

CIVIC EC DB

SINGLE-ROOM AIR HANDLING UNITS

Features

- The **CIVIC EC DB** 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 motors with low energy consumption.
- Low-noise operation.
- Simple mounting.



Air flow:
up to 510 m³/h
142 l/s



Heat recovery efficiency:
up to 94 %



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.

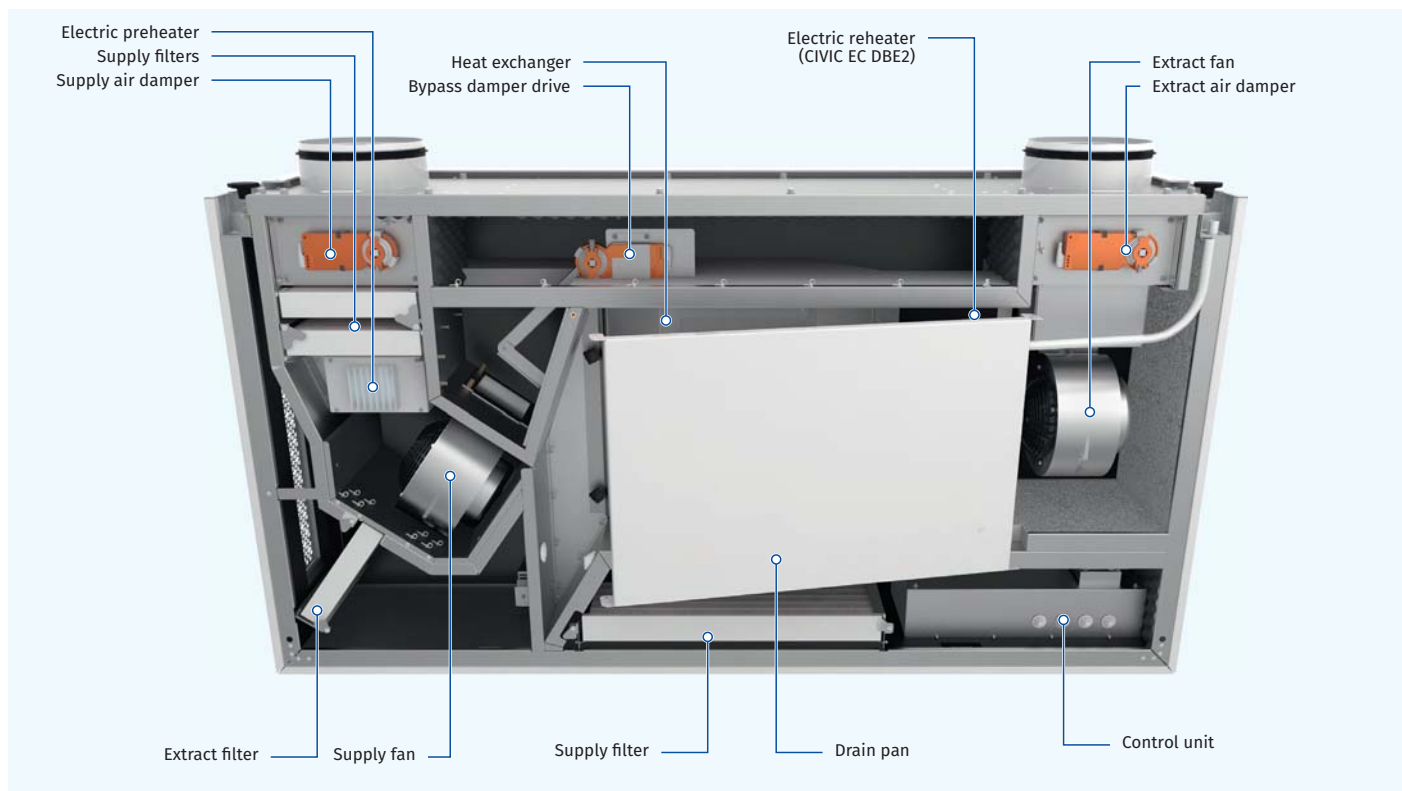
- EC motors are featured with high performance and total speed controllable range. High efficiency reaching 90 % is the premium advantage of the electronically commutated motors.

Motors

- 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 panel air filters. For premises requiring high air quality it is recommended to install carbon F8 filter or H11 (PM2.5 > 95%) filter. Available as specially ordered accessories.
- Panel G4 filter is used for extract air filtration



Designation key

Model	Motor type	Mounting	Bypass	Heater	Nominal air flow [m ³ /h]	Control panel
CIVIC	EC: synchronous electronically commutated motor	D: ceiling mounting	B: with bypass	_: without heater E: preheating E2: preheating + reheating	300; 500	S17: th-Tune control panel S18: pGD control panel

CIVIC EC DB

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.

Heater

PREHEATING

- CIVIC EC DBE and CIVIC EC DBE2 units are equipped with an electric preheater which protects the heat exchanger from freezing.

REHEATING

- CIVIC EC DBE2 units feature an electric reheater to raise the supply air temperature.

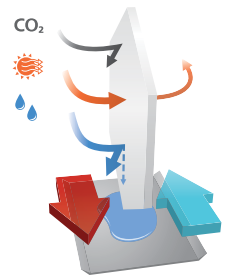
Functioning

- 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 DB unit has a counter-flow heat exchanger made of 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 through the drain pipes 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.



Control

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

TWO AVAILABLE MODIFICATIONS OF THE CONTROL PANEL:

	S17	S18
Built-in control panel	•	•
External control panel	•	•
Preheater	•	•
Reheater	•	•
Humidity sensor	o	o
CO₂ sensor	o	o
Functions		
MODbus	o	o
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; 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 DB

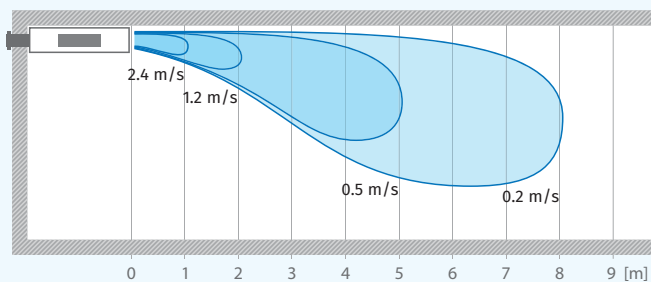
SINGLE-ROOM AIR HANDLING UNITS

Technical data

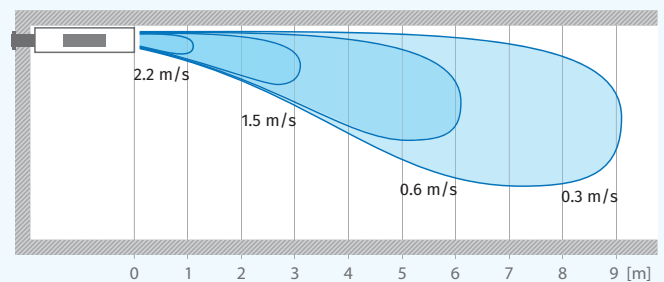
Parameters	CIVIC EC DB300	CIVIC EC DBE300	CIVIC EC DBE2 300	CIVIC EC DB500	CIVIC EC DBE500	CIVIC EC DBE2 500
Voltage [V / 50 (60) Hz]	1~230					
Power consumption without heater(s) [W]	175	175	175	230	230	230
Preheater power consumption [W]	-	1050	1050	-	1050	1050
Reheater power consumption [W]	-	-	1400	-	-	1400
Max. current consumption without heater(s) [A]	1.3	1.3	1.3	1.7	1.7	1.7
Max. current consumption with heater(s) [A]	-	7.3	13.6	-	7.2	13.5
Air flow [m ³ /h (l/s)]	300 (83)	300 (83)	300 (83)	510 (142)	510 (142)	510 (142)
RPM [min ⁻¹]	2150	2150	2150	1700	1700	1700
Noise level @ 3 m [dBA]	22	22	22	24	24	24
Max. transported air temperature [°C]	-25...+40					
Casing material	polymer coated 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	250	250	250
Weight [kg]	78	79	80	103	104	105
Heat exchanger type	counter-flow					
Heat exchanger material	aluminum					
Heat recovery efficiency* [%]		79...91			79...94	
SEC class	A	A	A	A	A	A

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

Fresh air flow distance for CIVIC EC DB300



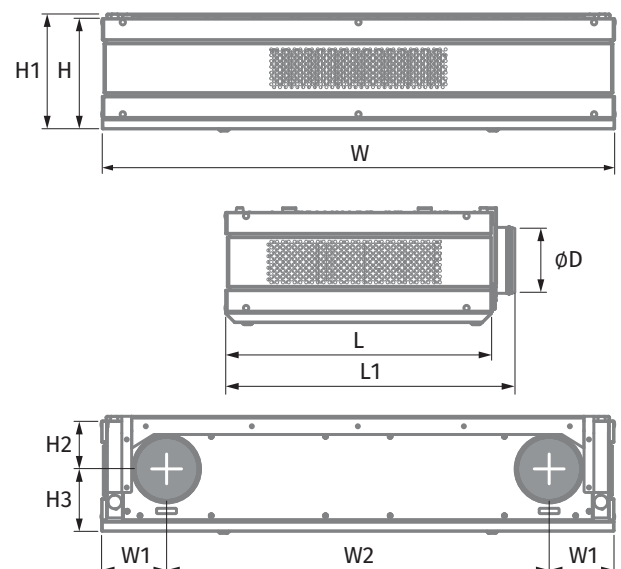
Fresh air flow distance for CIVIC EC DB500



Overall dimensions [mm]

Model	D	H	H1	H2	H3	L	L1	W	W1	W2
CIVIC EC DB300	199	333	347	145	188	806	873	1547	196	1155
CIVIC EC DB500	249	386	400	169	217	1006	1083	1806	244	1316

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

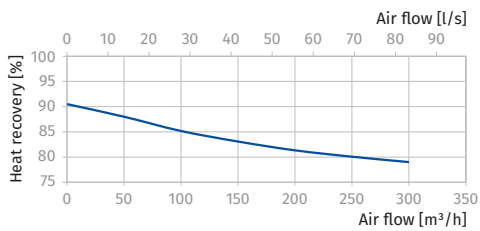
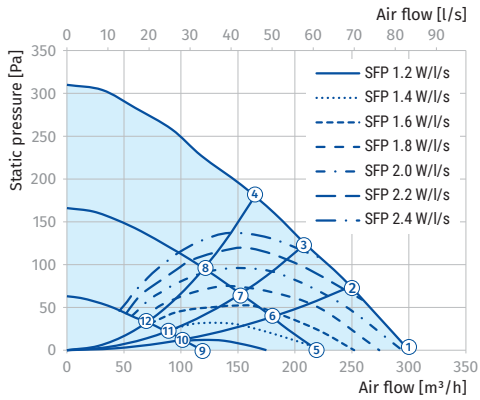


CIVIC EC DB

SINGLE-ROOM AIR HANDLING UNITS

CIVIC EC DB/DBE/DBE2 300

Sound-power level, A - weighted	Total	Octave frequency band [Hz]									LpA. 3m	LpA. 1m
		63	125	250	500	1000	2000	4000	8000			
LWA to environment @ point 1	dBA 42	27	30	32	36	37	35	27	25	22	32	
LWA to environment @ point 5	dBA 35	22	22	32	24	29	25	20	17	15	25	
LWA to environment @ point 9	dBA 27	12	16	19	19	15	21	17	17	6	16	



Total power of the unit [W]

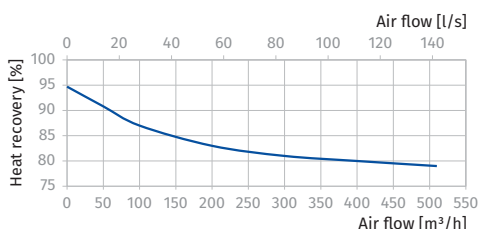
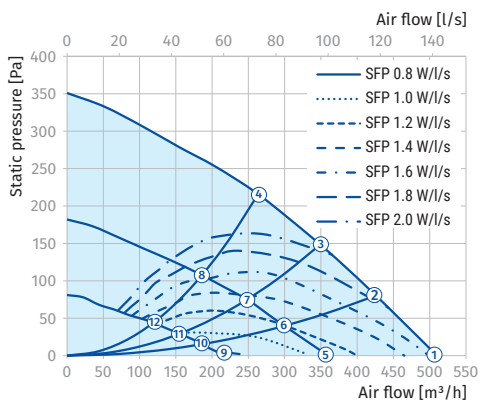
Point	CIVIC EC DB300 CIVIC EC DBE300 CIVIC EC DBE2 300
1	175
2	155
3	145
4	130
5	83
6	78
7	73
8	68
9	36
10	34
11	32
12	32

Total sound pressure level at 3 m (1 m) [dBA]

Point	CIVIC EC DB300 CIVIC EC DBE 300 CIVIC EC DBE2 300
1	22 (32)
2	21 (31)
3	21 (31)
4	20 (30)
5	15 (25)
6	15 (25)
7	15 (25)
8	15 (25)
9	6 (16)
10	6 (16)
11	6 (16)
12	6 (16)

CIVIC EC DB/DBE/DBE2 500

Sound-power level, A - weighted	Total	Octave frequency band [Hz]									LpA. 3m	LpA. 1m
		63	125	250	500	1000	2000	4000	8000			
LWA to environment @ point 1	dBA 44	22	28	38	41	37	33	25	16	24	34	
LWA to environment @ point 5	dBA 40	18	24	32	32	36	28	29	17	19	29	
LWA to environment @ point 9	dBA 34	10	17	22	21	33	18	18	17	13	23	















Total power of the unit [W]

Point	CIVIC EC DB500 CIVIC EC DBE500 CIVIC EC DBE2 500
1	230
2	220
3	200
4	178
5	106
6	100
7	92
8	87
9	46
10	45
11	43
12	41

Total sound pressure level at 3 m (1 m) [dBA]

Point	CIVIC EC DB300 CIVIC EC DBE 300 CIVIC EC DBE2 300
1	24 (34)
2	23 (33)
3	23 (33)
4	22 (32)
5	19 (29)
6	19 (29)
7	19 (29)
8	18 (28)
9	13 (23)
10	13 (23)
11	13 (23)
12	13 (23)

CIVIC EC DB
SINGLE-ROOM AIR HANDLING UNITS
Accessories

		CIVIC EC DB300 S17/S18 CIVIC EC DBE300 S17/S18 CIVIC EC DBE2 300 S17/S18	CIVIC EC DB500 S17/S18 CIVIC EC DBE500 S17/S18 CIVIC EC DBE2 500 S17/S18
G4 filter		FP 270x216x48 G4	FP 325x388x48 G4
F8 filter		FP 270x218x48 F8	FP 325x314x48 F8
F8 carbon filter		FP 518x270x48 F8 C	FP 714x320x48 F8 C
H11 HEPA filter		FP 518x270x48 H11	FP 714x320x48 H11
Outer grill		VDA 200 CFn AI	VDA 250 CFn AI
VOC sensor		DPWQ30600	DPWQ30600
CO ₂ sensor		DPWQ40200	DPWQ40200
Humidity sensor		DPWC11200	DPWC11200
Internal humidity sensor		FS2	FS2
Humidity sensor		HR-S	HR-S
Syphon kit		SFK 20x32	SFK 20x32
Drain pump		CP-2	CP-2