



MAXI
CENTRALIZED VENTILATION WITH HEAT RECOVERY

Product Overview



www.orcaenergy.eu

MAXI



Device for heat recovery
MAXI is designed to provide permanent controlled air exchange by means of mechanical ventilation in houses, offices, hotels, cafes, meeting halls and other mechanically ventilated premises. Reduce the heating costs and say goodbye to mould.

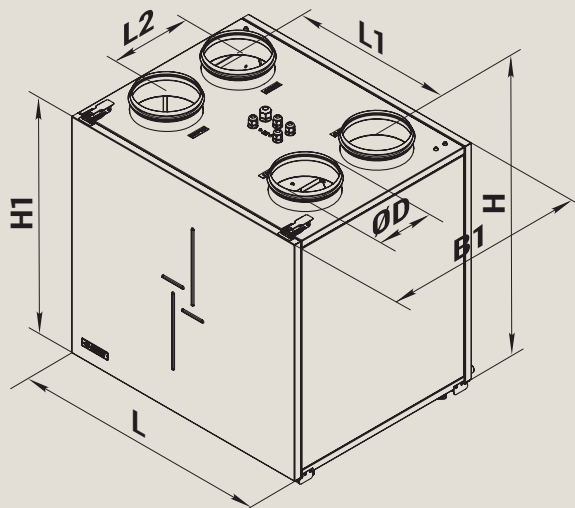


MAIN ADVANTAGES

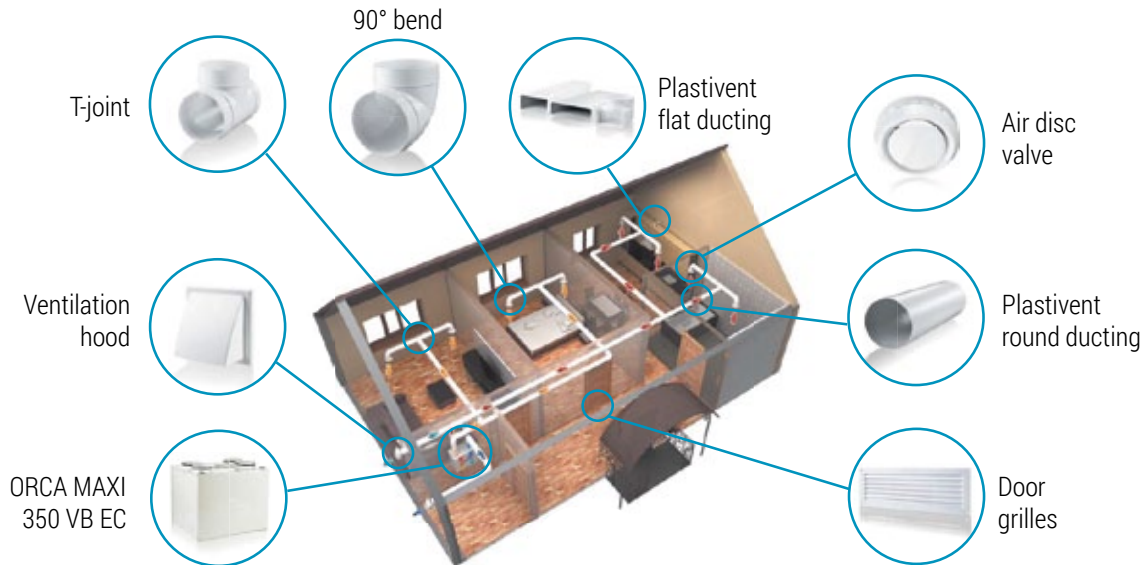
- LCD control panel
- high efficiency
- always fresh and clean air (no mixing between extract and exhaust air)
- works up to -15 °C
- different outdoor covers
- self regulation and functioning
- automatic antifreeze protection
- possibility of adding various sensors (CO₂ sensor, air humidity sensor) surcharge required
- air damper for air flow cutoff is automatically regulated from recuperation unit



type	MAXI		
	160 EC V	350 EC VB	550 EC VB
Voltage [V 1 Hz]	1- 220-240 50-60		
Max. fan power [W]	51	166	333
Max. unit current [A]	0,4	1,3	2,3
Max. air capacity (m3/h)	180	415	700
RPM	3770	3200	3230
Sound pressure level at 3m [dBA]	24	28	28
Transported air temperature [°C]	-25up to +60		
Casing material	polymer coated steel		
Insulation	20 mm mineral wool	40 mm mineral wool	40 mm mineral wool
Extract filter	G4		
Supply filter	G4(F7*)		
Connected air duct diameter D [mm]	Ø 125	Ø 160	Ø 200
Weight [kg]	34	61	70
Heat recovery efficiency, %	88 up to 98	85 up to 98	81 up to 97
Heat exchanger type	counter-flow		
SEC Class	A+		
Heat exchanger material	polystyrene		
B1	330	592	722
H	650	758	758
H1	550	675	675
L	600	775	825
L1	388	426	493
L2	143	230	284



APPLICATION EXAMPLE



FILTER

Supply and exhaust airflows are purified through panel filters with filtering class G4. A replaceable filter with filtering class F7 for supply air is optionally available.

FANS

High efficient electronically commutated motors with external rotor and impeller with backward 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.

HEAT EXCHANGER

Counter-flow polystyrene heat exchangers with high heat recovery efficiency. The drain pan under the heat exchanger block ensures condensate removal. In case of freezing danger determined by the temperature sensor the electric pre-heater is automatically turned on. The heat exchanger is easily removed for cleaning.

CONTROL AND AUTOMATION

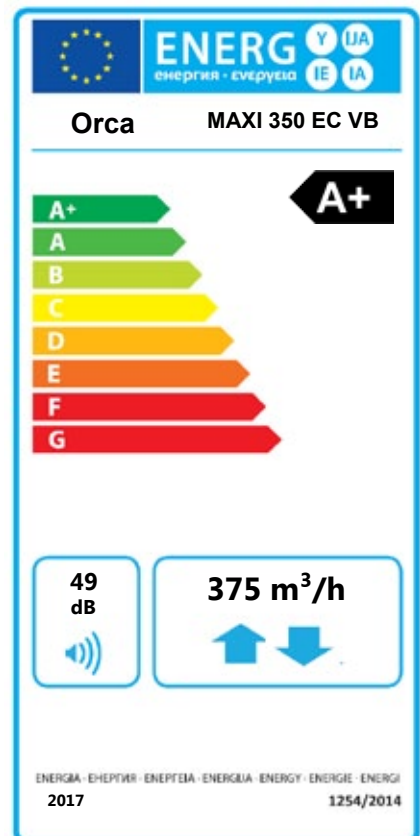
The unit includes integrated automation. The heat exchanger freezing protection operates as follows: In case of freezing danger determined

by the temperature sensor the electric preheater is automatically turned on. If the electric heater is not used, than the defrost logic is as follows: the supply fan is turned off to let extract air warm up the heat exchanger. After freezing danger is no longer imminent, the unit reverts to the standard operation mode. Delivery set includes a multifunctional LCD touch control panel and a 10m long signal cable.

USB

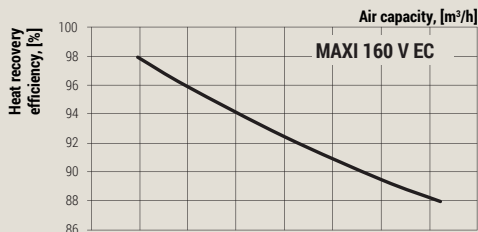
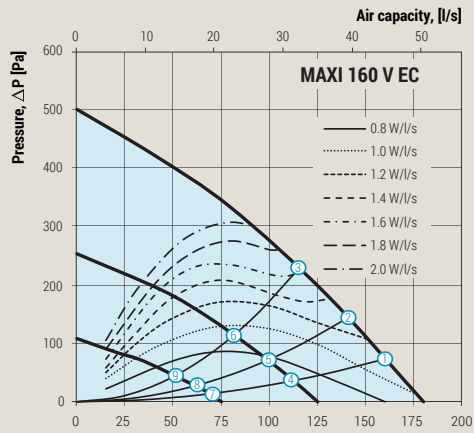
The MAXI160 EC V, MAXI350 EC VB and MAXI 550 EC VB units can be connected to the PC by means of USB cable. Special software gives following possibilities:

- Software update of the unit;
- Adjusting of the Off, Low, Medium or High speed modes from 0 to 100 % for supply and exhaust fans separately;
- Adjustment of the humidity level and the speed activated by optional humidity sensor;
- Adjustment of the speed activated by the optional external relay;
- Adjustment of the temperature of activation of freezing protection;
- Adjustment of filter maintenance timer;
- Monitoring of the maintenance timer. humidity level, external relay and bypass;
- Error code indication.



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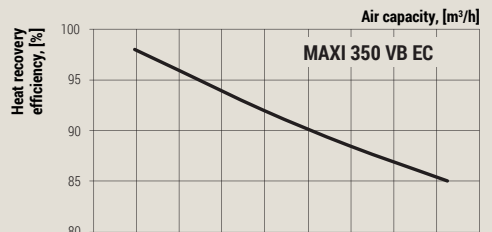
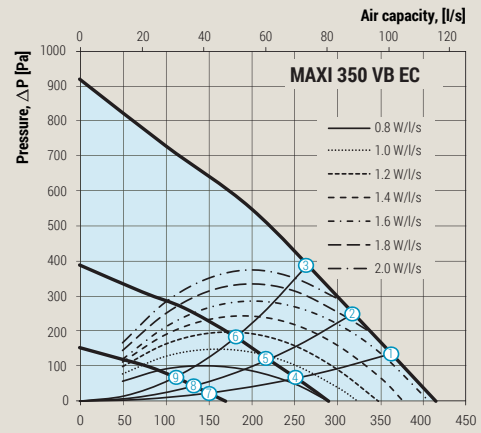
ORCA MAXI 160 V EC



Sound pressure level, A-weighted	Octave-frequency band [Hz]									LpA, 3m dBA	LpA, 1m dBA	
		Hz	Gen	63	125	250	500	1000	2000			4000
L _{WA} to supply inlet	dBA	52	28	46	49	41	35	33	36	29	31	41
L _{WA} to supply outlet	dBA	60	32	52	58	47	37	36	41	35	39	49
L _{WA} to exhaust inlet	dBA	51	27	45	49	41	36	32	35	29	31	41
L _{WA} to exhaust outlet	dBA	60	31	50	59	48	36	36	41	32	39	49
L _{WA} to environmet	dBA	45	25	41	42	34	31	28	27	22	24	34

*Data provided for point 1 of the air flow diagram

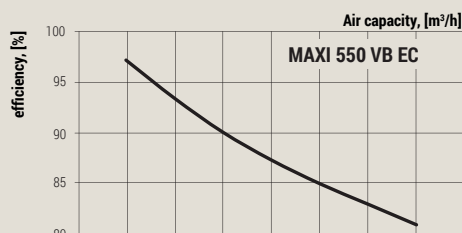
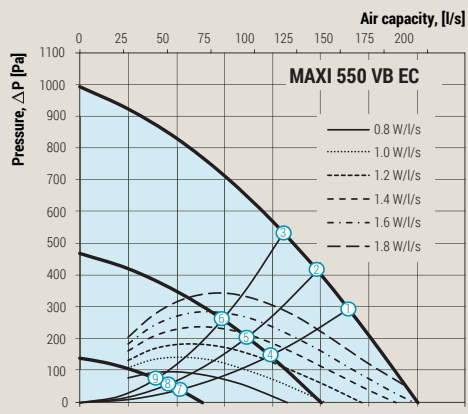
ORCA MAXI 350 VB EC



Sound pressure level, A-weighted	Octave-frequency band [Hz]									LpA, 3m dBA	LpA, 1m dBA	
		Hz	Gen	63	125	250	500	1000	2000			4000
L _{WA} to supply inlet	dBA	56	50	46	53	45	39	34	36	32	35	45
L _{WA} to supply outlet	dBA	64	56	52	63	52	39	38	43	35	44	54
L _{WA} to exhaust inlet	dBA	56	52	46	53	45	38	34	36	31	36	46
L _{WA} to exhaust outlet	dBA	64	58	53	62	51	40	38	42	33	44	54
L _{WA} to environmet	dBA	49	45	40	44	38	33	29	27	22	28	38

*Data provided for point 1 of the air flow diagram

ORCA MAXI 550 VB EC



Sound pressure level, A-weighted	Octave-frequency band [Hz]									LpA, 3m dBA	LpA, 1m dBA	
		Hz	Gen	63	125	250	500	1000	2000			4000
L _{WA} to supply inlet	dBA	57	50	45	54	46	42	42	42	32	36	46
L _{WA} to supply outlet	dBA	62	59	47	58	51	43	41	43	39	42	52
L _{WA} to exhaust inlet	dBA	56	48	43	54	45	35	34	36	32	35	45
L _{WA} to exhaust outlet	dBA	62	58	47	59	51	43	40	43	37	41	51
L _{WA} to environmet	dBA	49	44	39	45	38	33	30	28	23	28	38

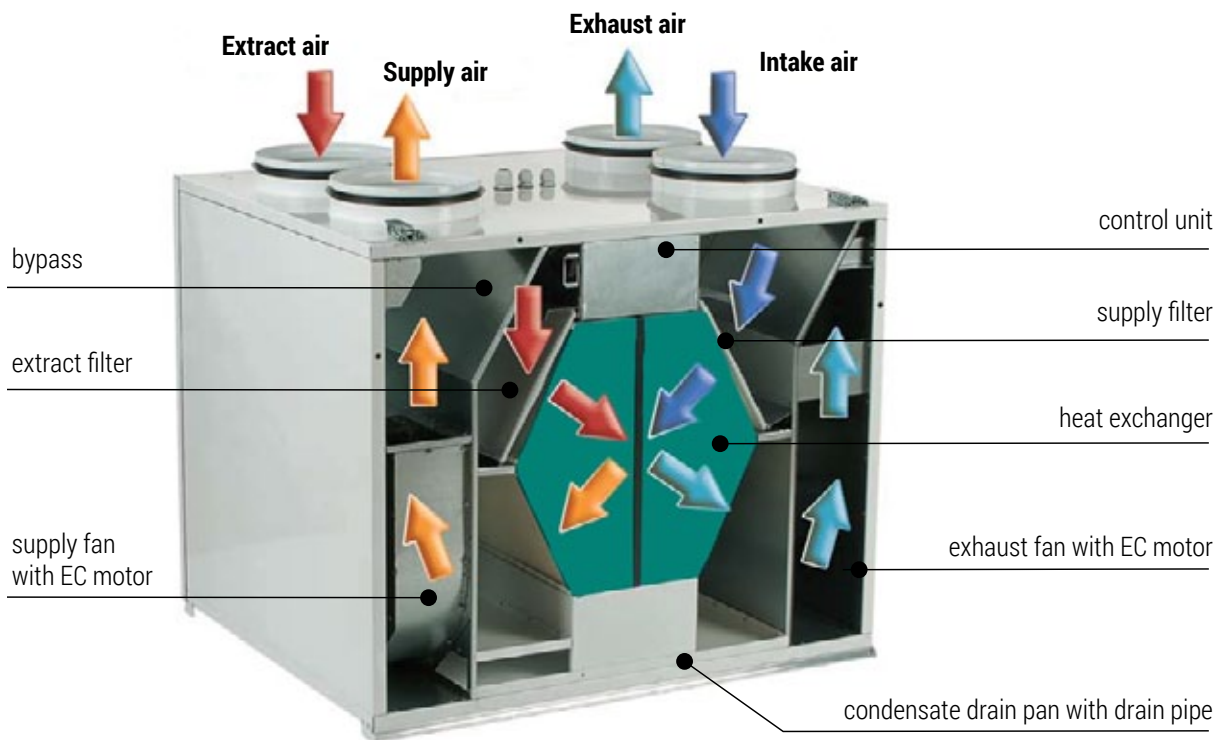
*Data provided for point 1 of the air flow diagram

Power [W]

Point	160 EC V	350 EC VB	550 EC VB
1	50	165	332
2	51	165	331
3	50	165	332
4	22	63	133
5	22	62	129
6	21	60	126
7	9	21	32
8	9	20	31
9	9	20	30

Total sound pressure level at 3 m (1 m), dB(A)

Point	160 EC V	350 EC VB	550 EC VB
1	24 (34)	28 (38)	28 (38)
2	23 (33)	27 (37)	28 (38)
3	23 (33)	27 (37)	27 (37)
4	20 (30)	23 (33)	23 (33)
5	20 (30)	22 (32)	23 (33)
6	20 (30)	22 (32)	22 (32)
7	13 (23)	15 (25)	15 (25)
8	13 (23)	14 (24)	15 (25)
9	13 (23)	14 (24)	14 (24)



DESCRIPTION

The air-handling units are the fully featured ventilation units with heat recovery for air filtration, fresh air supply and stale air extract. The heat contained in the extract air is recuperated in the high-efficient counterflow heat exchanger to warm up supply air.

CONTROL PANEL

The MAXI160 EC V, MAXI 350 EC VB and MAXI 550 EC VB units are equipped with touchscreen LCD control panel with following functions:

- Turning the unit on or off;
- Low-medium-high speed selection and adjustment from 0 up to 100% for supply and exhaust fans separately;
- Manual or automatic opening and closing of the bypass for summer ventilation;
- Timer;
- Week scheduled;
- Actuating external air dampers;
- Indication, adjustment and maintaining set room or supply air temperature;
- Control according to the optional duct humidity sensor feedback or according to the humidity sensor built-in the control panel;
- Filter dogging control by motor hours;
- Ventilation system shutdown at signal from the fire alarm system.



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