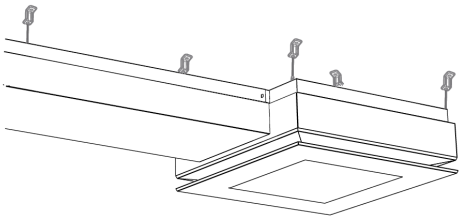
ADAPT Parasol EXb

Installation – Commissioning – Maintenance

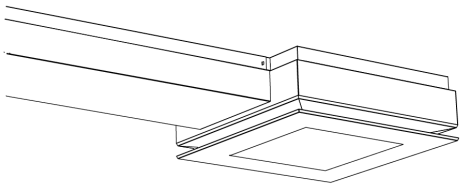
20170915

Installation

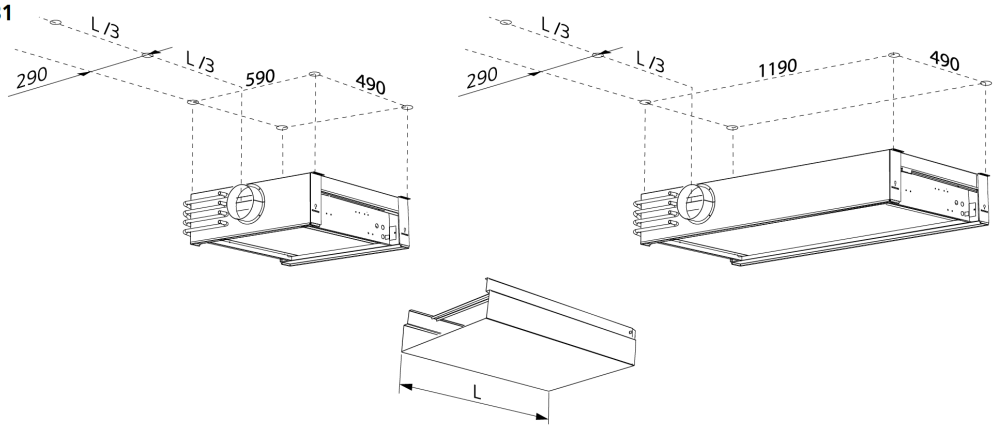
Ⓐ



Ⓑ



A1, B1



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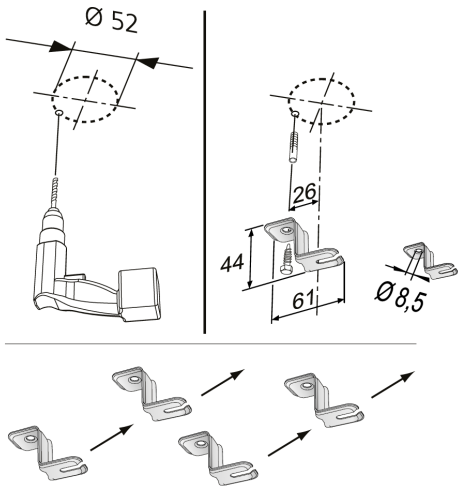
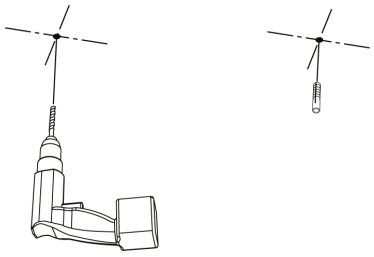


B2



Swegon

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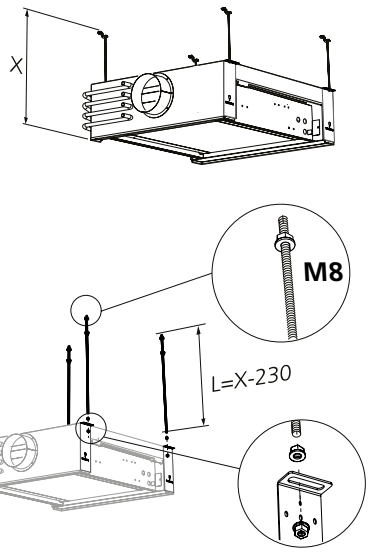
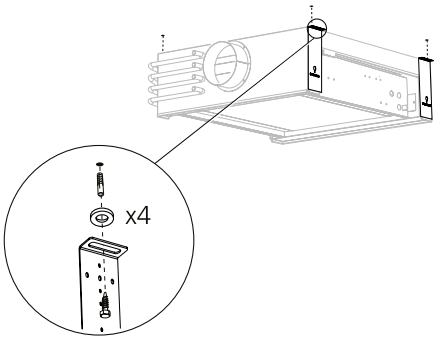
Als het om lucht gaat.

AUERHAAN KLIMAATTECHNIEK

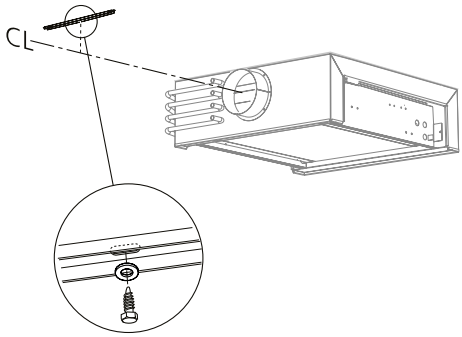
A3



B3



B4



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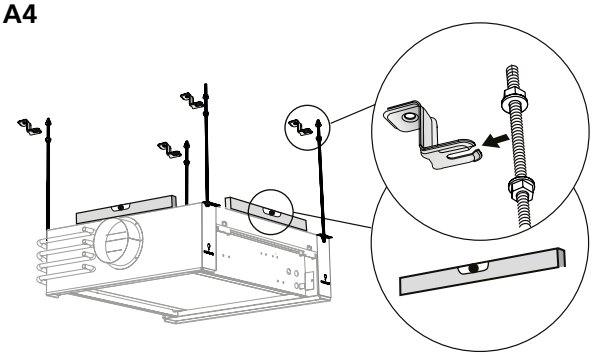
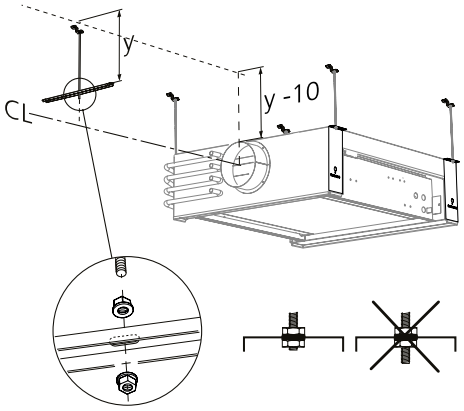
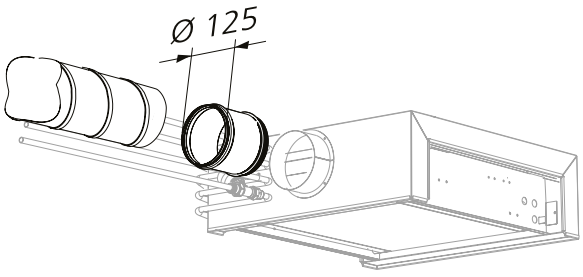


A5



A6, B5

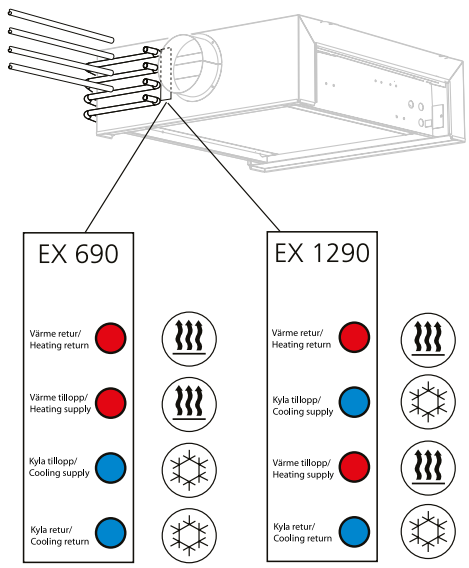


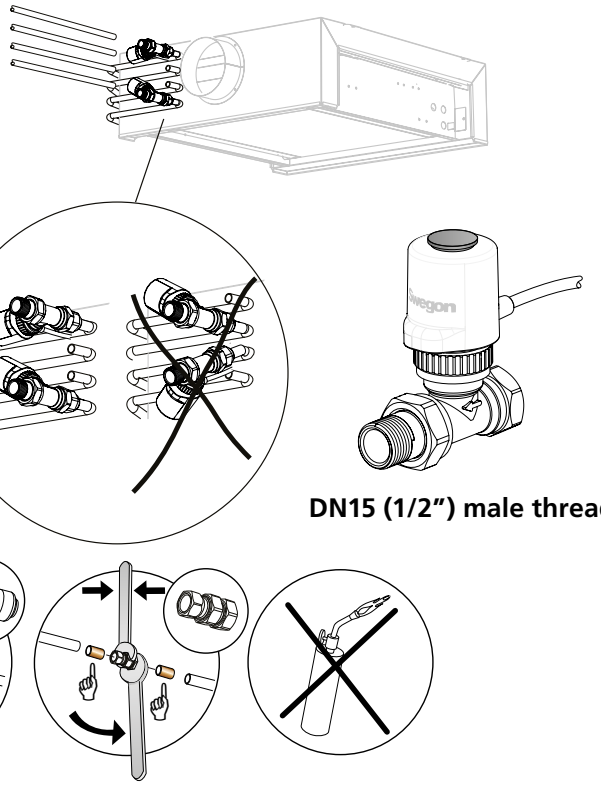
Swegon reserves the right to alter specifications.

Water

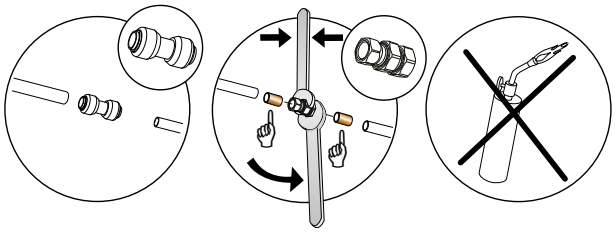
A7, B6

Cu Ø12 x 1,0mm





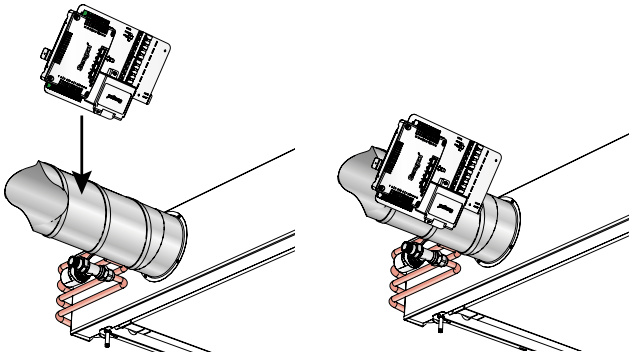
DN15 (1/2”) male threads

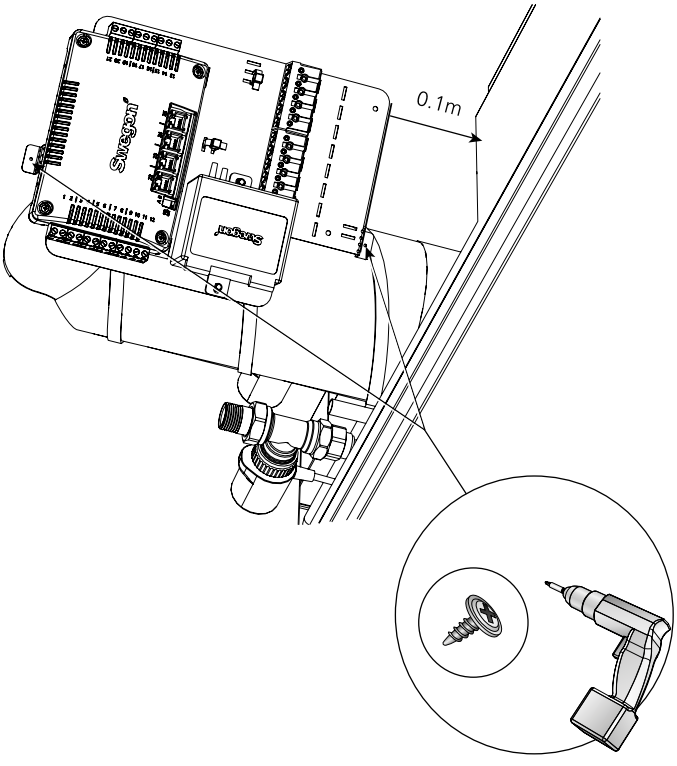


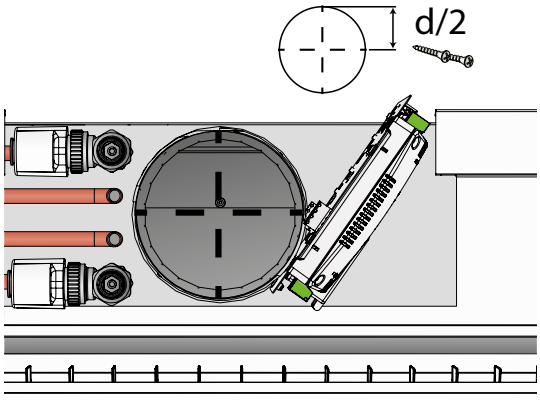
Note that clamp ring couplings require support sleeves inside the pipes.

Control equipment

A8, B7

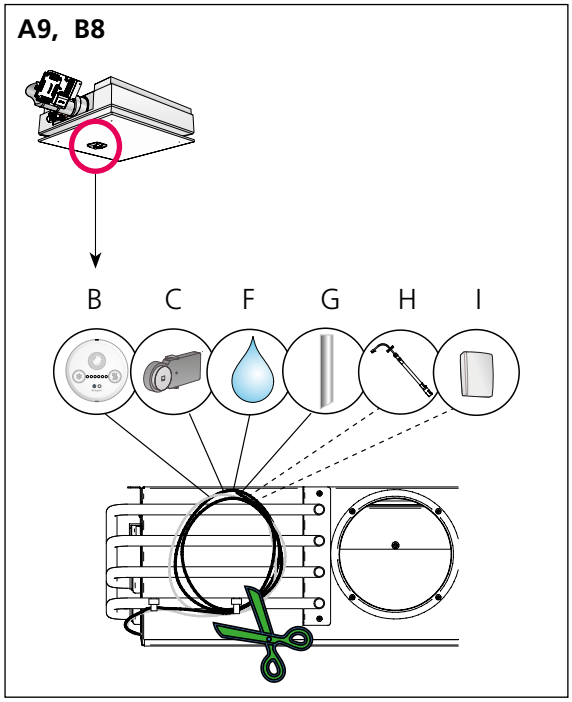




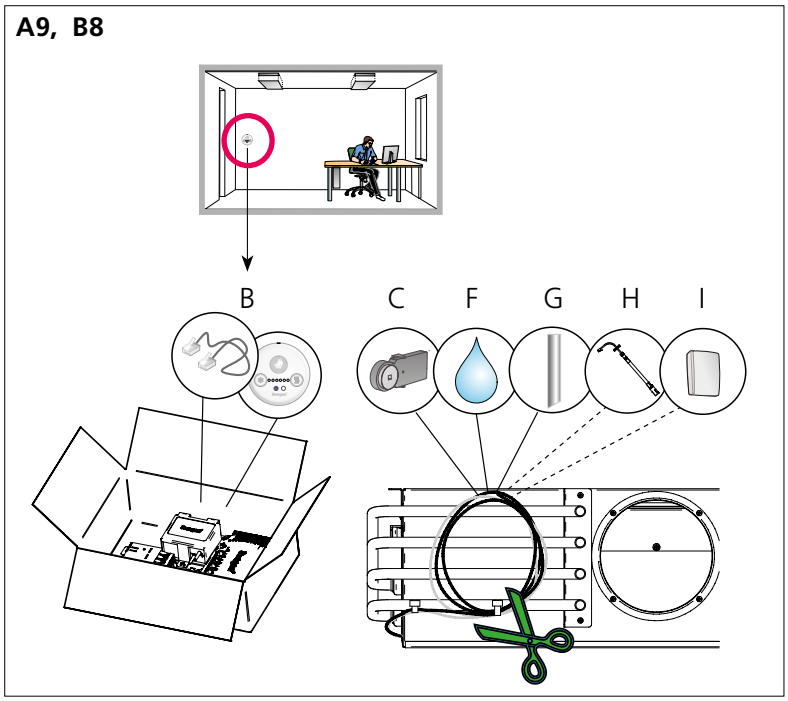


Wiring

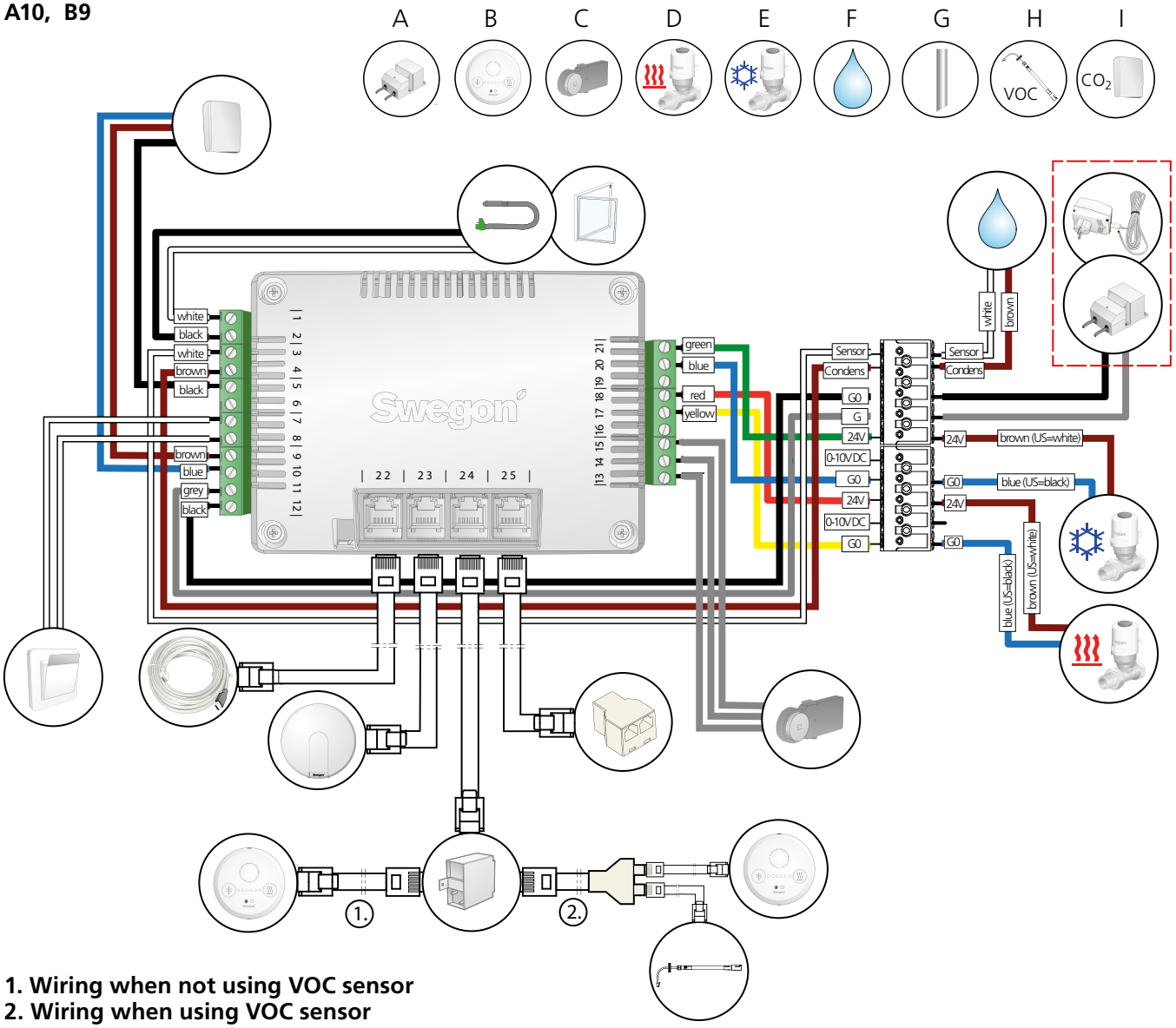
A9, B8



A9, B8



A10, B9



1. Wiring when not using VOC sensor
2. Wiring when using VOC sensor

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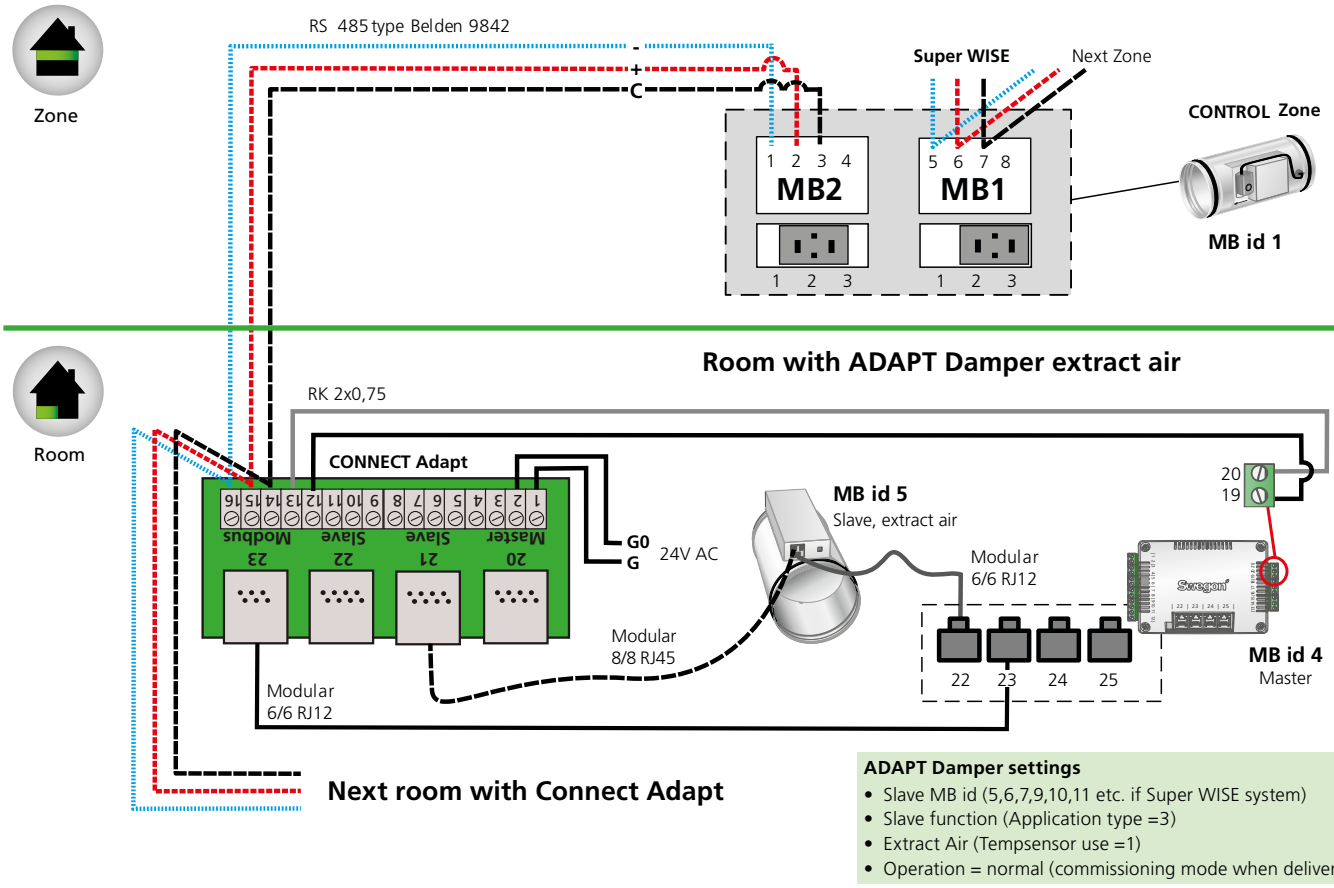
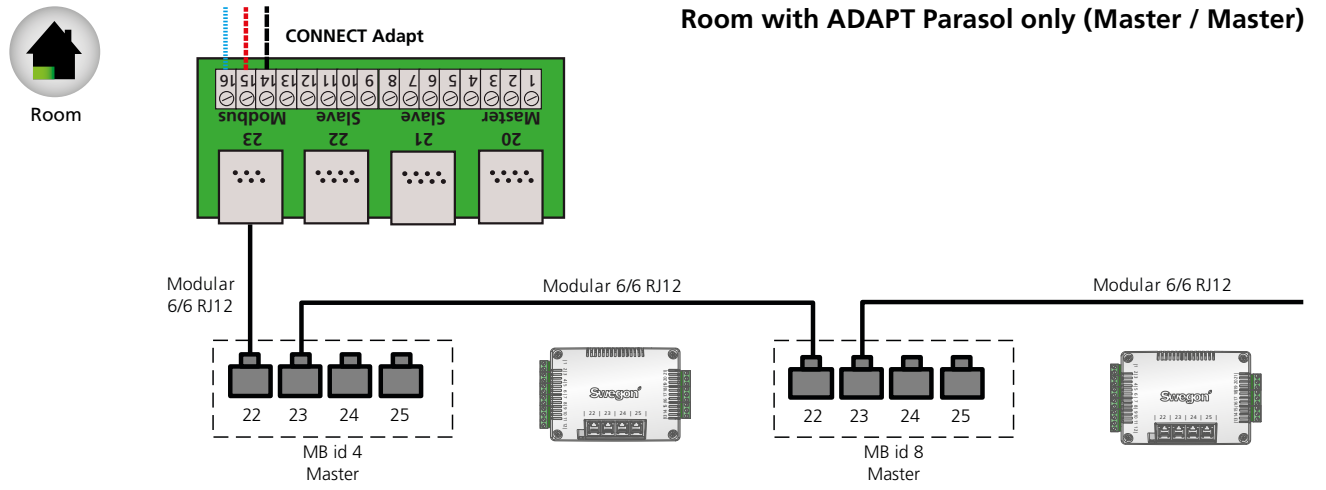
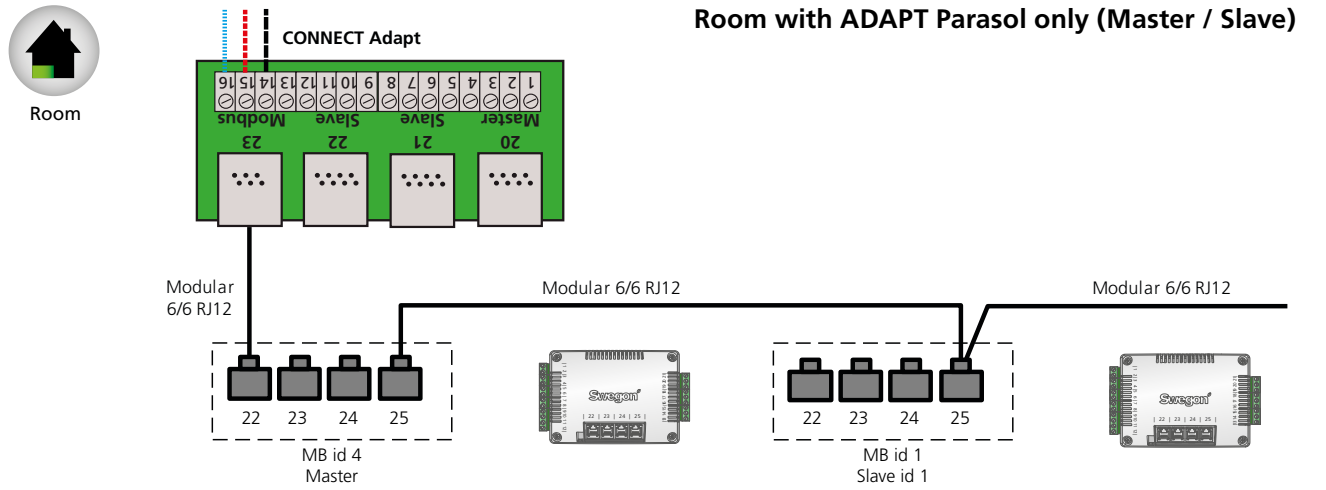


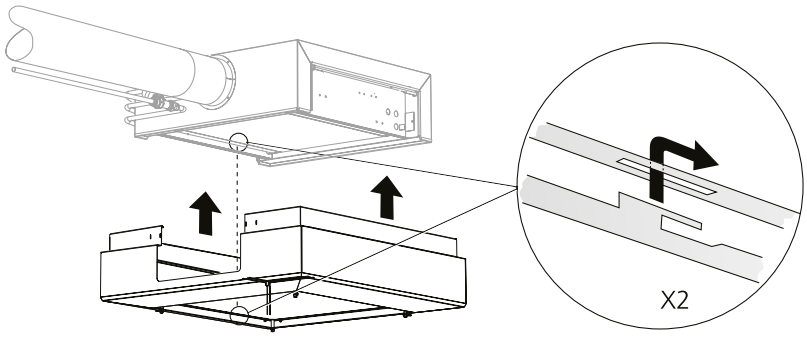
ADAPT Damper settings

- Slave MB id (5,6,7,9,10,11 etc. if Super WISE system)
- Slave function (Application type =3)
- Extract Air (Tempsensor use =1)
- Operation = normal (commissioning mode when delivered)

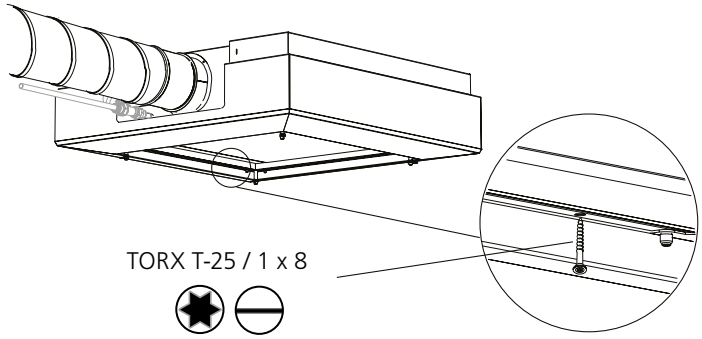




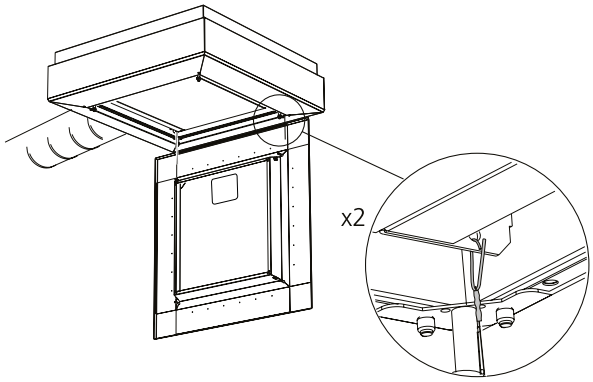
A11, B10



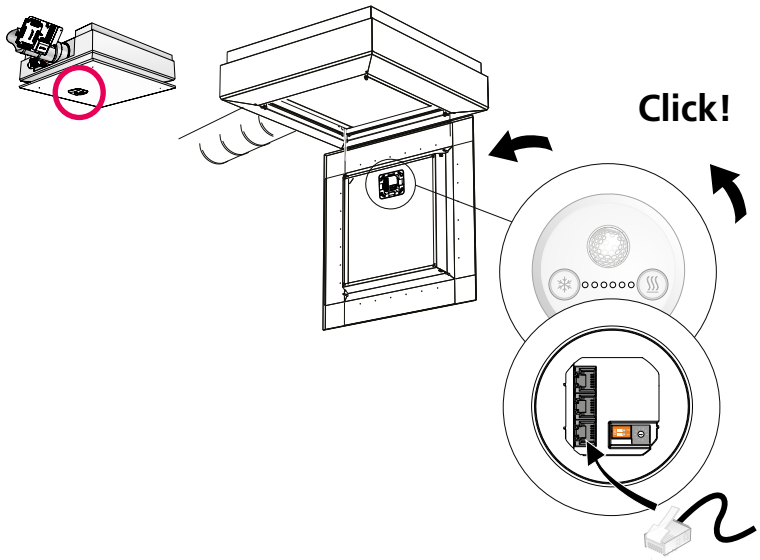
A12, B11

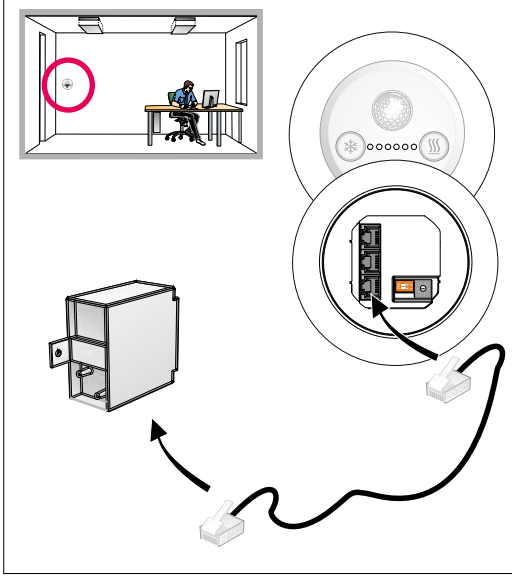


A13, B12



A14, B13





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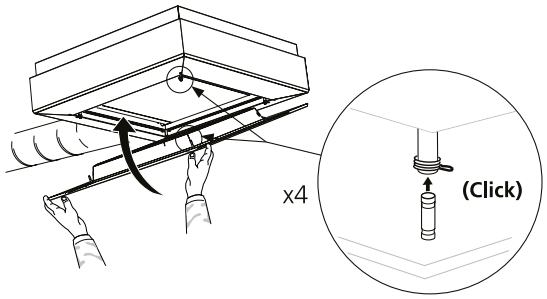
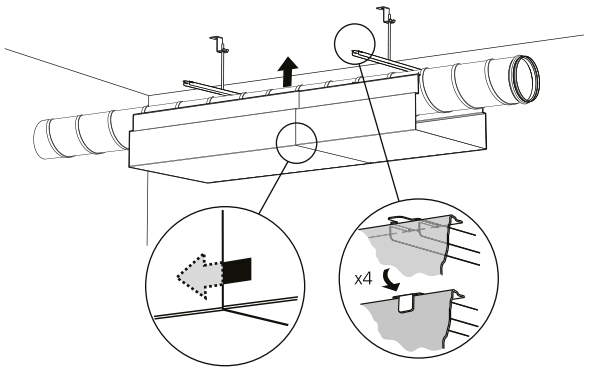
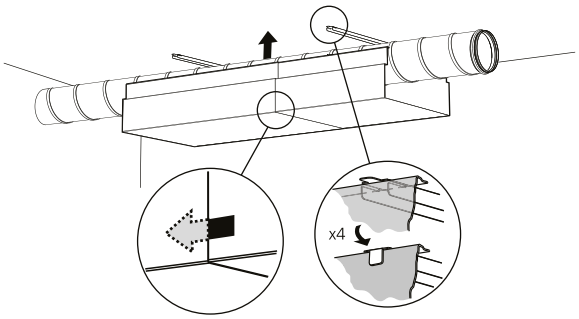
A15, B14



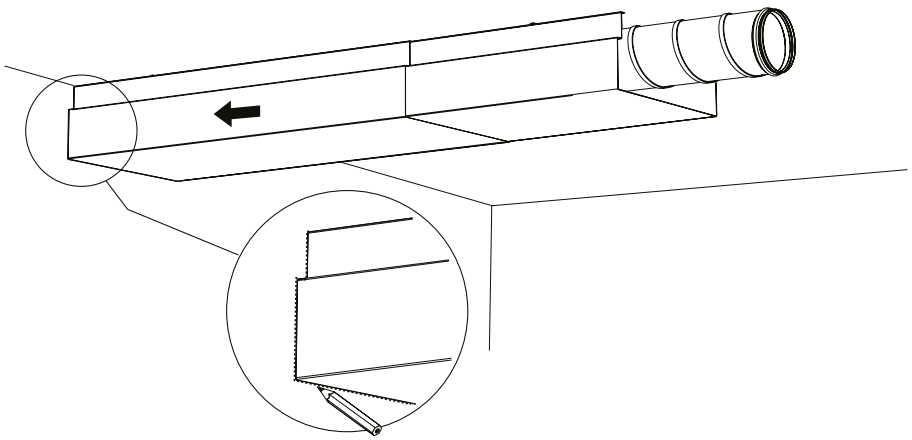
A16



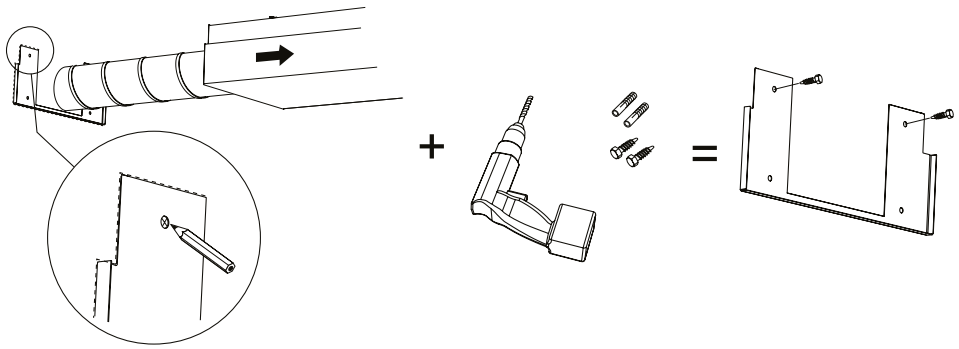
B15



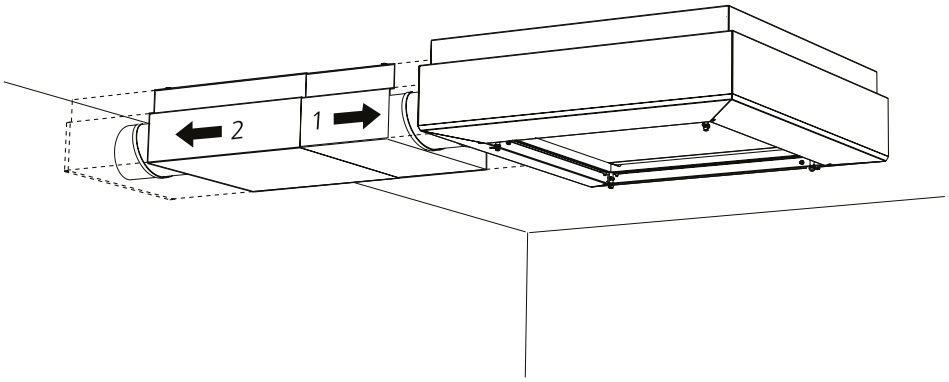
A17, B16



A18, B17



A19, B18



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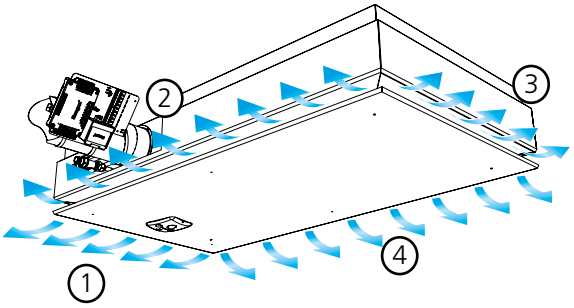
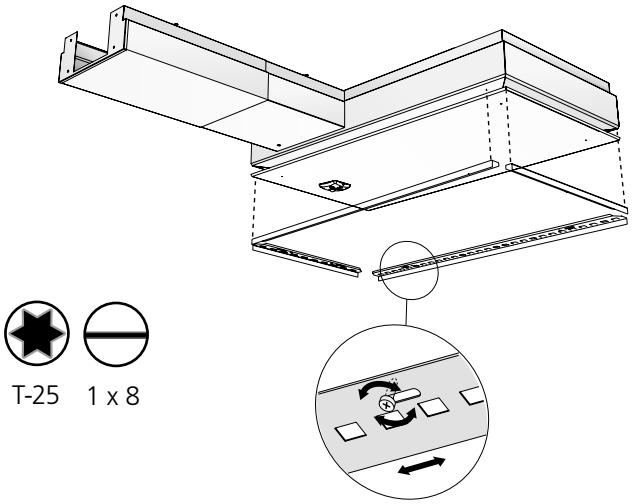
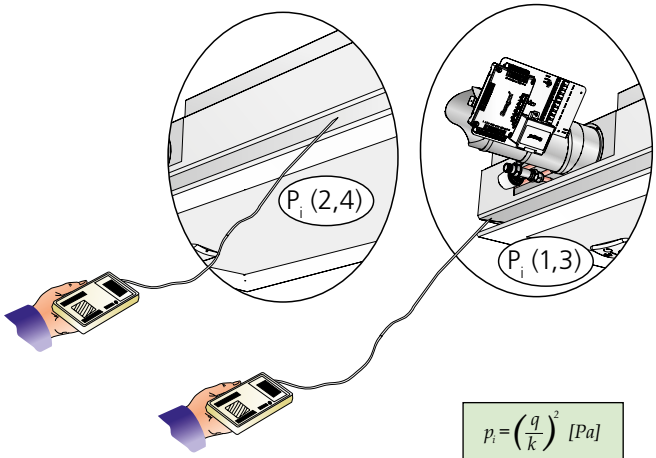
Commissioning





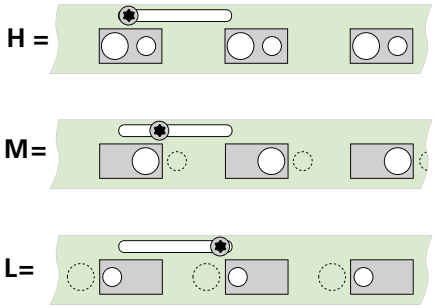


$$p_i = \left(\frac{q}{k}\right)^2 \; [Pa]$$

$$q = k \cdot \sqrt{p_i} \; [l/s]$$

[pi Pa]
q [l/s]
k = k-factor

Nozzle configuration
H ⟶ M ⟶ L



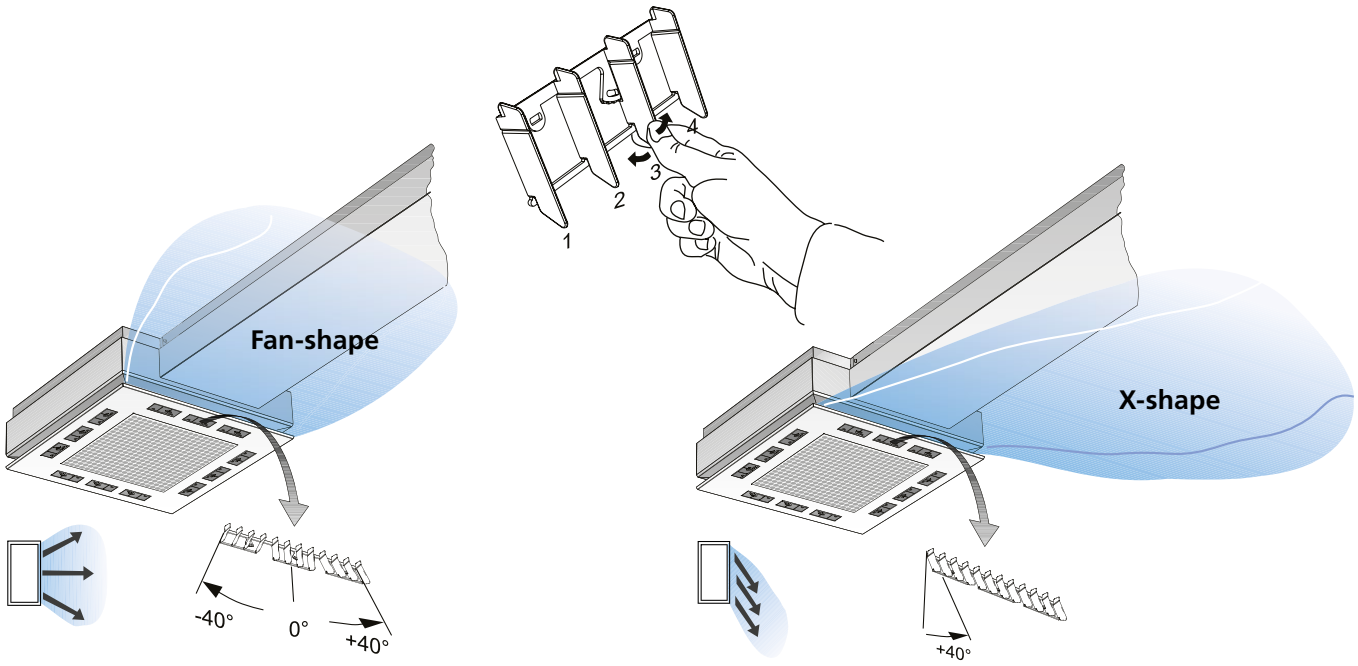
ADAPT Parasol EX	Nozzle setting per side	Side	k-factor
690	L	1&3	0,253
690	L	2&4	0,253
690	M	1&3	0,44
690	M	2&4	0,44
690	H	1&3	0,693
690	H	2&4	0,693
1290	L	1&3	0,253
1290	L	2&4	0,665
1290	M	1&3	0,44
1290	M	2&4	1,16
1290	H	1&3	0,693
1290	H	2&4	1,825

① k (1+3) + p_i (1,3) => q (1+3)
The K-factor of the short sides together with the commissioning pressure reading of these equals the flow of the short sides, 1&3.

② k (2+4) + p_i (2,4) => q (2+4)
The K-factor of the long sides together with the commissioning pressure reading of these equals the flow of the long sides, 2 & 4.

③ q tot =q (1+3) + q (2+4)
The product's total flow is the sum of the above.

NB! p_i (1,3) ≠ p_i (2,4)
NOTE: The commissioning pressure is different for the long sides (2 & 4) and the short sides (1 & 3).



Commissioning/Checking the airflows

Constant pressure in the zone with the CONTROL Zone damper or similar damper.

- Check that all the WISE products are energized.
- Make sure that all the ADAPT Parasol EX modules have their correct K-factors.
- Make sure that all the modules are set to the max. flow commissioning mode. (On delivery, the product is set to this mode, 3 blue LEDs + 3 red LEDs are lit).
- Connect up to the control unit on the ADAPT Parasol EX (see separate SWICCT instructions) and carry out a performance check.
- Test the operating modes, the min./max. flows, open/close the actuators. If the ADAPT Parasol EX has been configured at the factory, check that the settings agree with the project design data. If the module is an ADAPT Parasol EX stock (stocked product), it must be programmed according to the data for which the product has been calculated. Make also sure that the Modbus addresses agree if SuperWISE or some other BMS system will be used.
- If SuperWISE will be used, make sure that all products are in the SuperWISE tree structure. If all the products are not in the tree structure, look over the Modbus addresses via SWICCT and check cables and connections. (See the separate instructions for the SuperWISE).
- Make sure that the pressure sensor and sensor module have the correct Modbus address. The Master must have a 0 setting on the pressure sensor and sensor module. Set the Slaves, if required, in number sequence: 1, 2, 3, 4, 5, 6, 7, 8, 9
- Before you begin commissioning, make sure that the air handling unit is started up and the fire damper, if required, is fully open and that the zone damper is in full operation.
- Check the flow compared to the max. flow in the zone, adjust the pressure set point until the correct flow is obtained with TUNE Control. If Max. flow is not achieved, it will be necessary to close another/other zone damper(s).
- The reference product can be found, i.e. the one with the greatest deviation from the design max. flow, by measuring the max. flow of all the ADAPT Parasol EX modules in the zone.
- Measure and record the airflow with the damper set to the max. position on the reference ADAPT Parasol EX in the zone. Reset the module to the min. flow setting, measure and record the airflow.
- Set the module back to the max. flow setting.
- Carry out the same procedure for all the ADAPT Parasol EX modules in the zone.
- Decrease the pressure set point on the zone damper if pressure is needed for other zones, for example: 5 Pa.
- Commission the remaining zones following the same procedure.
- Check/ adjust the previous shut off zones in the same way.
- Reset the pressure set points on all the zone dampers.
- Identifiy the reference zone, i.e. the zone with the lowest flow compared with the design max. flow (for example by checking relevant flow across each zone damper using the TUNE Control hand-held terminal).
- Set the min. flow on a number of ADAPT Parasol EX modules or use the zone damper for setting the min. flow so that the ventilation system responds to the simultaneous load.
- Adjust the pressure set point of the air handling unit until the zone damper of the reference zone is 85 – 90% open. (Managed by the SuperWISE if one is used).
- Reset all the settings and set all the ADAPT Parasol EX to the normal operation setting.
- Check and measure the max. flow and min. flow with the SWICCT or the SuperWISE.

Menu:

To reach the menu, hold the left-hand and right-hand buttons down for five seconds.

With the left-hand button (❄) you advance through the menus. With the right-hand button (♨) you confirm your selection.

Press the left-hand button and select:
1. Alarm list
2. Commissioning air
3. Commissioning water
6. Return to menu

Press the right-hand button to confirm your selection

1. Alarm list: See the complete alarm list to the right.

In the commissioning menus:

- Navigate between the menus by pressing the left-hand button
- Confirm selections by pressing the right-hand button
- When a selection has been confirmed, the blue LED will flash for about 60 seconds.
- In order to return to normal operation, select "no adjustment"

2. Commissioning, Air:

2.1. Min. airflow, no occupants

2.2. Min. airflow, occupancy

2.3. Max. airflow, occupancy

2.4. Min. airflow, holiday/longer period of no occupancy

2.5. No adjustment

3. Commissioning, Water:

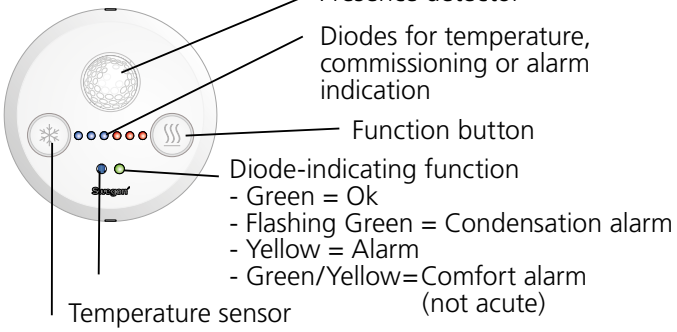
3.1. Open the chilled water valve

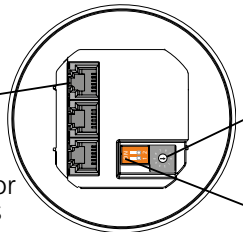
3.2. Open heated water valve

3.3. No adjustment

4, 5 are not used

6. Return to menu





3 parallel RJ12 ports (Modbus) for connecting a controller, another sensor module or a computer, for example, by means of a Cable converter USB-RJ12

Dial for addressing the appropriate sensor module if several are used in the same loop.
10 senormodules can be connected to the same master, and each and one of them need an unique address.

Switch/Termination resistance. Switch 1 should be "on" for the last sensormodule in the loop.

Alarm list for the sensor module

Alarm no.	Type of alarm	32	16	8	4	2	1
Alarm 1	Supply voltage low						●
Alarm 2	Supply voltage critically low					●	
Alarm 3	Ext temp missing					●	●
Alarm 4	Ext temp error				●		
Alarm 5	Condensation sensor error				●		●
Alarm 6	SM temp sensor error				●	●	
Alarm 7	SM button error				●	●	●
Alarm 8	CO_2 sensor missing			●			
Alarm 9	VOC Error			●			●
Alarm 10	Low pressure			●		●	
Alarm 17	SM comm error		●				●
Alarm 18	Slave comm error		●			●	
Alarm 19	Pressure sensor comm error		●			●	●
Alarm 20	VOC sensor comm error		●		●		
Alarm 21	No master request (slave)		●		●		●
Alarm 22	Slave incompatible version		●		●	●	
Alarm 25	Heating comfort alarm		●	●			●
Alarm 26	Cooling comfort alarm		●	●		●	
Alarm 27	Temp. Set point overlap alarm		●	●		●	●
Alarm 28	Air quality comfort alarm		●	●	●		
Alarm 29	Condensation		●	●	●		●
Alarm 33	24 V Out 1 overload error	●					●
Alarm 34	24 V Out 2 overload error	●				●	
Alarm 35	24 V Out 3 overload error	●				●	●
Alarm 41	Slave input common alarm	●		●			●
Alarm 42	Slave output common alarm	●		●		●	

The alarm is displayed by a number of diodes when you have selected Alarm list (1) in the menu.

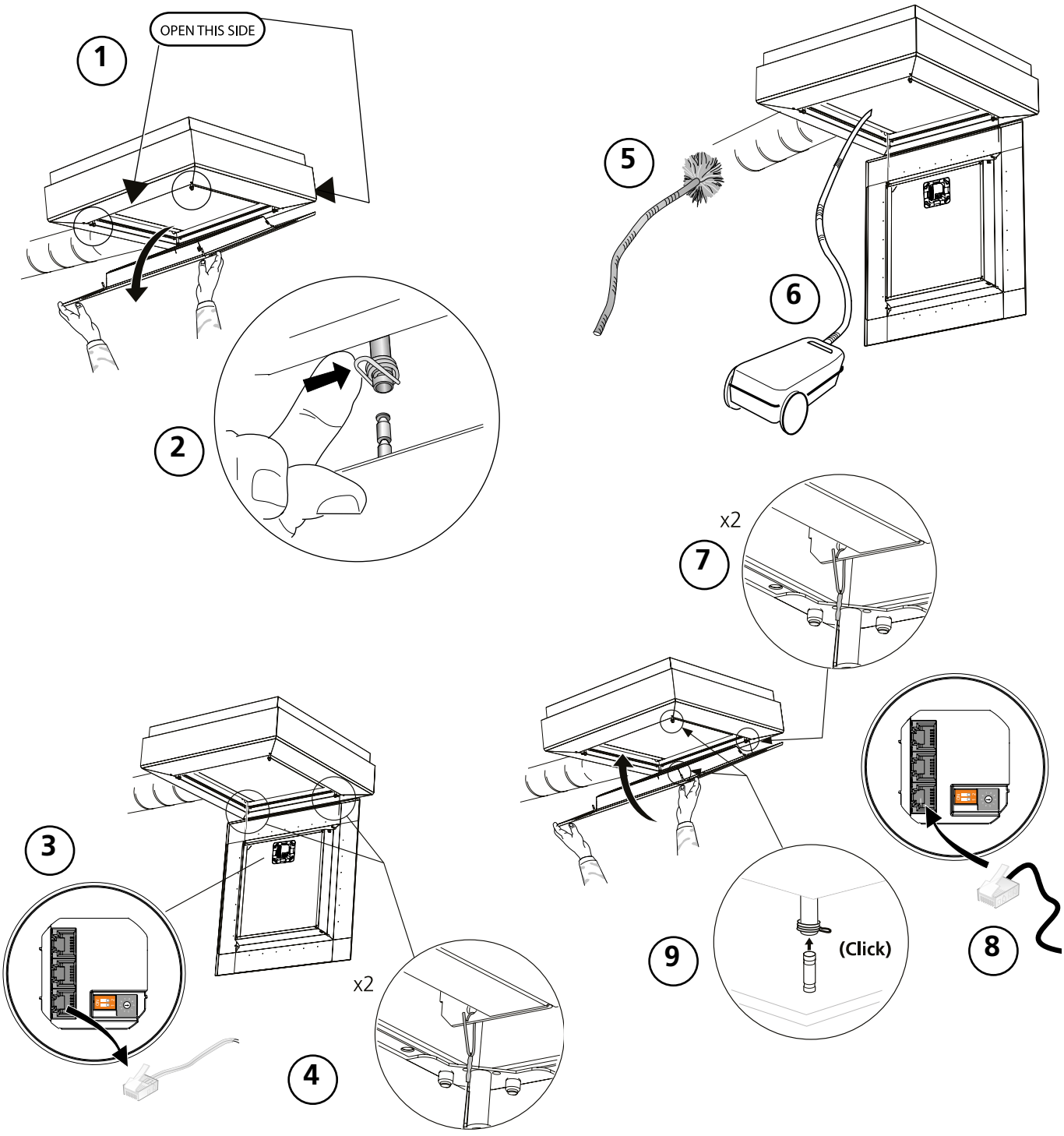
Each diode represents a number as shown in the table above and the numbers should be added up to form an alarm number.

Ex. The centremost blue and the two last red diodes are lit (xoxxoo)

The centremost blue one corresponds to 16, the penultimate red one to 2 and the last red one to 1. The sum of these is 19, which is the alarm number.

Return to normal operation by pressing the right-hand button.

Maintenance



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Swegon reserves the right to alter specifications.