Heat recovery

SUPPLY FILTER

EXTRACTION FILTER

Versions

HORIZONTAL CONFIGURATION

WITHOUT ADDITIONAL HEATING COILS

Electrical box included
External security switch included. Both in the pre-wired ECOWATT version and in the BASIC and ADVANCED Plug&Play versions.

BASIC version
Characteristics:
- Remote control included.
- Manual/automatic speed control.
- Manual and automatic bypass control.
- Alarms indication.
- Modbus communication.

ADVANCED version
Characteristics:
- Touch control screen.
- Same functions as BASIC version plus fan control in VAV, COP and CAV modes.
- Control of external water coils (accessories).
- Additional functions.

Heat recovery units with high-efficiency counterflow aluminium plate heat exchanger (up to 88%) certified by Eurovent, mounted in a galvanised steel double-walled enclosure with internal thermo-acoustic fireproof insulation (A1/M0) made of 25 mm thick mineral wool in models 500 to 2500, and 30 mm in models 3200 and 4500.
Circular inlet and outlet flanges with seals in models 500 to 1800, and rectangular flanges in models 2500 to 4500. Only available in horizontal version.
Minimum outside air temperature -10ºC. For lower temperatures it is necessary to use preheating batteries located in the suction of the outside air.

Applications
Air renewal in commercial premises, offices, hotels, public buildings, schools.
The CAD-COMPACT range is not available with additional post-heating batteries integrated in the unit, although it is possible to add them as accessories.

Fans
Plug fans with reverse impeller blades. Single-phase EC motors with integrated electronic protection. IP44, Class B.

Filters
- F7: Low pressure F7 filters (ePM1, 70%) for air supply.
- M5: M5 filters (ePM10, 50%) for air extraction.
- It is possible to mount a second filter inside the system (supplied as an accessory).

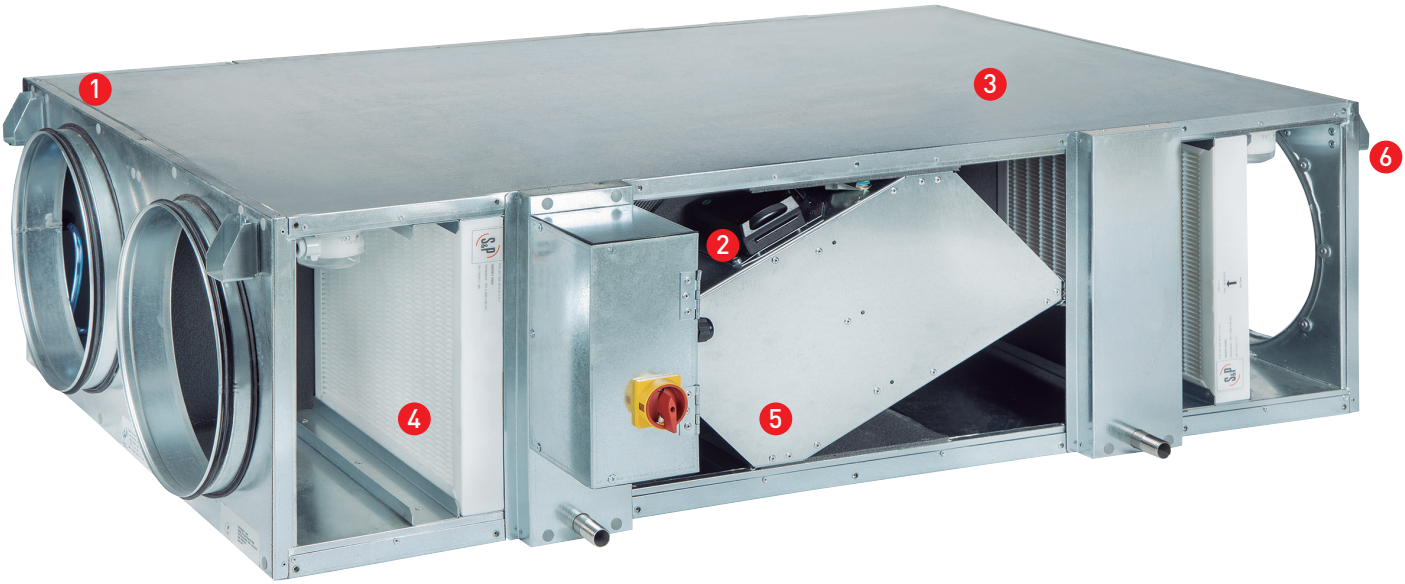
Control
CAD-COMPACT units can be supplied with 3 levels of control functioning:

ECOWATT VERSION: Without integrated control. The units are supplied with components pre-wired to the electrical box (fans, bypass, filter pressure switches and temperature probes).

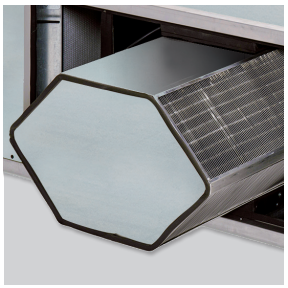
BASIC and ADVANCED VERSION includes: an integrated function control, located inside the electrical box and wired to all the components (fans, bypass, filter clogging detectors, temperature probes, etc.).
Includes control terminal for remote control (wired).
It allows manual or automatic fan control.

See detailed characteristics of both controls in the table about Plug&Play versions functionalities.

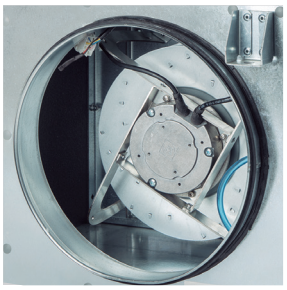
Other data
Single-phase electrical supply 230V 50-60Hz in models 500 to 3200, three-phase 400V 50-60Hz in model 4500.
Nominal airflow of 460 to 4.165 m³/h with 150Pa of available pressure.
All models and versions include internal bypass.



1 Low noise level and robust construction
Twin panel enclosure. Fireproof thermo-acoustic insulation A1/M0 of 25 or 30 mm thickness, depending on the model.



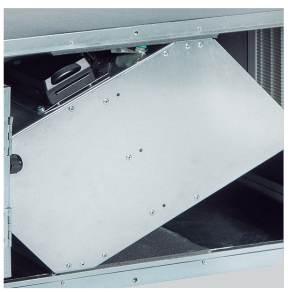
2 High efficient heat exchanger
made of aluminium (up to 88%) certified by Eurovent.



3 Motors
Equipped with plug-fans with single-phase EC motors.

4 High-efficiency filters:
- Low pressure drop F7 filters (ePM1, 70%) for air supply.
- M5 filters (ePM10 50%) in the extraction.

Possibility of mounting a second filter inside the unit (supplied as an accessory).



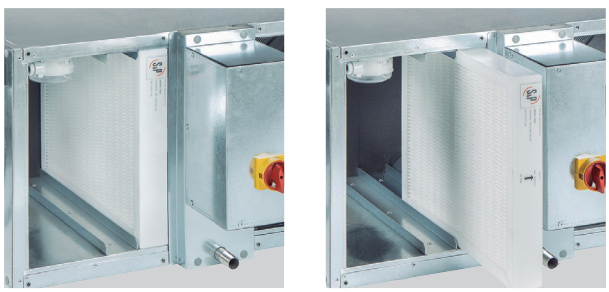
5 Bypass
All versions include internal bypass with an integrated actuator.

6 Easy assembly
Specific supports for installation in false ceilings.

FEATURES AND BENEFITS

Reduced dimensions
The components are accessed through the side of the unit.

1 Easy access for cleaning the exchanger from the side panels.



2 **Easy maintenance**
Filters can be accessed quickly through the side panels.

3 **Reduced height**
Minimum installation height thanks to its reduced profile combined with the side condensation outlet.

REFERENCE

C A D - C O M P A C T	1800	BASIC
1	2	3

1 - Series:
CAD-COMPACT: High-efficiency compact heat recovery units.

2 - Size
500
900
1300
1800
2500
3200
4500

3 - ECOWATT: Without integrated control. Components pre-wired to the electrical box.
BASIC: Plug & Play BASIC control included.
ADVANCED: Plug & Play ADVANCED control included.

CAD-COMPACT STANDARD VERSIONS

ECOWATT version: Without integrated control

CAD-COMPACT	500	ECOWATT
CAD-COMPACT	900	ECOWATT
CAD-COMPACT	1300	ECOWATT
CAD-COMPACT	1800	ECOWATT
CAD-COMPACT	2500	ECOWATT
CAD-COMPACT	3200	ECOWATT
CAD-COMPACT	4500	ECOWATT

BASIC version: With integrated control

CAD-COMPACT	500	BASIC
CAD-COMPACT	900	BASIC
CAD-COMPACT	1300	BASIC
CAD-COMPACT	1800	BASIC
CAD-COMPACT	2500	BASIC
CAD-COMPACT	3200	BASIC
CAD-COMPACT	4500	BASIC

ADVANCED version: With integrated control

CAD-COMPACT	500	ADVANCED
CAD-COMPACT	900	ADVANCED
CAD-COMPACT	1300	ADVANCED
CAD-COMPACT	1800	ADVANCED
CAD-COMPACT	2500	ADVANCED
CAD-COMPACT	3200	ADVANCED
CAD-COMPACT	4500	ADVANCED

TECHNICAL CHARACTERISTICS

Model	Air connections diameter (mm)	Nominal airflow 150Pa (m^3/h)	Recovery unit efficiency*1 (%)	Electrical supply	Maximum absorbed power*2 (kW)	Maximum current*2 (A)	Weight (kg)
CAD-COMPACT 500	Ø200	460	82,2	1/230V, 50-60 Hz	0,31	2,1	70
CAD-COMPACT 900	Ø315	790	82,0	1/230V, 50-60 Hz	0,45	3,0	86
CAD-COMPACT 1300	Ø315	1.360	82,3	1/230V, 50-60 Hz	0,88	3,9	137
CAD-COMPACT 1800	Ø355	1.670	82,7	1/230V, 50-60 Hz	1,02	4,3	145
CAD-COMPACT 2500	570x375	2.140	83,5	1/230V, 50 Hz	0,92	3,9	200
CAD-COMPACT 3200	470x450	3.190	83,7	1/230V, 50-60 Hz	2,00	8,3	235
CAD-COMPACT 4500	700x440	4.165	84,6	3/400V, 50-60 Hz	2,60	10,4	336

*1 Wet efficiency refered to nominal airflow, outdoor (-5ºC/80% RH) and indoor conditions (20ºC/50%RH).
*2 Sum of both fans.

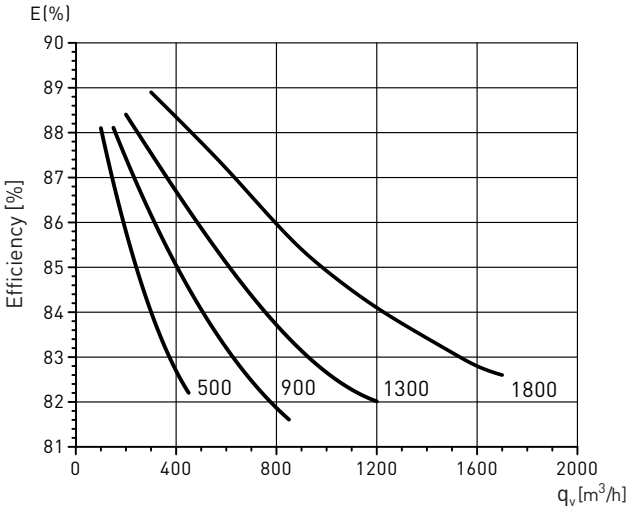
ACOUSTIC CHARACTERISTICS

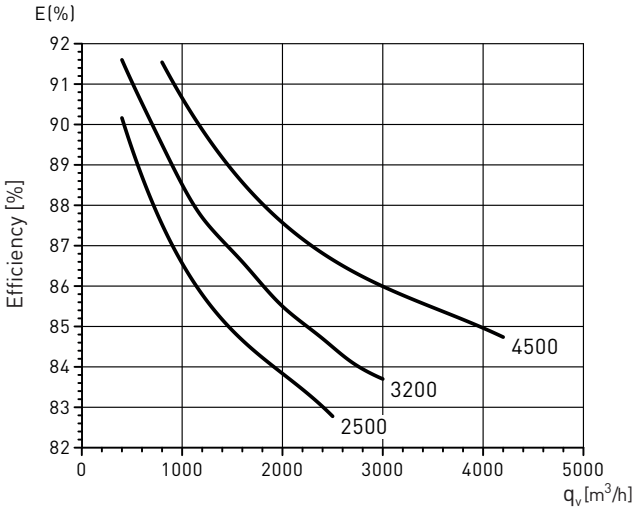
Model	Sound pressure (LpA)*			Sound power (LwA)		
	Suction	Output	Radiated	Suction	Output	Radiated
CAD-COMPACT 500	38	56	37	58	76	57
CAD-COMPACT 900	37	55	38	57	75	58
CAD-COMPACT 1300	46	61	46	66	81	66
CAD-COMPACT 1800	50	61	44	70	81	64
CAD-COMPACT 2500	51	62	45	71	82	65
CAD-COMPACT 3200	47	58	41	67	78	61
CAD-COMPACT 4500	51	64	50	71	84	70

* Sound pressure level, in dB(A), measured in free field, at a distance of 3m.
Depending on the installation conditions, type of enclosures, as well as the characteristics of the materials used in walls and false ceilings, the actual sound pressure levels may be quite different from the values indicated in the table.

RECOVERY EFFICIENCY ACCORDING TO THE AIRFLOW

Efficiency in the following conditions:
Outdoor air: Temperature = -5º, RH = 80%
Indoor air: Temperature = 20ºC, RH = 50%.





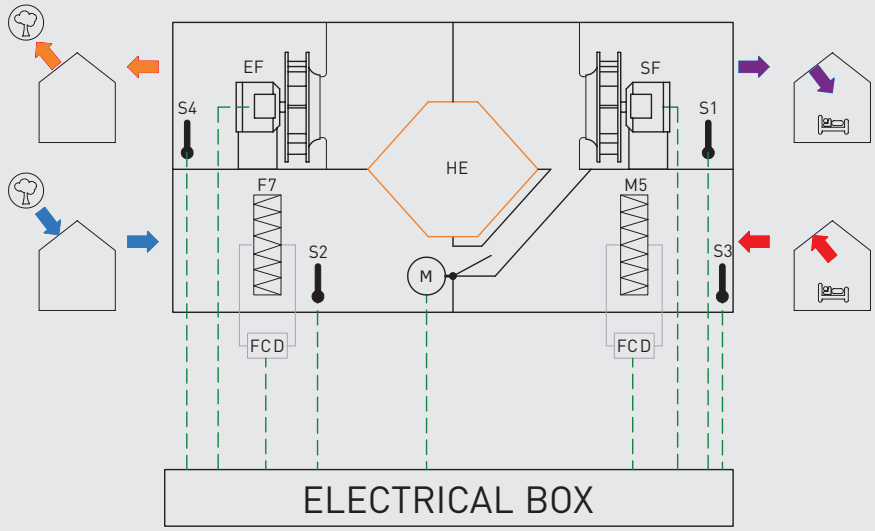
THERMAL PERFORMANCE OF RECOVERY UNITS DEPENDING ON DIFFERENT TEMPERATURES

		OUTDOOR AIR		INCOMING AIR*		PERFORMANCE	
Model	**Airflow (m³/h)**	**Temperature (ºC)**	**H.R. (%)**	**Temperature (ºC)**	**H.R. (%)**	**Efficiency (%)**	**Recovered power (kW)**
CAD-COMPACT 500	400	-10	80	16	11,5	86,7	3,46
		-5	80	15,7	18,1	82,7	2,73
		0	70	15,6	24,2	78,1	2,04
		5	70	16,4	32,8	76	1,42
CAD-COMPACT 900	700	-10	80	16	11,5	86,5	6,05
		-5	80	15,6	18,2	82,5	4,76
		0	70	15,6	24,2	77,9	3,5
		5	70	16,4	32,9	75,8	2,48
CAD-COMPACT 1300	1100	-10	80	15,9	11,5	86,3	9,5
		-5	80	15,6	18,2	82,3	7,4
		0	70	15,6	24,2	77,8	5,5
		5	70	16,3	32,9	75,6	3,9
CAD-COMPACT 1800	1600	-10	80	16,1	11,4	87	13,9
		-5	80	15,7	18	82,8	10,9
		0	70	15,6	24,1	78,2	8,1
		5	70	16,4	32,8	76	5,7
CAD-COMPACT 2500	2000	-10	80	16,3	11	87,8	17,7
		-5	80	15,9	18	83,7	14
		0	70	15,8	24	79,2	10,6
		5	70	16,6	32	77,1	7,8
CAD-COMPACT 3200	2700	-10	80	16,5	11,1	88,3	23,8
		-5	80	16	17,7	84,1	18,7
		0	70	15,9	22	79,5	13,9
		5	70	16,6	32,4	77,2	9,7
CAD-COMPACT 4500	3600	-10	80	16,8	10,9	89,3	32,5
		-5	80	16,3	17,4	85,3	25,9
		0	70	16,1	23,4	80,7	19,6
		5	70	16,8	32	78,6	14,4

*For indoor temperature of 20ºC, 50%.

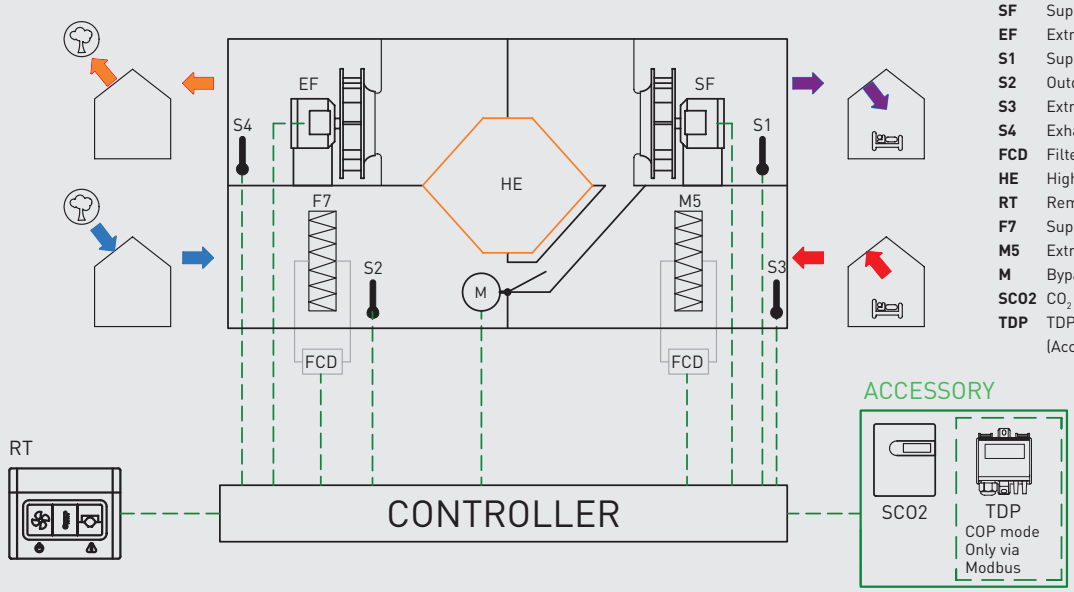
MAIN COMPONENTS

CAD COMPACT ECOWATT (Pre-wired version)



SF Supply fan
EF Extraction fan
S1 Supply temperature probe
S2 Outdoor temperature probe
S3 Extraction temperature probe
S4 Exhaust temperature probe
FCD Filter clogging detector (Pressure switch)
HE High-efficiency heat exchanger
F7 Supply filter
M5 Extraction filter
M Bypass actuator

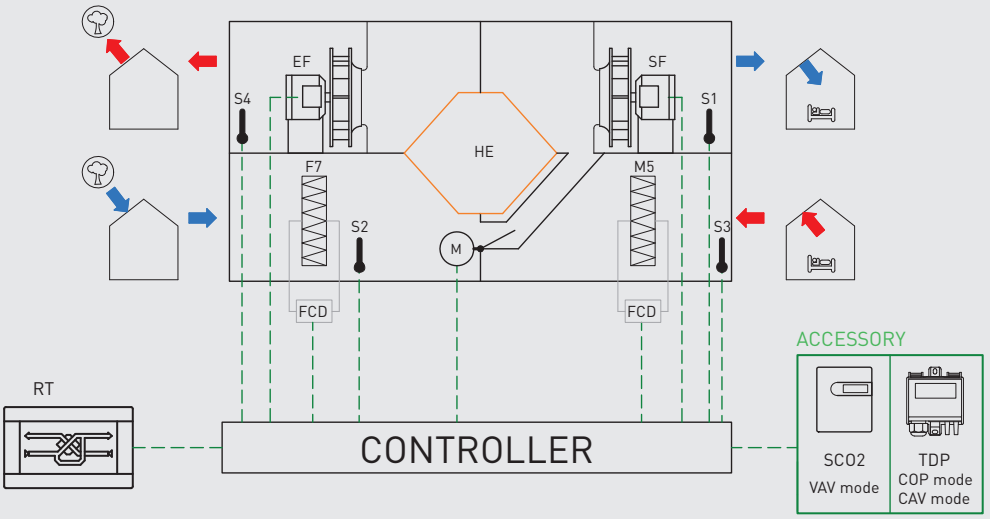
CAD COMPACT BASIC (Plug&Play control)



SF Supply fan
EF Extraction fan
S1 Supply temperature probe
S2 Outdoor temperature probe
S3 Extraction temperature probe
S4 Exhaust temperature probe
FCD Filter clogging detector (Pressure switch)
HE High-efficiency heat exchanger
RT Remote control panel
F7 Supply filter
M5 Extraction filter
M Bypass actuator
SCO2 CO_2 sensor (Accessory)
TDP TDP-D pressure transmitter (Accessory. Only with Modbus)

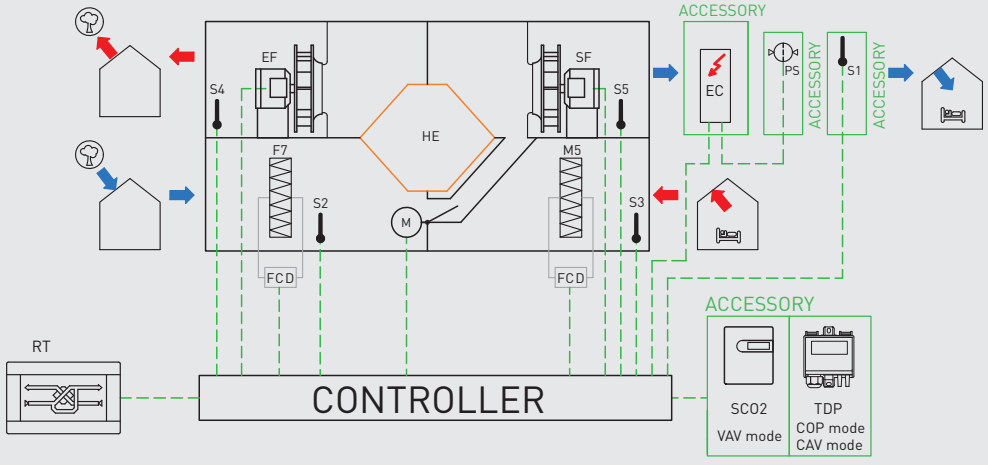
MAIN COMPONENTS

CAD COMPACT ADVANCED (Control Plug&Play)



SF Supply fan
EF Extraction fan
S1 Supply temperature probe
S2 Outdoor temperature probe
S3 Extraction temperature probe
S4 Exhaust temperature probe
FCD Filter clogging detector (Pressure switch)
HE High-efficiency heat exchanger
RT Remote control panel
F7 Supply filter
M5 Extraction filter
M Bypass actuator
SCO2 CO_2 sensor (Accessory)
TDP TDP-S pressure transmitter (Accessory)
For CAV mode, 2 units of TDP-S are required

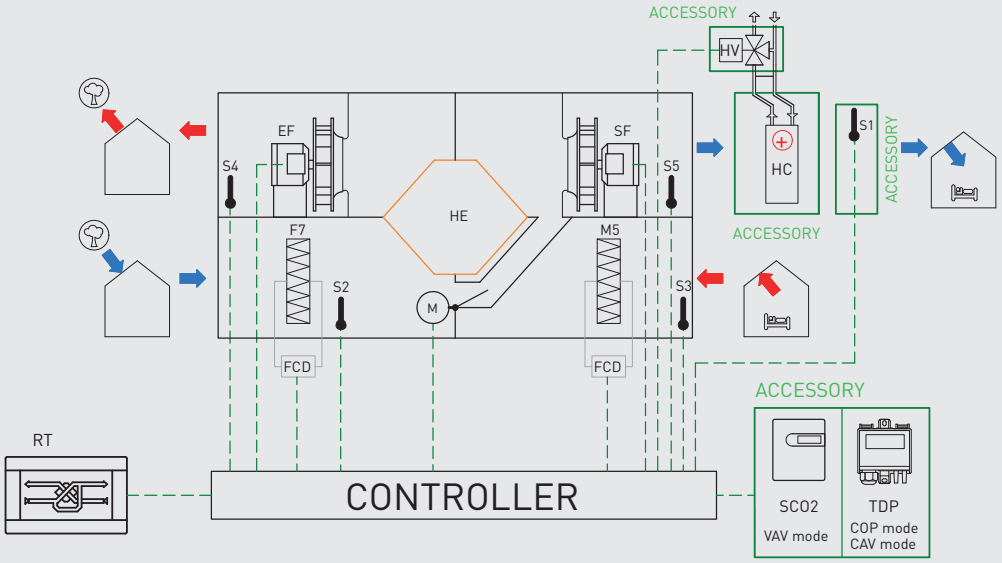
CAD COMPACT ADVANCED + EXTERNAL ELECTRICAL COIL MBE-R (POSTHEATING)



SF Supply fan
EF Extraction fan
S1 Supply temperature probe (Accessory)
S2 Outdoor temperature probe
S3 Extraction temperature probe
S4 Exhaust temperature probe
S5 After-coil temperature probe
FCD Filter clogging detector (Pressure switch)
HE High-efficiency heat exchanger
RT Remote control panel
F7 Supply filter
M5 Extraction filter
M Bypass actuator
EC External electric coil MBE-R (Accessory)
PS Pressure switch DPS 2.30 (Accessory)
SCO2 CO_2 sensor (Accessory)
TDP TDP-S pressure transmitter (Accessory)
For CAV mode, 2 units of TDP-S are required

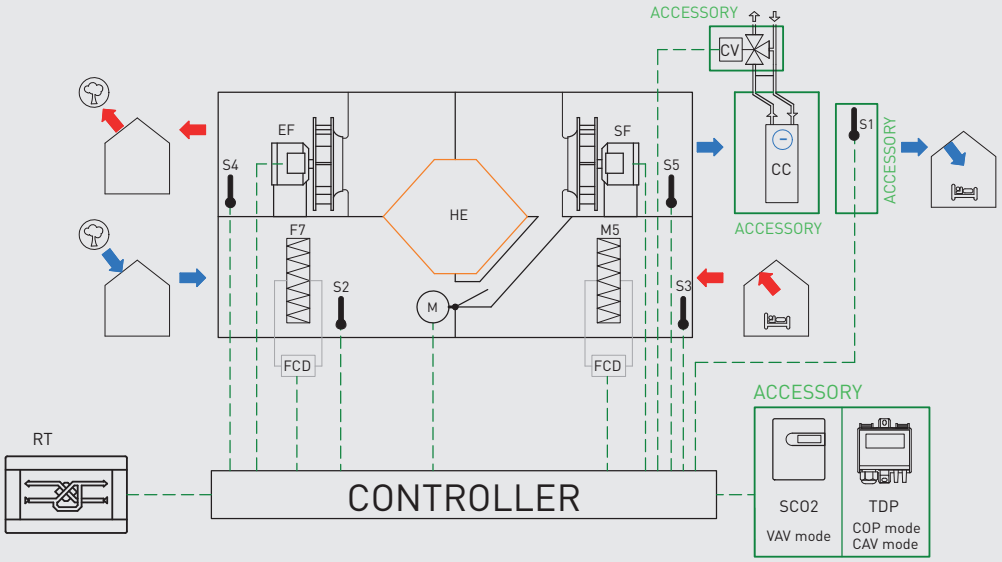
MAIN COMPONENTS

CAD COMPACT ADVANCED + EXTERNAL HOT WATER COIL BA-AC



SF Supply fan
EF Extraction fan
S1 Supply temperature probe (Accessory)
S2 Outdoor temperature probe
S3 Extraction temperature probe
S4 Exhaust temperature probe
S5 After-coil temperature probe
FCD Filter clogging detector (Pressure switch)
HE High-efficiency heat exchanger
RT Remote control panel
F7 Supply filter
M5 Extraction filter
M Bypass actuator
HC External hot water coil (Accessory)
HV Hot water valve (Accessory)
SCO2 CO_2 sensor (Accessory)
TDP TDP-S pressure transmitter (Accessory)
For CAV mode, 2 units of TDP-S are required

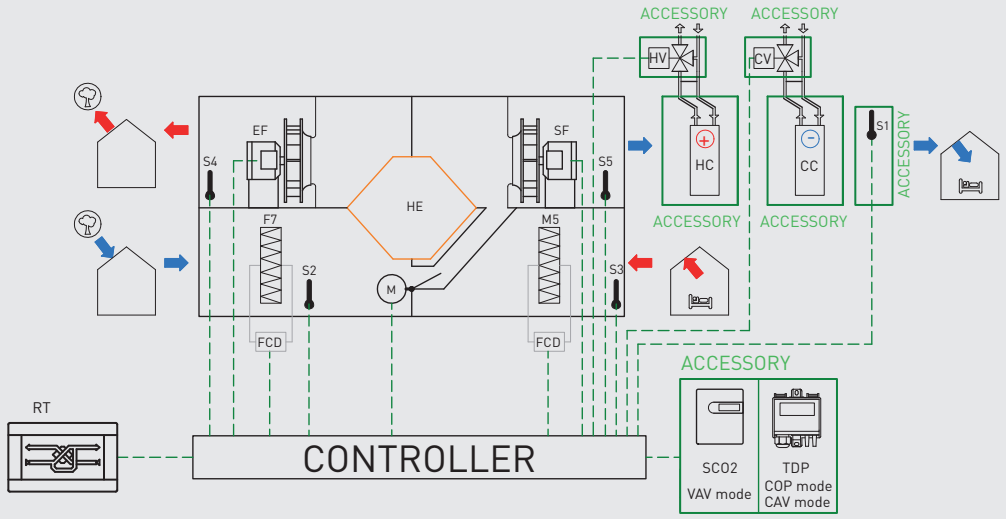
CAD COMPACT ADVANCED + EXTERNAL COLD WATER COIL BA-AF



SF Supply fan
EF Extraction fan
S1 Supply temperature probe
S2 Outdoor temperature probe
S3 Extraction temperature probe
S4 Exhaust temperature probe
S5 After-coil temperature probe
FCD Filter clogging detector (Pressure switch)
HE High-efficiency heat exchanger
RT Remote control panel
F7 Supply filter
M5 Extraction filter
M Bypass actuator
CC External cold water coil (Accessory)
CV Cold water valve (Accessory)
SCO2 CO_2 sensor (Accessory)
TDP TDP-S pressure transmitter (Accessory)
For CAV mode, 2 units of TDP-S are required

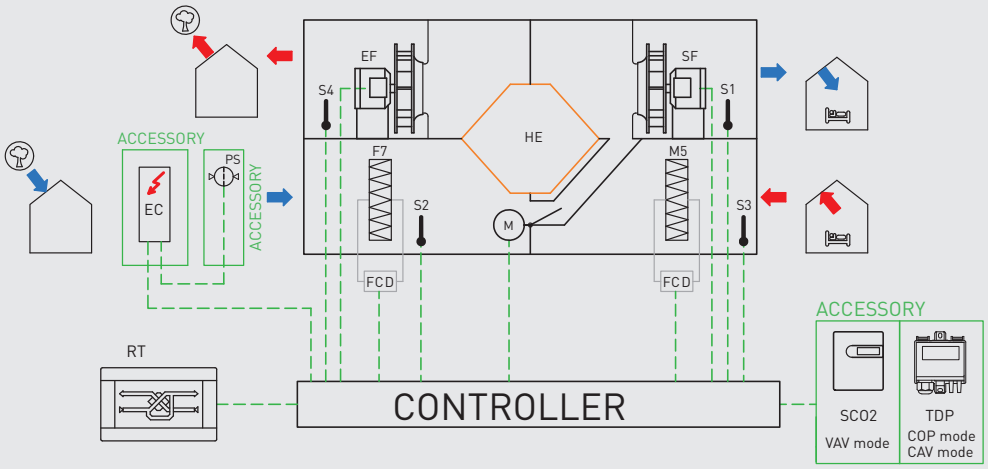
MAIN COMPONENTS

CAD COMPACT ADVANCED + EXTERNAL COILS COLD WATER (BA-AF) AND HOT WATER (BA-AC)



SF Supply fan
EF Extraction fan
S1 Supply temperature probe (Accessory)
S2 Outdoor temperature probe
S3 Extraction temperature probe
S4 Exhaust temperature probe
S5 After-coil temperature probe
FCD Filter clogging detector (Pressure switch)
HE High-efficiency heat exchanger
RT Remote control panel
F7 Supply filter
M5 Extraction filter
M Bypass actuator
HC External hot water coil (Accessory)
HV Hot water valve (Accessory)
CC External cold water coil (Accessory)
CV Cold water valve (Accessory)
SCO2 CO_2 sensor (Accessory)
TDP TDP-S pressure transmitter (Accessory)
For CAV mode, 2 units of TDP-S are required

CAD COMPACT ADVANCED + EXTERNAL ELECTRICAL COIL MBE-R (POSTHEATING)



SF Supply fan
EF Extraction fan
S1 Supply temperature probe (Accessory)
S2 Outdoor temperature probe
S3 Extraction temperature probe
S4 Exhaust temperature probe
FCD Filter clogging detector (Pressure switch)
HE High-efficiency heat exchanger
RT Remote control panel
F7 Supply filter
M5 Extraction filter
M Bypass actuator
EC External electric coil MBE-R (Accessory)
PS Pressure switch DPS 2.30 (Accessory)
SCO2 CO_2 sensor (Accessory)
TDP TDP-S pressure transmitter (Accessory)
For CAV mode, 2 units of TDP-S are required

PLUG & PLAY CONTROL BASIC AND ADVANCED FUNCTIONS

	BASIC	ADVANCED
MAIN ELEMENTS		
Electrical panel including controller and component wiring, accessible from the side of the unit.	✓	✓
General switch.	✓	✓
Remote control without a display (including a 10m cable).	✓	✗
Remote control with touch panel (including a 10m cable).	✗	✓
Filter clogging detector pressure switches (2 units).	✓	✓
Air temperature probes (supply, extract, outdoor and exhaust)	✓	✓
Bypass actuator.	✓	✓
FUNCTIONS		
Fans adjustments		
Manual fan speed adjustment, with three pre-set, adjustable speeds.	✓	✓
Automatic fan speed adjustment in VAV mode, based on an external 0-10V signal (CO_2 sensor accessory).	✓	✓
Automatic fan speed adjustment in COP mode (Constant Pressure). The fan speed is adjusted to maintain a constant pressure in the duct network. Applicable to multi-zone installations with motorised dampers. A TDP-S accessory is required.	✗/✓*	✓
Automatic fans speed adjustment in CAV mode (Constant Arflow). The fans speed is adjusted to compensate filters fouling. Supply and extract fans independent control allowing the configuration of differents airflow values for each one. (2 units of accessory TDP-S are required.)	✗	✓
BOOST function (high-speed timed activation via external volt-free contact).	✓	✓
Automatic fans speed adjustment, according to a configurable time schedule (Configurable Timer).	✗	✓
STOP/START function via external volt-free contact.	✓	✓
Temperature regulation		
Display of the temperatures in the touch panel.	✗**	✓
Control of the supply temperature by opening the bypass (when the outside temperature allows it).	✓	✓
Regulation of external electric coil MBE-R. Proportional control via 0-10V signal.	✗	✓
Thermal power regulation of external hot water coil. 0-10V to manage 3 ways valve (accessory).	✗	✓
Thermal power regulation of external cooling coil in cooling mode and reversible mode (cooling and heating). 0-10V to manage 3 ways valve (accessory).	✗	✓
Thermal power regulation of 2 external coils (one for cooling and one for heating). 0-10V to manage 3 ways valve (accessories).	✗	✓
Bypass adjustment		
Manual operation of bypass.	✓	✓
Automatic operation of bypass free-cooling function.	✓	✓
Automatic operation of bypass as part of the heat exchanger defrost strategy.	✓	✓
SECURITY FUNCTIONS		
Control of clogged filters via pressure switches (included).	✓	✓
Alarm display in remote control.	✓	✓
Fan failure detection.	✓	✓
Temperature probes failure detector.	✓	✓
Fire alarm function. Activation of a predetermined behaviour of supply and extract fans after receive the input by an external contact.	✗	✓
COMMUNICATION		
Wired remote control (10m cable included).	✓	✓
ON/OFF remote digital input via external volt-free contact.	✓	✓
Digital input for BOOST function (High speed timed activation).	✓	✓
Digital input available for connection to fire central.	✗	✓
ALARM digital output.	✓	✓
Fans status (Run/Stop) digital output.	✗	✓
Can be integrated into the BMS - Modbus RTU (RS-485).	✓	✓

✓: Available / Included. ✗: Not available / Not included.

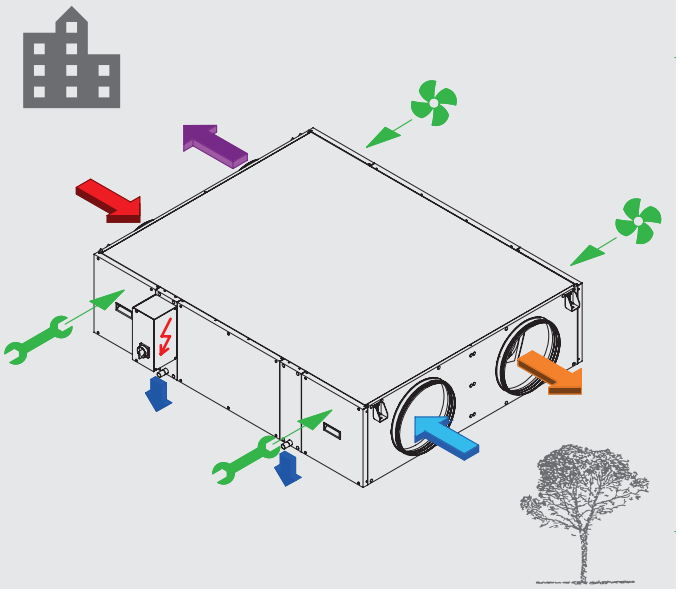
* ✓ COP mode only available via Modbus. ✗ Not available from the remote control.

** Although the temperature probes are included in the unit, the temperature values are not shown on the remote control. The values of the 4 temperatures (Supply, extraction, outdoor and exhaust) are available via Modbus registers map.

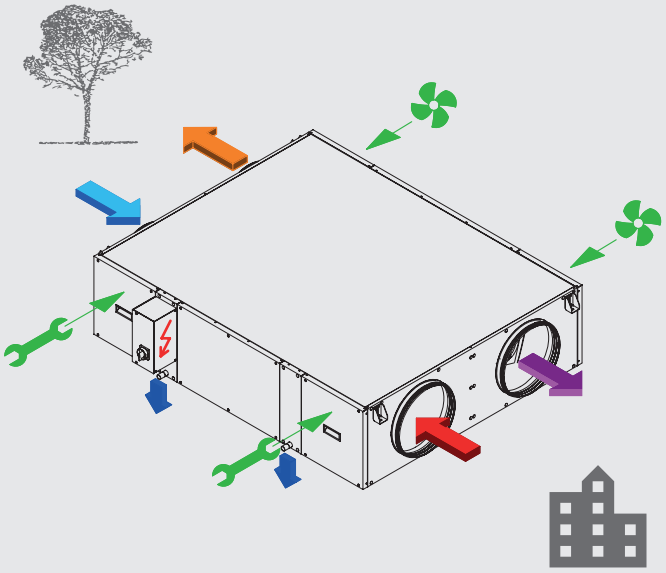
STANDARD CONFIGURATIONS

- OUTDOOR AIR INLET
- FRESH AIR SUPPLY
- INDOOR AIR EXTRACTION
- INDOOR AIR OUTLET
- 1/2" CONDENSATION OUTLET
- ELECTRICAL BOX
- FILTER ACCESS
- FAN ACCESS

Default settings
Factory settings

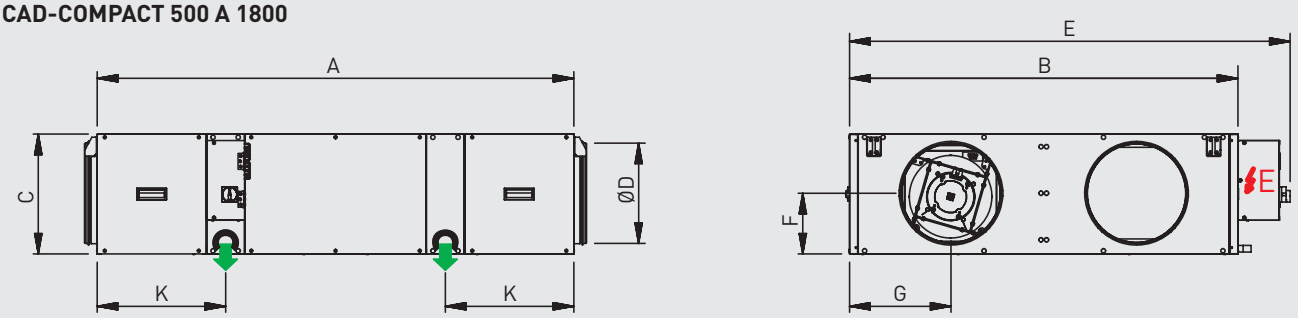


Symmetrical configuration
Achieved by a simple modification over the unit, once on site



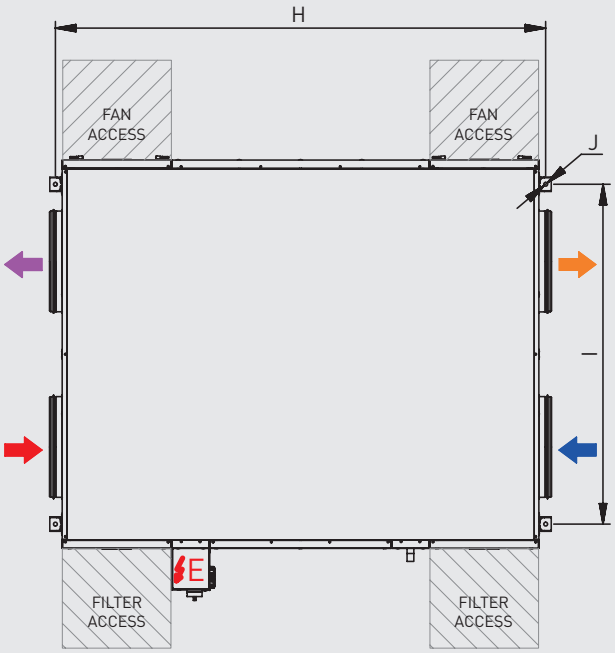
DIMENSIONS (mm)

CAD-COMPACT 500 A 1800

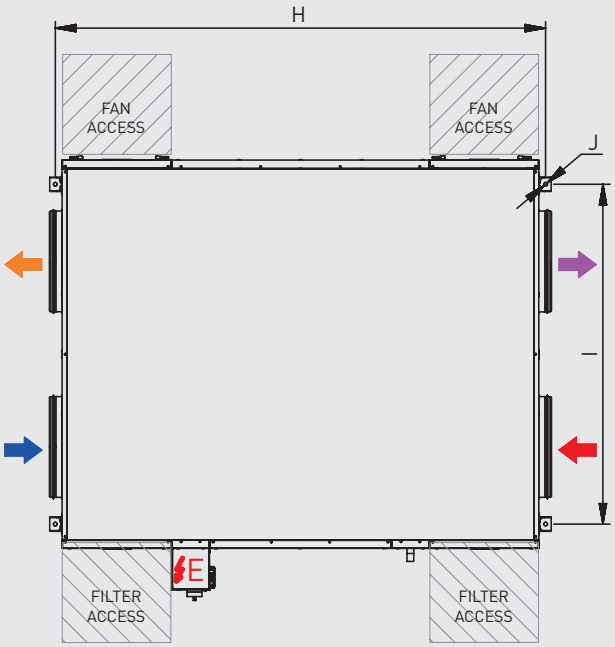


UPPER VIEW

DEFAULT (FACTORY SUPPLIED)



OBTAINED BY A SIMPLE ON-SITE MODIFICATION

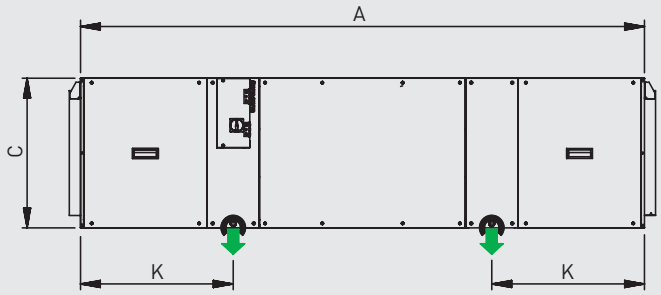


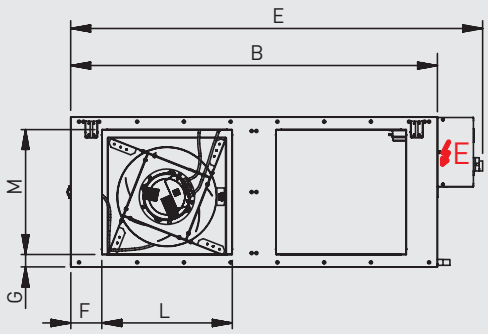
E ELECTRICAL BOX
OUTDOOR AIR INLET
FRESH AIR SUPPLY
INDOOR AIR EXTRACTION
INDOOR AIR OUTLET
1/2" CONDENSATE OUTLET

Model	A	B	C	D	E	F	G	H	I	J	K
CAD-COMPACT 500	1120	698	289	200	862	147	188	1163	546	12	256
CAD-COMPACT 900	1345	843	376	315	1007	190	225	1388	691	12	328
CAD-COMPACT 1300	1495	1218	376	315	1382	190	318	1538	1066	12	403
CAD-COMPACT 1800	1580	1083	453	355	1247	228	285	1623	931	12	393

DIMENSIONS (mm)

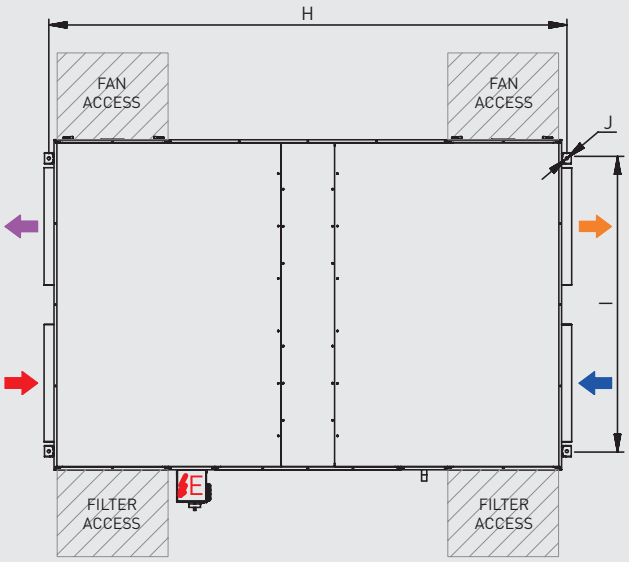
CAD-COMPACT 2500 TO 4500



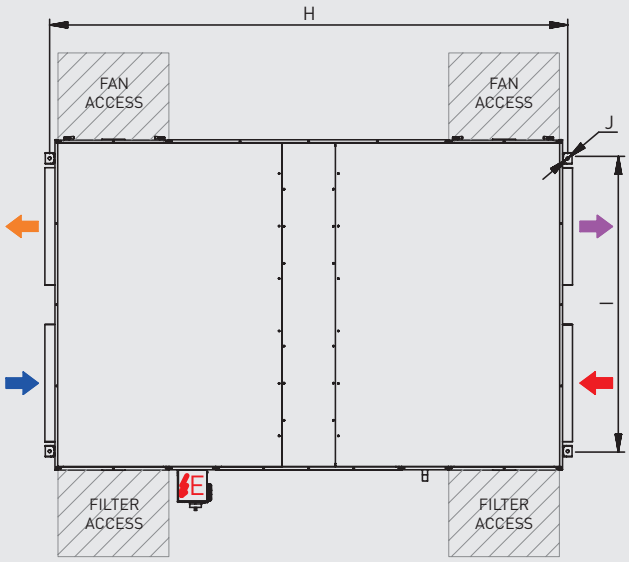


UPPER VIEW

DEFAULT (FACTORY SETTINGS)



OBTAINED BY A SIMPLE ON-SITE MODIFICATION



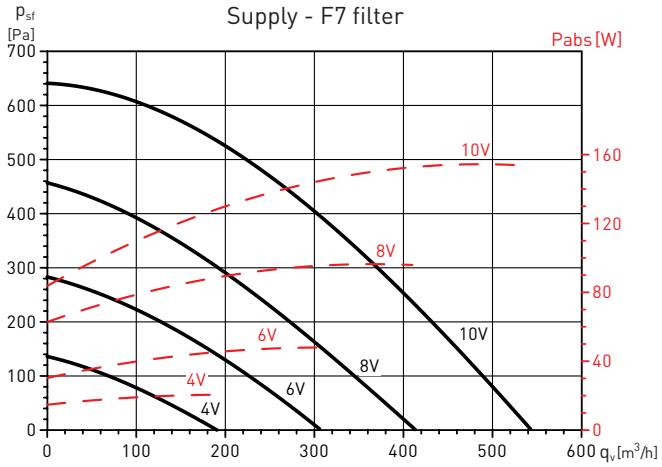
Model	A	B	C	D	E	F	G	H	I	J	K	L	M
CAD-COMPACT 2500	1845	1495	453	—	1670	127	41	1888	1343	17	385	570	375
CAD-COMPACT 3200	2038	1325	541	—	1489	113	43	2081	1176	12	552	470	450
CAD-COMPACT 4500	2207	1993	598	—	2156	165	79	2250	1844	12	594	700	440

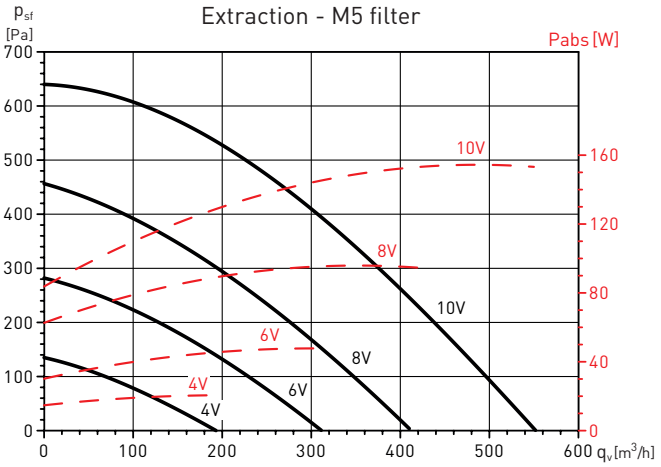
- E ELECTRICAL BOX
- OUTDOOR AIR INLET
- FRESH AIR SUPPLY
- INDOOR AIR EXTRACTION
- INDOOR AIR OUTLET
- 1/2" CONDENSATE OUTLET

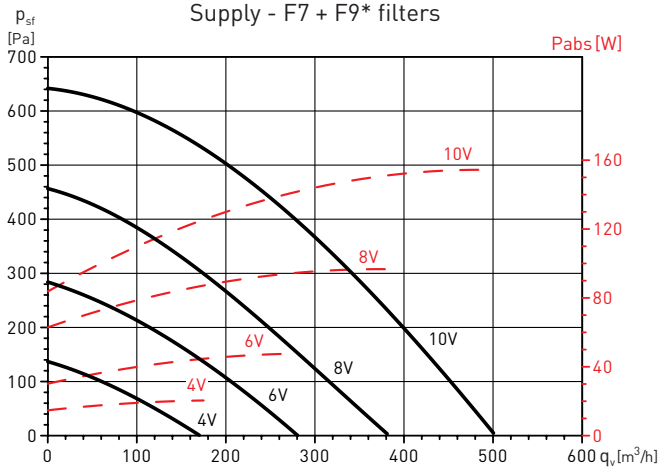
CHARACTERISTICS CURVES

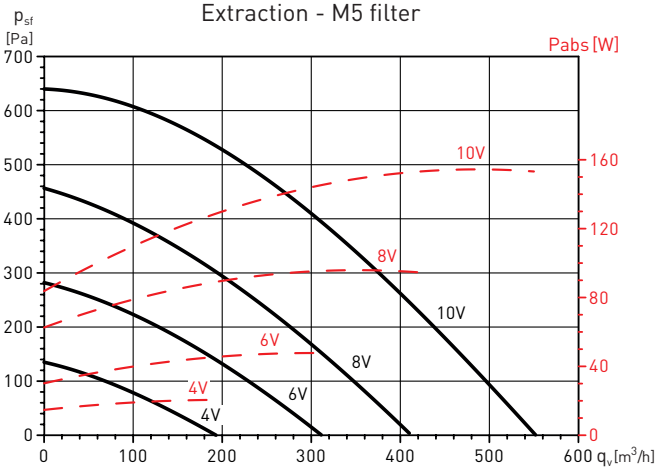
- q_v: Flow rate m^3/h.
- p_{sf}: Static pressure in Pa and mmcda.
- Pabs = Absorbed power at maximum speed (W).
- Normal dry air at 20°C and 760 mm.c.d.Hg.
- Tests performed according to ISO 5801 and AMCA 210-99.
- Absorbed power corresponding to a single circuit.

CAD-COMPACT 500







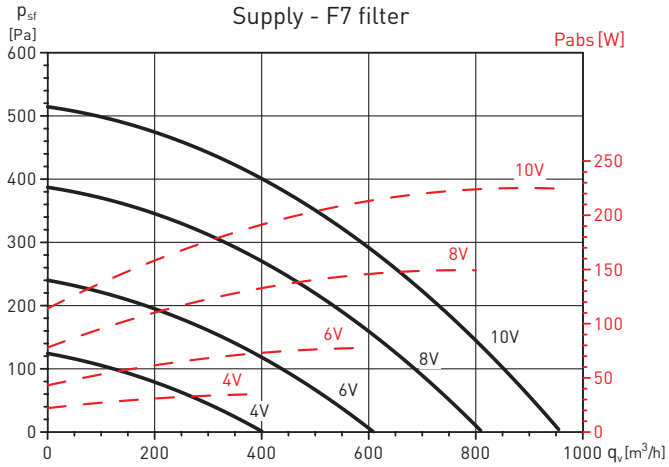


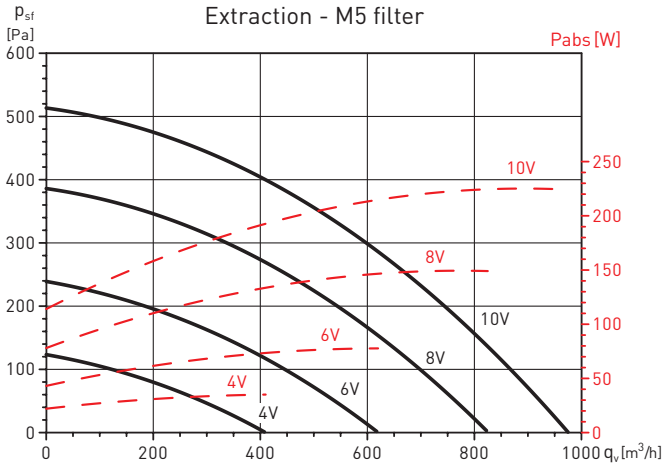
* An additional F9 filter is required (accessory)

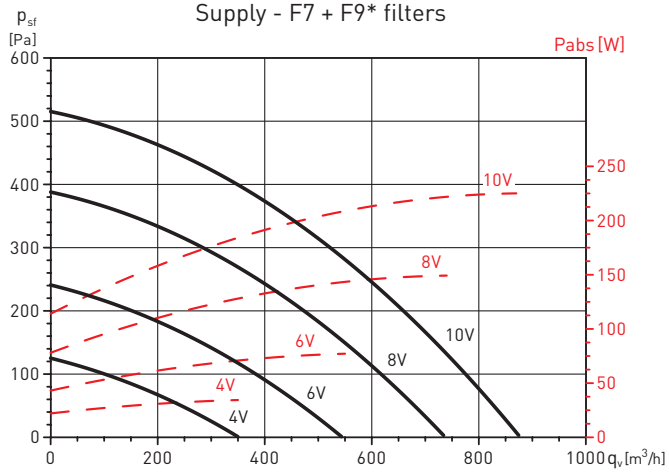
CHARACTERISTICS CURVES

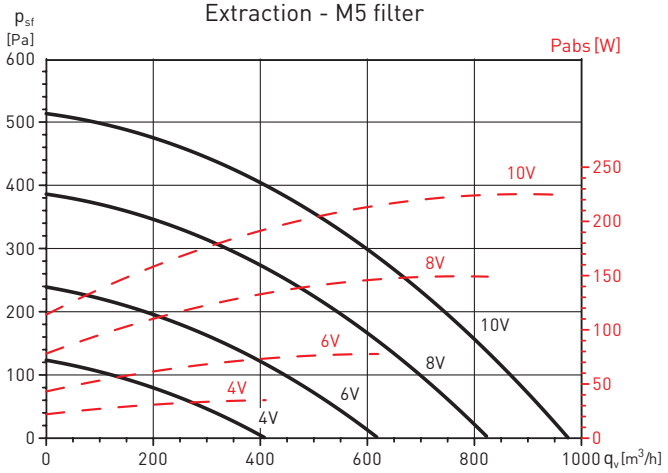
- q_v: Flow rate m^3/h.
- p_{sf}: Static pressure in Pa and mmcda.
- Pabs = Absorbed power at maximum speed (W).
- Normal dry air at 20°C and 760 mm.c.d.Hg.
- Tests performed according to ISO 5801 and AMCA 210-99.
- Absorbed power corresponding to a single circuit.

CAD-COMPACT 900







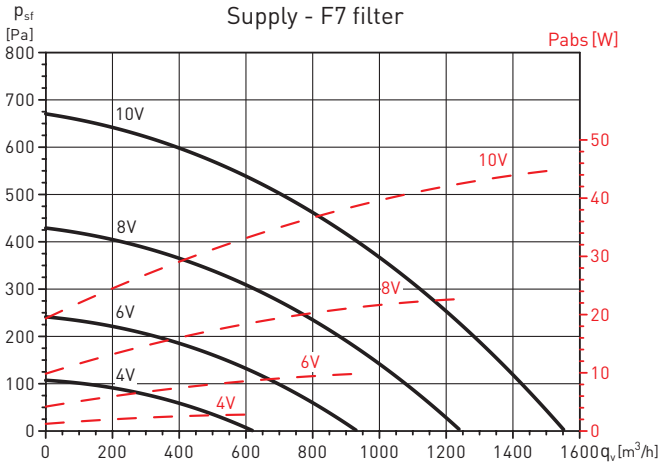


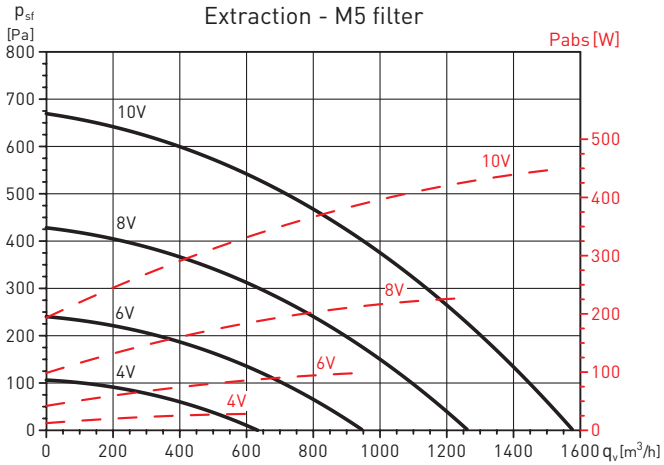
* An additional F9 filter is required (accessory)

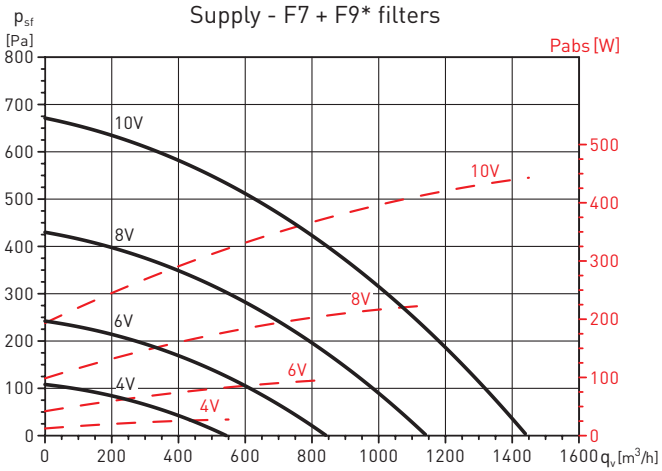
CHARACTERISTICS CURVES

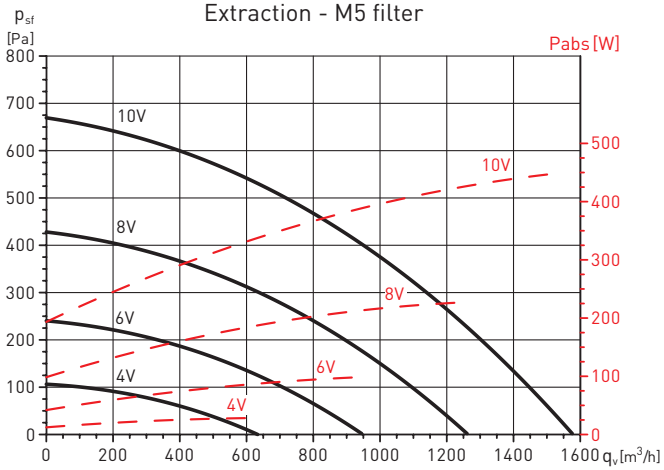
- q_v: Flow rate m^3/h.
- p_{sf}: Static pressure in Pa and mmcda.
- Pabs = Absorbed power at maximum speed (W).
- Normal dry air at 20°C and 760 mm.c.d.Hg.
- Tests performed according to ISO 5801 and AMCA 210-99.
- Absorbed power corresponding to a single circuit.

CAD-COMPACT 1300







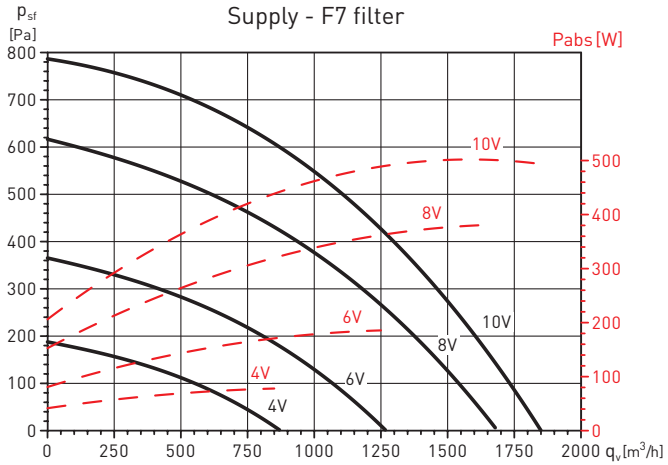


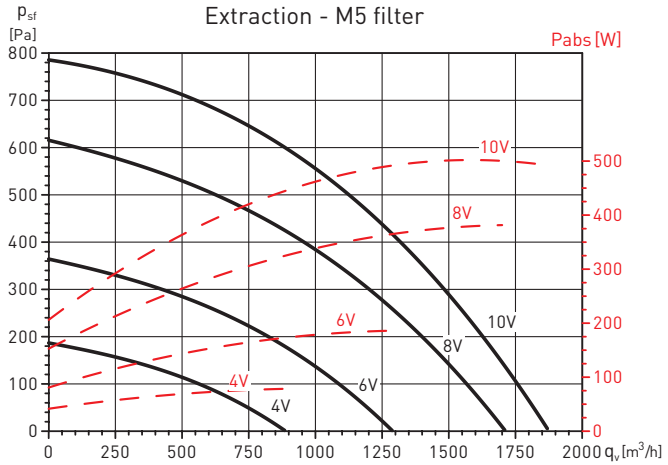
* An additional F9 filter is required (accessory)

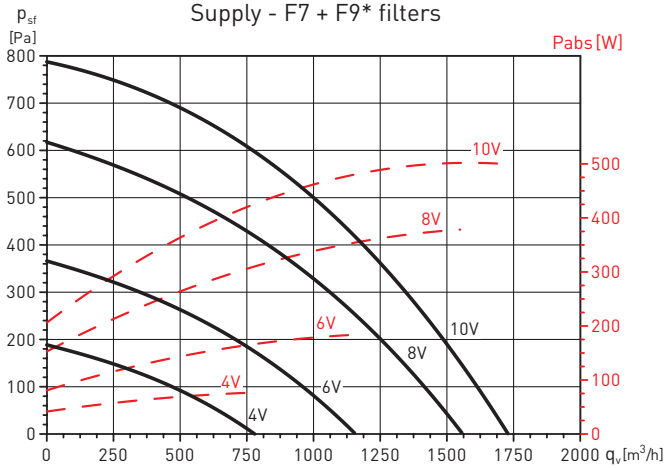
CHARACTERISTICS CURVES

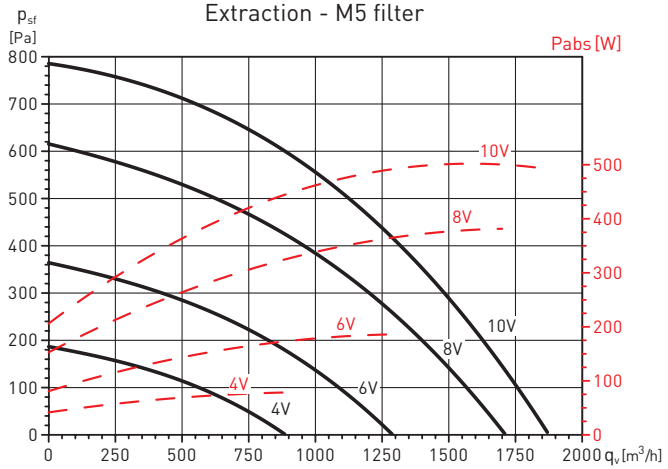
- q_v: Flow rate m^3/h.
- p_{sf}: Static pressure in Pa and mmcda.
- Pabs = Absorbed power at maximum speed (W).
- Normal dry air at 20°C and 760 mm.c.d.Hg.
- Tests performed according to ISO 5801 and AMCA 210-99.
- Absorbed power corresponding to a single circuit.

CAD-COMPACT 1800









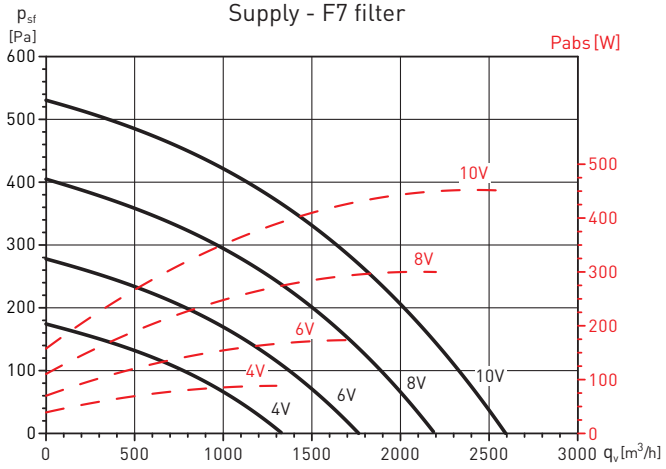
* An additional F9 filter is required (accessory)

CHARACTERISTICS CURVES

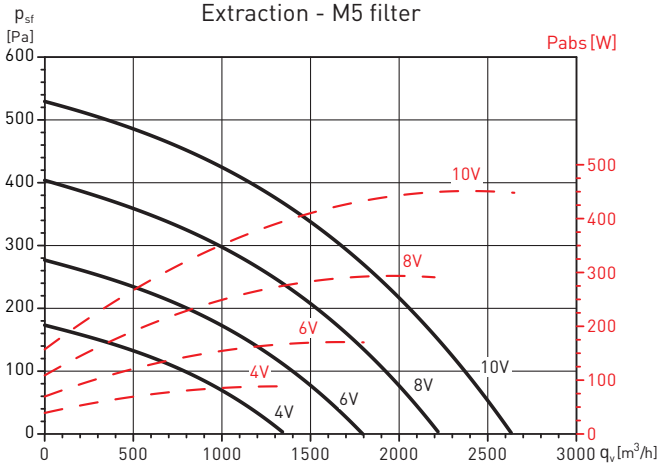
- q_v: Flow rate m^3/h.
- p_{sf}: Static pressure in Pa and mmcda.
- Pabs = Absorbed power at maximum speed (W).
- Normal dry air at 20°C and 760 mm.c.d.Hg.
- Tests performed according to ISO 5801 and AMCA 210-99.
- Absorbed power corresponding to a single circuit.

CAD-COMPACT 2500

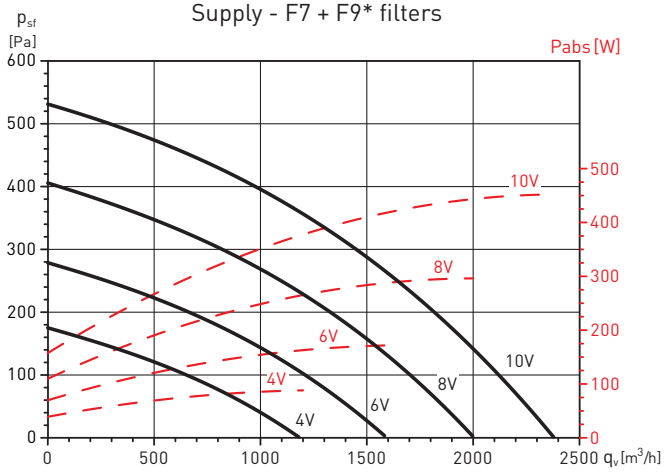
Supply - F7 filter



Extraction - M5 filter



Supply - F7 + F9* filters

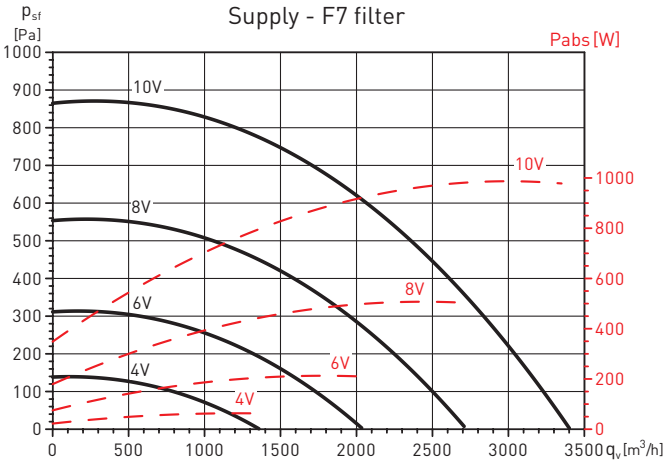


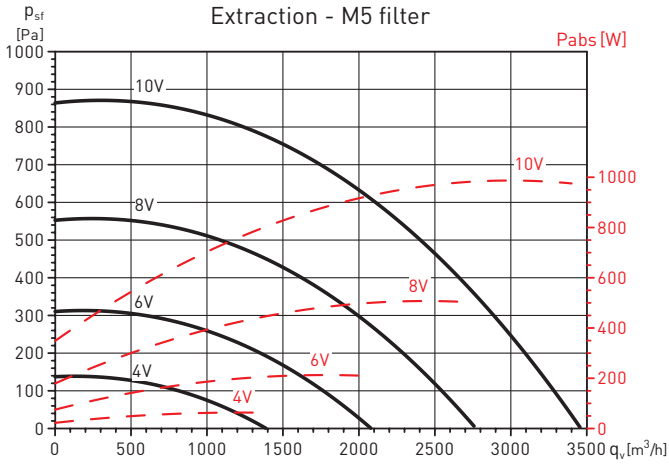
* An additional F9 filter is required (accessory)

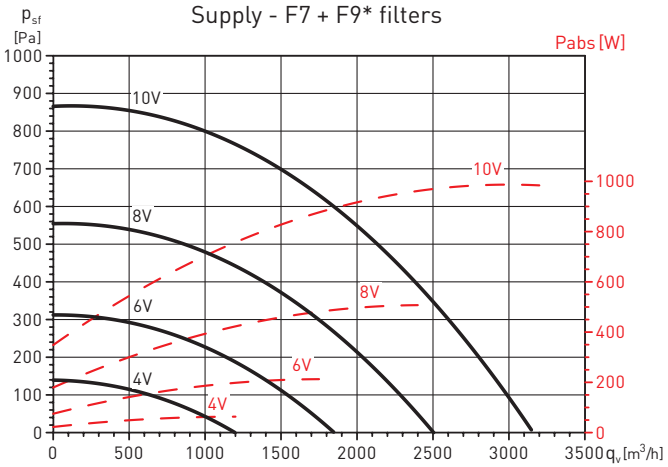
CHARACTERISTICS CURVES

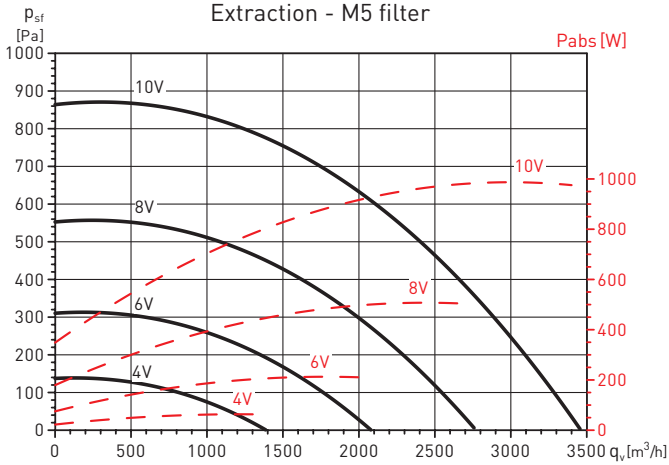
- q_v: Flow rate m^3/h.
- p_{sf}: Static pressure in Pa and mmcda.
- Pabs = Absorbed power at maximum speed (W).
- Normal dry air at 20°C and 760 mm.c.d.Hg.
- Tests performed according to ISO 5801 and AMCA 210-99.
- Absorbed power corresponding to a single circuit.

CAD-COMPACT 3200







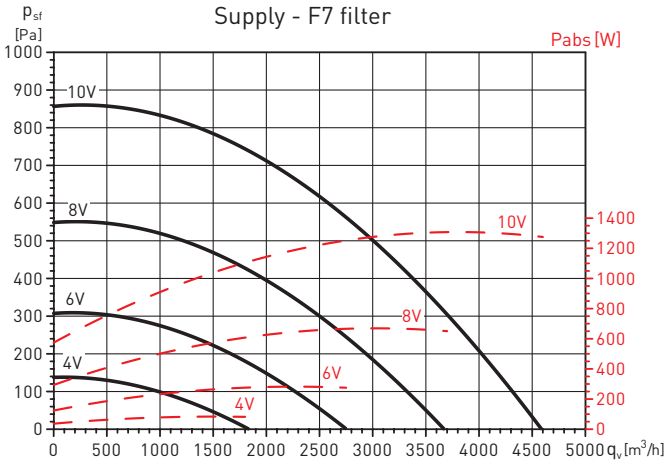


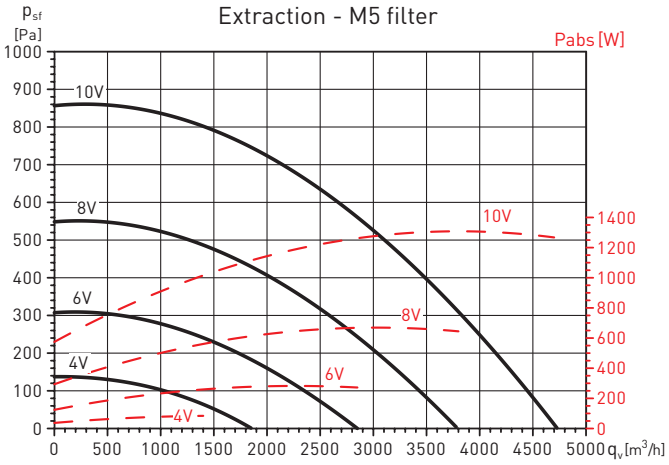
* An additional F9 filter is required (accessory)

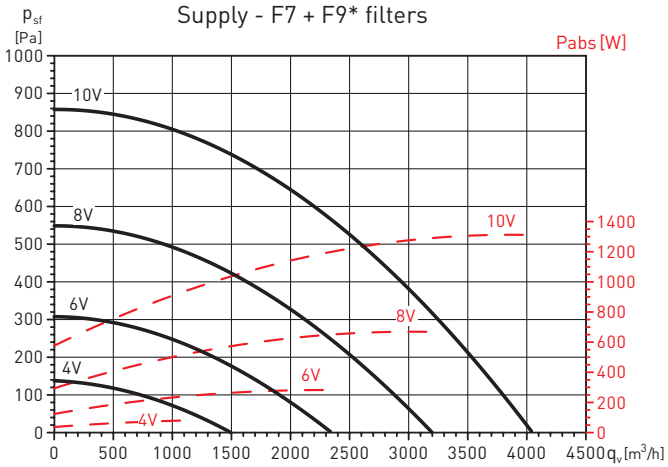
CHARACTERISTICS CURVES

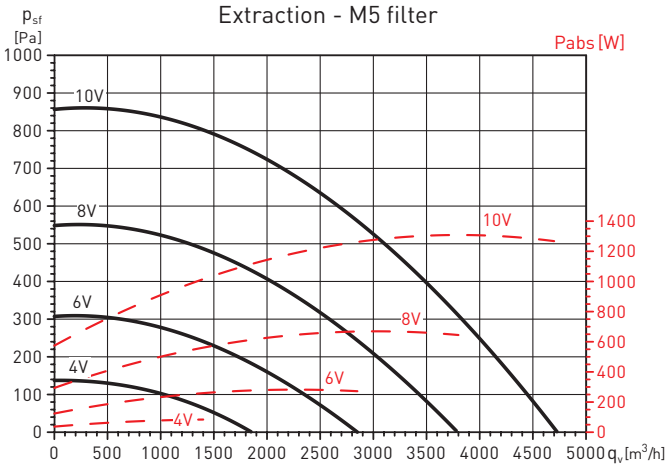
- q_v: Flow rate m^3/h.
- p_{sf}: Static pressure in Pa and mmcda.
- Pabs = Absorbed power at maximum speed (W).
- Normal dry air at 20°C and 760 mm.c.d.Hg.
- Tests performed according to ISO 5801 and AMCA 210-99.
- Absorbed power corresponding to a single circuit.

CAD-COMPACT 4500









* An additional F9 filter is required (accessory)

ACCESSORIES

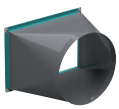
For more information, see "recovery unit accessories" or "general accessories" sections.
Mounting accessories are supplied in unpainted galvanised sheet metal finish.

Filters

Model	Accessory and replacement filters for CAD COMPACT*			
	G4	M5	F7	F9
CAD COMPACT 500	AFR-CAD COMPACT 500 G4	AFR-CAD COMPACT 500 M5	AFR-CAD COMPACT 500 F7	AFR-CAD COMPACT 500 F9
CAD COMPACT 900	AFR-CAD COMPACT 900 G4	AFR-CAD COMPACT 900 M5	AFR-CAD COMPACT 900 F7	AFR-CAD COMPACT 900 F9
CAD COMPACT 1300	AFR-CAD COMPACT 1300 G4	AFR-CAD COMPACT 1300 M5	AFR-CAD COMPACT 1300 F7	AFR-CAD COMPACT 1300 F9
CAD COMPACT 1800	AFR-CAD COMPACT 1800 G4	AFR-CAD COMPACT 1800 M5	AFR-CAD COMPACT 1800 F7	AFR-CAD COMPACT 1800 F9
CAD COMPACT 2500	AFR-CAD COMPACT 2500 G4	AFR-CAD COMPACT 2500 M5	AFR-CAD COMPACT 2500 F7	AFR-CAD COMPACT 2500 F9
CAD COMPACT 3200	AFR-CAD COMPACT 3200 G4	AFR-CAD COMPACT 3200 M5	AFR-CAD COMPACT 3200 F7	AFR-CAD COMPACT 3200 F9
CAD COMPACT 4500	AFR-CAD COMPACT 4500 G4	AFR-CAD COMPACT 4500 M5	AFR-CAD COMPACT 4500 F7	AFR-CAD COMPACT 4500 F9

* As standard the units are supplied with F7 supply and M5 extraction filters. All models allow the installation of a second filter inside, resulting in the following combinations, among others: F7+F9, M5+F7 or G4+F7.

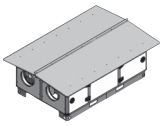
Assembly accessories




Model	PRRE Rectangular to circular adaptors	SIL Silencers	ACOPEL F400 Flexible connectors	APC - APR Protection guards
CAD COMPACT 500	-	SIL-200	ACOPEL F400-200/160N	APC-200
CAD COMPACT 900	-	SIL-315	ACOPEL F400-315/160N	APC-315
CAD COMPACT 1300	-	SIL-315	ACOPEL F400-315/160N	APC-315
CAD COMPACT 1800	-	SIL-355	ACOPEL F400-355/160N	APC-355
CAD COMPACT 2500	PRRE 570x375/400	SIL-400*	ACOPEL F400-400/160N*	APC-400*
CAD COMPACT 3200	PRRE 470x450/400	SIL-400*	ACOPEL F400-400/160N*	APC-400*
CAD COMPACT 4500	PRRE 700x440/500	SIL-500*	ACOPEL F400-500/160N*	APC-500*

*In order to use the circular accessories, it is necessary to install the appropriate PRRE adapter.

Weatherproof accessories



Model	Support feet	Top
CAD COMPACT 500	KIT PIES CAD COMPACT	TPP-CAD COMPACT 500
CAD COMPACT 900	KIT PIES CAD COMPACT	TPP-CAD COMPACT 900
CAD COMPACT 1300	KIT PIES CAD COMPACT	TPP-CAD COMPACT 1300
CAD COMPACT 1800	KIT PIES CAD COMPACT	TPP-CAD COMPACT 1800
CAD COMPACT 2500	KIT PIES CAD COMPACT	TPP-CAD COMPACT 2500
CAD COMPACT 3200	KIT PIES CAD COMPACT	TPP-CAD COMPACT 3200
CAD COMPACT 4500	KIT PIES CAD COMPACT	TPP-CAD COMPACT 4500

ELECTRICAL ACCESSORIES FOR THE CAD-COMPACT SERIES

Electrical accessories for the BASIC and ADVANCED range (with integrated control)

Accessories for fan control depending on the control mode

Range	Variable airflow - VAV for CO_2		Constant pressure COP	Constant airflow CAV
	Room	Duct		
BASIC	SCO2-A 0/10V	SCO2-G 0/10V	TDP-S*	Not available
ADVANCED	SCO2-A 0/10V	SCO2-G 0/10V	TDP-S	TDP-S (2 units)

* BASIC control only allows operation in COP mode via an external BMS (Modbus).

Accessories for heating and cooling

External water coils

Model	Control of an external hot water coil			Control of an external cold water coil **		
	Supply temperature control sensor	Hot water coil	Valve	Supply temperature control sensor	Hot/cold water coil	Valve
CAD- COMPACT 500 to 4500 BASIC	COILS CONTROL NOT AVAILABLE					
CAD COMPACT 500 ADVANCED	TG-K-NTC	BA-AC-N 200	3WV DN 15 KVS1 PROP 24V	TG-K-NTC	BA-AF 200	3WV DN15 KVS1 PROP 24V
CAD COMPACT 900 ADVANCED	TG-K-NTC	BA-AC-N 315	3WV DN 15 KVS1,6 PROP 24V	TG-K-NTC	BA-AF 315	3WV DN15 KVS1,6 PROP 24V
CAD COMPACT 1300 ADVANCED	TG-K-NTC	BA-AC-N 315	3WV DN 15 KVS2,5 PROP 24V	TG-K-NTC	BA-AF 315	3WV DN15 KVS2,5 PROP 24V
CAD COMPACT 1800 ADVANCED	TG-K-NTC	BA-AC-N 355/18	3WV DN 15 KVS2,5 PROP 24V	TG-K-NTC	BA-AF 355/18	3WV DN20 KVS4 PROP 24V
CAD COMPACT 2500 ADVANCED	TG-K-NTC	BA-AC-N 400*	3WV DN20 KVS4 PROP 24V	TG-K-NTC	BA-AF 400*	3WV DN25 KVS10 PROP 24V
CAD COMPACT 3200 ADVANCED	TG-K-NTC	BA-AC-N 400*	3WV DN20 KVS4 PROP 24V	TG-K-NTC	BA-AF 400*	3WV DN25 KVS10 PROP 24V
CAD COMPACT 4500 ADVANCED	TG-K-NTC	BA-AC-N 450*	3WV DN25 KVS6,3 PROP 24V	TG-K-NTC	BA-AF 450*	3WV DN25 KVS10 PROP 24V

* In order to use the circular accessories it is necessary to install the corresponding PRRE adapter.
** In the case of cold water coils that are to be used in reversible mode (cold / heat) it will be necessary to add to the electrical maneuver a COM-2 switch (manual mode change) or a THCO thermostat (automatic mode change depending on the temperature of the water received).

External electric coils

Model	Control of an external POSTHEATING electric coil			Control of an external PREHEATING electric coil	
	Regulated electric coil	Duct temperature probe	Differential pressure switch	Regulated electric coil	Differential pressure switch
CAD- COMPACT 500 to 4500 BASIC	NOT AVAILABLE			NOT AVAILABLE	
CAD COMPACT 500 ADVANCED	MBE-200/20T-R 2/400V	TG-K-NTC	DPS 2.30	MBE-200/20T-R 2/400V	DPS 2.30
CAD COMPACT 900 ADVANCED	MBE-315/30T-R 2/400V	TG-K-NTC	DPS 2.30	MBE-315/30T-R 2/400V	DPS 2.30
CAD COMPACT 1300 ADVANCED	MBE-315/30T-R 2/400V	TG-K-NTC	DPS 2.30	MBE-315/30T-R 2/400V	DPS 2.30
CAD COMPACT 1800 ADVANCED	MBE-355/60T-R 2/400V	TG-K-NTC	DPS 2.30	MBE-355/60T-R 2/400V	DPS 2.30
CAD COMPACT 2500 ADVANCED	MBE-400/60T-R 2/400V*	TG-K-NTC	DPS 2.30	MBE-400/60T-R 2/400V*	DPS 2.30
CAD COMPACT 3200 ADVANCED	MBE-400/60T-R 2/400V*	TG-K-NTC	DPS 2.30	MBE-400/60T-R 2/400V*	DPS 2.30
CAD COMPACT 4500 ADVANCED	MBE-450/90T-R 3/400V*	TG-K-NTC	DPS 2.30	MBE-450/90T-R 3/400V*	DPS 2.30

* In order to use the circular accessories it is necessary to install the corresponding PRRE adapter.

SCO2-A 0/10V
Ambient CO_2 and temperature sensor without display.
Outlet: 0-10V.
Power: 24 VDC.

SCO2-G 0/10V
CO_2 sensor for the duct.
It controls the ventilation in sections of the extraction duct depending on the CO_2 concentration of the air circulating through it.
Outlet: 0-10V.
Power: 24 VDC.

TDP-S probe
For COP control. They are used to control the pressure in constant-pressure and continuous-flow ventilation systems. They allow the reading of pressure differentials at two points and convert it into an electrical signal suitable for the different types of control.

Electrical accessories for the ECOWATT range (pre-wire without control)

Control devices required to regulate the fan speed

Model	Accessories for the variable air volume regulated by CO_2		Accessories for constant pressure operation		Accessories for manual speed control
	Controller	Sensor	Controller	Sensor	Electronic regulator
CAD COMPACT 500	CONTROL CAD-REG	AIRSENS CO2 / SC02-AD 0-10V / SC02-G 0-10/V	CONTROL AERO-REG**	TDP-D*	REB-ECOWATT**
CAD COMPACT 900	CONTROL CAD-REG	AIRSENS CO2 / SC02-AD 0-10V / SC02-G 0-10/V	CONTROL AERO-REG**	TDP-D*	REB-ECOWATT**
CAD COMPACT 1300	CONTROL CAD-REG	AIRSENS CO2 / SC02-AD 0-10V / SC02-G 0-10/V	CONTROL AERO-REG**	TDP-D*	REB-ECOWATT**
CAD COMPACT 1800	CONTROL CAD-REG	AIRSENS CO2 / SC02-AD 0-10V / SC02-G 0-10/V	CONTROL AERO-REG**	TDP-D*	REB-ECOWATT**
CAD COMPACT 2500	CONTROL CAD-REG	AIRSENS CO2 / SC02-AD 0-10V / SC02-G 0-10/V	CONTROL AERO-REG**	TDP-D*	REB-ECOWATT**
CAD COMPACT 3200	CONTROL CAD-REG	AIRSENS CO2 / SC02-AD 0-10V / SC02-G 0-10/V	CONTROL AERO-REG**	TDP-D*	REB-ECOWATT**
CAD COMPACT 4500	CONTROL CAD-REG	AIRSENS CO2 / SC02-AD 0-10V / SC02-G 0-10/V	CONTROL AERO-REG**	TDP-D*	REB-ECOWATT**

* For independent control of each circuit's operating point, the supply and extraction fans must be controlled independently by a controller and pressure probe.
** For independent control of each circuit's operating point, the supply and extraction fans must be controlled by their respective electronic controller.

Water post-heating elements

Model	Accessories for coil control			
	External hot water coil	Valve	Thermostat	230V/24V Transformer
CAD COMPACT 500	BA-AC-N 200	3WV DN 15 KVS1 PROP 24V	WCT	TRAFO 15-D
CAD COMPACT 900	BA-AC-N 315	3WV DN 15 KVS1,6 PROP 24V	WCT	TRAFO 15-D
CAD COMPACT 1300	BA-AC-N 315	3WV DN 15 KVS2,5 PROP 24V	WCT	TRAFO 15-D
CAD COMPACT 1800	BA-AC-N 355/18	3WV DN 15 KVS2,5 PROP 24V	WCT	TRAFO 15-D
CAD COMPACT 2500	BA-AC-N 400*	3WV DN20 KVS4 PROP 24V	WCT	TRAFO 15-D
CAD COMPACT 3200	BA-AC-N 400*	3WV DN20 KVS4 PROP 24V	WCT	TRAFO 15-D
CAD COMPACT 4500	BA-AC-N 450*	3WV DN25 KVS6,3 PROP 24V	WCT	TRAFO 15-D

Post-heating elements by electric coil

Model	Electric external coil	Coils characteristics				Temperature probe		External potentiometer	Pressure switch	Timer
		Battery diameter (mm)	Minimum airflow rate (m^3/h)	Voltage (V)	Power (kW)	Duct	Ambience			
CAD COMPACT 500	MBE-200/20T-R 2/400V	200	270	2 Phases /400V	2	TG-K330	TG-R530	TBI-30	DPS 2.30	MCR-1
CAD COMPACT 900	MBE-315/30T-R 2/400V	315	430	2 Phases /400V	2	TG-K330	TG-R530	TBI-30	DPS 2.30	MCR-1
CAD COMPACT 1300	MBE-315/30T-R 2/400V	315	430	2 Phases /400V	3	TG-K330	TG-R530	TBI-30	DPS 2.30	MCR-1
CAD COMPACT 1800	MBE-355/60T-R 2/400V	355	540	2 Phases /400V	3,5	TG-K330	TG-R530	TBI-30	DPS 2.30	MCR-1
CAD COMPACT 2500	MBE-400/60T-R 2/400V*	400	680	2 Phases /400V	6	TG-K330	TG-R530	TBI-30	DPS 2.30	MCR-1
CAD COMPACT 3200	MBE-400/60T-R 2/400V*	400	680	2 Phases /400V	6	TG-K330	TG-R530	TBI-30	DPS 2.30	MCR-1
CAD COMPACT 4500	MBE-450/90T-R 3/400V*	450	860	3 Phases /400V	9	TG-K330	TG-R530	TBI-30	DPS 2.30	MCR-1

Integral VAV recovery control with bypass

CAD-REG CONTROL

Accessory used to control ECOWATT heat recovery units without post-heating/post-cooling.

Functions:
Manual proportional control of the fans using push buttons.
Automatic proportional control of the fans using AIRSENS or CO_2 sensor (Accessory).
7-day programmer. Control of clogged filters via pressure switches included in the CAD-COMPACT ECOWATT and CADB-HE ECOWATT ranges.
Display of indoor and outdoor air temperature.
Bypass control in free-cooling mode.
It includes two temperature probes each with a 4 m cable.
Alarm output signal.
It is recommended to install it near the equipment (< 3 m).
Maximum distance 10 m.
Modbus communication.

Model	Electrical supply	Frequency (Hz)	Maximum consumption (mA)	Maximum relay load (A)	IP Protection	Work temperature	Dimensions LxWxH (mm)
CONTROL CAD-REG	230 VAC	50 -60	10	5	IP20	0ºC a 50ºC	101x93x24

VAV and COP control. Bypass control not included

AERO-REG CONTROL

Specific accessory for controlling heat recovery units without a built-in heat coil (models CADB-HE-D 04 to 100).
It does not allow the control of heat recovery units with additional heating or electric batteries or water coils.
Supplied as an accessory (wiring and installation not included).

Functions:
Stop-start.
Manual-automatic motor speed adjustment.
Filter clogging detection (DPS 2.30 pressure switches, supplied with the heat recovery unit, must be installed).
Fan fault detection (two DPS 2.30 pressure switches must be installed, not included with the control).
Communication with ModBus protocol.

Operation:
Manual potentiometer: manual control of the fan speed via the potentiometer on the front of the unit.
Proportional: analogue input (0-10V/4-20mA). Control of the fan speed from a CO_2 sensor, relative humidity, or temperature (accessory).
Proportional integral (PI): control of a system under constant pressure. A TDP-D pressure sensor (accessory) is required.

Model	Electrical supply	Maximum current (A)	Output voltage	IP Protection	Work temperature	Dimensions LxWxH (mm)
CONTROL AERO-REG	230 VAC	11	0-10VDC / 110-230VAC	IP55	-10ºC a +50ºC	175x250x120

Independent bypass control thermostat (In conjunction with AERO-REG CONTROL)

FC-REG

Incompatible with CAD-REG CONTROL. Comparative thermostat that controls the bypass of the heat recovery system in free-cooling mode (suitable for CADB/T-HE ECOWATT ranges without integrated control and equipped with a bypass).

It allows the opening and closing of the heat recovery unit's bypass damper based on the temperatures measured by the indoor and outdoor air temperature sensors.
Air inlet temperature limit adjustable between 8ºC or 12ºC.

Output via voltage-free contact.
Includes two temperature probes, each with a 4 m long cable. The FC-REG function is implemented in the CONTROL CAD-REG control accessory.

Model	Electrical supply		IP Protection	Power (VA)	Output contact capacity (A)	Adjustment range (ºC)	Maximum ambient temperature (ºC)	Dimensions LxWxH (mm)
	Frequency (Hz)	Voltage (V)						
FC-REG	50	220-240	IP20	6	2	15-30	50	110x74x26

AIRSENS CO_2

Indoor air-quality control device with a built-in CO_2 sensor. Especially designed to create DCV systems directly used with single-phase or ECOWATT fans, depending on the relay or analogue control output selected.

Main features:
4 working modes:
- Relay output and Modbus (reading).
- 0-10V output and Modbus (reading).
- 2-10V output and Modbus (reading)
- Full Modbus control.

Adjustable set point.
Air-quality level indicator (3-LED diffuser).
Adjustable brightness 3-LED diffuser.

Model	Electrical supply	Power (W)	Relay	Analogue output	Lecture range	IP Protection	Dimensions LxWxH (mm)
AIRSENS-CO2	100-240 VAC 50/60Hz	0,7W	3A 250 VAC	0-10 V 2-10 V	450-2000 ppm	IP30	122x23x89

SCO2-A 0/10V

CO_2 sensor with display for wall duct installation. Alternative CO_2 level and temperature display.
Outlet: 0-10V.
Power: 24 VDC.

SCO2-G 0/10V

CO_2 sensor for duct installation. It controls the ventilation depending on the CO_2 levels in the air circulating through the extraction duct.
Outlet: 0-10V. Power: 24 VDC.

TDP-D

Pressure sensor with display.
It controls the pressure at the fan inlet.

REB-ECOWATT

Speed controller for fans with DC motor.

WCT

Thermostat to control the thermal output of the hot water coils included in the CADB-HE-DC heat recovery unit. It allows the temperature of the air supply to remain constant. Compatible with proportional actuators (0-10V). Includes temperature probe for duct installation (4 m long cable) Operates in heating and cooling mode (combined with external BA-AF HE batteries).

	Voltage (V)	Frequency (Hz)	IP Protection	IP Sensor	Power (VA)	Output signal	Adjustment range (ºC)	Maximum ambient temperature (ºC)	Dimensions LxWxH (mm)
WCT	24	50	IP-20	IP68	6	0-10VDC	15-30	50	110x74x26

3 WAY VALVE WITH PROPORTIONAL ACTUATOR

Powered 3-way valve. Maximum pressure 16 bar.
Rp" internal nut.
Nickel-plated forged brass casing.
Stainless steel valve cone.
Stainless steel shaft.

Water temperature from -10 to +120ºC. 5Nm mounted rotary actuator.
Proportional AC/DC 24V.
90s/90º response time.
DC 2....10V analogue input range.
IP54.