

FALCON Ceiling a

Installation – Commissioning – Maintenance

20150101

Accessories

Commissioning box:

ALS. Made of galvanised sheet steel. The box contains a removable commissioning damper, fixed measurement tapping and sound absorbent insulation covered by a reinforced surface layer, rated to Fire resistance class B-s1,d0 conforming to EN ISO 11925-2.

Controller for resetting motor-actuated air diffusers:

VHC. The controller resets motor-actuated air diffusers intended for cooling and heating with supply air. The controlling parameter is the temperature difference between the supply air and the room air. See separate product datasheet for the VHC at www.swegon.com.

Installation

Secure the inlet spigot to the connecting duct using blind rivets. If an ALS commissioning box is used, the sleeve coupling between the ALS and the FALCON C can be lengthened using an ordinary circular duct of up to 500 mm without having to lengthen the measuring tubes and damper adjustment cords. See Figure 2.

Commissioning

Commissioning should be carried out with the diffuser face mounted. Pull the measuring tubes and damper adjustment cords out of the air diffuser between the cones. Then connect a manometer to the correct measuring tube. The red tube in the ALS commissioning box is used for supply air. The rated coefficient of performance of the air register can be used in a calculation to determine the required commissioning pressure. Conclude commissioning by adjusting the damper to the correct blade position, tie a commissioning knot in the damper cords to indicate the damper position. See Figure 1.

Measurement accuracy and requirement on straight duct before the commissioning box, see Figure 2. The requirements of straight duct depends on the type of disturbance before the commissioning box. Figure 2 shows a bend, a dimensional change and a T-piece. Other types of disturbances requires at least 2xD straight (D = connection dimension) for measurement accuracy of $\pm 10\%$ of the flow.

The rated coefficient of performance (K-factor) is specified on the identification label of the product and in the relevant commissioning instructions at www.swegon.com.

Maintenance

The air diffuser can be cleaned, if necessary, using lukewarm water with dishwashing detergent added or by vacuum cleaning using a brush nozzle.

The duct system can be reached for cleaning by screwing out the cone package's plastic screws on the inner side of the outer cone. If a type ALS commissioning box is used, swing the distribution plate to the side on so that you then can grip the handle of the tubular damper casing and rotate it out of its holder. See Figure 2.

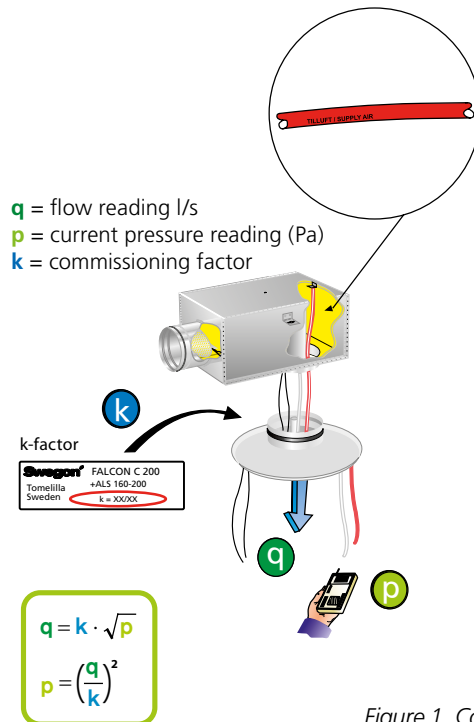


Figure 1. Commissioning.

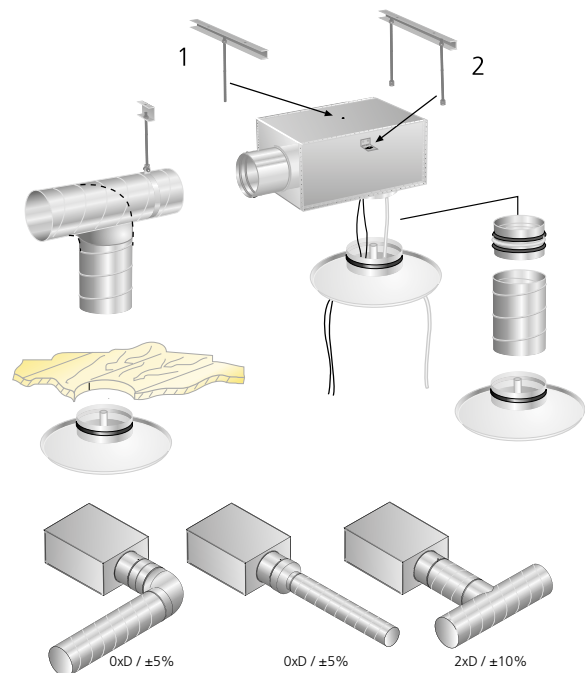


Figure 2. Installation.

Connections

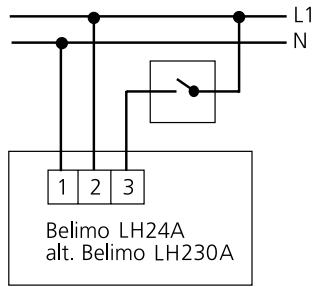


Figure 3. Wiring diagram for the FALCON C with motor – 2-point motor positioning control. The switch is not included.

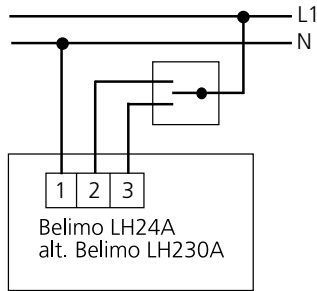


Figure 4. Wiring diagram for the FALCON C with motor – 3-point motor positioning control. The switch is not included.

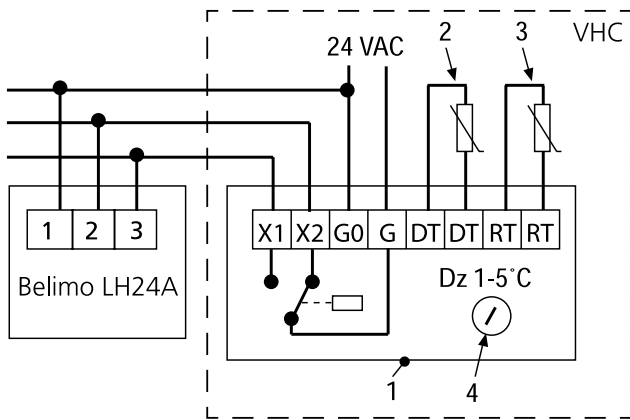


Figure 5. The wiring diagram shows the connections with the Belimo damper motor against the VHC. NOTE! Only available with 24 V AC power supply.

Key to Figure 5.

- 1 = VHC controller
- 2 = Duct temperature sensor (DT)
- 3 = Room temperature sensor (RT)
- 4 = Setting the switch-over temperature

Motor Properties

Motor	Supply voltage	Power consumption	Delay time
LH24A ^{*)}	24 V AC 50/60 Hz	3 VA	150 s
LH230A ^{**)}	240 V AC 50/60 Hz	5 VA	150 s

^{*)}Standard, stocked motor, can be connected to VHC controller.

^{**)}Non-stocked motor.

Dimensions and Weights

FALCON C

Size	ØA	Ød	ØJ	F	F1	G	H	L	L1	Weight (kg)
125	305	124	270	75	45	9,5	10	–	–	1,0
160	305	159	270	65	45	13	10	–	–	1,0
200	378	199	330	75	45	14	13	–	–	1,5
250	477	249	420	95	45	17	16	–	–	2,2
315	591	314	530	110	45	20	20	325	45	3,4
400	703	399	630	125	45	24	24	330	45	5,1
500	853	499	780	135	45	30	30	340	45	8,0

Size of the opening = ØJ

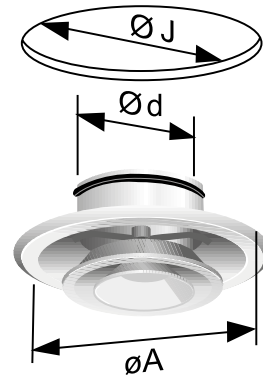


Figure 6. FALCON C, hand-actuated.

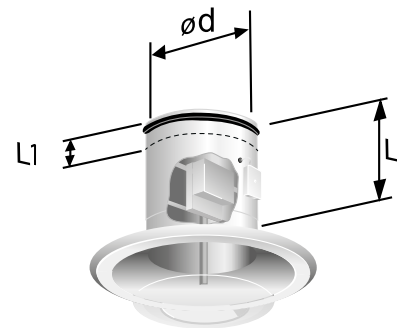


Figure 7. FALCON C, motor-actuated.

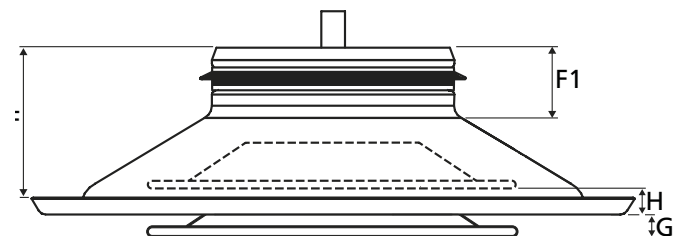


Figure 8. FALCON C, cone positions.

G = Lower position – horizontal diffusion
H = Upper position – vertical diffusion

FALCON C + ALS

Size	ØA	B	C	ØD	E	K	M	N	P	Weight (kg)
125	305	282	217	99	235	80	180	100	270	3,0
160	305	342	252	124	249	80	204	112	315	3,7
200	378	404	288	159	292	100	239	130	375	5,0
250	477	504	332	199	346	115	279	150	465	7,4
315	591	622	388	249	421	140	340	175	575	11,4
400	703	767	488	314	489	175	400	212	712	15,5
500	853	887	588	399	618	195	510	280	795	18,5

CL = Center line

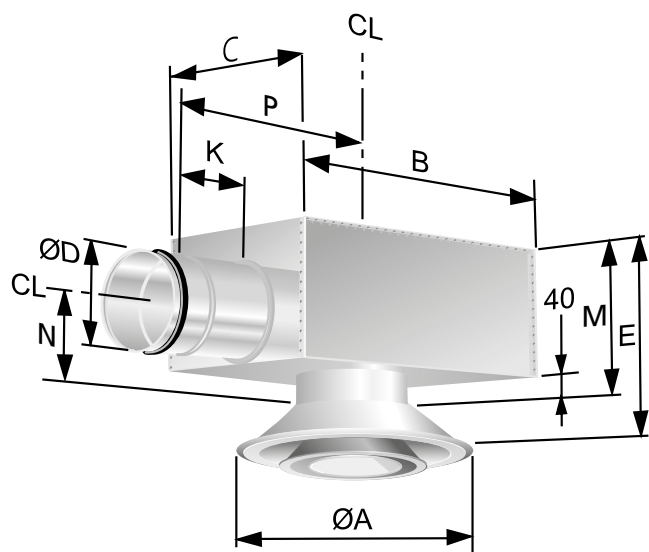


Figure 9. FALCON C + ALS.

K-factor (COP)

FALCON C

ALS	FALCON C supply air 360°		
Size	Size	Horizontal	Vertical
100-125	125	8,6	6,8
125-160	160	13,5	8,5
160-200	200	20,6	13,2
200-250	250	32,5	19,5
250-315	315	50,2	33,3
315-400	400	82,8	51
400-500	500	125	79,5

Number of measuring tubes: 1
 Tube colour: Red