

Roof Fan DVG EC

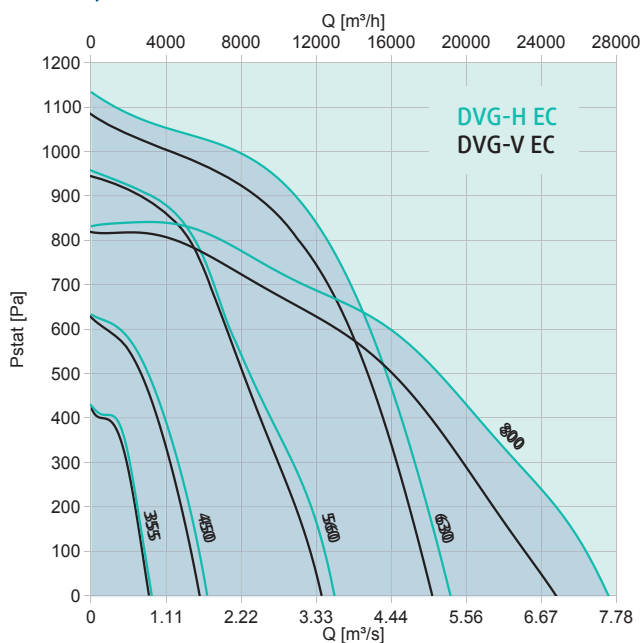
Smoke extraction and daily ventilation in one!



Roof Fan DVG EC



Quick selection



Technical data

Item No.	Model	Nominal voltage	Input power P ₁ [kW]	Current [A]	Max. airflow [m³/h]	R. p. m. [min ⁻¹]	Sound pressure level at 4/10 m [dB(A)]	Weight [kg]	Wiring diagram
95251	DVG-H 355EC/F400	1~230V	0,400	1,8	3250	1500	59/53	41	WD1
95252	DVG-H 450EC/F400	1~230V	0,925	4	6200	1450	67/60	53	WD1
95253	DVG-H 560EC/F400	3~400V	2,420	3,7	13100	1400	75/69	101	WD2
95254	DVG-H 630EC/F400	3~400V	5,065	8	19200	1455	78/72	110	WD2
95255	DVG-H 800EC/F400	3~400V	4,865	7,7	27600	930	81/72	192	WD2
95256	DVG-V 355EC/F400	1~230V	0,400	1,8	3100	1500	56/50	43	WD1
95257	DVG-V 450EC/F400	1~230V	0,925	4	5800	1450	65/58	57	WD1
95135	DVG-V 560EC/F400	3~400V	2,490	3,8	12300	1400	72/67	106	WD2
95136	DVG-V 630EC/F400	3~400V	5,055	8	18200	1465	75/69	115	WD2
95137	DVG-V 800EC/F400	3~400V	4,790	7,7	25100	930	74/66	199	WD2

- Normal ventilation + smoke and heat extract unit (dual use)
- Up to 400°C / 120 min (F400/120, F400/90, F300, F200)
- Normal ventilation up to 120°C continuous operation, up to 80°C in standstill (when the fan doesn't operate)
- Horizontal (DVG-H) exhaust or vertical exhaust (DVG-V)
- Service switch serial
- Suitable for coastal applications
- Wide range of accessories
- Tested acc. to EN 12101-3 at LGAI, Barcelona
- CE-certification acc. to EN 12101-3 at BSI, UK
- Snowload DVG-H SL 1000
- Snowload DVG-V SL 0 (for installation on top of the heated buildings)
- Meet ErP efficiency goal for dual use fans
- 1~ (200-265V, 50/60Hz) or 3~ (342-506V, 50/60Hz)
- EC (electronically commutated) high efficiency motor
- 0-10V speed control input
- Modbus control possible
- Fire mode integrated
- Speed regulator (HEATing or COOLing) built-in:
 - AN1 - set point, AN2 - sensor (PI setting via Modbus)
- RPM - skipping to reduce possible resonance

Ten models available, five for vertical and five for horizontal exhaust. The DVG smoke extract fans are used in case of fire to extract smoke gases from rooms, and also during normal working conditions for standard ventilation. Smoke-free escape ways increase the chances to rescue people in case of fire.

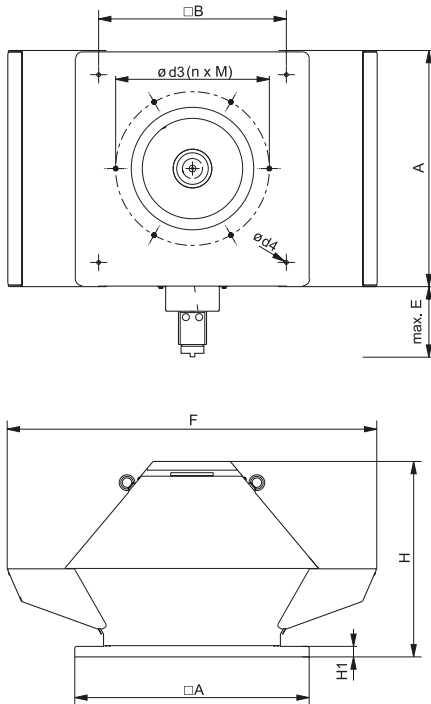
The casing is manufactured from seawater resistant aluminium. The base frame is made of pre-galvanized steel, zinc-magnesium (ZM) coated. The impeller with backward curved blades is manufactured from pre-galvanized steel (sizes 355, 450), respectively from steel, welded and galvanized (sizes 560 to 800). Motor outside air stream is cooled with fresh air. Connection to power supply in the service switch, connection to controller in the connection box on the casing.

Insulation class, motor F; enclosure class, motor IP54

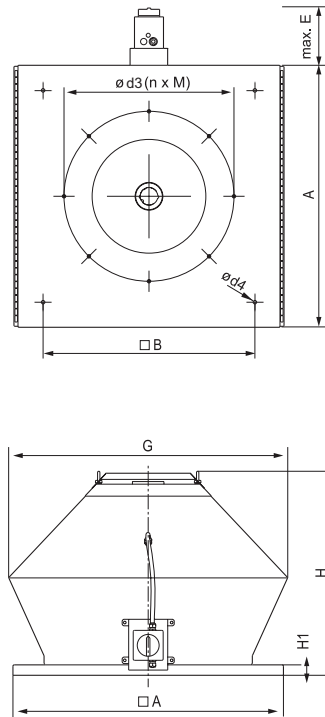
Dimensions

DVG EC	A	B	ø d4	F	G	ø d3 (n x M)	ø duct	H1	H	E
355	598	450	12	1003	704	438 (6xM8)	400	30	580	240
450	668	535	12	1261	854	438 (6xM8)	400	30	650	240
560	943	750	14	1540	1078	620 (12xM8)	560	30	773	240
630	1039	840	14	1573	1072	690 (12xM8)	630	40	858	240
800	1255	1050	14	2024	1280	860 (16xM8)	800	40	999	240

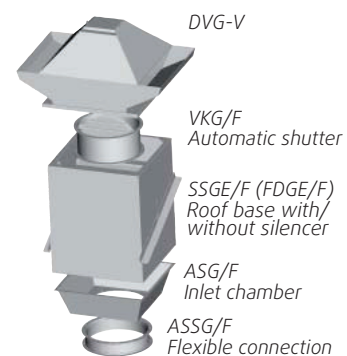
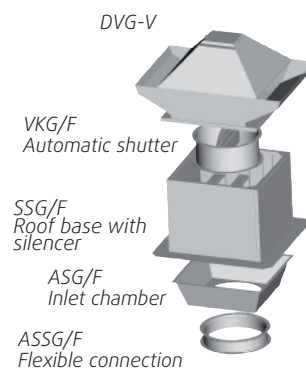
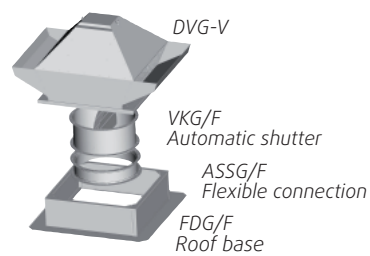
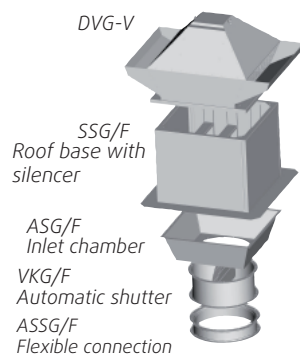
DVG-V/F



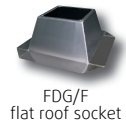
DVG-H/F

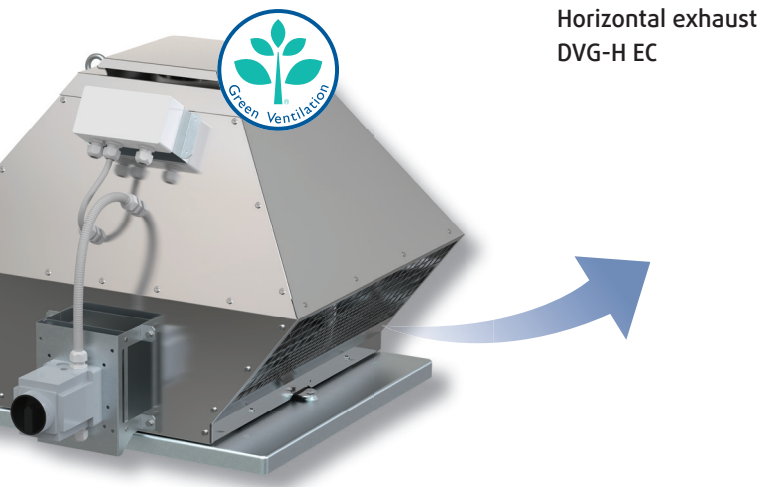


DVG installation examples

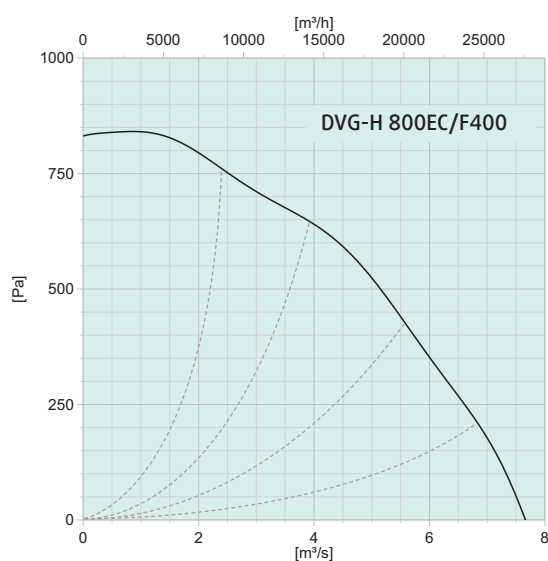
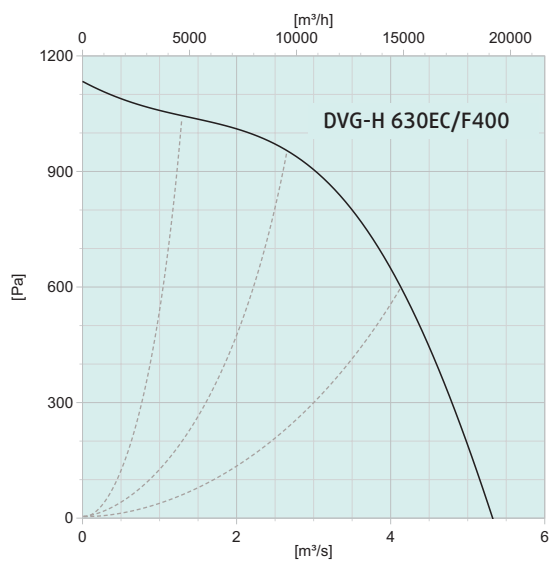
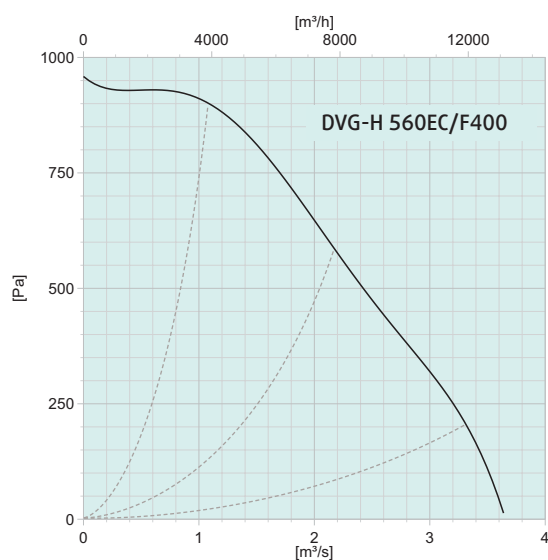
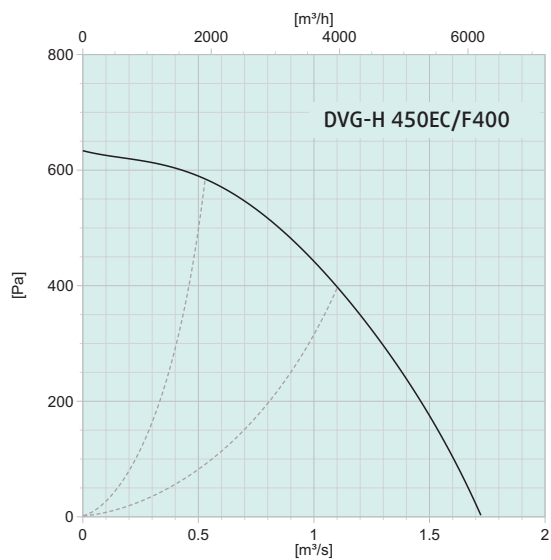
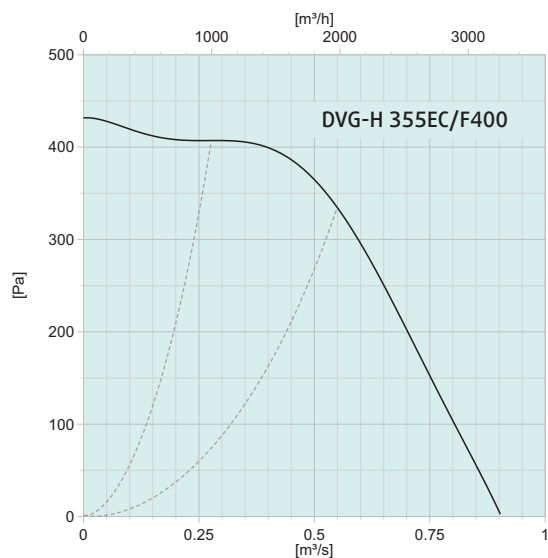


Accessories



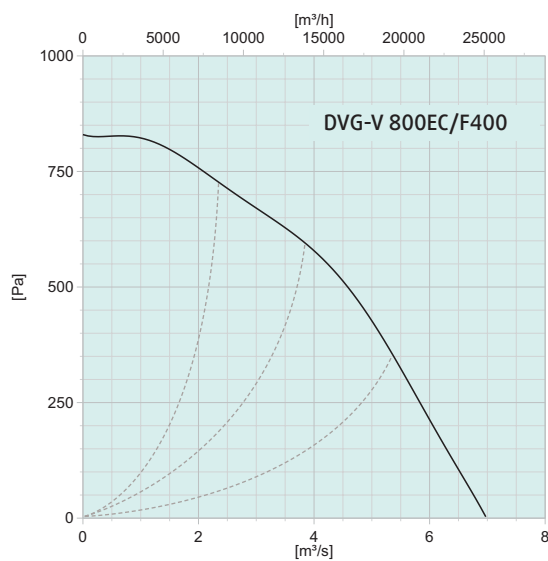
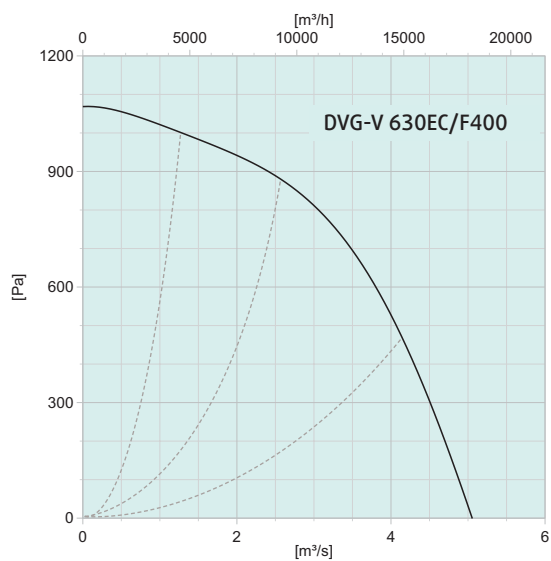
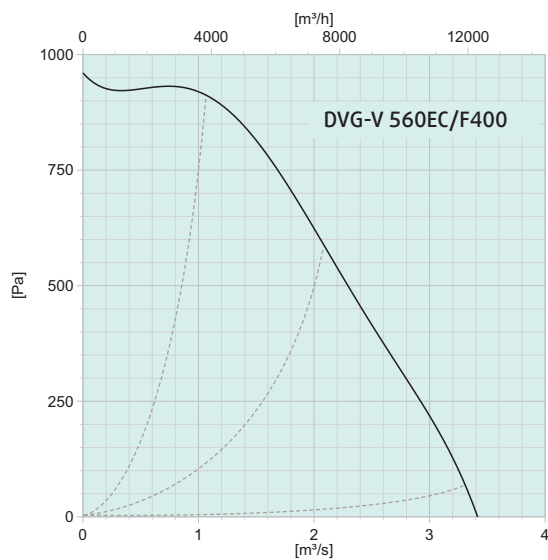
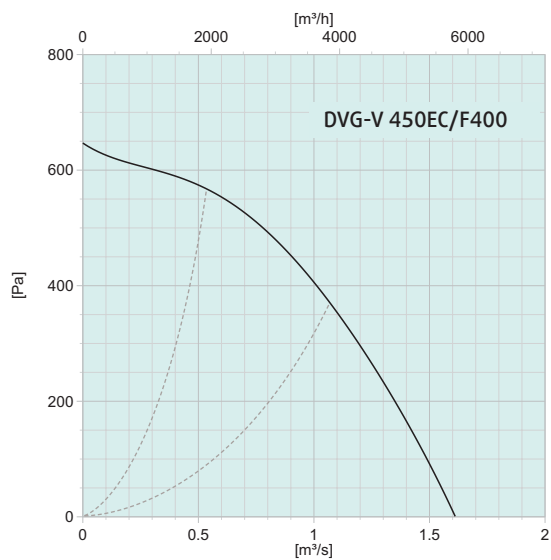
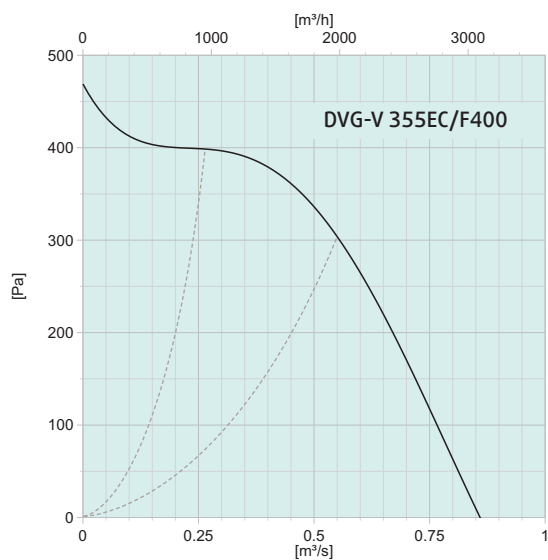


Diagrams with dashed system curves





Vertical exhaust
DVG-V EC



Examples of use



Beside smoke and heat extraction, DVG EC can also be used for other ventilation purposes

Intelligent control system can also control demand fan operation, based on external sensor demands (CO, CO₂, humidity, temperature,...).

Industry, Car Park Systems



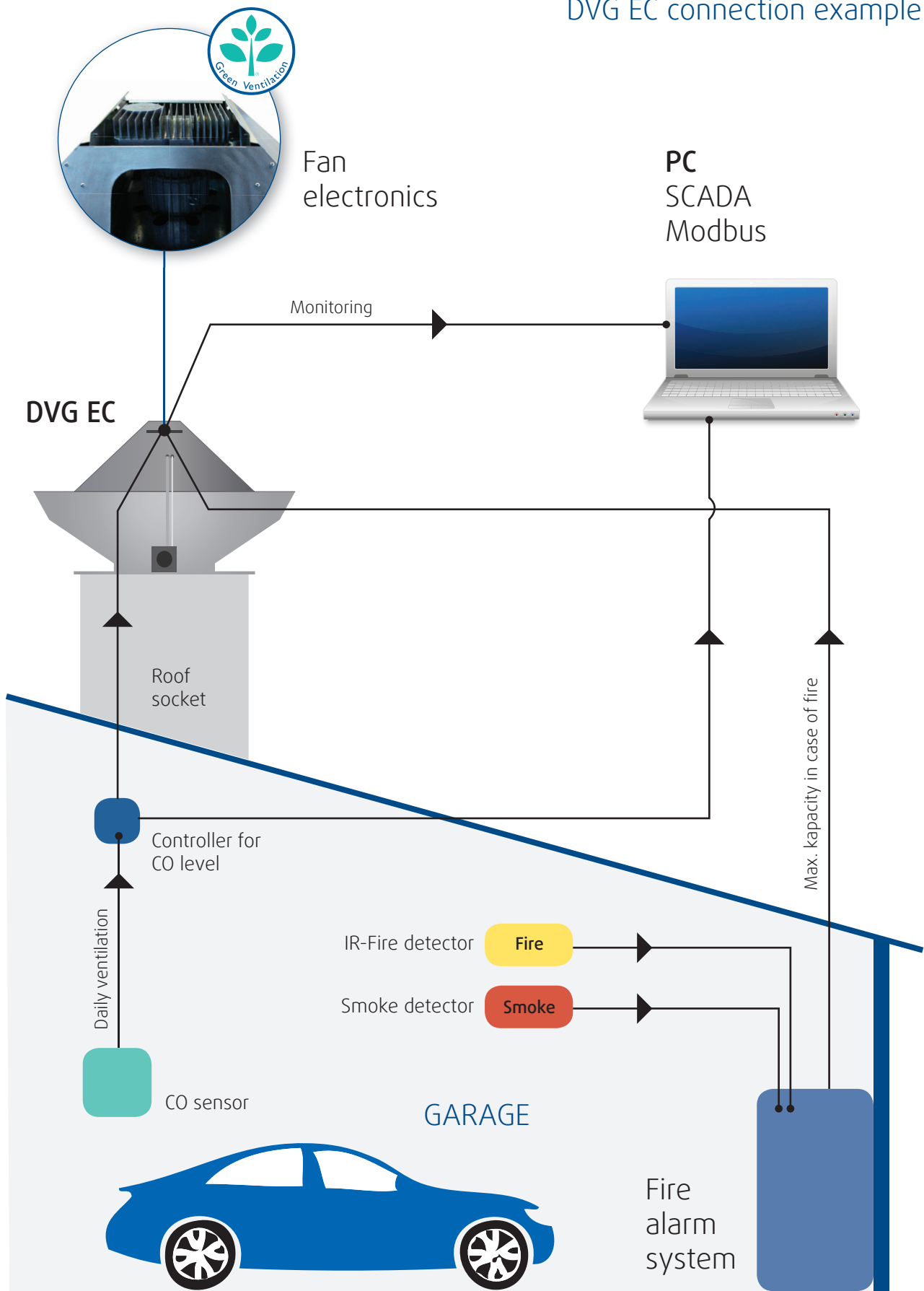
Healthcare, Fitness, Gyms



Shopping Malls, Showrooms, Kitchen exhaust

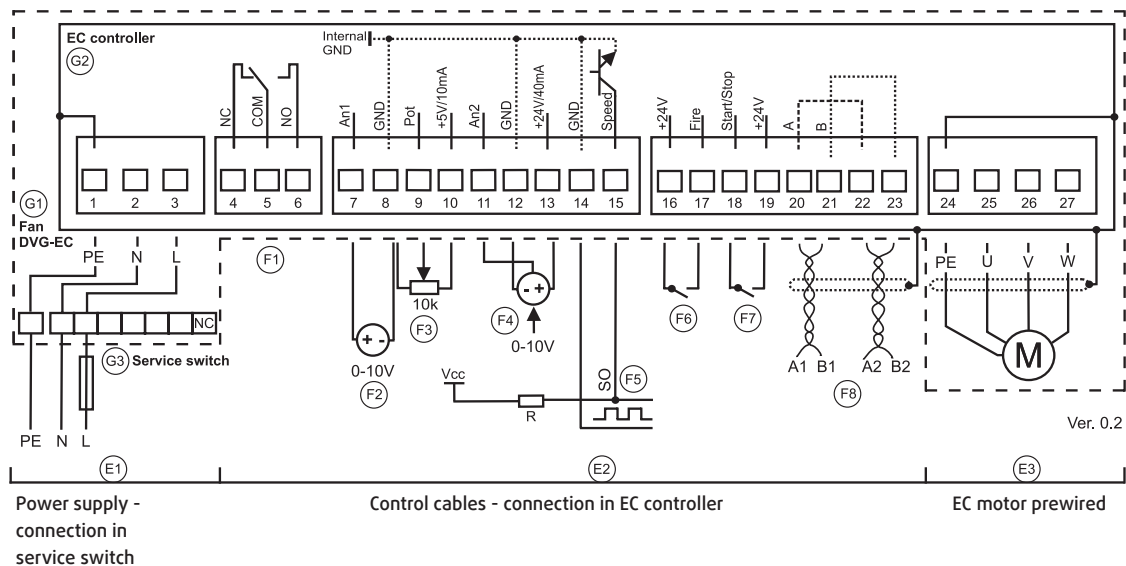


DVG EC connection example

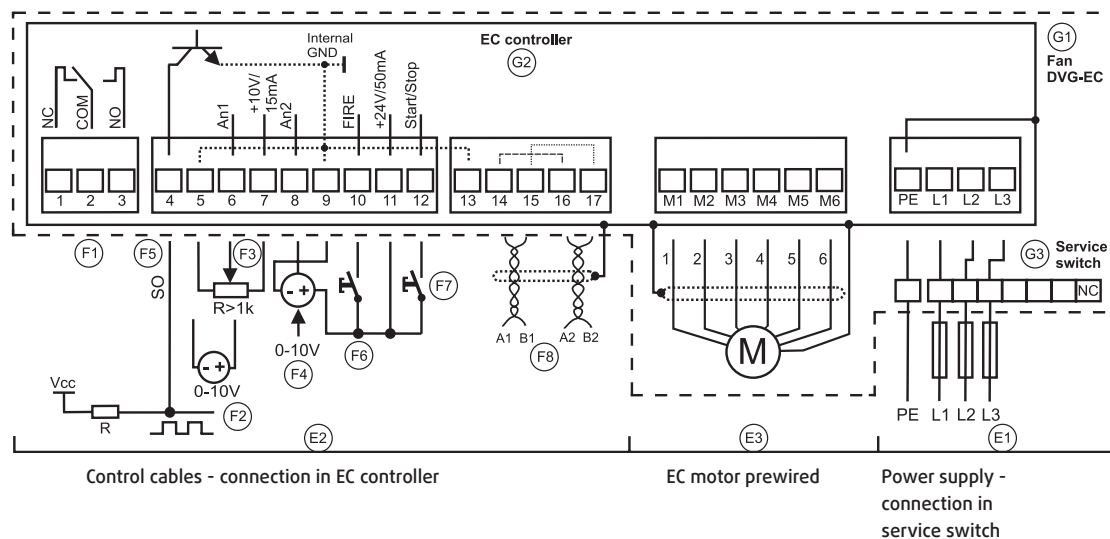


Wiring diagrams

WD1 (1~230V)



WD2 (3~400V)



Connection

Max. cross-section of power supply wires: 2,5 mm²
 (4 mm² without core end sleeves)
 Cable glands on service switch for power supply: 1xM20x1,5
 Service switch ON-OFF, 6-pole + 1x NC
 Max. cross-section of control wires: 1,5 mm²
 Cable glands of control part: 2x M20x1,5

Functions

F1 Fault relay
 F2 Analog input for set value / speed setting
 F3 Potentiometer for speed setting
 F4 External sensor
 F5 Speed output
 F6 FIRE mode (open = FIRE)
 F7 Start / Stop switch (open = stop)
 F8 Modbus connection

Electrical accessories - connection examples

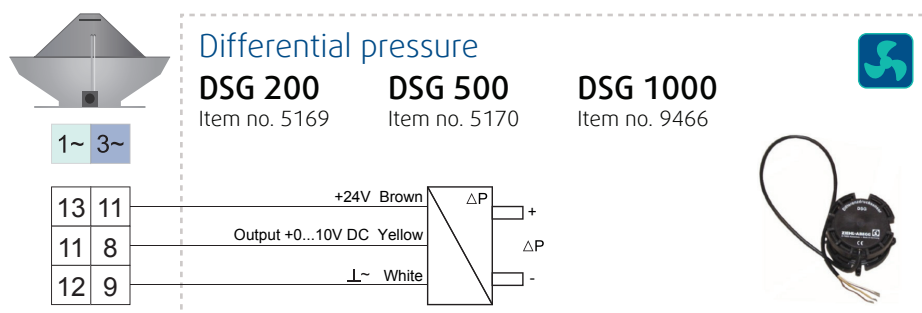
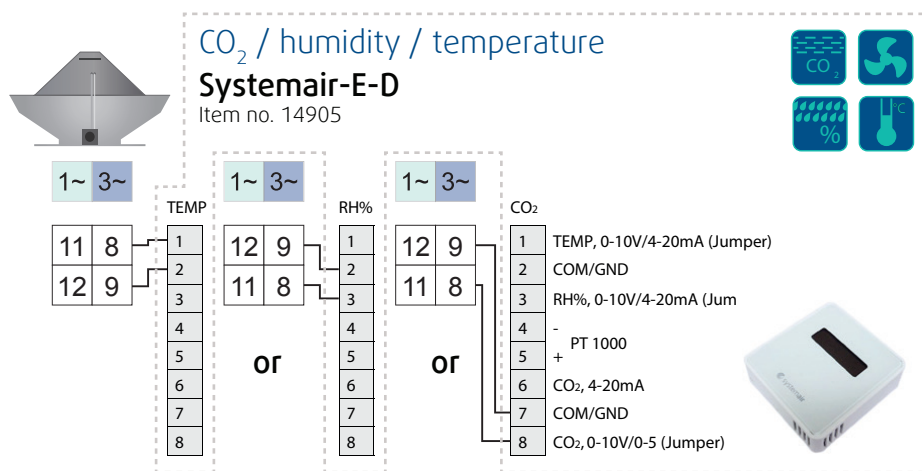
If the fan is supposed for fire ventilation too, switch to fire mode must be controlled by fire control system.

Accessories (sensors with output 0-10V) for daily ventilation, controlled by internal PI regulator (integrated in fan)

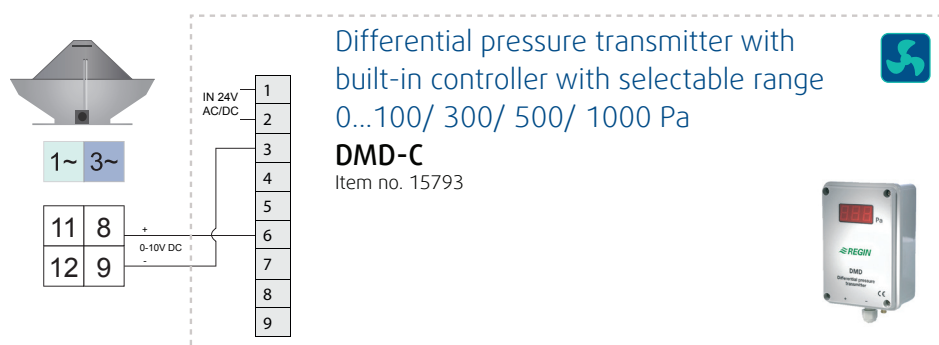
Setup of internal PI regulator via Modbus.

For use of internal PI regulator two analog signals (0-10V) are needed.

- First one, which defines target (set point) value of regulated property (temperature, humidity, CO₂,.....) with analog signal connected to AN1 (connection 7 at 1~, 6 at 3~)
- Second one, which defines actual measured value of regulated property (temperature, humidity, CO₂,.....) with analog signal from sensor, connected to AN2 (connection 11 at 1~, 8 at 3~)



Accessories with built-in PID controller



Electrical accessories



Systemair-E-D
CO₂, humidity,
temperature sensor



DSG 200, 500, 1000
differential pressure
sensor



Differential pressure
transmitter with built-in
PID controller



MTP 20
on/off, 3-step manual
speed controller



MTV-1/010
controller for manual
speed control



MTP 10
Potentiometer for
manual speed control



S-5EC/FRQ
5 step switch for man-
ual speed control



CO2RT-R-D
CO₂ sensor

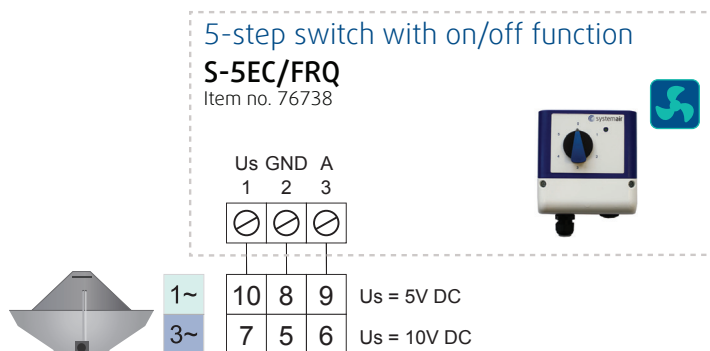
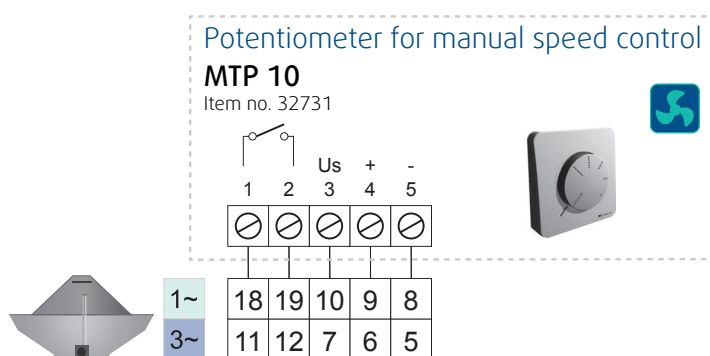
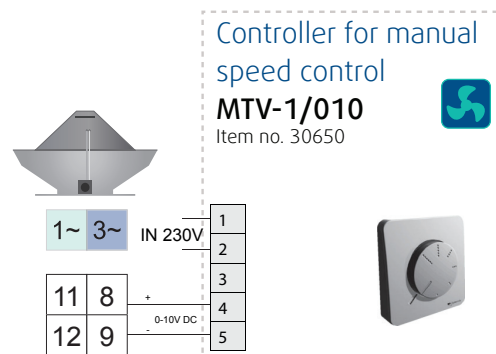
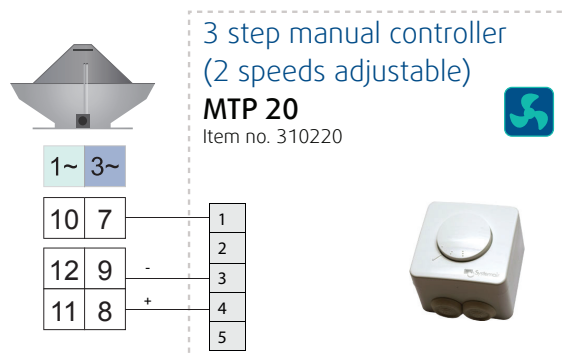


EC-Vent control
board

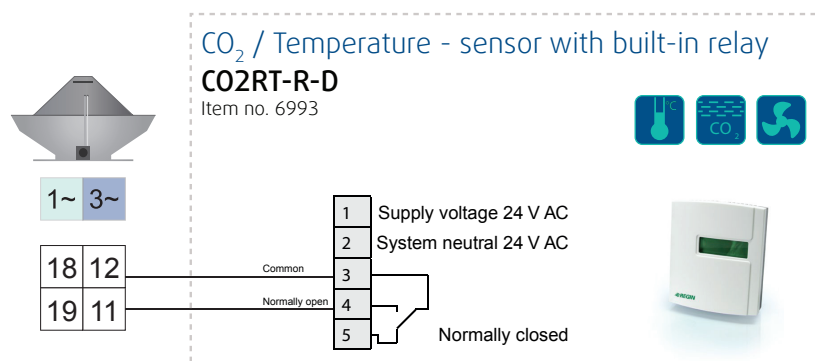


EC-Vent room
unit

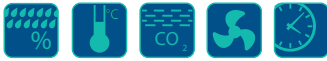
Accessories for manual control of speed for daily ventilation



Accessories for daily ventilation (switches ON-OFF)



EC-Vent

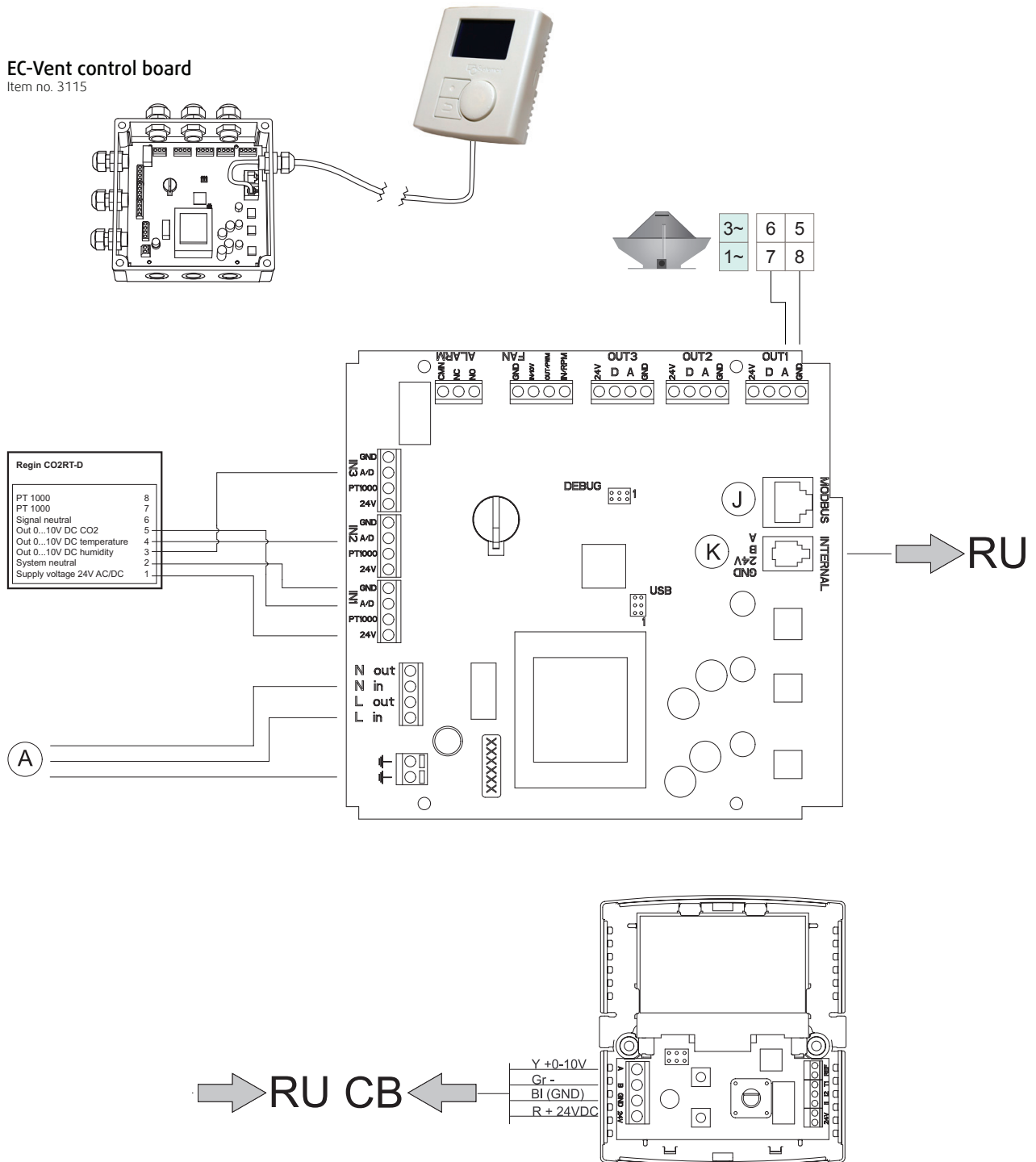


EC-Vent Room Unit

Item no. 3018

EC-Vent control board

Item no. 3115



The wiring of 1~ DVG EC and EC-Vent (the wiring of 3~ DVG EC is analogue)

The markings of EC-Vent as in instruction (A = power supply, RU = room unit, CB = computer board)

