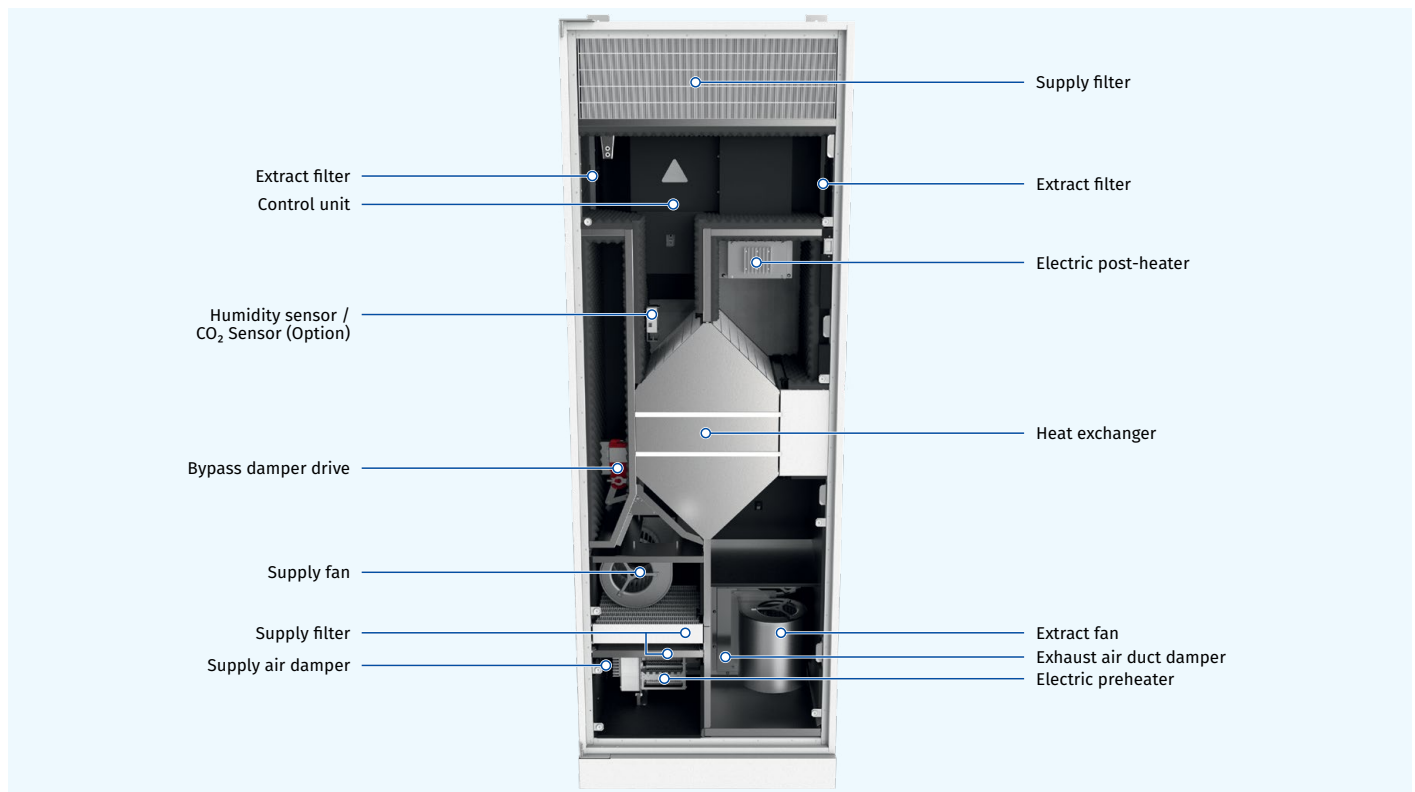
- EC motors are featured with high performance and total speed controllable range. High efficiency reaching 90% is the premium advantage of the electronically commutated motors.

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.

Air filtration

- Supply air is cleaned with G4 and F8 (PM2.5 > 75%) supply cassette air filters. For premises requiring high air quality it is recommended to install carbon F8 filters and H11 (PM2.5 > 95%) filters. Available as specially ordered accessories.
- Cassette G4 filter is used for extract air filtration.



Designation key

Model	Motor type	Mounting	Bypass	Heater	Nominal air flow [m ³ /h]	Heat exchanger type	Control
CIVIC	EC: synchronous electronically commutated motor	L: floor mounting	B: integrated bypass	E: preheating E2: preheating + post-heating	300; 500	_: heat recovery -E: energy recovery	S14: sensor control panel S17: th-Tune control panel S18: pGD control panel

CIVIC EC LB

SINGLE-ROOM AIR HANDLING UNITS

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.

Heaters

PREHEATING

- CIVIC EC LBE** and **CIVIC EC LBE2** units are equipped with an electric preheater which protects the heat exchanger from freezing.

POST-HEATING

- CIVIC EC LBE2** units feature an electric post-heater to raise the supply air temperature.

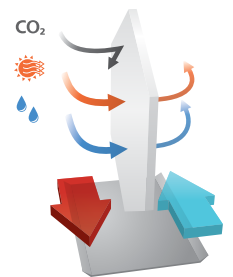
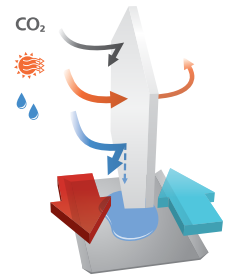
Functioning

- 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 exchanger

- The **CIVIC EC LB** unit has a counter-flow heat exchanger 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 exchanger 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.

THREE AVAILABLE MODIFICATIONS OF THE CONTROL PANEL:

	S14	S17	S18
Built-in control panel	•	•	•
External control panel	•	•	•
Preheater		•	•
Reheater		•	•
Humidity sensor	o	o	o
CO₂ sensor	o	o	o
Functions			
MODbus		o	o
Speed control from 0 to 100 %	•	•	•
Bypass control	Manual	Auto	Auto
Filter maintenance indicator	•	•	•
Alarm indicator	•	•	•
Timer scheduled operation		•	•
Week scheduled operation		•	•
Supply air temperature setup		•	•

• - available; o - 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.
 - For the units with a preheater: the supply air is warmed up before contacting the heat exchanger, thus preventing its freezing. In this case balanced air exchange is not interrupted.

CIVIC EC LB

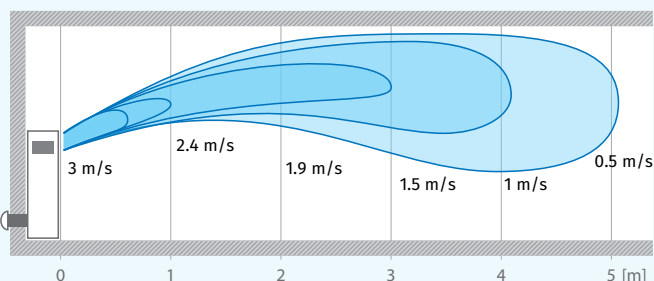
SINGLE-ROOM AIR HANDLING UNITS

Technical data

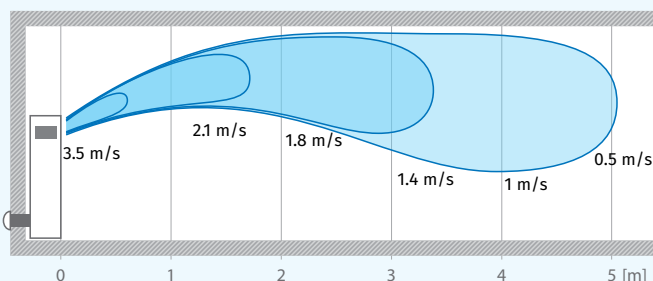
Parameters	CIVIC EC LB 300	CIVIC EC LBE 300	CIVIC EC LBE2 300	CIVIC EC LB 300-E	CIVIC EC LBE 300-E	CIVIC EC LBE2 300-E	CIVIC EC LB 500	CIVIC EC LBE 500	CIVIC EC LBE2 500
Voltage [V / 50 (60) Hz]	1~220-240								
Power consumption without heater(s) [W]	123	123	123	123	123	123	232	232	232
Preheater power consumption [W]	-	1400	1400	-	1400	1400	-	1400	1400
Reheater power consumption [W]	-	-	1400	-	-	1400	-	-	2800
Max. current consumption without heater(s) [A]	0,9	0,9	0,9	0,9	0,9	0,9	1,7	1,7	1,7
Max. current consumption with heater(s) [A]	0,9	7	13,1	0,9	7	13,1	1,7	7,8	20
Maximum air flow [m ³ /h (l/s)]	320 (89)	320 (89)	320 (89)	320 (89)	320 (89)	320 (89)	580 (161)	580 (161)	580 (161)
RPM [min ⁻¹]	2150	2150	2150	2150	2150	2150	1280	1280	1280
Sound pressure level at 3 m [dBA]	35	35	35	35	35	35	35	35	35
Transported air temperature [°C]	-25...+50								
Casing material	painted steel								
Insulation	40 mm mineral wool								
Extract filter	G4								
Supply filter	G4 and F8 (Option: F8 Carbon; H11)								
Connected air duct diameter [mm]	200	200	200	200	200	200	250	250	250
Weight [kg]	138±3%	139±3%	140±3%	136±3%	137±3%	138±3%	191±3%	193±3%	194±3%
Heat exchanger type	counter-flow								
Heat exchanger material	polystyrene			enthalpy membrane			aluminium		
Heat recovery efficiency* [%]	82...97			76...90			79...93		
SEC class	A	A	A	A	A	A	A	A	A

*Heat recovery efficiency is specified in compliance with EN 13141-8.

Fresh air flow distance for CIVIC EC LB300



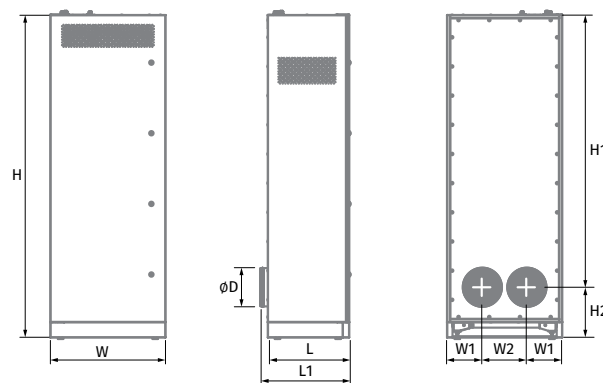
Fresh air flow distance for CIVIC EC LB500



Overall dimensions [mm]

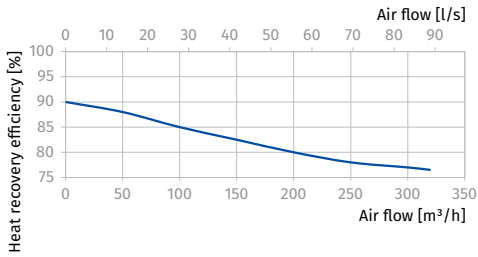
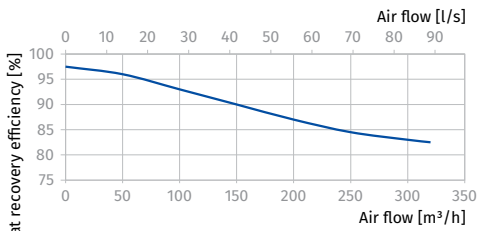
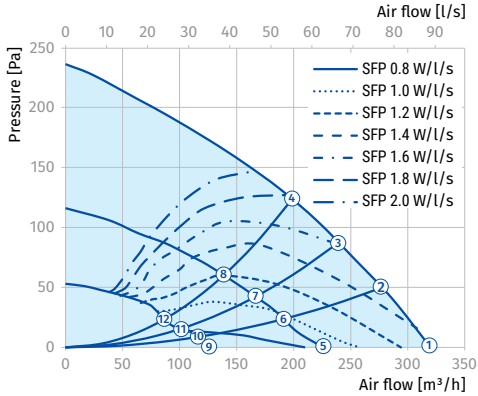
Model	D	H	H1	H2	L	L1	W	W1	W2
CIVIC EC LB300 (E)	200	1770	1476	294	470	520	620	230	195
CIVIC EC LB500	250	2170	1833	337	535	585	750	290	230

The unit is rated for indoor application with the ambient temperature ranging from +1 °C to +40 °C and relative humidity up to 80%.



SINGLE-ROOM AIR HANDLING UNITS

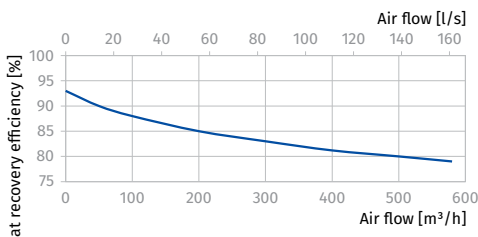
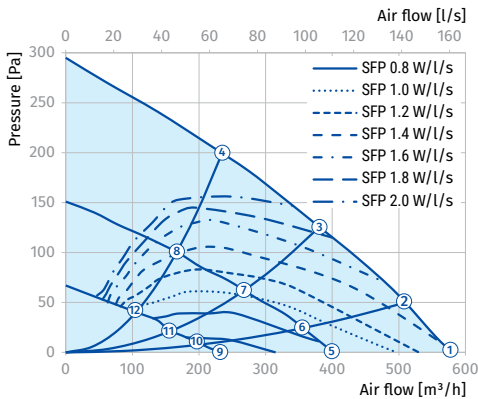
CIVIC EC LB/LBE/LBE2 300



Unit power with no heater [W]

Point	CIVIC EC LB300(-E) CIVIC EC LBE300(-E) CIVIC EC LBE2 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/LBE/LBE2 500(-E)

















Unit power with no heater [W]

Point	CIVIC EC LB500 CIVIC EC LBE500 CIVIC EC LBE2 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

CIVIC EC LB

SINGLE-ROOM AIR HANDLING UNITS

Accessories

		Civic EC LB... 300 S17/S18	Civic EC LB... 300 S14	Civic EC LB... 500 S17/S18	Civic EC LB... 500 S14
G4 filter		FP 308x238x22 G4 PPI	FP 308x238x22 G4 PPI	FP 450x257x27 G4 PPI	FP 450x257x27 G4 PPI
G4 filter		FP 265x213x48 G4	FP 265x213x48 G4	FP 318x290x22 G4	FP 318x290x22 G4
F8 filter		FP 384x273x60 F8	FP 384x273x60 F8	FP 318x290x60 F8	FP 318x290x60 F8
F8 carbon filter		FP 533x135x48 F8 C	FP 533x135x48 F8 C	FP 666x196x48 F8 C	FP 666x196x48 F8 C
H11 filter		FP 533x135x60 H11	FP 533x135x60 H11	FP 666x196x60 H11	FP 666x196x60 H11
Outer ventilation hood made of brushed stainless steel		AH Civic 300 LB chrome	AH Civic 300 LB chrome	AH Civic 500 LB chrome	AH Civic 500 LB chrome
Outer ventilation hood made of white coated steel		AH Civic 300 LB white	AH Civic 300 LB white	AH Civic 500 LB white	AH Civic 500 LB white
Humidity sensor		FS2	FS2	FS2	FS2
External VOC sensor (0-10V)		DPWQ30600	-	DPWQ30600	-
External CO ₂ sensor (0-10V)		DPWQ40200	-	DPWQ40200	-
External humidity sensor (0-10V)		DPWC11200	-	DPWC11200	-
Humidity sensor (NO)		HR-S	HR-S	HR-S	HR-S
Assembled U-trap		SFK 20x32	SFK 20x32	SFK 20x32	SFK 20x32
Assembled drain pump		CP-2	CP-2	CP-2	CP-2