INVITE NATURE INSIDE

CA300

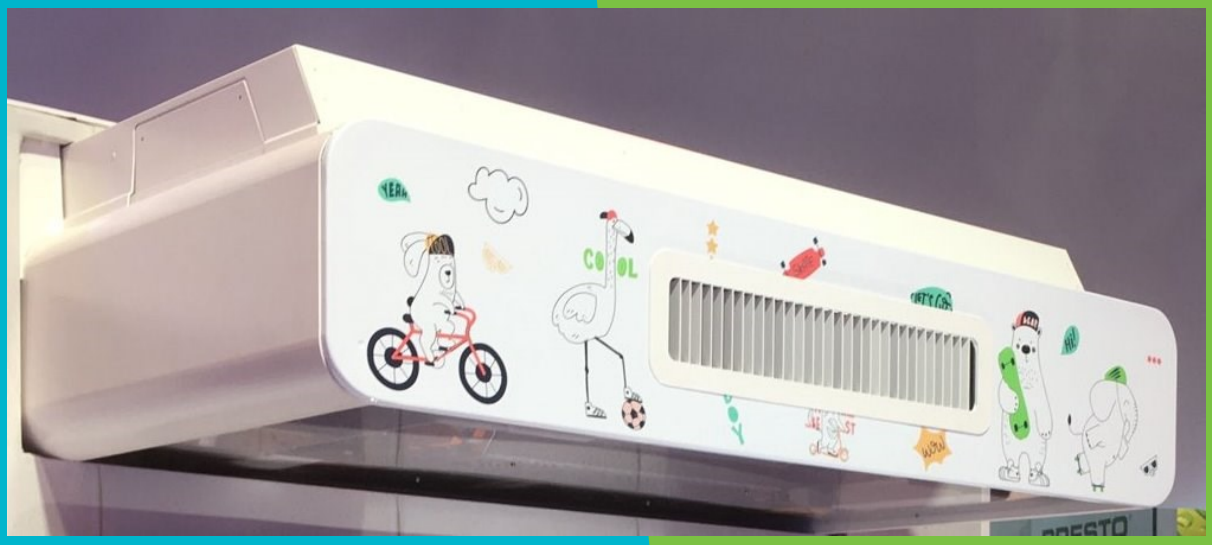
CA500

CA800

TURBOVEX

~ *fresh air for everyone*

February 2021


YEAH
COOL

ComfortAir

A Decentralized ventilation with a capacity from 300 to 800m³/h, can be used in the following locations:

- Schools
- Offices
- Meeting rooms
- Canteens
- Institutions
- Module construction

OPERATING PRINCIPLE

ComfortAir is a decentralized ventilation system with built-in heat recovery for ventilation of comfort rooms in particular in indoor living spaces.

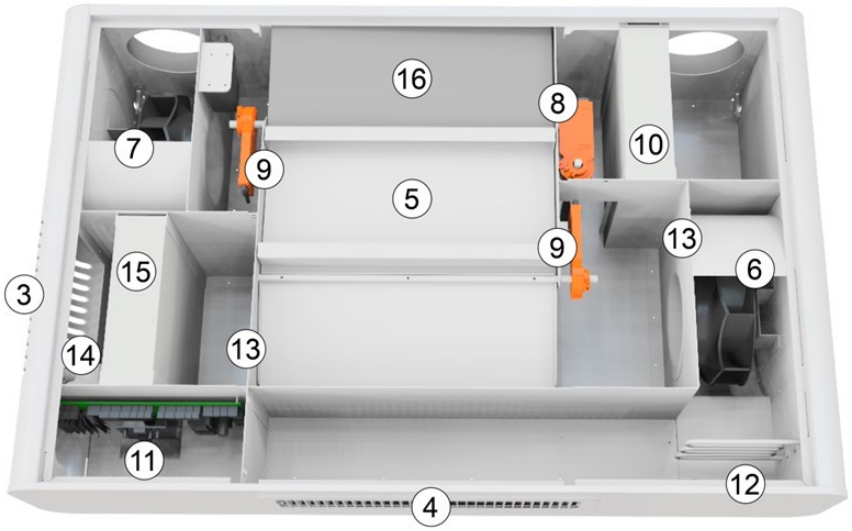
ComfortAir operates with an aluminium counter flow heat exchanger (5) to ensure maximum heat recovery. The unit utilizes warm indoor air to heat up inflowing fresh outdoor air. The counter flow heat exchanger's sole function is for heat retention.

Airflow:

The air supply ventilator (6) (Figure 2) creates inflow of fresh outdoor air through the filter (10), leading the inflow through the heat exchanger (5), and further through the air supply grate (4) and out into the room.

At the same time the air exhaust ventilator (7) creates outflow of indoor air leading it through the exhaust pipe (2) and further out to the open air outside.

The desired temperature of the air supply is regulated on the control panel. A sensor records the actual temperature of the flowing air supply. If the temperature is lower than the setpoint, the control system reduces the flow of the air supply warming it as it flows through the heat exchanger.



MAIN COMPONENTS

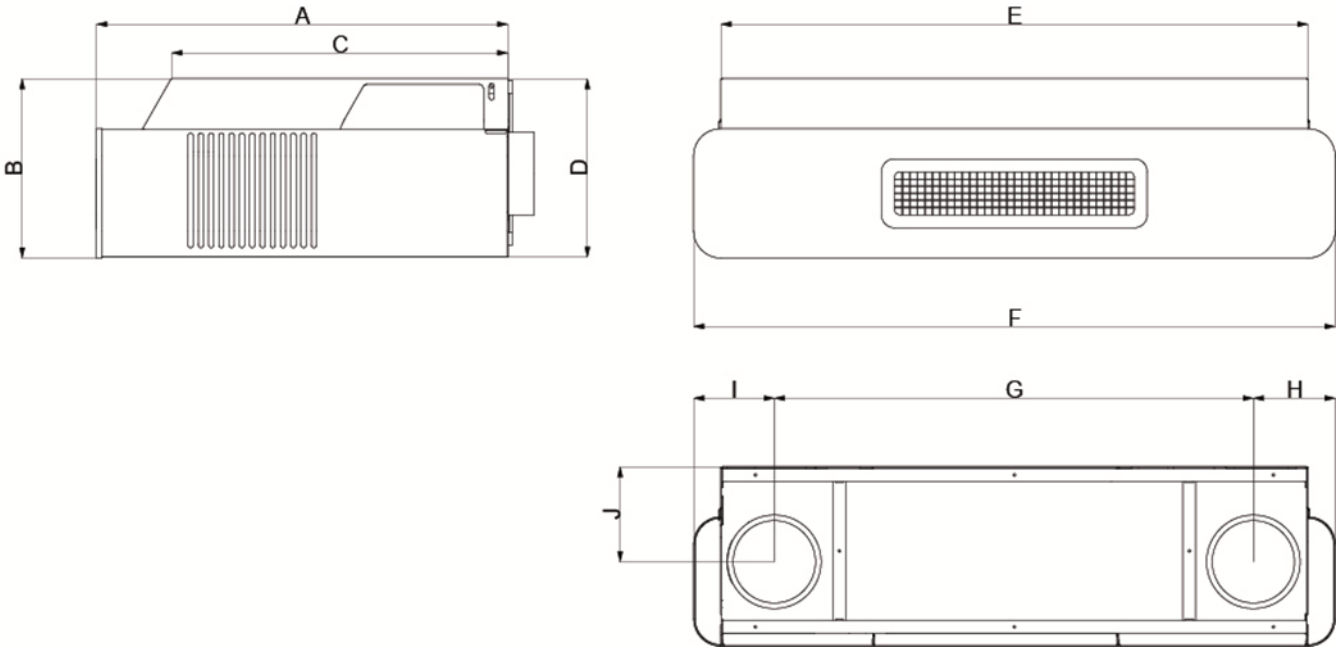
1. Supply air
2. Exhaust air
3. Exhaust air grate
4. Supply air grate
5. Counter flow heat exchanger
6. Supply air fan
7. Exhaust air fan
8. Bypass motor
9. Damper motor
10. Supply air filter
11. Control Board
12. Heater (option)
13. Circuit Breaker
14. Filter guard
15. Exhaust air filter
16. Condensation tray

TECHNICAL SPECIFICATIONS

Unit:		CA 300	CA 500	CA 800	Unit
Dimensions:					
	Length	1250	1647	1921	mm
	Depth	803	930	1060	mm
	Height	350	410	471	mm
Duct:		2 x 160	2 x 200	2 x 250	mm
Weight		50	75	119	Kg
Capacity:					
	Min	50	80	100	m^3/h
	Max	300	500	800	m^3/h
	Forced	420	715	1225	m^3/h
Sound:					
	Min				dB(A)
	Max	35	35	35	dB(A)
	Forced				dB(A)
Filter:		ePM10/2,5	ePM10/2,5	ePM10/2,5	Filter class
Energy consumption:					
	Min	10	12	20	Watts J/m^3
	Max	45	73	125	Watts J/m^3
	Forced	145	155	320	Watts J/m^3
Output (motor):		2x82	2x80	2x168	Watts
Power supply:		1x230/50	1x230/50	1x230/50	Volt/Hz
Temperature efficiency:		>80%	>80%	>80%	%
Electronic heating surface (option)		500	750	1250	Watts

Air flow indicates the balanced air renewal in relation to the motor voltage and is stated as m3/h. The control unit has 4 levels. Level 4 gives maximum capacity. The standard setting of the unit is the maximum capacity (see the diagram below). Contact the distributor if the unit is to be used with forced operation. The sound level is indicated in decibels (dB) in relation to the air renewal, measured at a distance of 1 meter in front of and 1 meter directly below the air supply grate. By way of comparison it may be mentioned that whispering corresponds to 30 dBA, ordinary spoken conversation corresponds to 60 dB and street traffic to about 90 dBA. The temperature efficiency on the exchanger is indicated as a percentage (%) and is expressed as the ratio between the obtained temperature difference and the maximum achievable temperature difference. This is, specifically, the outdoor temperature minus the air supply temperature divided by the outdoor temperature minus the room temperature, expressed as a percentage

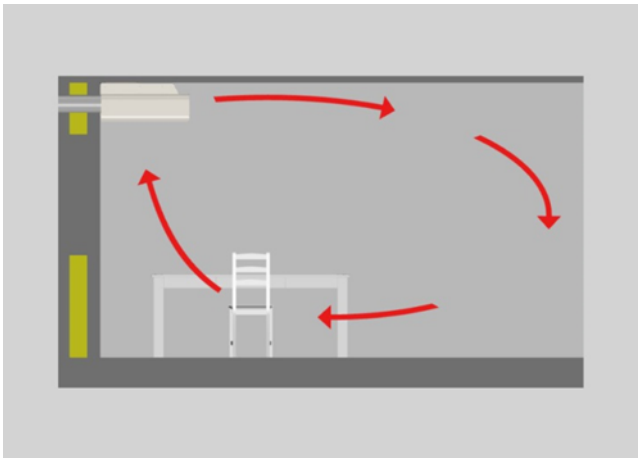
DIMENSIONAL DRAWING

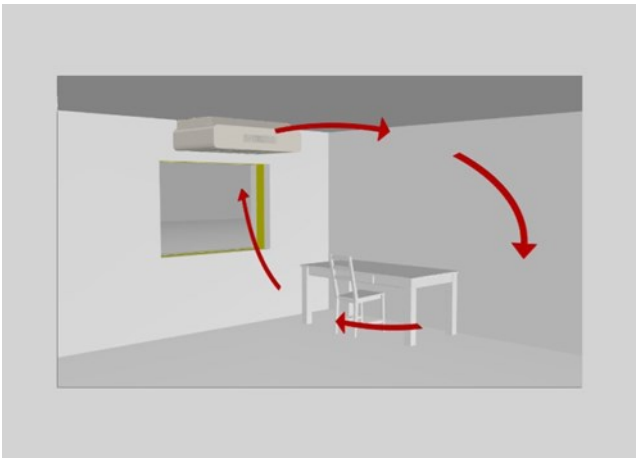


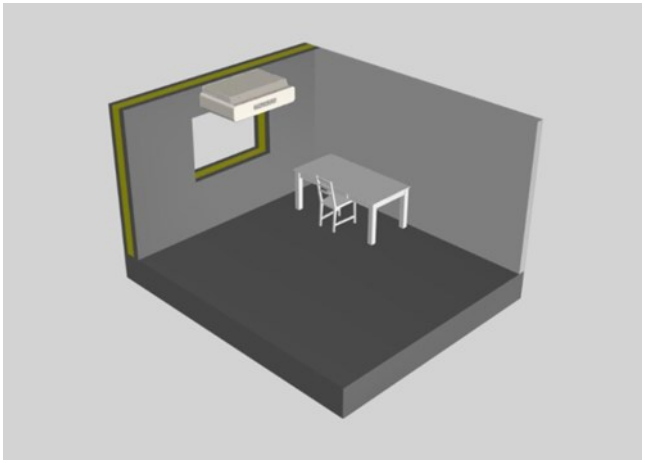
Dimension [mm]	CA300	CA500	CA800
A	803	930	1060
B	350	410	471
C	657	724	838
D	347	409	470
E	1142	1544	1818
F	1250	1647	1921
G	932	1297	1534
H	158	174	192
I	158	174	192
J	185	210	249

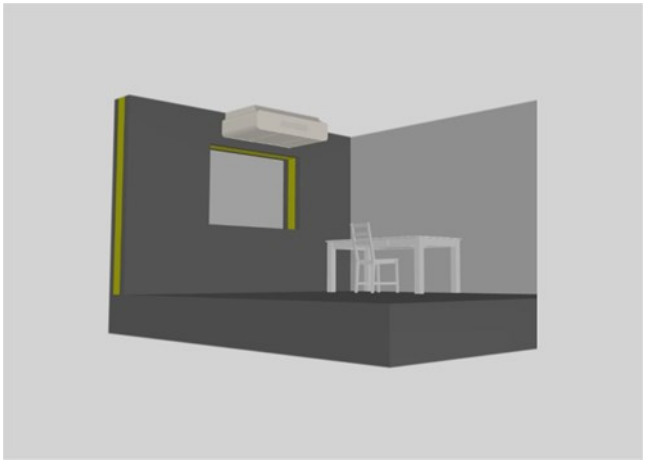
LOCATION

The unit is generally placed on a wall directly under the ceiling. This location best exploits the coanda effect as it leads the air further into the room along the surface of the ceiling. In this way inflowing air can mix with the room's existing air for a longer period of time and thereby prevent draught. This location, as the point for supply and exhaust airflow, provides optimal circulation



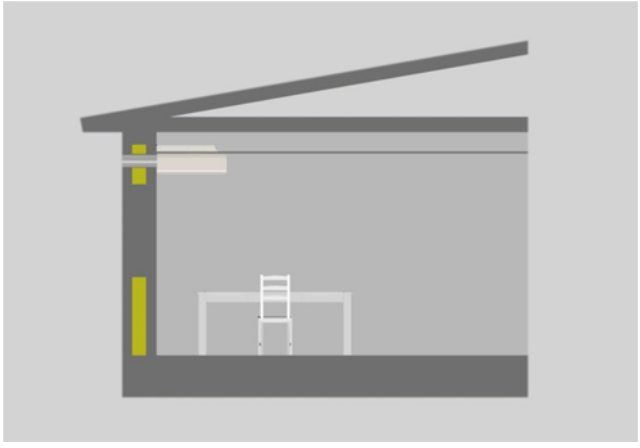


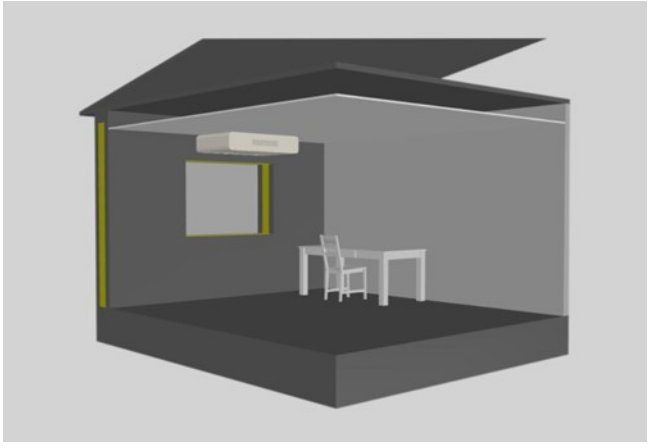




LOCATION IN A FALSE CEILING

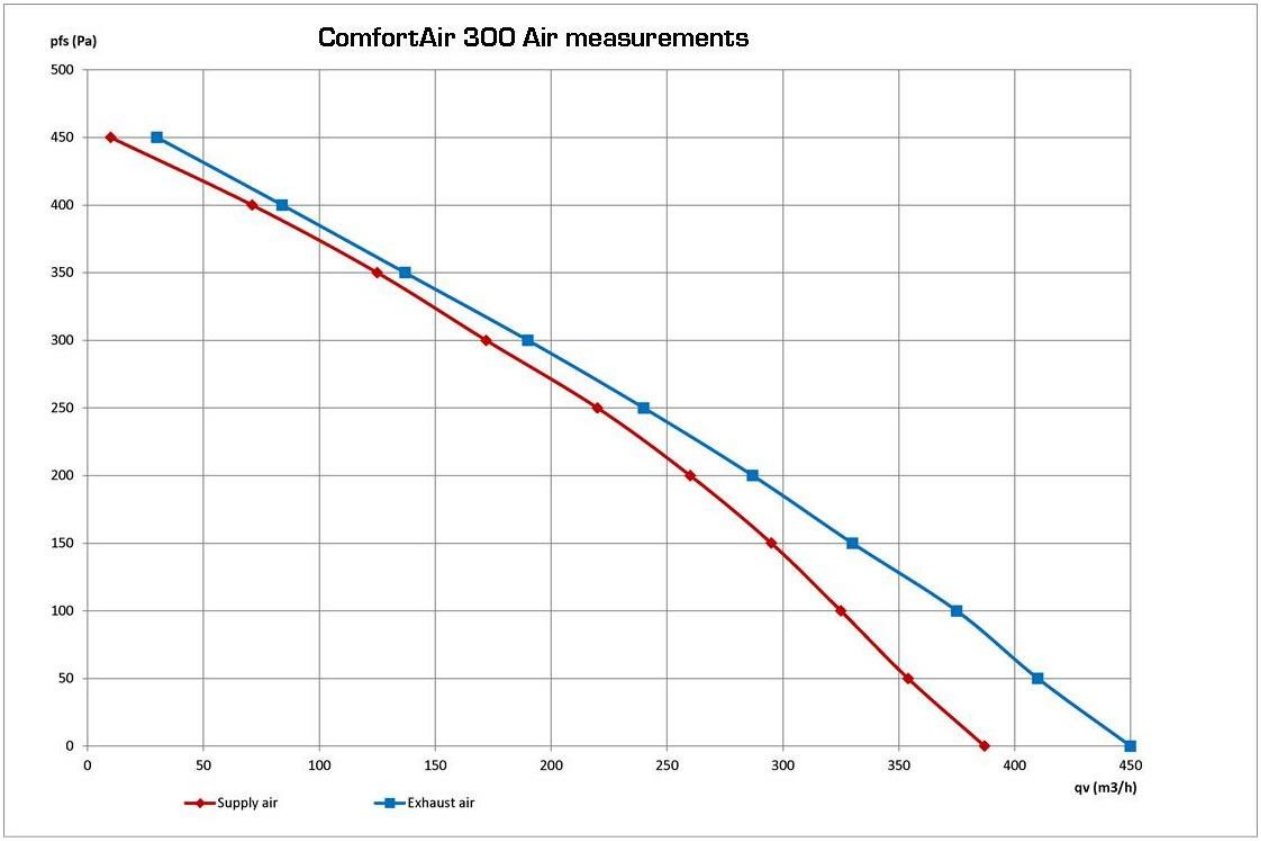
The ComfortAir series also has the possibility of locating the unit in false ceilings. In this way, the unit is less visible.



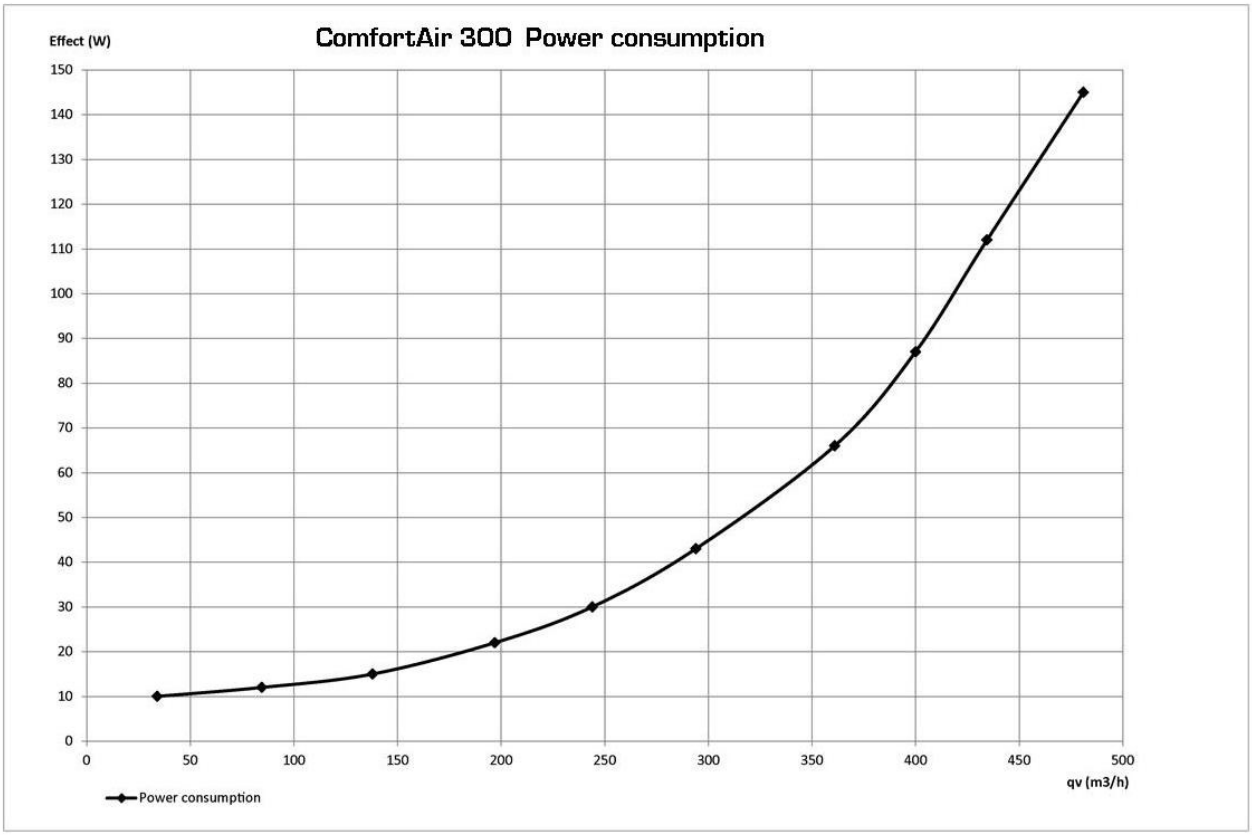


CA 300

Air measurements

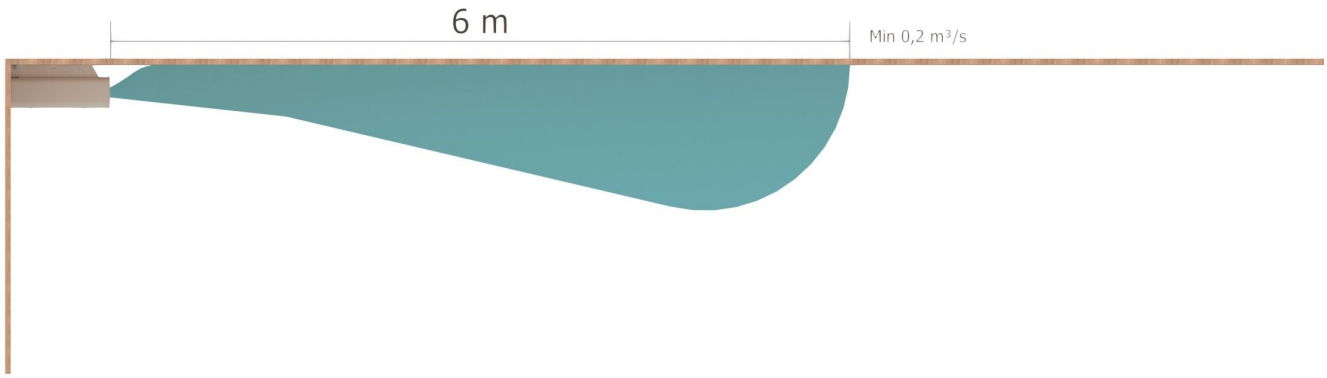


Power consumption



CA 300

Supply lenght



EXCHANGER

Energy to people.
recutech

RECUTECH s.r.o. | Poděbradská 289 | Trnová | 530 09 Pardubice | The Czech Republic
Tel.: +420 724 514 685 | Tel.: +420 606 672 555
Email: info@recutech.com | www.recutech.com

Project:	REK+27 - Top project
Offer Nr.:	1
Customer:	Recutech s.r.o
Address:	Poděbradská 289
Country:	Czech republic
Contact person:	Filip Hazuka
Tel., Email:	+420 606 672 555, info@recutech.com

RESULT OF EXCHANGE

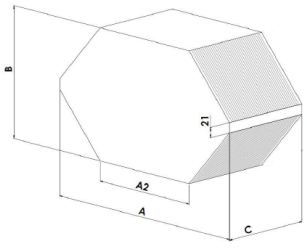
SELECTED TYPE OF EXCHANGER

REC+27-470-25

INLET CONDITIONS		Supply	Exhaust
Standard airflow	m3/h	300	300
Actual airflow	m3/h	285,3	306,1
Temperature in front of heat exchanger	°C	5	25
Relative humidity in front of heat exchanger	%	72	28
Absolute humidity in front of heat exchanger	g/kg	3,9	5,5
Face air velocity	m/s	1	1,1
Mass flow	kg/h	361,2	361,2
Enthalpy in front of heat exchanger	kJ/kg	14,8	39,1
Condensation temperature	°C	0,4	5,2

OUTLET CONDITIONS			
Standard pressure drop	Pa	49,74	49,74
Pressure drop	Pa	-	-
Actual airflow	m3/h	302,3	289,2
Temperature behind heat exchanger	°C	21,5	8,5
Relative humidity behind heat exchanger	%	24,5	80
Absolute humidity behind heat exchanger	g/kg	3,9	5,5
Face air velocity	m/s	1,1	1
Enthalpy behind heat exchangers	kJ/kg	31,4	22,3
Temperature efficiency	%	82,6	-
Temperature efficiency dry	%	82,6	-
Recuperation power	kW	1,7	1,7
Condensation	l/h	0	0
NEP	**W**	**1630**	

THE BAROMETRIC PRESSURE USED	**101325**	**Pa**
ALTITUDE	**0**	**m**
WEIGHT	**7,5**	**kg**



DIMENSION

A = 496 mm **A2 = 246 mm**
B = 271 mm
C = 470 mm

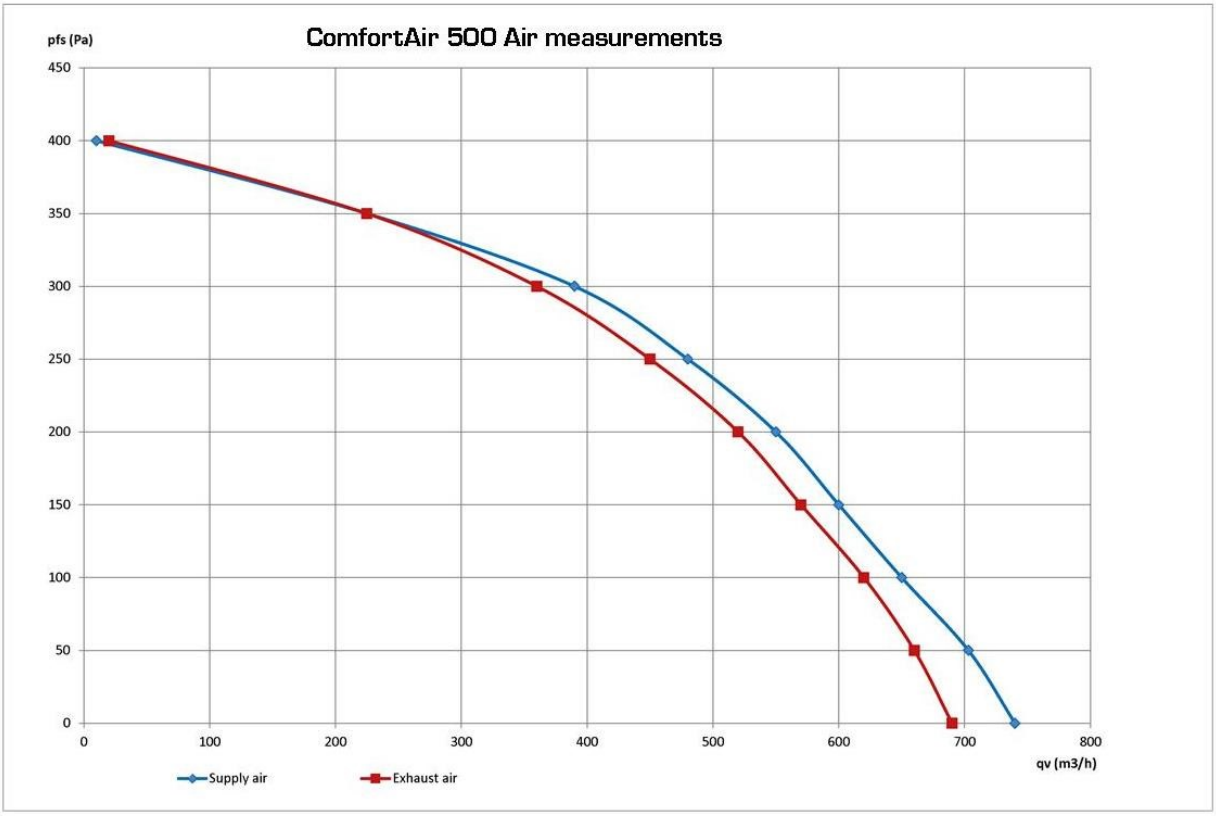
EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

rSelect SOFTWARE

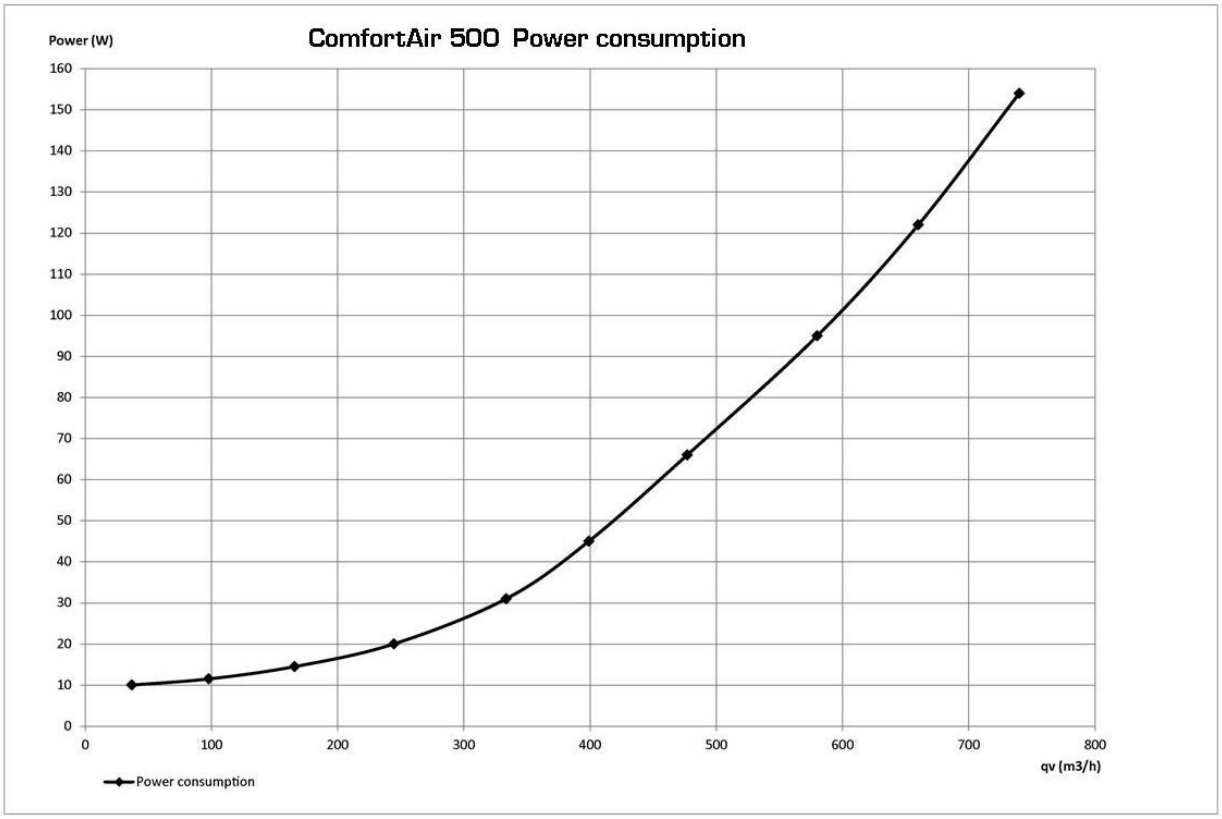
rSelect 7.2.0.6.
17.02.2021 14:16:05 0

CA 500

Air measurements

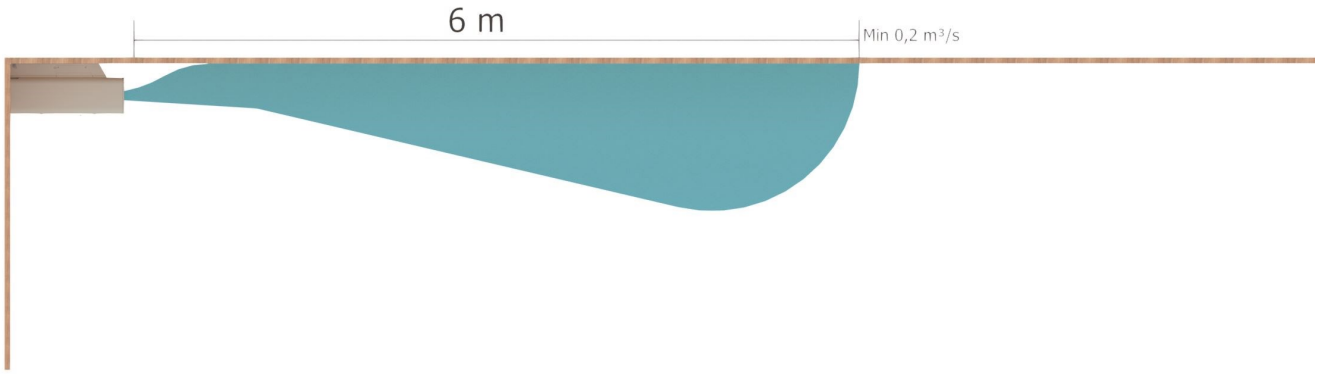


Power consumption



CA 500

Supply lenght



EXCHANGER

RECUTECH s.r.o. | Poděbradská 289 | Trnová | 530 09 Pardubice | The Czech Republic
Tel.: +420 724 514 685 | Tel.: +420 606 672 555
Email: info@recutech.com | www.recutech.com

Project:	REK+27 - Top project
Offer Nr.:	1
Customer:	Recutech s.r.o
Address:	Poděbradská 289
Country:	Czech republic
Contact person:	Filip Hazuka
Tel., Email:	+420 606 672 555, info@recutech.com

RESULT OF EXCHANGE

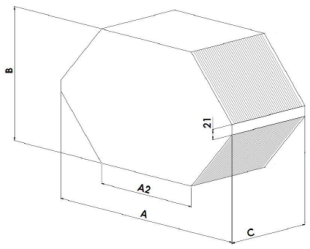
SELECTED TYPE OF EXCHANGER

REC+31-800-25

INLET CONDITIONS		Supply	Exhaust
Standard airflow	m3/h	500	500
Actual airflow	m3/h	475,5	510,2
Temperature in front of heat exchanger	°C	5	25
Relative humidity in front of heat exchanger	%	72	28
Absolute humidity in front of heat exchanger	g/kg	3,9	5,5
Face air velocity	m/s	0,9	0,9
Mass flow	kg/h	602,1	602,1
Enthalpy in front of heat exchanger	kJ/kg	14,8	39,1
Condensation temperature	°C	0,4	5,2

OUTLET CONDITIONS			
Standard pressure drop	Pa	45,63	45,63
Pressure drop	Pa	-	-
Actual airflow	m3/h	504,1	481,6
Temperature behind heat exchanger	°C	21,7	8,3
Relative humidity behind heat exchanger	%	24,2	81,1
Absolute humidity behind heat exchanger	g/kg	3,9	5,5
Face air velocity	m/s	0,9	0,9
Enthalpy behind heat exchangers	kJ/kg	31,7	22,1
Temperature efficiency	%	83,6	-
Temperature efficiency dry	%	83,6	-
Recuperation power	kW	2,8	2,8
Condensation	l/h	0	0
NEP	**W**	**2757**	

THE BAROMETRIC PRESSURE USED	**101325**	**Pa**
ALTITUDE	**0**	**m**
WEIGHT	**14,83**	**kg**



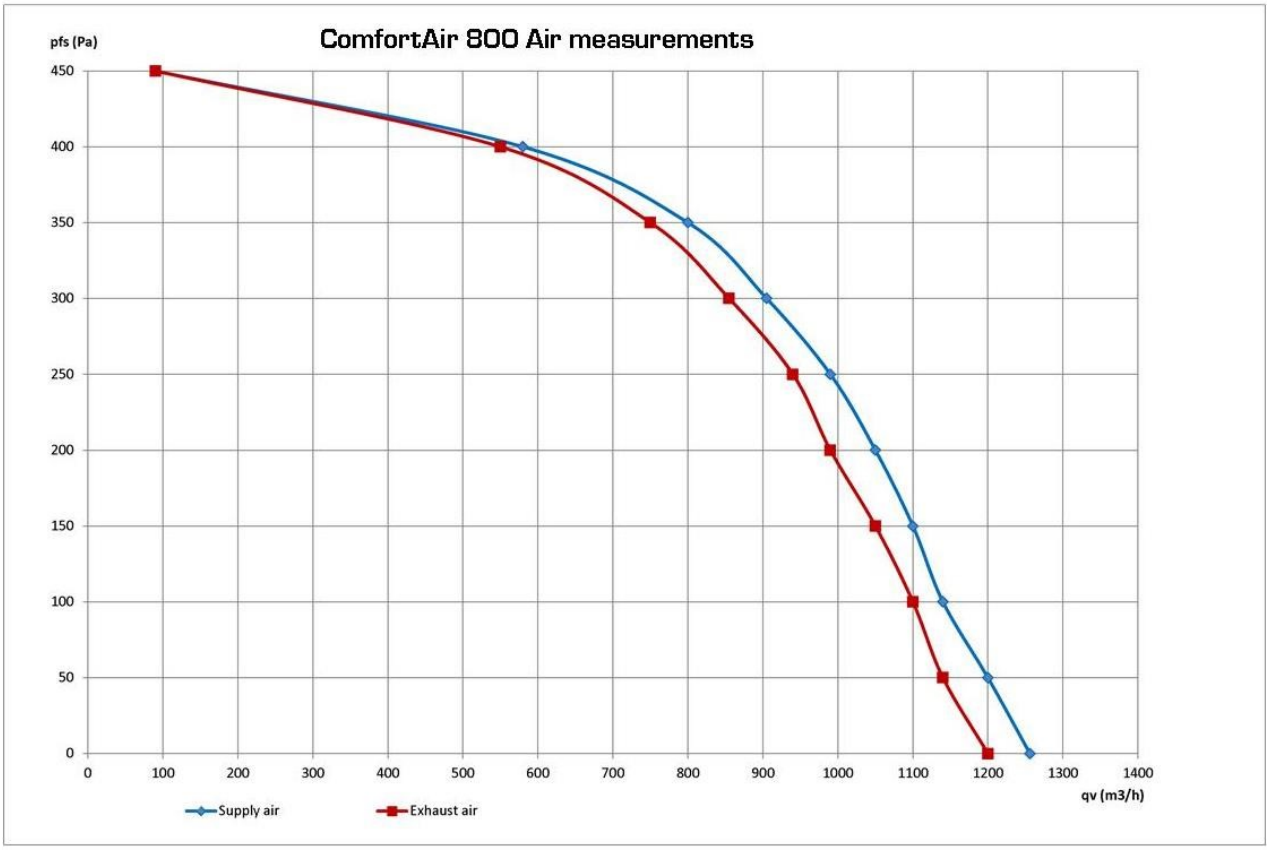
DIMENSION

A = 537 mm **A2 = 246 mm**
B = 312 mm
C = 800 mm

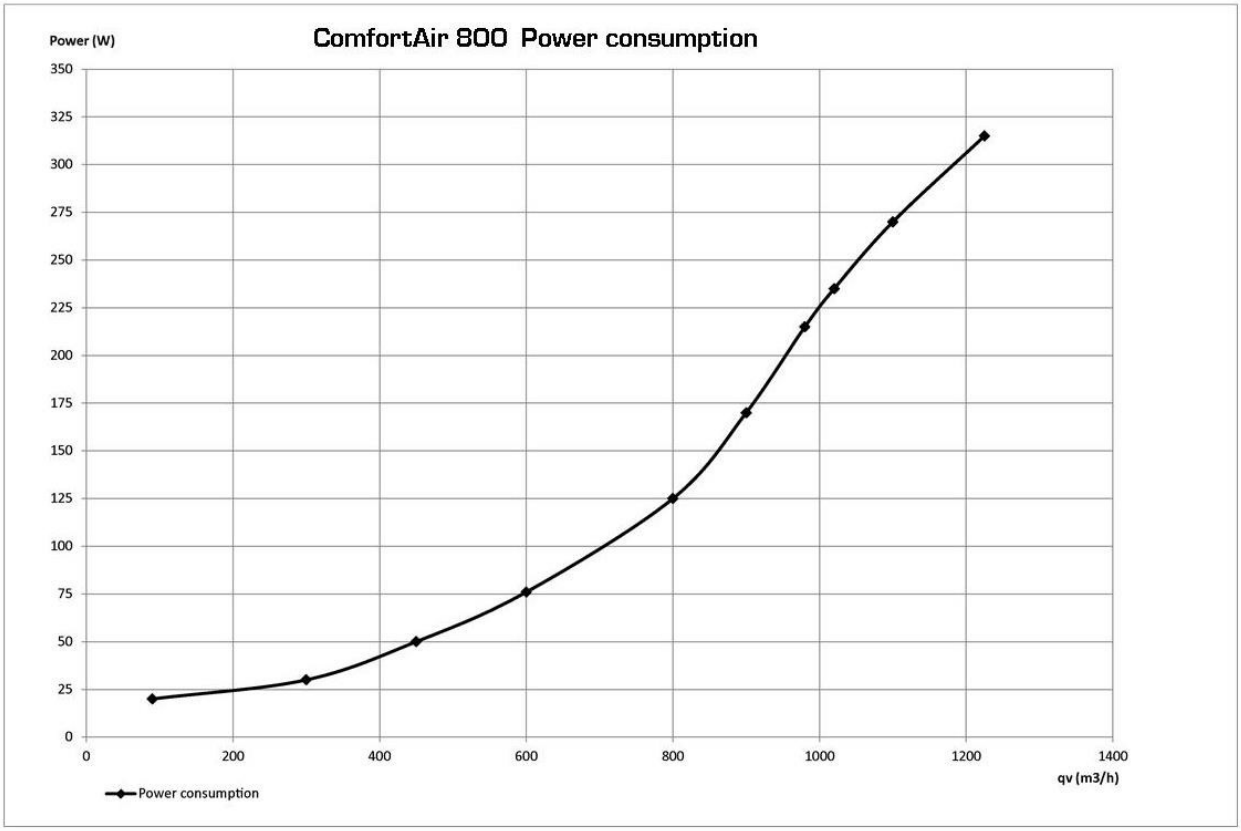
rSelect 7.2.0.6.
17.02.2021 14:16:29 0

CA 800

Air measurements

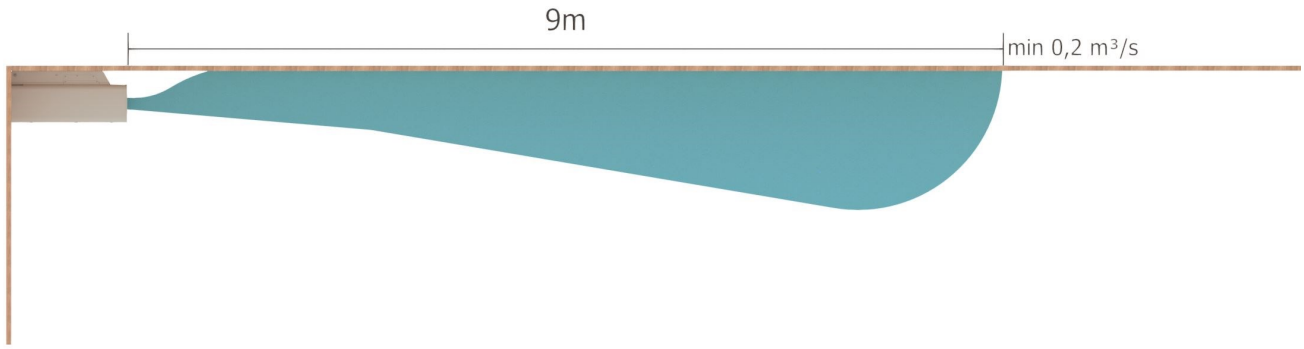


Power consumption



CA 800

Supply lenght



EXCHANGER

RECUTECH s.r.o. | Poděbradská 289 | Trnová | 530 09 Pardubice | The Czech Republic
Tel.: +420 724 514 685 | Tel.: +420 606 672 555
Email: info@recutech.com | www.recutech.com

Project:	REK+27 - Top project
Offer Nr.:	1
Customer:	Recutech s.r.o
Address:	Poděbradská 289
Country:	Czech republic
Contact person:	Filip Hazuka
Tel., Email:	+420 606 672 555, info@recutech.com

RESULT OF EXCHANGE

SELECTED TYPE OF EXCHANGER

REC+39-950-30

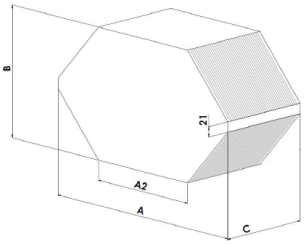
INLET CONDITIONS		Supply	Exhaust
Standard airflow	m3/h	800	800
Actual airflow	m3/h	760,8	816,3
Temperature in front of heat exchanger	°C	5	25
Relative humidity in front of heat exchanger	%	72	28
Absolute humidity in front of heat exchanger	g/kg	3,9	5,5
Face air velocity	m/s	0,9	1
Mass flow	kg/h	963,3	963,3
Enthalpy in front of heat exchanger	kJ/kg	14,8	39,1
Condensation temperature	°C	0,4	5,2

OUTLET CONDITIONS			
Standard pressure drop	Pa	46,96	46,96
Pressure drop	Pa	-	-
Actual airflow	m3/h	805,4	771,8
Temperature behind heat exchanger	°C	21,3	8,7
Relative humidity behind heat exchanger	%	24,8	78,7
Absolute humidity behind heat exchanger	g/kg	3,9	5,5
Face air velocity	m/s	0,9	0,9
Enthalpy behind heat exchangers	kJ/kg	31,2	22,6
Temperature efficiency	%	81,4	-
Temperature efficiency dry	%	81,4	-
Recuperation power	kW	4,4	4,4
Condensation	l/h	0	0
NEP	**W**	**4290**	

THE BAROMETRIC PRESSURE USED	**101325**	**Pa**
ALTITUDE	**0**	**m**
WEIGHT	**20,22**	**kg**

DIMENSION

A = 619 mm **A2 = 246 mm**
B = 394 mm
C = 950 mm



rSelect 7.2.0.6.
17.02.2021 14:17:51 0

CONTROL / OPERATION

TX Electronic Control

With TX Electronic Control / display panel , there are many opportunities for individual setup parameters.

- Forced Mode
- Prolonged Mode
- Temperature Setpoints
- Keypad Lock in 4 levels
- Alarm menu
- Software stop
- Day Mode
- Night Mode
- Calendar
- Clock/day/date
- DST Off/on
- Language
- Standby
- PIR
- Tecnical Menu
- System Info
- others

Master / Slave

The master / slave function allows communication between a unit (master) and up to 5 additional units (slaves 1-5). The master controls the slaves so that all 6 units run in exactly the same way.

The slaves send information back to the master. Any error that might arise in a slave unit will be displayed on the master with an error message and specification of the defective unit. Consequently, all units must be numbered.

This particular master / slave function requires an extra small circuit board for each unit. This small circuit board should be mounted on the existing main circuit board of each unit.

LON

LON (Local Operating Network) is a network where the intelligence is distributed to the devices connected to the system, and not concentrated in a control station as in a traditional network. Thousands of TX plants can be set up on the same network and the wiring can be several kilometers long. In order to use the LON network, install an additional small circuit board on the main board of each unit.

• 4 parameters can be written, 14 parameters can be read

MODbus / RS-485

MODbus is an industrial standard of serial communication for use in client/server communication between devices that can be connected through different networks. 247 TX units can be installed in the same MODbus network and cable length can be up to 500 meters, extended up to 1000 meters at low speed data communication. In order to use the MODbus network, install an additional circuit board on the main board of each plant.

• 16 parameters can be written, 17 parameters can be read

MODbus m/converter og pc-software

MODbus is an industrial standard of serial communication for use in client/server communication between devices that can be connected through different networks. 200 TX units can be installed in the same MODbus network and cable length can be up to 500 meters, extended up to 1000 meters at low speed data communication. In order to use the MODbus network, install an additional circuit board on the main board of each plant.

• 38 parameters can be read and written

OPTION FOR ComfortAir

	CA300	CA500	CA800
TX Electronic Controller	○	○	○
CO_2 sensor T8100-E-D with display	○	○	○
CO_2 sensor T8031 built in	○	○	○
Hygrostat	○	○	○
PIR Sensor	○	○	○
Temperature Sensor	●	●	●
LON Interface	○	○	○
Master/Slave print	○	○	○
MODbus print	○	○	○
MODbus Converter incl. Software	○	○	○
Filter ePM10/2,5	●	●	●
Fittings for installation in false celling	○	○	○
Angle brackets for install. in false celling	○	○	○
Combi Right/Left	○	○	○
Condensation pump	○	○	○
Condensation tray	●	●	●
Modulating by-pass	●	●	●
2 x dampers - in & out air	○	○	○
Electric heater	○	○	○
Water heating battery	○	○	○
Counter flow heat exchanger (alu)	●	●	●
Mounting Brackets	●	●	●
Tubes	○	○	○
Gratings	○	○	○
Color RAL 9010	●	●	●
Other RAL color/graphics images	○	○	○
Filter Alarm	●	●	●

● Standard

○ Option

SEE MORE DETAILS ON www.turbovex.com

Turbovex A/S
Industrivej 45
DK-9600 Aars

Tel. +45 96 98 14 62
info@turbovex.dk
www.turbovex.com