



BASIC FEATURES

- Lengths: 1.0; 1.5; 2.0; 2.5 m
- **Air flow up to 6150 m³/h** (ISO 27 327-1)
- **Straw System** – maximized screening effect
- Energy-efficient EC fans
- Low profile
- Universal interface for AirGENIO EC control module connection (BASIC, COMFORT, SUPERIOR)
- Standard colour RAL 9016 (any RAL – based colours may be provided on customer's request)

The ESSENSSE NEO is low profile design air curtain for use in **retail shops, shopping centres, restaurants, administrative buildings and manufacturing facilities** with a recommended installation height up to 4 m*.

* *Maximum recommended installation height – may vary according the particular conditions at the installation site.*

The air curtain shall be installed indoors in a dry environment with ambient temperatures ranging from 0 °C up to +40 °C and relative humidity of up to 80 %. It is designed for conveying air free of fine dust, grease, chemical fumes, and other impurities. IP rating of the air curtain is IP 20. It is recommended that air curtain projects always be developed by an HVAC designer or engineer.



PRIMARY PARAMETERS

Air curtains with electric heaters are equipped with an automatic heat thermostat and emergency thermostat with manual reset. Air curtains with LPHW coil are designed for a maximum operating water temperature of +130 °C and a maximum operating pressure of 1.6 MPa.

Type	Recommended installation height [m]	Airflow volume [m ³ /h] *1				
		100%	80%	60%	40%	20%
VCES2B100-E0EC	3,2	1850	1590	1220	850	510
VCES2B150-E0EC		2550	2270	1850	1320	810
VCES2B200-E0EC		3550	3150	2430	1760	1080
VCES2B250-E0EC		4450	3990	3060	2190	1140
VCES2B100-E1EC		1850	1590	1220	850	510
VCES2B150-E1EC		2550	2270	1850	1320	810
VCES2B200-E1EC		3550	3150	2430	1760	1080
VCES2B250-E1EC		4450	3990	3060	2190	1140
VCES2B100-E2EC		1890	1660	1290	930	590
VCES2B150-E2EC		2630	2330	1830	1280	830
VCES2B200-E2EC		3700	3300	2570	1860	1240
VCES2B250-E2EC		4340	3960	3030	2150	1390
VCES2B100-V2EC		1780	1560	1200	810	510
VCES2B150-V2EC		2540	2270	1690	1170	720
VCES2B200-V2EC		3600	3180	2440	1710	990
VCES2B250-V2EC		4280	3730	2860	1950	1090
VCES2B100-S0EC		1950	1730	1520	1090	640
VCES2B150-S0EC		2800	2540	2230	1580	800
VCES2B200-S0EC		3960	3650	3220	2300	1310
VCES2B250-S0EC		4710	4280	3760	2650	1460
VCES2C100-E1EC	4	2500	2230	1740	1260	920
VCES2C150-E1EC		3740	3460	2690	1970	1220
VCES2C200-E1EC		5030	4520	4010	2940	1540
VCES2C250-E1EC		5480	4750	4040	2860	1440
VCES2C100-V2EC		2560	2240	1820	1260	720
VCES2C150-V2EC		3640	3270	2500	1740	970
VCES2C200-V2EC		5120	4730	3650	2410	1460
VCES2C250-V2EC		5590	5310	3400	2640	1120
VCES2C100-S0EC		2820	2490	2170	1840	1140
VCES2C150-S0EC		4000	3600	3120	2630	1710
VCES2C200-S0EC		5630	4820	4080	3280	2490
VCES2C250-S0EC		6150	5870	5010	4150	2420

*1 Airflow volume according ISO27327-1

Type	Sound power [dB(A)] ²					Acoustic pressure at 3 m [dB(A)] ¹				
	Fan speed									
	100%	80%	60%	40%	20%	100%	80%	60%	40%	20%
VCES2B100-E0EC	75	73	65	57	51	54	51	43	36	29
VCES2B150-E0EC	75	74	67	59	53	54	53	46	38	31
VCES2B200-E0EC	77	75	68	60	51	55	53	46	38	30
VCES2B250-E0EC	78	75	67	58	44	56	53	45	37	23
VCES2B100-E1EC	75	73	65	57	51	54	51	43	36	29
VCES2B150-E1EC	75	74	67	59	53	54	53	46	38	31
VCES2B200-E1EC	77	75	68	60	51	55	53	46	38	30
VCES2B250-E1EC	78	75	67	58	44	56	53	45	37	23
VCES2B100-E2EC	75	72	64	57	51	53	51	43	36	29
VCES2B150-E2EC	75	74	67	59	53	54	53	46	38	31
VCES2B200-E2EC	78	76	69	61	51	56	55	48	39	30
VCES2B250-E2EC	78	75	67	58	44	56	53	45	37	23
VCES2B100-V2EC	73	70	63	55	53	51	49	41	34	32
VCES2B150-V2EC	73	72	65	57	51	52	51	44	36	30
VCES2B200-V2EC	76	74	69	60	51	54	52	47	39	29
VCES2B250-V2EC	76	74	67	58	47	54	53	45	36	25
VCES2B100-S0EC	73	70	66	57	50	52	49	45	36	29
VCES2B150-S0EC	73	72	69	60	55	52	50	47	38	34
VCES2B200-S0EC	75	73	70	61	41	53	52	48	40	20
VCES2B250-S0EC	78	72	69	59	47	56	50	47	37	25
VCES2C100-E1EC	82	79	72	63	52	60	58	51	42	31
VCES2C150-E1EC	82	81	75	67	56	60	60	53	46	34
VCES2C200-E1EC	81	78	74	65	53	59	57	53	43	31
VCES2C250-E1EC	79	78	76	67	53	57	57	54	45	31
VCES2C100-V2EC	77	76	68	59	51	55	54	47	38	30
VCES2C150-V2EC	79	78	71	64	54	57	56	50	43	33
VCES2C200-V2EC	79	77	70	60	54	58	55	48	38	33
VCES2C250-V2EC	78	76	72	63	53	55	54	50	41	31
VCES2C100-S0EC	77	73	69	64	53	56	52	48	42	32
VCES2C150-S0EC	78	75	72	67	54	56	54	50	46	32
VCES2C200-S0EC	80	70	65	59	53	58	49	44	37	31
VCES2C250-S0EC	78	76	71	67	53	56	54	50	45	31

^{*1} Acoustic pressure values at 3m distance for maximum speed. Directional factor: Q=2.

^{*2} Sound power (LWA) measurements according to ISO 27327-2.

Type	Heater power output [kW]	Total power input [kW]	Total voltage/current [V/A]	Motor voltage/current [V/A]	Temperature increase Δt [°C] ^{*4}	Frequency [Hz]	Weight [kg]
VCES2B100-E0EC	5	5,1	400/12,6	230/0,56	7,8	50/60	24
VCES2B150-E0EC	8	8,2	400/11,7	230/0,72	8,9		31
VCES2B200-E0EC	10	10,2	400/14,8	230/0,94	8,1		38
VCES2B250-E0EC	12	12,3	400/19,8	230/1,24	8,3		50
VCES2B100-E1EC	6	6,1	400/11,0	230/0,56	9,8		24
VCES2B150-E1EC	9	9,2	400/17,1	230/0,72	11,1		31
VCES2B200-E1EC	12	12,2	400/21,7	230/0,94	10,1		38
VCES2B250-E1EC	16	16,3	400/25,5	230/1,24	11,1		50
VCES2B100-E2EC	10	10,1	400/14,1	230/0,23	15,2		24
VCES2B150-E2EC	15	15,2	400/22,6	230/0,73	17,3		31
VCES2B200-E2EC	19	19,2	400/28,6	230/0,97	15,5		38
VCES2B250-E2EC	25	25,3	400/36,8	230/1,13	17,1		50
VCES2B100-V2EC	19 ^{*4}	0,1	230/0,5	230/0,50	35,2		25
VCES2B150-V2EC	27 ^{*4}	0,2	230/0,7	230/0,68	35		32
VCES2B200-V2EC	38 ^{*4}	0,2	230/0,9	230/0,90	34,9		38
VCES2B250-V2EC	46 ^{*4}	0,3	230/1,2	230/1,20	35,8		46
VCES2B100-S0EC	-	0,1	230/0,6	230/0,52	-		22
VCES2B150-S0EC	-	0,2	230/0,7	230/0,69	-		28
VCES2B200-S0EC	-	0,2	230/1,0	230/0,93	-		33
VCES2B250-S0EC	-	0,3	230/1,2	230/1,15	-		40
VCES2C100-E1EC	10	10,3	400/14,9	230/1,0	11,5		26
VCES2C150-E1EC	15	15,4	400/23,4	230/1,5	12,1		34
VCES2C200-E1EC	19	19,5	400/29,5	230/1,9	11,4		38
VCES2C250-E1EC	25	25,5	400/37,5	230/1,8	13,5		49
VCES2C100-V2EC	24 ^{*4}	0,3	230/1,0	230/1,0	35,2		27
VCES2C150-V2EC	34 ^{*4}	0,4	230/1,4	230/1,4	35		35
VCES2C200-V2EC	48 ^{*4}	0,5	230/1,8	230/1,8	34,9		38
VCES2C250-V2EC	55 ^{*4}	0,5	230/1,9	230/1,9	35,8		50
VCES2C100-S0EC	-	0,3	230/1,0	230/1,0	-		24
VCES2C150-S0EC	-	0,4	230/1,4	230/1,4	-		31
VCES2C200-S0EC	-	0,5	230/1,8	230/1,8	-		33
VCES2C250-S0EC	-	0,5	230/1,7	230/1,7	-		44

*1 Airflow volume according ISO27327-1

*2 Acoustic pressure values at 3m distance for maximum speed. Directional factor: Q=2.

*3 Sound power (LWA) measurements according to ISO 27327-2.

*4 Intake air temperature +18°C, C, water temperature gradient of 90/70 °C and highest fan speed.

LPHW coil parameters for water temperature gradient of 90/70 °C

Type	Air output	Heating output	Temperature at exhaust	Pressure loss	Water flow
	[m³/h]	[kW]	[°C]	[kPa]	[l/s]
VCES2B100-V2EC	1780	19	53,2	17,17	0,23
VCES2B150-V2EC	2540	27	53	11,67	0,33
VCES2B200-V2EC	3600	38	52,9	16,19	0,46
VCES2B250-V2EC	4280	46	53,8	25,51	0,56
VCES2C100-V2EC	2560	24	48,5	26,29	0,29
VCES2C150-V2EC	3640	34	48,4	17,85	0,41
VCES2C200-V2EC	5120	48	48,4	24,72	0,58
VCES2C250-V2EC	5590	55	50,4	35,41	0,67

* Temperature of intake air: +18 °C

LPHW coil parameters for water temperature gradient of 80/60 °C

Type	Air output	Heating output	Temperature at exhaust	Pressure loss	Water flow
	[m³/h]	[kW]	[°C]	[kPa]	[l/s]
VCES2 B 100 V2	1780	15,78	46,8	12,65	0,19
VCES2 B 150 V2	2540	22,31	46,5	8,44	0,27
VCES2 B 200 V2	3600	31,57	46,5	11,77	0,39
VCES2 B 250 V2	4280	38,58	47,4	18,74	0,47
VCES2 C 100 V2	2560	19,87	42,9	19,23	0,24
VCES2 C 150 V2	3640	28,01	42,7	12,85	0,34
VCES2 C 200 V2	5120	39,38	42,8	17,76	0,48
VCES2 C 250 V2	5590	45,79	44,5	25,7	0,59

* Temperature of intake air: +18 °C

LPHW coil parameters for water temperature gradient of 70/50 °C

Type	Air output	Heating output	Temperature at exhaust	Pressure loss	Water flow
	[m³/h]	[kW]	[°C]	[kPa]	[l/s]
VCES2B100-V2EC	1780	13	40,5	8,53	0,15
VCES2B150-V2EC	2540	18	40,1	5,59	0,21
VCES2B200-V2EC	3600	25	40,1	7,75	0,30
VCES2B250-V2EC	4280	31	40,9	12,56	0,38
VCES2C100-V2EC	2560	16	37,3	12,85	0,19
VCES2C150-V2EC	3640	22	37,1	8,44	0,27
VCES2C200-V2EC	5120	31	37,2	11,58	0,38
VCES2C250-V2EC	5590	36	38,6	17,07	0,44

* Temperature of intake air: +18 °C

LPHW coil parameters for water temperature gradient of 60/40 °C

Type	Air output	Heating output	Temperature at exhaust	Pressure loss	Water flow
	[m³/h]	[kW]	[°C]	[kPa]	[l/s]
VCES2B100-V2EC	1780	9	34,1	5	0,11
VCES2B150-V2EC	2540	13	33,7	3,14	0,16
VCES2B200-V2EC	3600	18	33,8	4,41	0,22
VCES2B250-V2EC	4280	23	34,5	7,26	0,28
VCES2C100-V2EC	2560	11	31,8	7,36	0,14
VCES2C150-V2EC	3640	16	31,5	4,71	0,19
VCES2C200-V2EC	5120	22	31,6	6,47	0,27
VCES2C250-V2EC	5590	27	32,8	9,71	0,32

* Temperature of intake air: +18 °C

Recommended mixing points for LPHW coil 2-way valve

Type	Control module	90/70 °C	80/60 °C	70/50 °C	60/40 °C
VCES2B100-V2EC	RGJ3-VCES2-SU	ZV2-024-08,0-20	ZV2-024-08,0-20	ZV2-024-08,0-20	ZV2-024-08,0-20
VCES2B150-V2EC	RGJ3-VCES2-SU	ZV2-024-08,0-20	ZV2-024-08,0-20		
VCES2B200-V2EC	RGJ3-VCES2-SU	ZV2-024-08,0-20	ZV2-024-08,0-20		
VCES2B250-V2EC	RGJ3-VCES2-SU	ZV2-024-16,0-25 *	ZV2-024-08,0-20		
VCES2C100-V2EC	RGJ3-VCES2-SU	ZV2-024-08,0-20	ZV2-024-08,0-20		
VCES2C150-V2EC	RGJ3-VCES2-SU	ZV2-024-08,0-20	ZV2-024-08,0-20		
VCES2C200-V2EC	RGJ3-VCES2-SU	ZV2-024-16,0-25 *	ZV2-024-08,0-20		
VCES2C250-V2EC	RGJ3-VCES2-SU	ZV2-024-16,0-25 *	ZV2-024-16,0-25 *		

* Additional reduction needed from DN25 to DN20

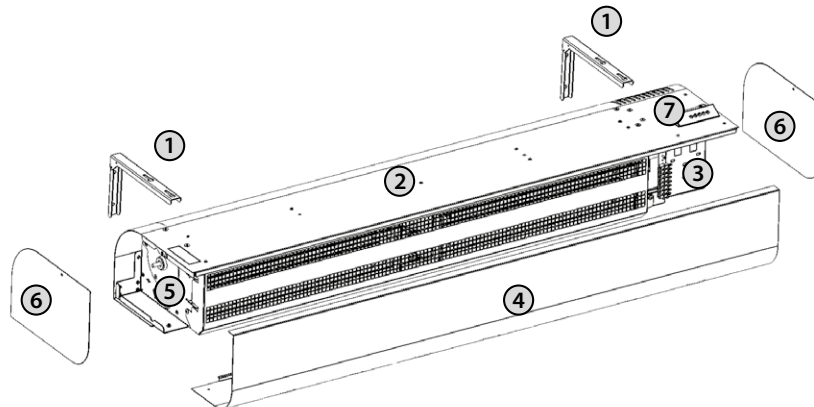
Recommended mixing points for LPHW coil 3-way valve

Type	Control module	90/70 °C	80/60 °C	70/50 °C	60/40 °C
VCES2B100-V2EC	RGJ3-VCES2-SU	ZV3-024-04,0-20	ZV3-024-04,0-20	ZV3-024-04,0-20	ZV3-024-04,0-20
VCES2B150-V2EC	RGJ3-VCES2-SU	ZV3-024-06,3-20	ZV3-024-04,0-20	ZV3-024-04,0-20	ZV3-024-04,0-20
VCES2B200-V2EC	RGJ3-VCES2-SU	ZV3-024-06,3-20	ZV3-024-06,3-20	ZV3-024-06,3-20	ZV3-024-06,3-20
VCES2B250-V2EC	RGJ3-VCES2-SU	ZV3-024-10,0-25 *	ZV3-024-10,0-25 *	ZV3-024-10,0-25 *	ZV3-024-10,0-25 *
VCES2C100-V2EC	RGJ3-VCES2-SU	ZV3-024-06,3-20	ZV3-024-04,0-20	ZV3-024-04,0-20	ZV3-024-04,0-20
VCES2C150-V2EC	RGJ3-VCES2-SU	ZV3-024-06,3-20	ZV3-024-04,0-20	ZV3-024-04,0-20	ZV3-024-04,0-20
VCES2C200-V2EC	RGJ3-VCES2-SU	ZV3-024-10,0-25 *	ZV3-024-06,3-20	ZV3-024-06,3-20	ZV3-024-06,3-20
VCES2C250-V2EC	RGJ3-VCES2-SU	ZV3-024-10,0-25 *	ZV3-024-10,0-25 *	ZV3-024-06,3-20	ZV3-024-06,3-20

* Additional reduction needed from DN25 to DN20



MAIN PARTS

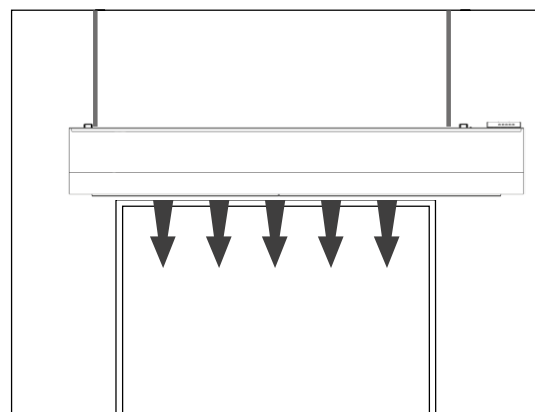
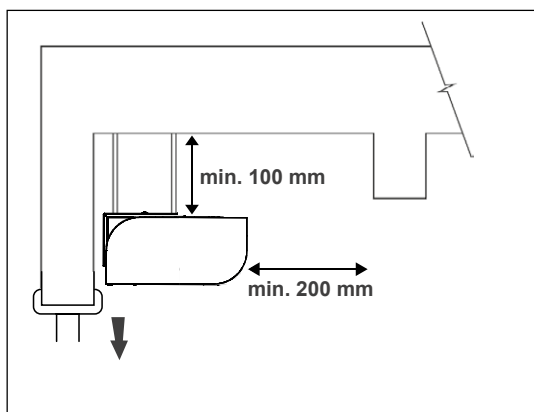


- ① Mounting brackets (included with delivery)
- ② Top cover
- ③ Connection dock for controls module
- ④ Intake grill
- ⑤ Connection dock for LPHW (only on water versions)
- ⑥ Side cover
- ⑦ Main power supply connection



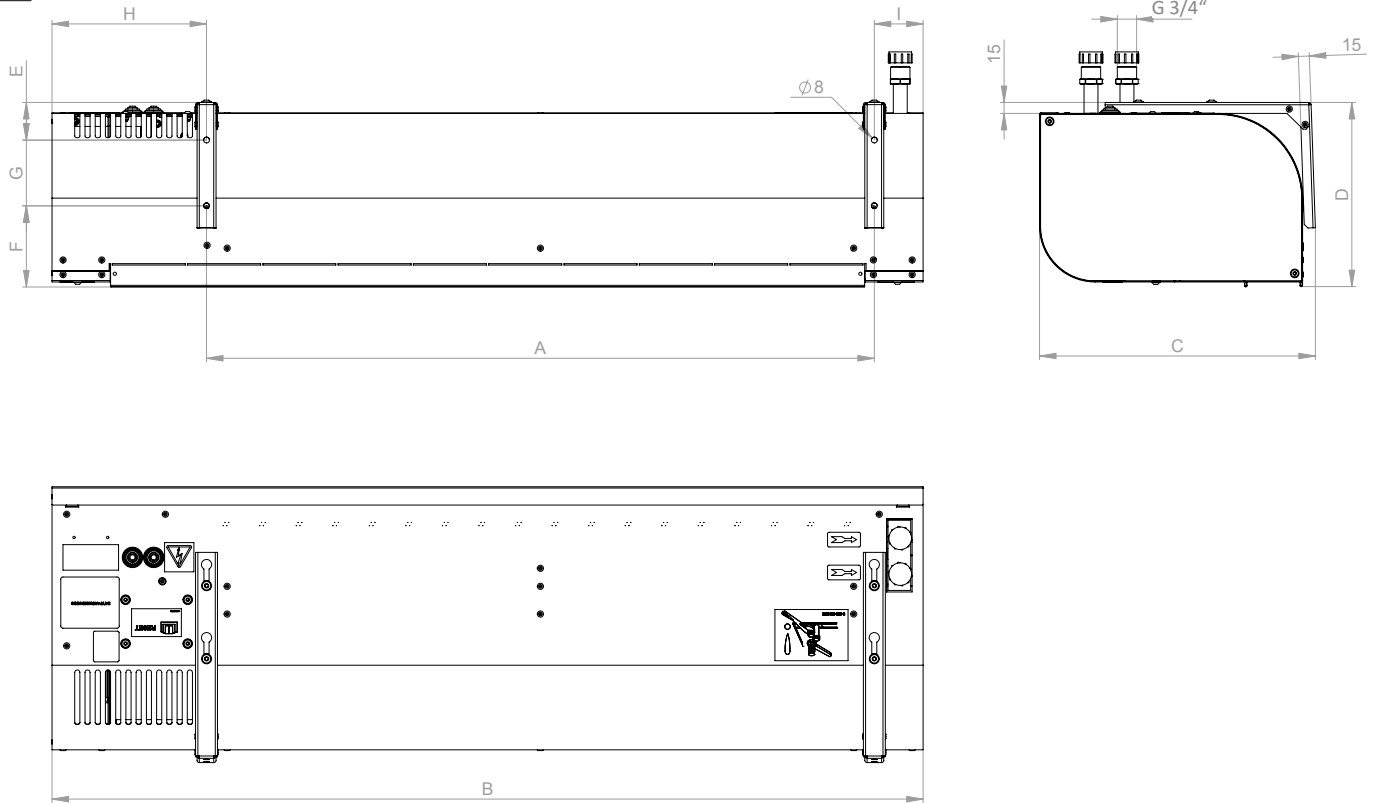
INSTALLATION AND ASSEMBLY

- The air curtain must be installed in a horizontal position only.
- The air curtain shall be located as close as possible to the top edge of the doorway, and a distance from walls that is in accordance with fire safety and building codes of the country where unit is installed. For manufacturer recommended distance see figures below.
- To ensure proper function it is recommended that the air curtain overlaps the doorway by 100 mm on both sides.
- Correct operation of the air curtain requires that specified distances from the surrounding objects are observed, see figure.
- Please take note of water and power supply connections when installing air curtain.
- The air curtain shall be installed using supplied brackets.





AIR CURTAIN DIMENSIONS



Type	A	B	C	D	E	F	G	H	I
VCES2B100-...EC	913	1190	377	252	51	111	90	211	67
VCES2C100-...EC	913	1190	377	252	51	111	90	211	67
VCES2B150-...EC	1321	1600	377	252	51	111	90	211	67
VCES2C150-...EC	1321	1600	377	252	51	111	90	211	67
VCES2B200-...EC	1822	2100	377	252	51	111	90	211	67
VCES2C200-...EC	1822	2100	377	252	51	111	90	211	67
VCES2B250-...EC	2232	2510	377	252	51	111	90	211	67
VCES2C250-...EC	2232	2510	377	252	51	111	90	211	67



CONTROL

Overview of functions and sensor connections



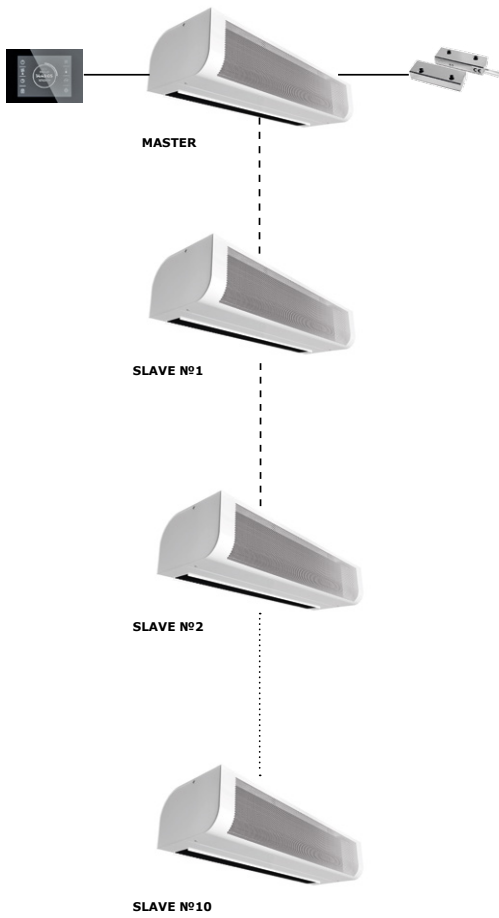
AirGENIO control		BASIC VCES2-AGBA1-M-EC	COMFORT VCES2-AGCO1-M-EC	SUPERIOR VCES2-AGSU1-M-EC
	Type of controller	Manual	Touch screen	Touch screen
	Mode	Manual	Manual / Auto	Manual / Auto
	Control of air output	PWM	PWM	PWM
	Control of electric heater	OFF / Level1 / Level2	OFF / Level1 / Level2	PWM
	Control of water heater	ON/OFF	ON-OFF / 0-10V	0-10V
	Antifreeze protection of LPHW	NO	YES	YES
	Possibility of connecting a door contact	YES	YES	YES
	External control	NO	YES	YES
	Temperature measurement	NO	YES (NTC)*	YES (NTC)*
	Chaining air curtains	NO	YES – max 10+1 pcs	YES – max 10+1 pcs
	Indication of selected function	NO	YES (Display)	YES (Display)
	Controller connection to air curtain	Power wire + Communication cable (UTP)	Communication cable (UTP)	Communication cable (UTP)
	Self learning mode	NO	YES	YES
	BMS connection	NO	Modbus RTU	Modbus RTU, Modbus TCP, BACnet
	Error contact	NO	YES	YES
	2 nd control panel ready	NO	YES	YES

*) Temperature sensor included in standard. Temperature shown on display.

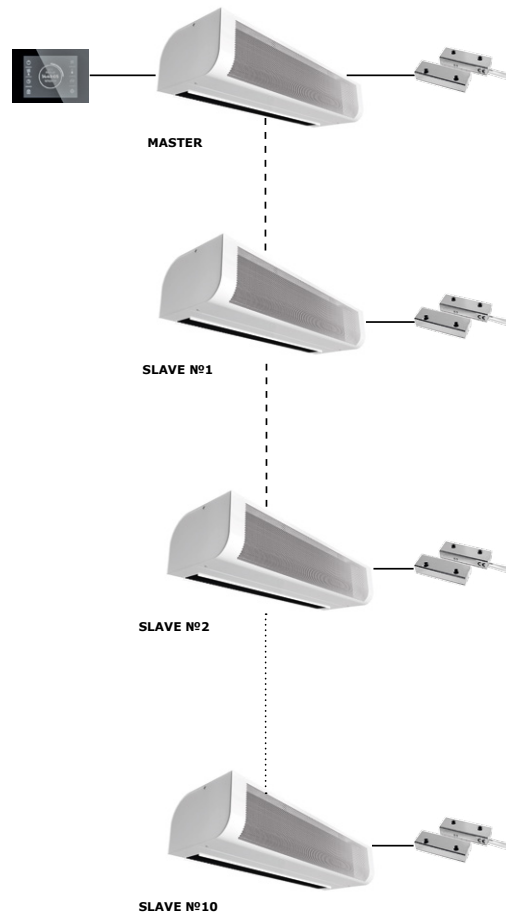


CHAINING EXAMPLE

Global Door contact function active



Global Door contact function not active





ACCESSORIES

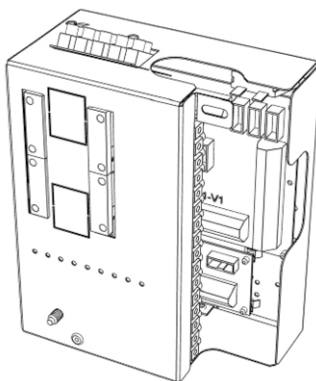
REQUIRED ACCESSORIES

These accessories shall be ordered to make the air curtain functional.

AirGENIO control module

A control module is a required accessory for air curtain and shall be ordered for each air curtain. Control panel is included in delivery of control module. The ordering key for control modules is provided below.

Communication cable has to be ordered separately as an optional accessory.



VCES2 - AGCO1 - M- EC - S0 - 0A0

0A0 – 2VV version

S0 – Without heating

E2 – Electric heater 2-STEP control (BASIC, COMFORT)

EF – Electric heater FLUENT control for VCES2 size 100 and 150 (SUPERIOR)

EH – Electric heater FLUENT control for VCES2 size 200 and 250 (SUPERIOR)

V1 – Water heater ON/OFF control (BASIC)

VF – Water heater FLUENT control (SUPERIOR)

VC – Water heater control with choice of ON/OFF or 0-10V (COMFORT)

EC – For EC fans

S – SLAVE controls (only for COMFORT, SUPERIOR)

M – MASTER controls (only for COMFORT, SUPERIOR)

AGBA1 – AirGENIO BASIC 1st generation (mechanical)

AGCO1 – AirGENIO COMFORT 1st generation (touch screen)

AGSU1 – AirGENIO SUPERIOR 1st generation (touch screen)

VCES2 – Air curtain ESSENSSE NEO



OPTIONAL ACCESSORIES

More details can be found on the relevant page in this catalogue

2way or 3-way valve with servo drive (0-10V)

ZV2-024-xx,x-xx

ZV3-024-xx,x-xx

(only for COMFORT, SUPERIOR)



2-way or 3-way valve with servo drive (230V)

ZV2-230-xx,x-xx

ZV3-230-xx,x-xx

(for control BASIC, COMFORT)



3-way valve with servo drive RT

RT-3-07 (K_{vs} 7)

(for control BASIC, COMFORT)



Room thermostat

TER-P



Room temperature sensor

CT-ROOM



Mechanical door switch

DS



**Magnetic door contact in a metal housing
with higher protection against mechanical damage**

DK-B-3



2nd Control panel

ND-REMOTE-CONTROL

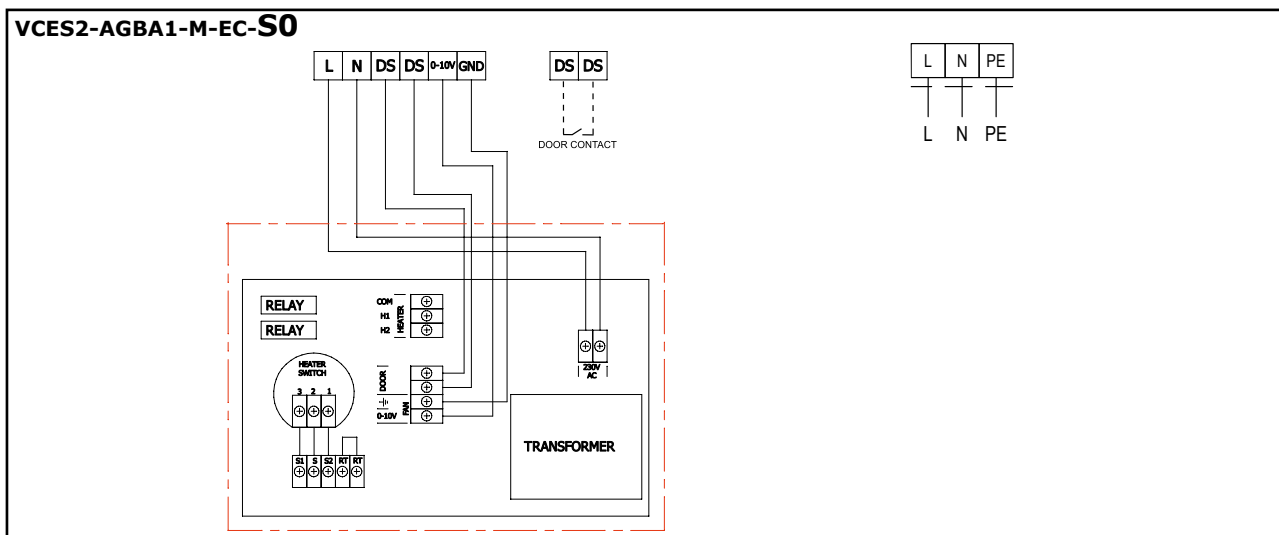
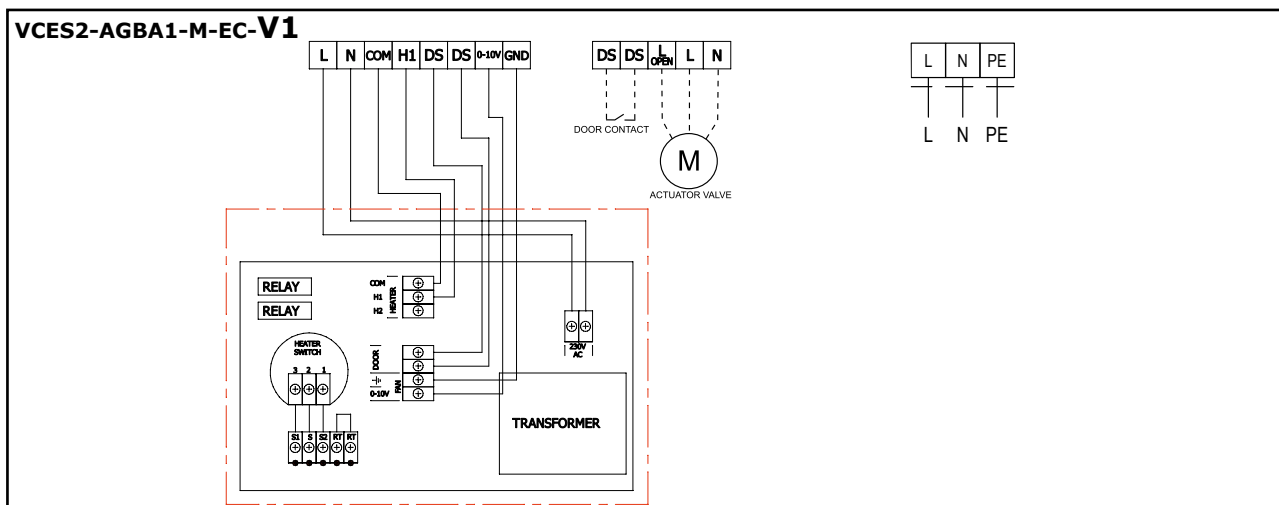
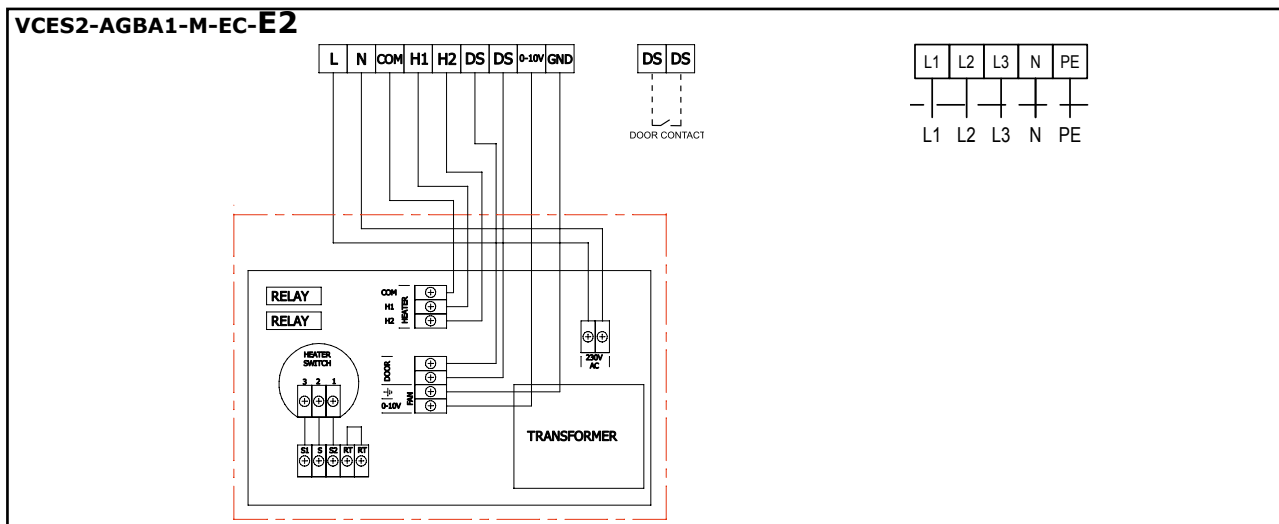




WIRING DIAGRAMS

The recommended cross-section of the main power supply cables is stated in the Instruction Manual. All wiring diagrams provided in the technical catalog are indicative only. When assembling the product, carefully observe the nameplate ratings as well as directions and diagrams affixed directly to the product or enclosed with the product.

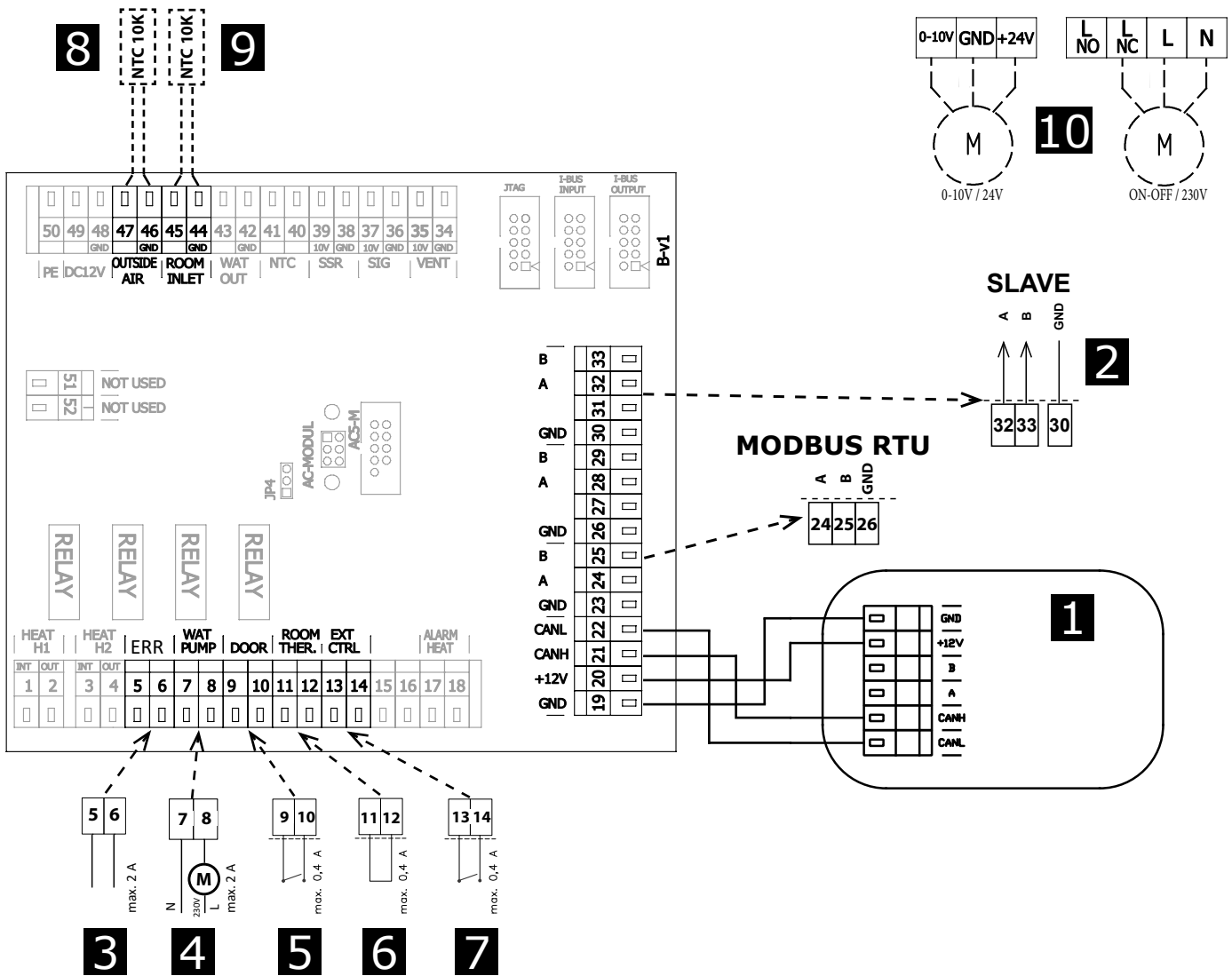
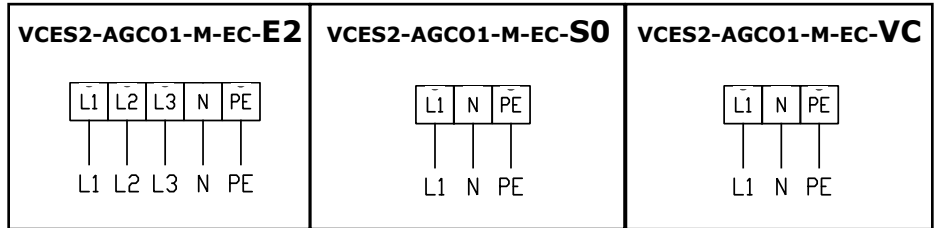
AirGENIO BASIC





WIRING DIAGRAMS

AirGENIO COMFORT MASTER



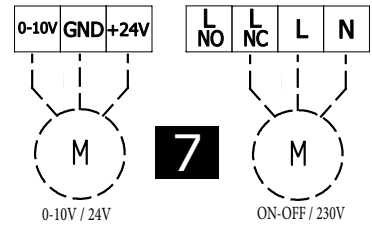
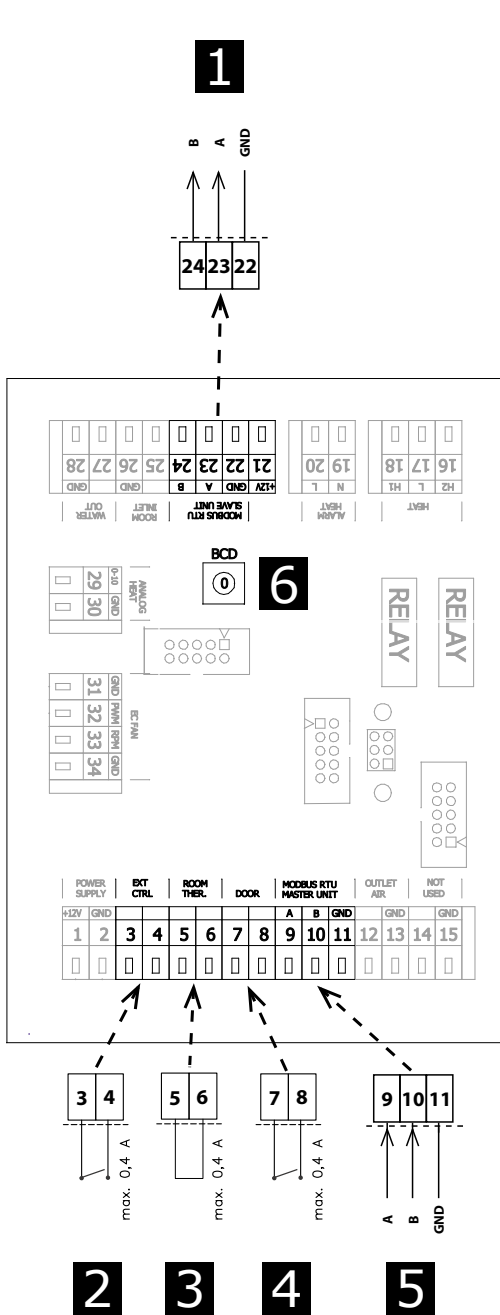
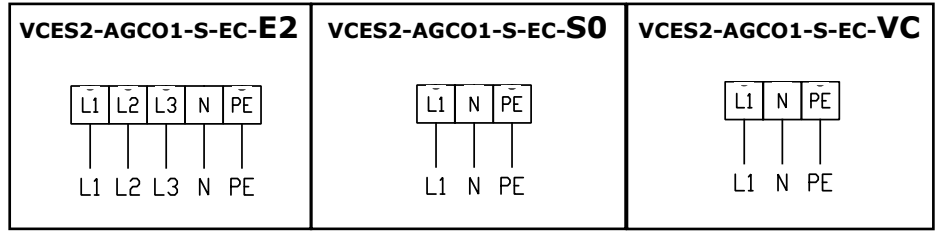
1	Control panel
2	Signal to SLAVE unit
3	ERROR contact (relay contact, NO/NC)
4	Water pump (relay contact)*
5	DOOR contact (input, NO/NC)
6	Room thermostats (input, NO/NC)
7	External control (input, NO/NC)
8	Outside air temp. sensor (include delivery)
9	Room temp. sensor (include delivery)
10	Water valve control connection (option 1 = ON-OFF, option 2 = 0-10V)*

* Available for VCES2-AGCO1-M-EC-VC only



WIRING DIAGRAMS

AirGENIO COMFORT SLAVE



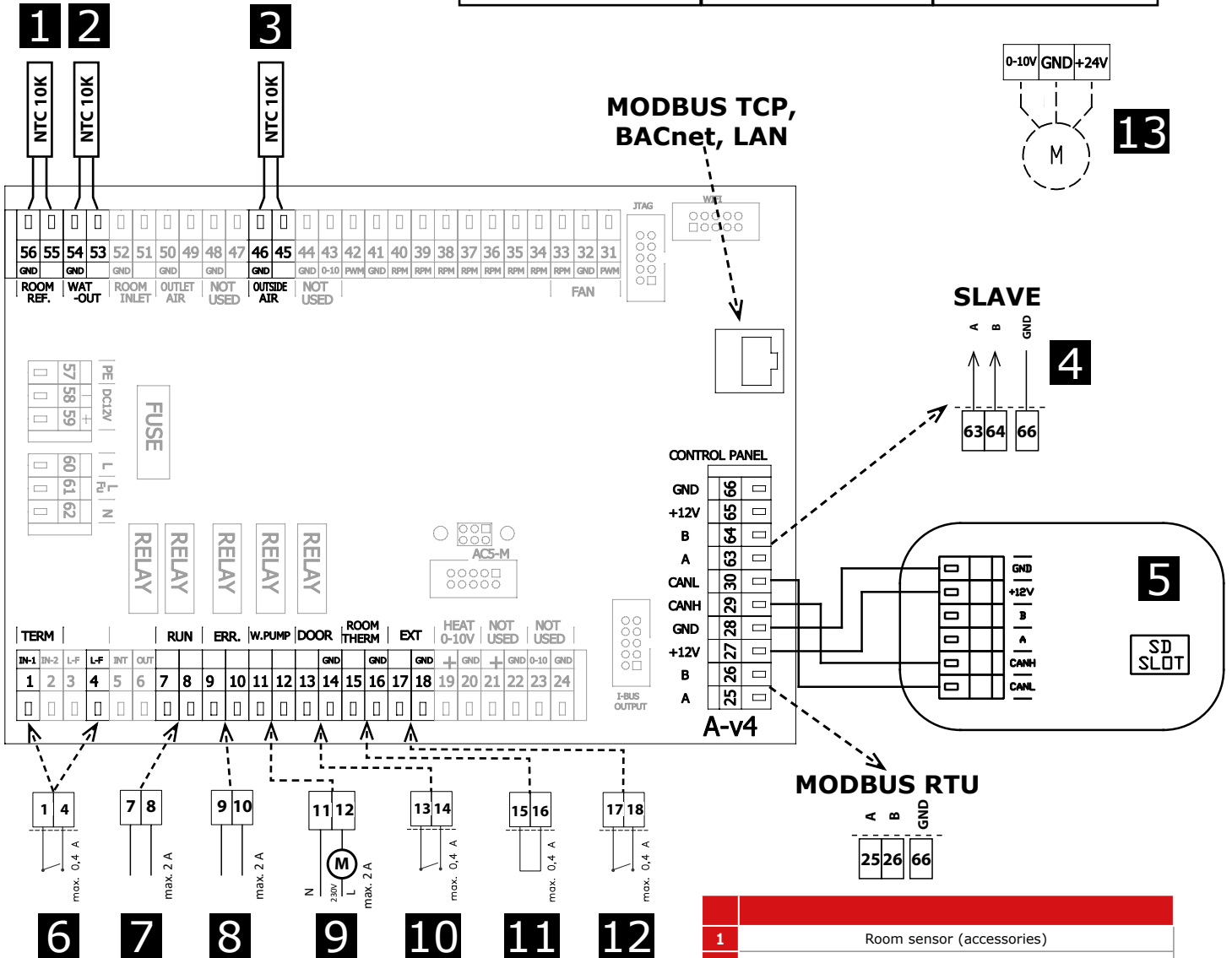
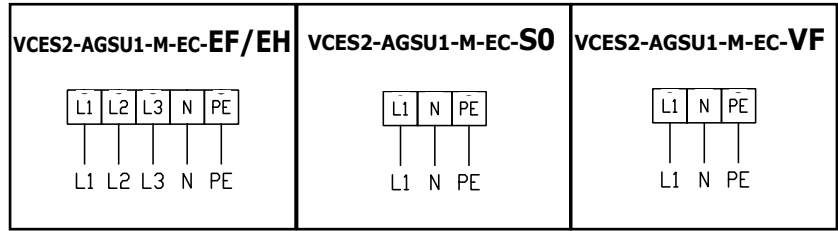
Terminal	Description
1	Signal to SLAVE unit
2	External control - ON/OFF
3	Room thermostat (input)
4	DOOR contact (input)
5	Signal from MASTER unit
6	Address of the slave air curtain
7	Water valve control connection (option 1 = ON-OFF, option 2 = 0-10V)*

* Available for VCES2-AGCO1-S-EC-VC only

6

SLAVE	BCD
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	A

WIRING DIAGRAMS
AirGENIO SUPERIOR MASTER



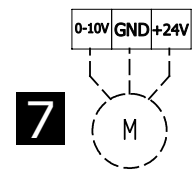
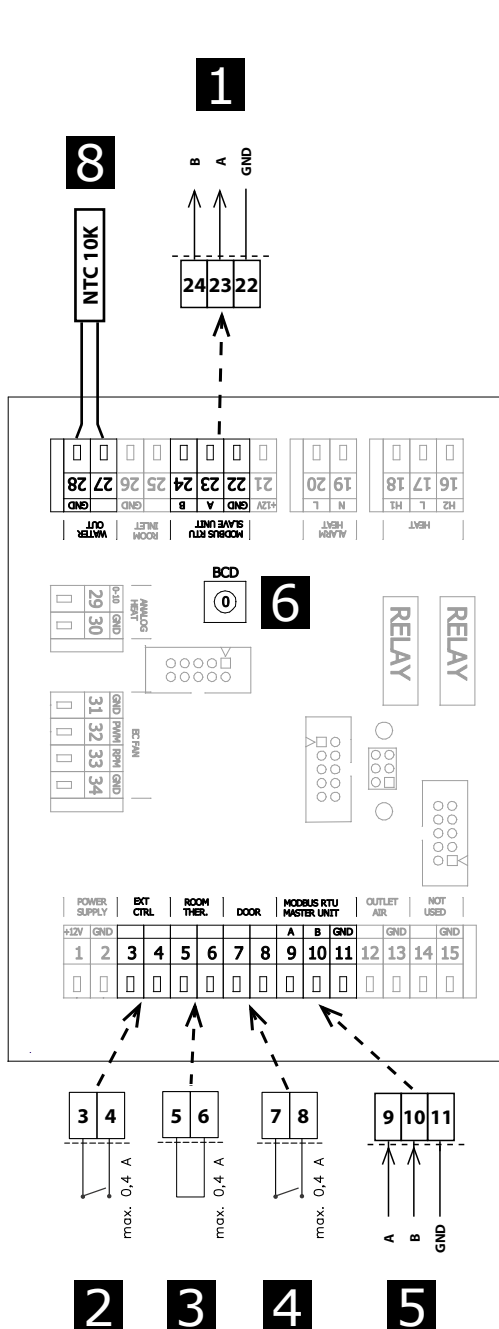
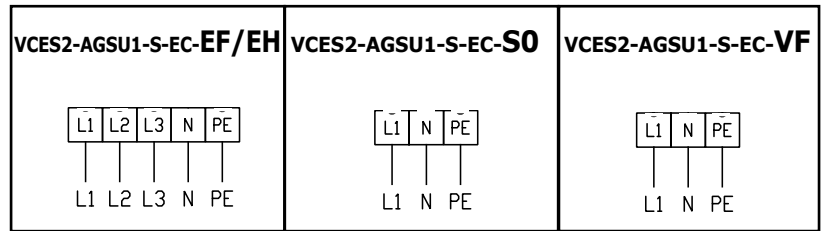
1	Room sensor (accessories)
2	Water return sensor (included in delivery)
3	Outside air sensor (included in delivery)
4	Signal to SLAVE unit
5	Control panel
6	Antifreeze thermostat (NC)
7	RUN contact (relay contact, NO/NC)
8	ERROR contact (relay contact, NO/NC)
9	Water pump (relay contact)
10	DOOR contact (input, NO/NC)
11	Room thermostat (input, NO/NC)
12	External control (input, NO/NC)
13	Water valve control (0-10V, 24V)*

* Available for VCES2-AGSU1-M-EC-VF only



WIRING DIAGRAMS

AirGENIO SUPERIOR SLAVE



Callout	Description
1	Signal to SLAVE unit
2	External control - ON/OFF
3	Room thermostat (input)
4	DOOR contact (input)
5	Signal from MASTER unit
6	Address of the slave air curtain
7	Water valve control (0-10V, 24V)*
8	Water return sensor (included in delivery)

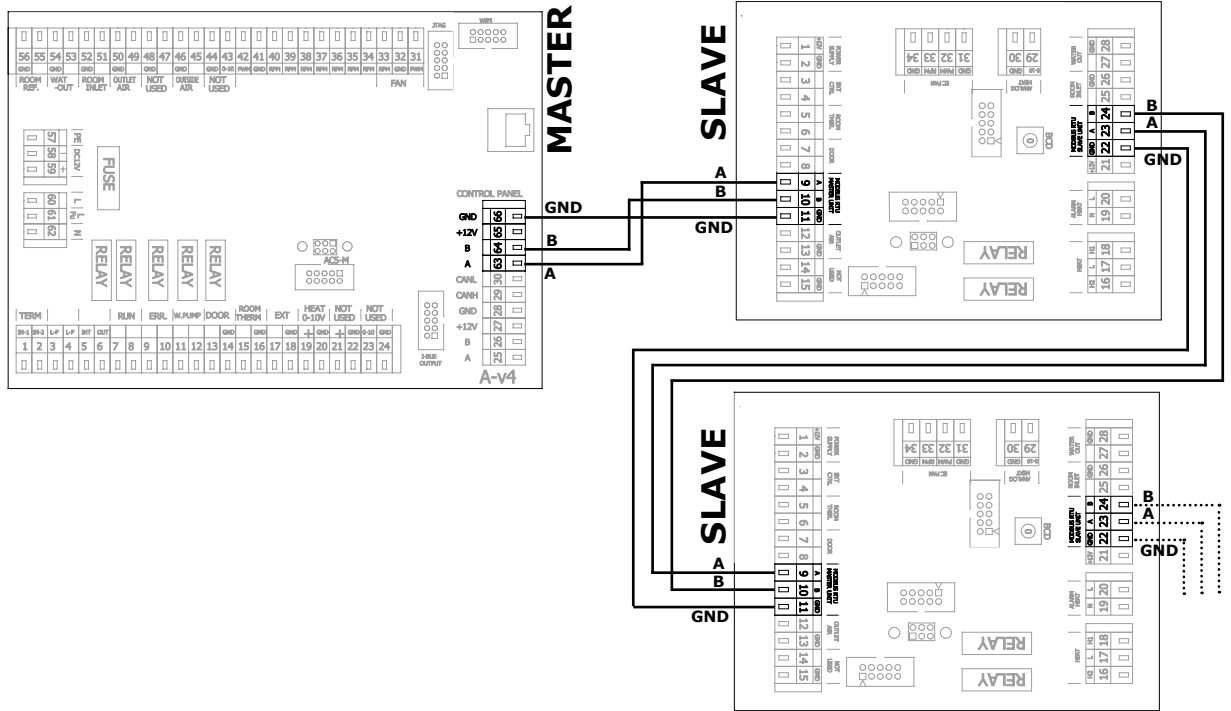
* Available for VCES2-AGSU1-S-EC-VF only

SLAVE	BCD
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	A

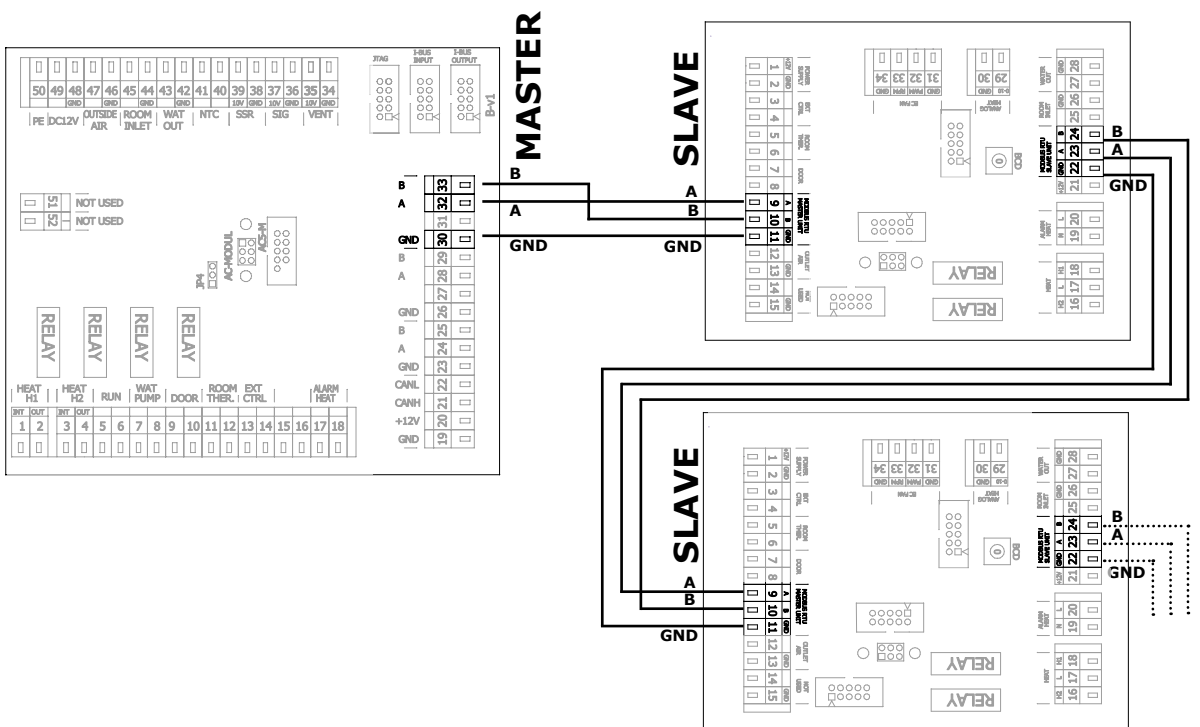


WIRING DIAGRAMS

AirGENIO SUPERIOR



AirGENIO COMFORT





KEY TO CODING

VCES2 B 100-E0 EC-CR-0 A0

