VHCa

Installation – Commissioning – Maintenance

20121030

Installation

VHC with duct temperature sensor is installed in the supply air duct at maximum of 1 m before the first diffuser to be controlled. The room sensor is installed on a wall, suitably between 1.5 to 2 m above the floor. The temperature sensor must not be exposed to direct sunlight or air flow directly from the supply air diffuser. It is important that the room temperature sensor is installed in a representative position. See Figure 1 and 2.

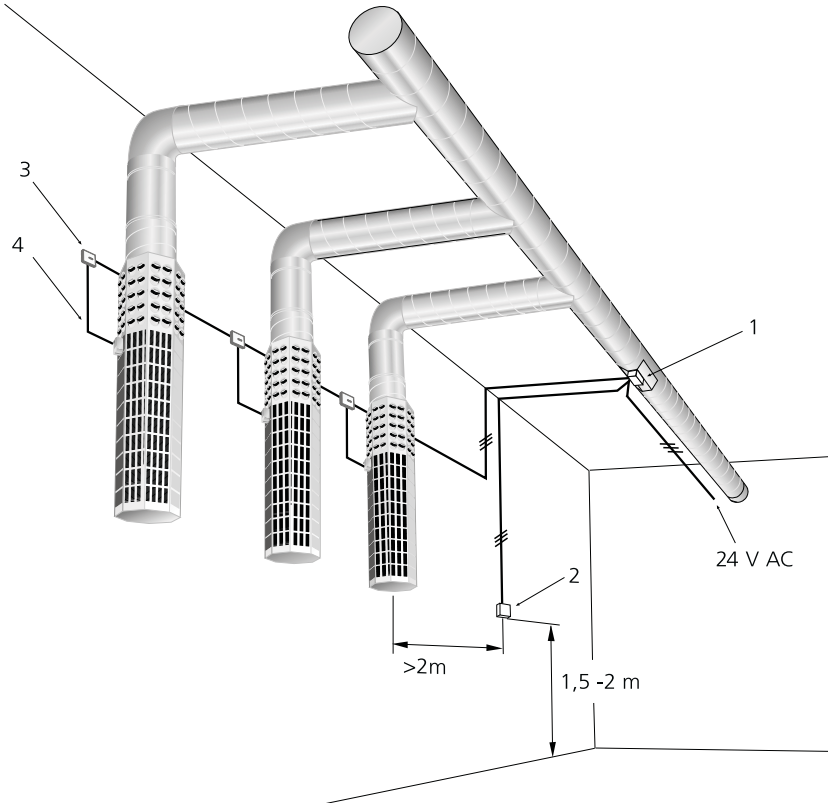


Figure 1. Connecting the VHC to the BOC air diffuser.

Key to figure 1:
1 = Controller VHC with duct temperature sensor.
2 = Room temperature sensor.
3 = Connection box, not included in the delivery.
4 = Fixed motor cable 0,4 m

Wiring

- VHC is connected to 24 V AC power supply.
- Up to 10 actuators may be wired to one VHC.
- Unused wire must be isolated!
- Connections are made according to wiring diagram, Figures 4 and 5.

Maintenance

Soiled products can be cleaned by dusting or wiping with a damp cloth.

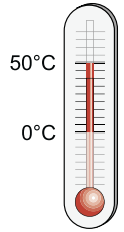


Figure 3. Ambient temperature.

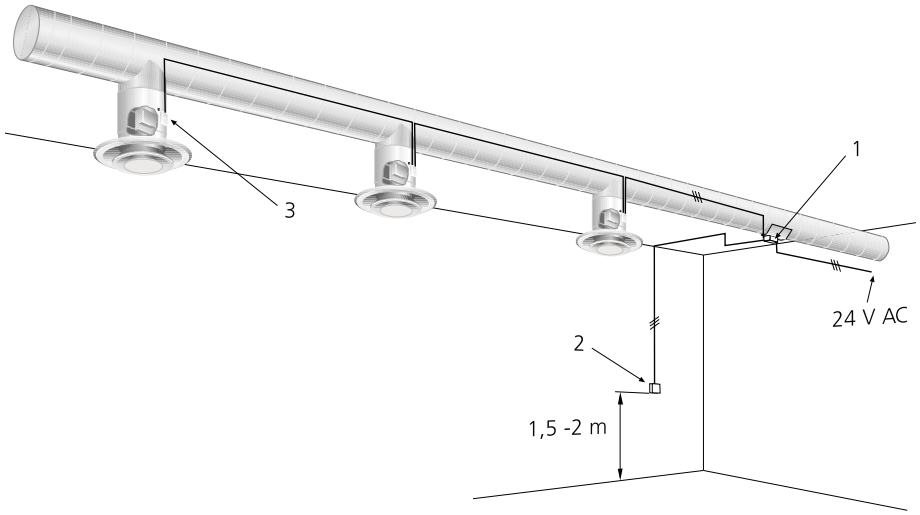
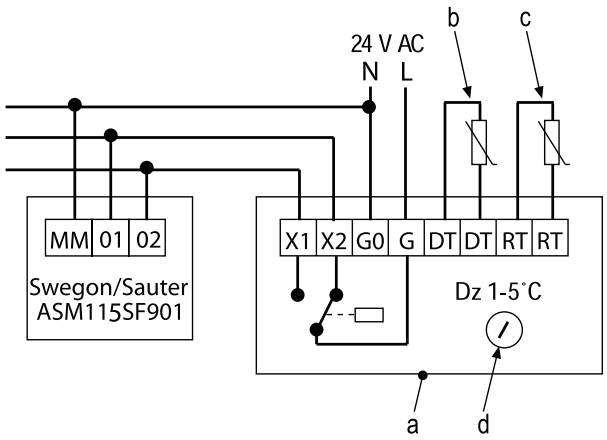


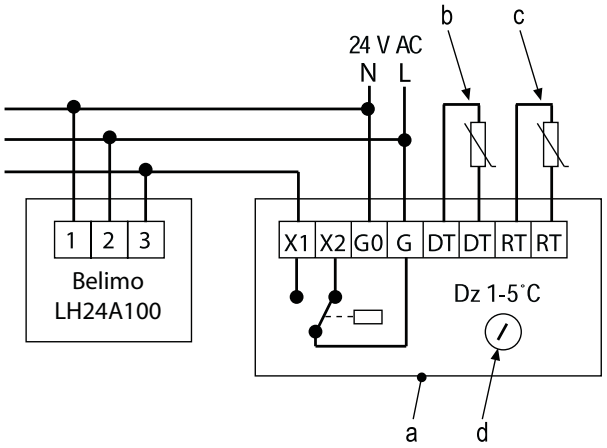
Figure 2. Wiring VHC to air terminal FALCON.

Key to figure 2:
1 = Controller VHC with duct temperature sensor
2 = Room temperature sensor
3 = Junction box (included in FALCON)



Colour codes, figure 4:
MM = Blue
01 = Brown
02 = Black

Figure 4. Connecting to supply air diffuser with Swegon actuator, normally mounted on BOC and CKD.



Colour codes, figure 5:
1 = Black
2 = Red
3 = White

Figur 5. Connecting to supply air diffuser with Belimo actuator, alternative mounting on ALC and FALCON.

Key to the wiring diagrams, Figures 4 and 5:
X1 = Heating setting $t_{to} > t_{room}$
X2 = Cooling setting $t_{to} < t_{room}$
a = VHC controller
b = Duct temperature sensor (DT)
c = Room temperature sensor (RT)
d = Setting of change-over temperature

Function check

BOC:
If the Green LED on the circuit board is emitted the BOC diffuser should be in closed position.

CKD:
If the Green LED on the circuit board is emitted the CKD should be positioned for a concentrated spread pattern (with the straight pipes facing outwards).

ALC:
If the Green LED on the circuit board is emitted the cylinder of the ALC should be in its upper position.

FALCON:
If the Green LED on the circuit board is emitted the FALCON diffuser cone should be in its upper position.

Sizing

Ambient temperature:	
Operation	0 °C – +50 °C
Storage	–40 °C – +70 °C
Storage Relative humidity	max. 90% RH, non condensing
Enclosure:	
Material	ABS/PC-plastic grey
Protection class VHC	IP 54
Room sensor	IP 30
Sensor	PT1000
Accuracy, sensor, 0 to + 35°C	±0,3 °C
Time constant	approx. 7 min
Voltage supply	24 V AC ±10%
Power consumption	1,5 VA

Power consumption of the diffuser's damper motor should be added to the overall power consumption.

Dimensions

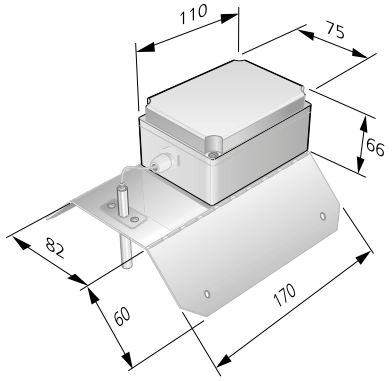


Figure 6. VHC controller with duct temperature sensor.

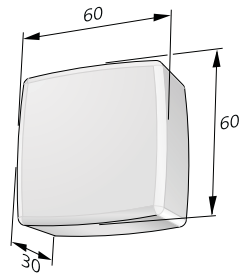


Figure 7. Room temperature sensor.