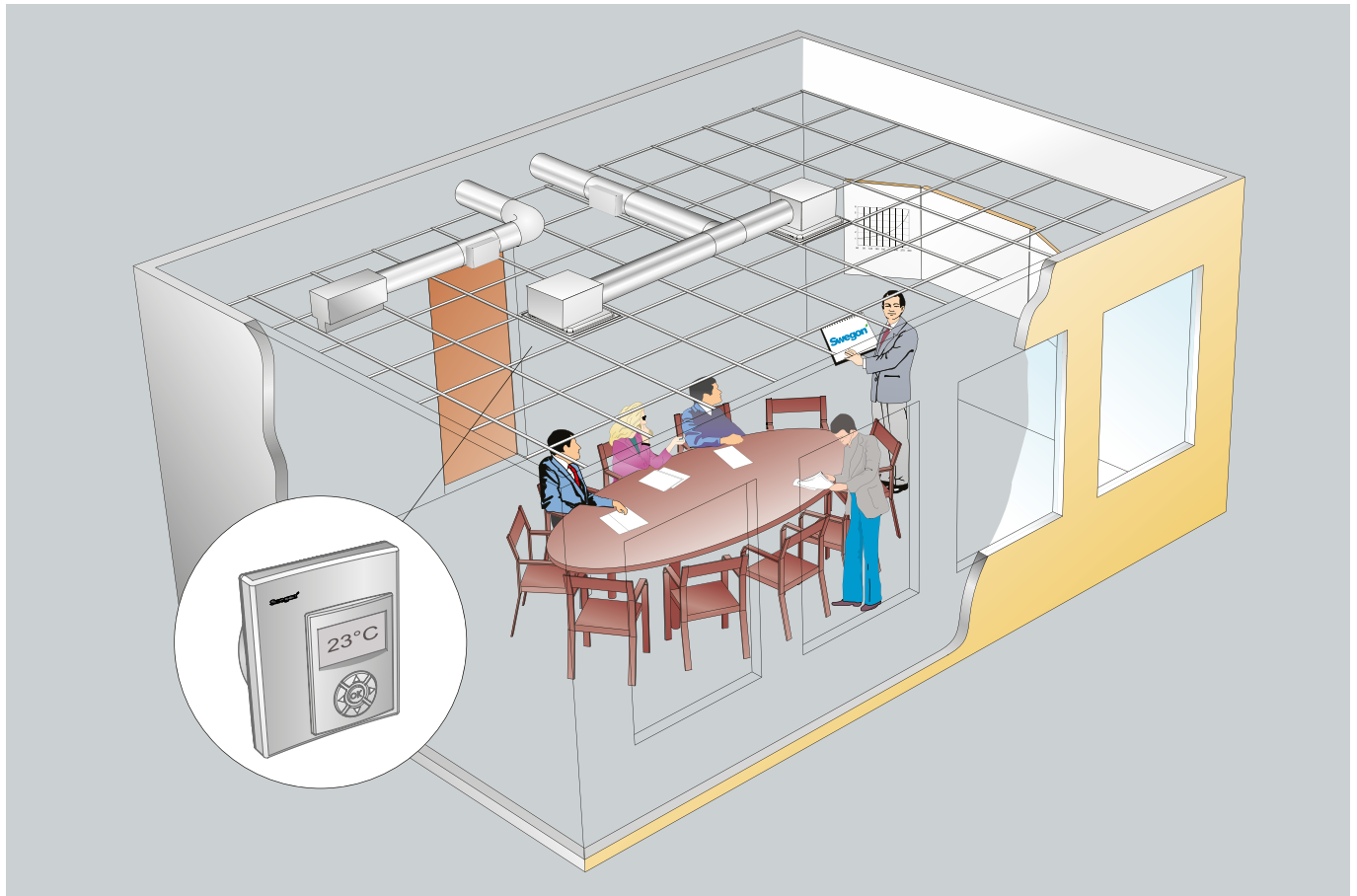


# CONTROL Room

Room product for Swegon's WISE system for demand-controlled ventilation  
Version a (CONTROL Ra)



CONTROL Room

## Quick facts

- ▶ Room control against temperature, CO<sub>2</sub>, mm
- ▶ Static pressure and flow measurement
- ▶ Position-independent
- ▶ Shut-off-capable damper to tightness class 4 (rectangular version to class 3)
- ▶ Slave control via Modbus and Super WISE
- ▶ Available in an insulated version
- ▶ Available in sizes Ø100 to Ø500 mm and the most common rectangular duct dimensions up to 1600x700 mm
- ▶ Enclosure Class IP30

## Quick selection

CONTROL Room Size	Min*)	Airflow (l/s)	
		35 dB(A)**)	Max***)
100	8	40	80
125	12	60	120
160	20	90	200
200	30	120	315
250	50	180	490
315	80	220	780
400	125	370	1260
500	195	550	1940

\*) A tolerance of 20% applies to the min. airflow.

\*\*) Airflow is 35 dB(A) and P<sub>s</sub> = 50 Pa with a damping of c:a 5 dB in the diffuser.

\*\*\*) Max. flow is specified at 10 m/s, both system and flank sound must especially be taken into special consideration.

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## Technical description

### Design

CONTROL Room is available as standard in circular sizes 100-500 mm. The rectangular variants are designed as louvre dampers and are obtainable in most sizes available on the market up to size 1600 x 700 mm. The circular variant is also available in an insulated version. The circular sizes have a damper that can shut off the airflow to tightness class 4, rectangular in tightness class 3, degree of protection IP30. CONTROL Room is supplied completely mounted and configured for the relevant function.

### Functions for room application

The ventilation and warming of rooms with:

- Wireless room sensor with set-point adjustment and service functions, included on delivery
- Control against temperature, CO<sub>2</sub>, content and window contact
- Airflow regulation for primary cooling or ventilation
- Heat regulation in sequence with cooling regulation
- Two stage cooling with water in a second stage, provision for condensation monitoring
- Slave airflow regulation with SLAVE Room
- Emergency settings open or closed via Modbus RTU
- Night-time cooling operation via Modbus RTU
- Presence detector, for switching to the economy mode when the room is not in use
- Built-in relay for control of the lighting or the fan in the cooling unit
- Wireless hand-held terminal for making checks and the setting of values

### Materials and finish

The sheet metal parts are made of galvanized sheet steel. All the plastic parts are complete free of PVC. PC plastic is the main material used.

### Commissioning

CONTROL Room is normally preset from the factory, therefore no adjustment is necessary. Follow-up programming can be carried out using the TUNE Control hand-held terminal or via Modbus RTU. In the systems with Super WISE, the network needed for communication downward will be automatically identified.

### Maintenance

Dirty products must be cleaned by wiping.

### Declarations

Declaration of Construction Materials is available for download from [www.swegon.com](http://www.swegon.com).

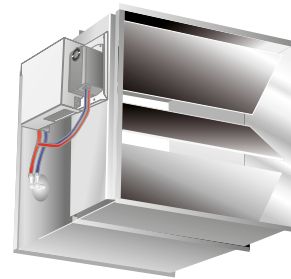


Figure 1. CONTROL Room for rectangular ducts.

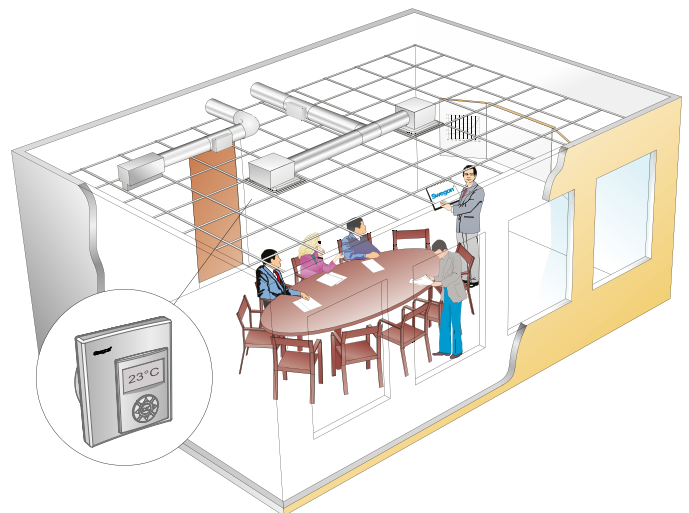


Figure 2. In room applications, the TUNE Control should be mounted on the wall to operate as a wireless unit or wired unit connected with a LINK Modbus RJ12.

## Project planning – Room applications

In the FSFE version, CONTROL Room has numerous controlling and regulating functions for controlling the climate in a room.

### Controlling:

- Room temperature, with set point displacement
- Air quality, CO<sub>2</sub>
- Presence detector
- Window contact

### Regulating:

- Airflow for cooling or ventilating for achieving the right air quality
- Water for cooling in a second stage
- Water or electric radiator for heating in sequence
- Fan operation in the second stage, or lighting

One CONTROL Room can slave control a SLAVE Room (1) for extract air; the extract air flow settings are separate. The TUNE Control wireless room unit is always supplied for CONTROL Room. TUNE Control can be connected with LINK Modbus if coil operation is undesirable, max 50m RJ12 cable, AWG 28. If a wired room terminal is used, in larger rooms you can install two of terminals which then contribute toward obtaining a mean room temperature reading for the control system. All regulation takes place in sequence, however the air quality signal oversteers the heating and cooling sequences. It is possible to use a separate temperature sensor in the extract air for control of the room temperature. In this situation, the TUNE Control room unit should be disconnected since it no longer has any function.

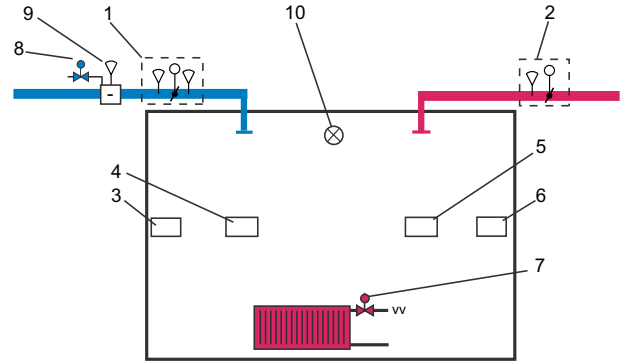


Figure 3. Room functions

Key to the digits used in the figure:

- 1 = CONTROL Room FSFE, to be installed in the supply air system
- 2 = SLAVE Room, to be installed in the extract air system
- 3 = TUNE Control room terminal, temp. sensor and set point adjustment
- 4 = DETECT Occupancy, presence detector
- 5 = DETECT Quality, carbon dioxide sensor
- 6 = Window contact
- 7 = On/off or 0-10 V DC heating regulation, max. ten type 24 V AC thermo-actuators (max effect 72 VA)
- 8 = On/off or 0-10 V DC cooling regulation, max. ten type 24 V thermo-actuators (max effect 72 VA)
- 9 = Condensation guard
- 10 = Lighting or on/off fan regulation, max. 5 A, 250 V AC

### Installation

CONTROL Room can be installed in an optional position in temperate spaces. CONTROL Room has digital flow measurement that is position independent. In ducts that must be regularly cleaned, connect the CONTROL Room to the duct system by means of a clamp FSR. CONTROL Room should always be installed with a lengths of straight duct, see the figures.

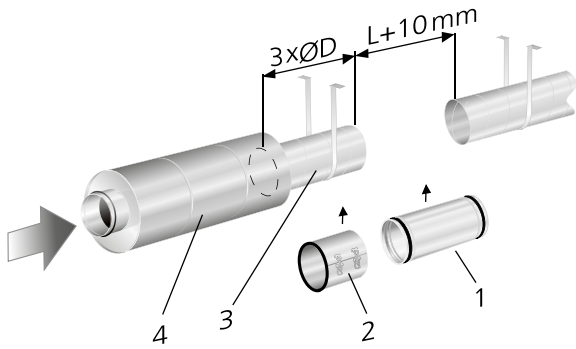


Figure 4. Installing with a clamp (2), if a sound absorber (4) with centre baffle is used, it should be installed with a length of straight duct (3) that is 3xØD of the CONTROL Room (1).

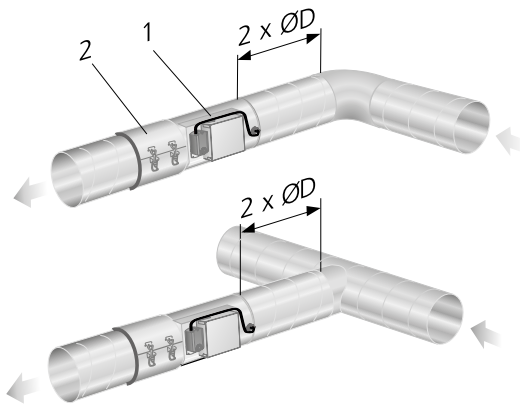


Figure 5. Requirement on a length of straight duct in front of the unit.

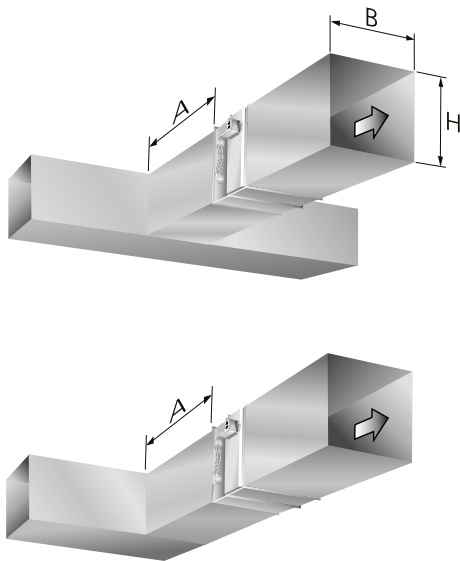


Figure 6. Requirement for lengths of straight duct in a rectangular design ahead of the unit,  $A > 2 \times B$ .

### Electrical data

The data apply to CONTROL Room and SLAVE Room only. For particulars of the connected accessories, see the separate data for these.

Supply voltage	24 V AC $\pm 10\%$ , 50-60 Hz
Transformer sizing:	
CONTROL R	17 VA
Cable rating	0.4 A
CONTROL R with SLAVE Room	26 VA
Cable rating	0,6 A
Built-in fuse	4A
Ambient temperature:	
Operation	0°C – +50°C
Storage	-20°C – +50°C
Humidity	max. 90% RH, non-condensing
Inputs for	
Accessories	0-10 VDC
Accuracy	$\pm 0.05$ V
Output for damper motor:	
Output voltage area	0-10 DC
Accuracy	$\pm 0.05$ V
Output for heating valve	24 V AC on/off 72 VA
Output for cooling valve	24 V AC on/off 72 VA
Alternative heating valve	24 V AC 0-10V DC
Alternative cooling valve	24 V AC 0-10V DC
Network protocol	Modbus RTU
Connection Modbus 1 & 2	RTU Slave
Connection Modbus 2 & 3.1-2	RTU Master
Transceiver	TIA/EIA-485
Standard	38 400 bps, 8, 1, None

CONTROL Room

### Electrical connections of the room damper

Connect the CONTROL Room to 24 V AC supply voltage and protect the circuit with a max. 6 A fuse. Wire all other connections to Modbus and other components according to the wiring diagram. For detailed instructions on Modbus connection, see SuperWISE Network.

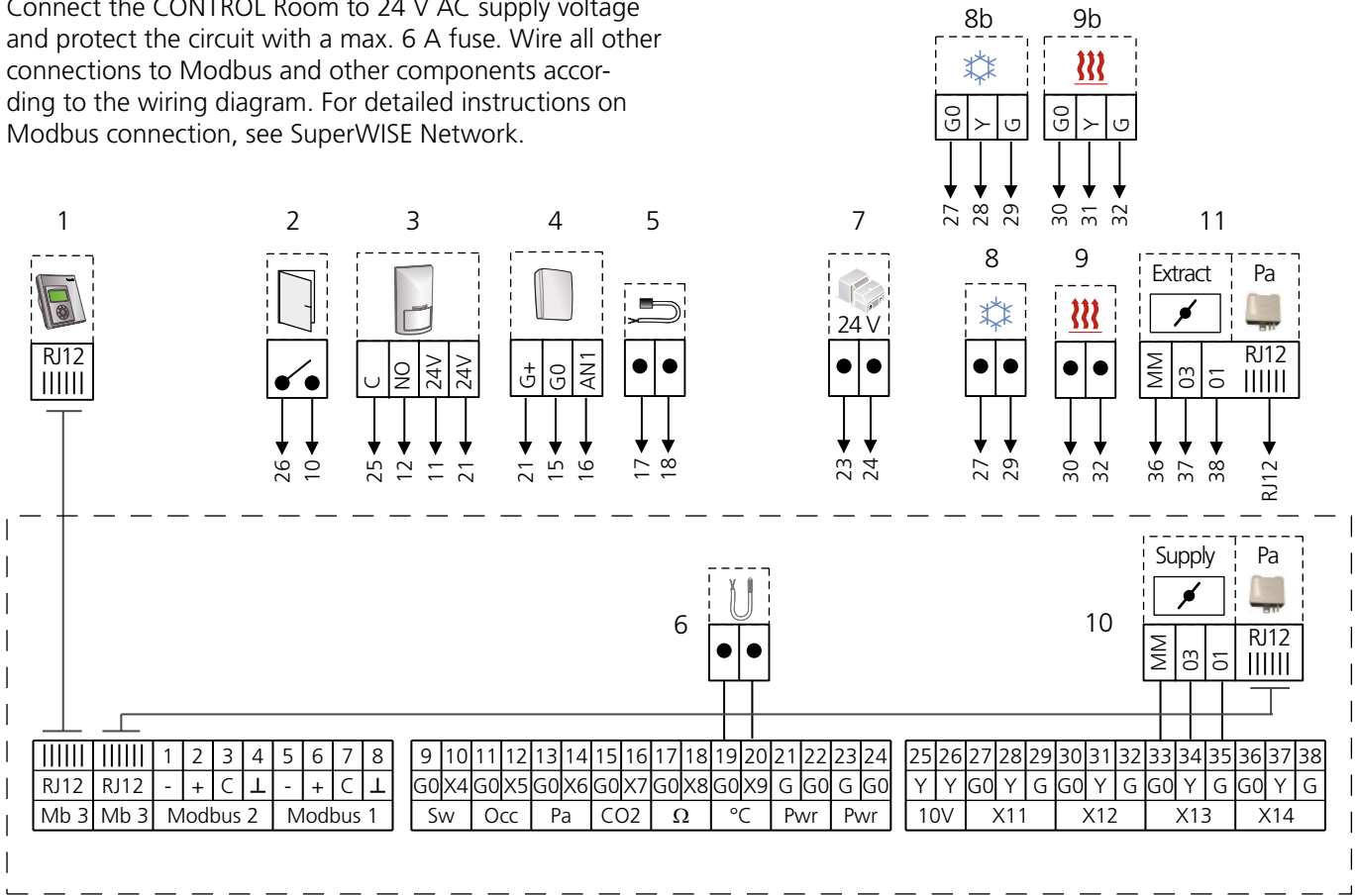


Figure 7. CONTROL Room. Controller, damper actuator and pressure sensor within the broken line are factory-wired.

### Explanations for Figures 7 and 8

1. Room unit, TUNE Control, included in the supply
2. Window contact
3. Presence detector, DETECT O V110, or T360
4. Carbon dioxide sensor, DETECT Q 0
5. Condensation sensor for the cooling coil, DETECT M
6. Supply air temperature sensor, factory-fitted.
7. 24V AC voltage supply from transformer
8. ACTUATOR for cooling valve
- 8b. Alternative actuator for cooling valve 0-10 V DC
9. ACTUATOR for heating valve
- 9b. Alternative actuator for heating valve 0-10 V DC
10. Damper actuator and pressure sensor for supply air
11. Damper actuator and pressure sensor for extract air
12. 230V 5A relay contact under the enclosure

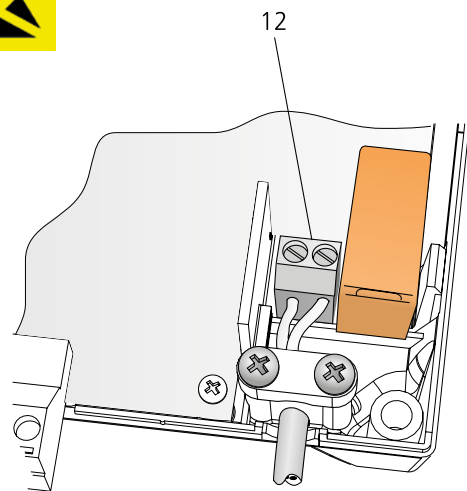


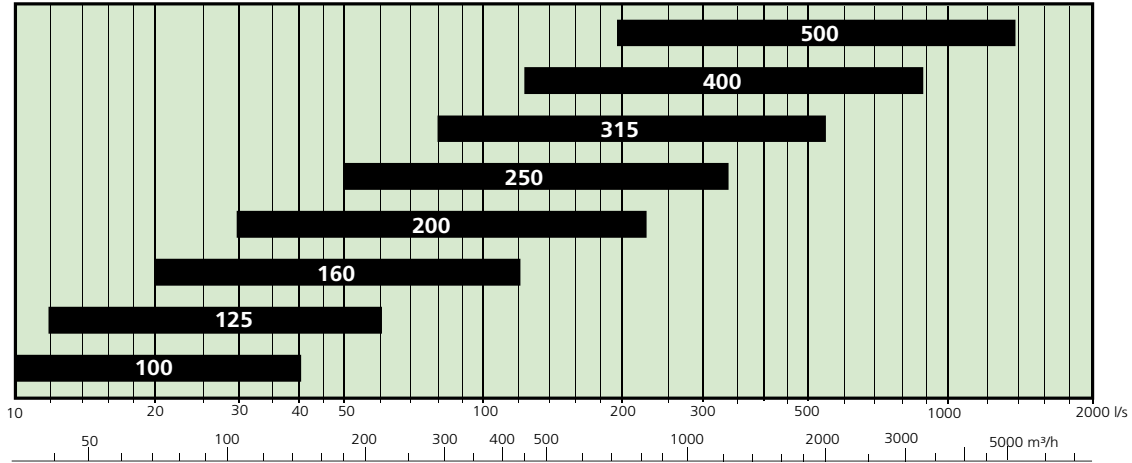
Figure 8. Wiring to the built-in relay. Remove the cover over the controller. Be careful not to damage the electronic components.

# Sizing

## Circular design

### Airflow capacity

The airflow capacity of the product is important for planning if airflow measurement is included in the product. The normal working range in the duct is between 1.0-7.0 m/s.



## Sizing diagram

### CONTROL Room – duct installation

#### Airflow – Pressure drop – Sound level

- Data applies to sound generation in the duct
- The flow range of CONTROL Room is specified in the quick selection table.
- Specified sound levels  $L_{Wtot}$  50, 55, 60, 65 and 70 dB for lines shown in the diagram.

#### Sound Power Level

The diagrams for the various sizes show the total generated sound power ( $L_{Wtot}$  dB), as a function of the airflow and pressure drop across the damper. The sound power levels for each octave band can be obtained by correcting  $L_{Wtot}$  with the correction factors below.

$$(L_w = L_{Wtot} + K_{ok})$$

#### Correction factor $K_{ok}$ , circular design

Size	Mid-frequency (Octave band) Hz								
	CONTROL R	63	125	250	500	1000	2000	4000	8000
100		0	-5	-9	-16	-18	-25	-33	-39
125		0	-5	-9	-18	-19	-26	-33	-41
160		0	-5	-10	-17	-19	-24	-30	-39
200		0	-4	-10	-16	-17	-22	-29	-39
250		0	-5	-9	-13	-17	-21	-27	-37
315		0	-5	-9	-11	-14	-19	-26	-36
400		0	-6	-8	-11	-13	-17	-25	-32
500		0	-5	-7	-12	-13	-17	-26	-36
Tol. ±		2	2	2	2	2	2	2	2

#### Transmitted sound

Calculate the transmitted sound from CONTROL Room according to the formula:

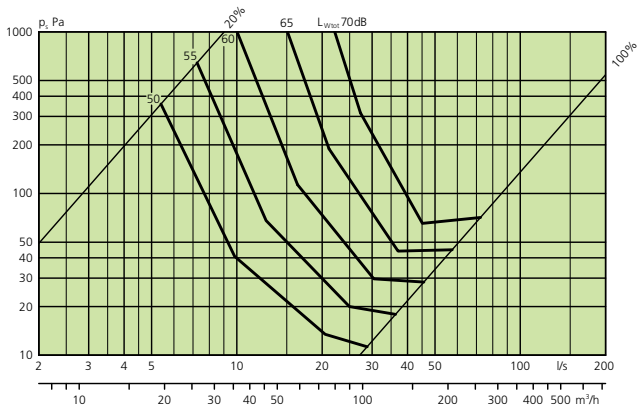
$$L_{Wut} = L_{Wduct} + K_{trans}$$

The data refers to an uninsulated CONTROL Room and is related to the duct length of the damper.

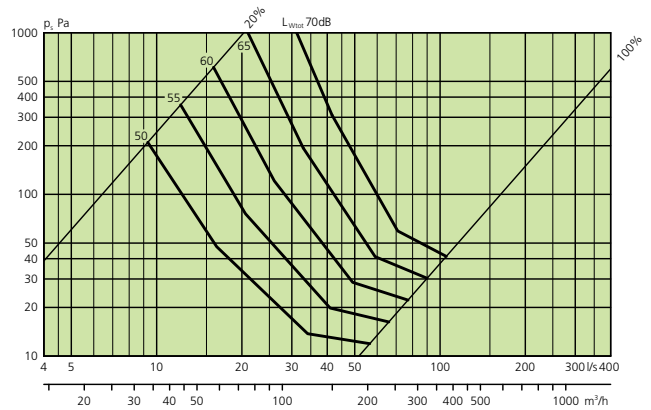
#### Correction factor $K_{trans}$ refers to uninsulated CONTROL R

Size	Mid-frequency (Octave band) Hz								
	CONTROL R	63	125	250	500	1000	2000	4000	8000
100		-5	-9	-7	-5	-2	0	1	0
125		-6	-10	-8	-6	-3	-1	0	-1
160		-7	-11	-9	-7	-4	-2	-1	-2
200		-8	-12	-10	-8	-5	-3	-2	-3
250		-9	-13	-11	-9	-6	-4	-3	-4
315		-10	-14	-12	-10	-7	-5	-4	-5
400		-11	-15	-13	-11	-8	-6	-5	-6
500		-12	-16	-15	-12	-9	-7	-6	-7

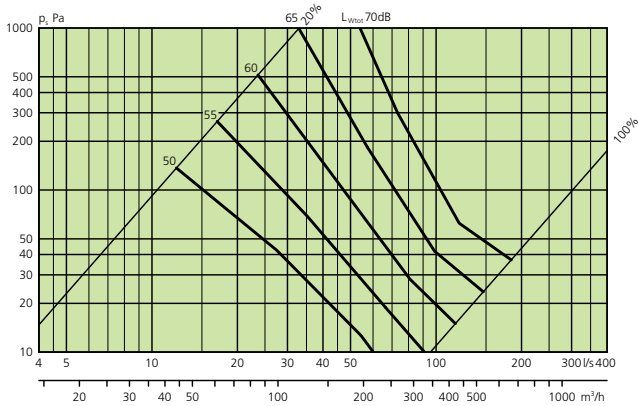
**CONTROL Room 100**



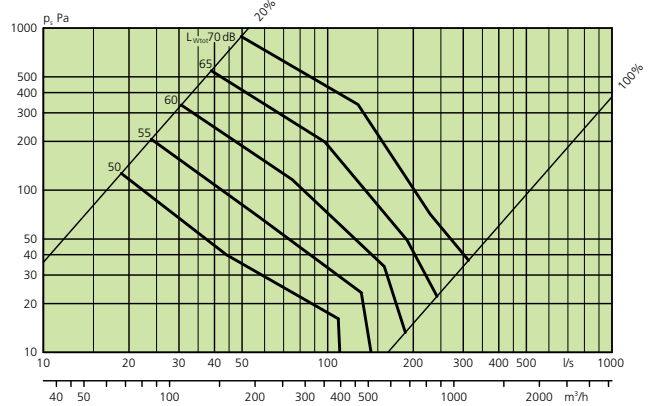
**CONTROL Room 125**



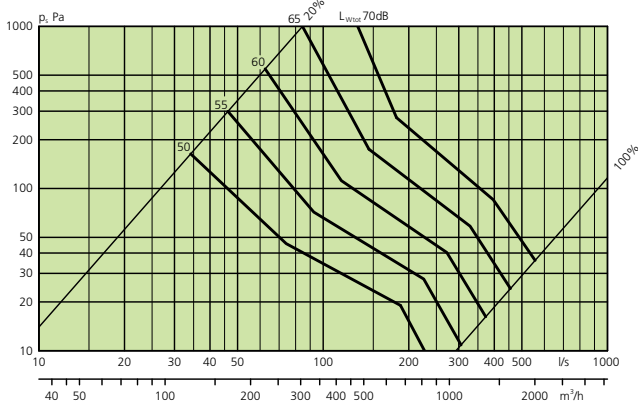
**CONTROL R 160**



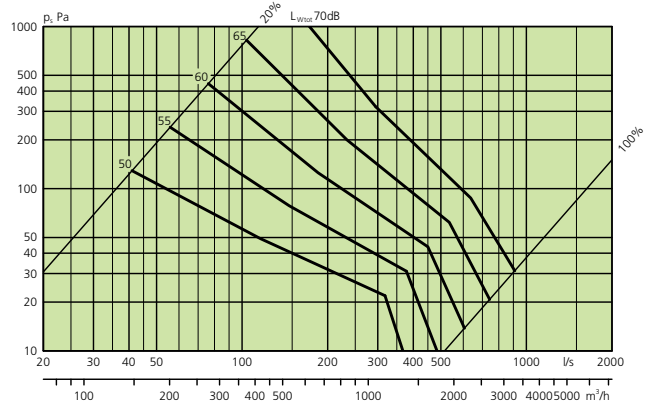
**CONTROL R 200**



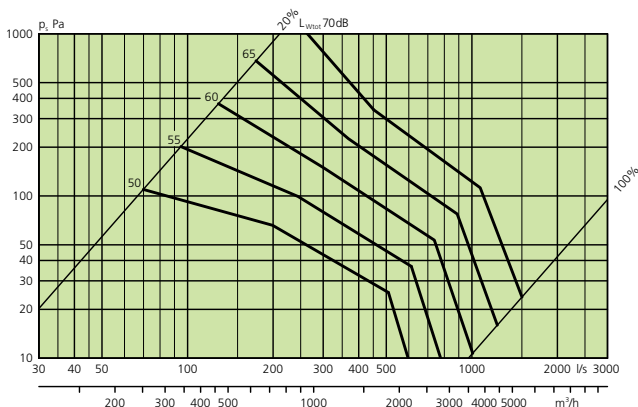
**CONTROL R 250**



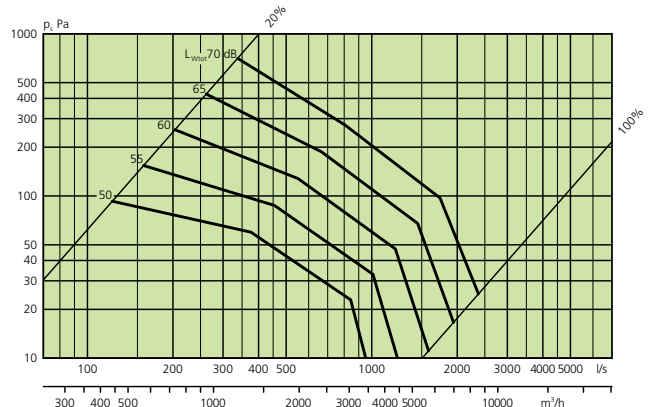
**CONTROL R 315**



**CONTROL R 400**



**CONTROL R 500**





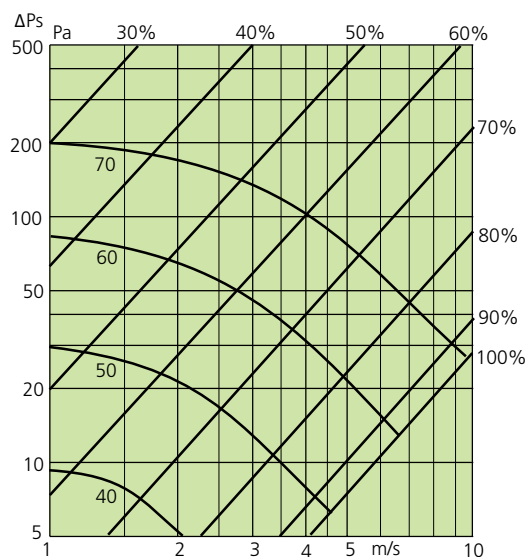
## Rectangular design

### Sizing diagram

#### Velocity - Pressure drop - Sound level

- Data applies to sound generation in the duct
- Minimum flows apply at about 1.0 m/s in the duct

Calculate the face velocity across the damper and read the sound data and pressure drop at an appropriate damper position. 100% the damper is fully open.



### Sound power level

The diagrams show the total sound power ( $L_{Wtot}$  dB), as a function of velocity and pressure drop across the damper. By correcting  $L_{Wtot}$  with the correction factors from Tables 1 and 2, the sound power level for each octave band ( $L_w = L_{Wtot} + K_{ok}$ ) can be obtained.

**Table 1**

Correction factor  $K_{ok}$  for rectangular CONTROL R

Size	Mid-frequency (Octave band) Hz								
	CONTROL R	63	125	250	500	1000	1000	4000	8000
All	-1	-5	-7	-8	-13	-22	-31	-30	
Tol. ±	4	4	3	2	2	2	2	2	2

**Table 2**

Correction factor  $K_k$  for the face surface of the damper, m<sup>2</sup>.

Surface (m <sup>2</sup> )	0,1	0,15	0,25	0,4	0,6	1,0	1,6	2,5
$K_k$	-3	-2	0	2	4	6	8	10

## Airflow capacity

The airflow capacity of the product is important for planning if airflow measurement is included in the product. The normal working range in the duct is between 1.0 - 7.0 m/s.

Size B x H (mm)	Area (m <sup>2</sup> )	Airflow capacity (l/s)		
		min q <sup>*)</sup>	ca 7 m/s	ca 10 m/s
200 x 200	0,04	40	280	400
300 x 200	0,06	60	420	600
400 x 200	0,08	80	560	800
500 x 200	0,10	100	700	1 000
600 x 200	0,12	120	840	1 200
700 x 200	0,14	140	980	1 400
800 x 200	0,16	160	1 120	1 600
1000 x 200	0,20	200	1 400	2 000
300 x 300	0,09	90	630	900
400 x 300	0,12	120	840	1 200
500 x 300	0,15	150	1 050	1 500
600 x 300	0,18	180	1 260	1 800
700 x 300	0,21	210	1 470	2 100
800 x 300	0,24	240	1 680	2 400
1000 x 300	0,30	300	2 100	3 000
400 x 400	0,16	160	1 120	1 600
500 x 400	0,20	200	1 400	2 000
600 x 400	0,24	240	1 680	2 400
700 x 400	0,28	280	1 960	2 800
800 x 400	0,32	320	2 240	3 200
1000 x 400	0,40	400	2 800	4 000
1200 x 400	0,48	480	3 360	4 800
1400 x 400	0,56	560	3 920	5 600
1600 x 400	0,64	640	4 480	6 400

Size B x H (mm)	Area (m <sup>2</sup> )	Airflow capacity (l/s)		
		min q <sup>*)</sup>	ca 7 m/s	ca 10 m/s
500 x 500	0,25	250	1 750	2 500
600 x 500	0,30	300	2 100	3 000
700 x 500	0,35	350	2400	3500
800 x 500	0,40	400	2 800	4 000
1000 x 500	0,50	500	3 500	5 000
1200 x 500	0,60	600	4 200	6 000
1400 x 500	0,70	700	4 900	7 000
1600 x 500	0,80	800	5 600	8 000
600 x 600	0,36	360	2 520	3 600
700 x 600	0,42	420	2940	4200
800 x 600	0,48	480	3 360	4 800
1000 x 600	0,60	600	4 200	6 000
1200 x 600	0,72	720	5 040	7 200
1400 x 600	0,84	840	5 880	8 400
1600 x 600	0,96	960	6 720	9 600
700 x 700	0,49	490	3430	4900
800 x 700	0,56	560	3 920	5 600
1000 x 700	0,70	700	4 900	7 000
1200 x 700	0,84	840	5 880	8 400
1400 x 700	0,98	980	6 860	9 800
1600 x 700	1,12	1 120	7 840	11 200

\*) A tolerance of  $\pm 20\%$  applies to the min. airflow.

## Dimensions and Weights

### CONTROL Room uninsulated

Size	Dimensions (mm)			Weight (kg)
	ØD	A	E	
100	99	472	45	3,3
125	124	472	45	3,4
160	159	472	45	3,1
200	199	472	45	3,6
250	249	522	45	4,0
315	314	552	45	4,9
400	399	695	57	6,2
500	499	822	57	9,2

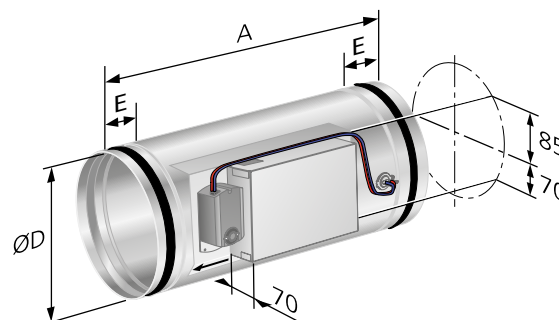


Figure 9. CONTROL Room, uninsulated version.

### CONTROL R insulated

Size	Dimensions (mm)						Weight (kg)
	ØD	A	B	C	H	L	
100	99	472	245	75	180	401	5,6
125	124	472	245	75	180	401	5,7
160	159	472	285	55	212	401	6,2
200	199	472	335	35	252	401	7,9
250	259	522	395	10	302	451	11,2
315	314	552	465	0	367	481	11,2
400	399	695	553	0	459	595	13,3
500	499	825	653	0	563	723	16,9

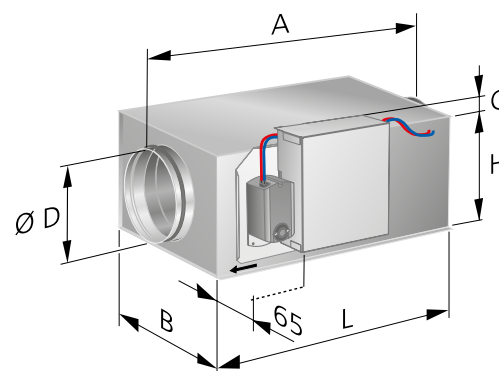


Figure 10. CONTROL Room, insulated version.

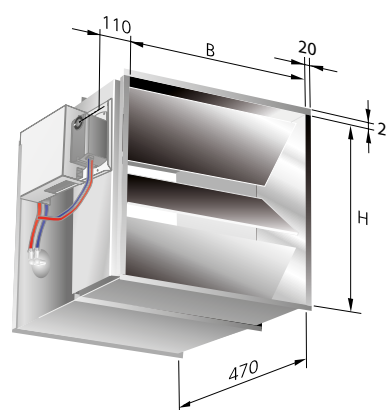


Figure 11. CONTROL Room in rectangular design with slip-clamp joints.

CONTROL Room

# Ordering key

## Product

CONTROL Room	CONTROL R	a	-aaa	-b	-cc
Version:					
Size: 100, 125, 160, 200, 250, 315, 400, 500					
Specify W x H for rectangular diffuser according to the measurement figure					
Design type:					
N = uninsulated					
I = insulated ( not rectangular)					
Configuring, code key in table below.					

## Configuration Codes

A3 = Normal room regulation - heating and cooling in two steps

The following is specified as factory settings of the Room damper:

- The vacancy min., max. airflows, slave flow deviation
- The occupancy, air quality regulation, window contact, heating regulation or two-stage cooling functions
- Super WISE or BMS network system
- Product marking

## Accessory

SLAVE Room	Flow controlling unit to be totally controlled by CONTROL Room
FSR	Fasten with a clamp, in order to facilitate installment and dismantling
LINK Modbus	RJ12-cable for connecting up SLAVE Room or the hand-held micro terminal.
DETECT Occupancy	Presence detector
DETECT Quality	Air quality sensor
DETECT M	Moisture sensor
VALVE	Radiator valve
ACTUATOR	Valve actuator, 24 V, on/off
POWER Adapt	Transformer, 230-24 V AC

## Specification text

Swegon's variable flow damper of CONTROL Room type, included in the WISE System with the following functions:

- Room regulation against temperature, CO2 and presence detector
- Pressure-independent electronic air flow regulation
- Non-fouling design
- Modbus RTU-communication (TIA/EIA-485)
- Can control on/off-switching of the lighting or fan
- Can control the heating radiator and cooling coil in sequence
- Function for hot-air heating (change-over)
- Slave control of the SLAVE R
- Enclosure Class IP 30

### Accessories:

Clamp	FSRb	xx items
Presence detector	DETECT O	xx items
CO2 sensor	DETECT Q	xx items
Cable for wired TUNE C	LINK Modbus	xx items
Transformer	POWER Adapt	xx items
Valve actuator, on/off	ACTUATOR	xx items
Radiator valve	VALVE	xx items
Condensation guard	DETECT M	xx items

Specify the following: Identification marking, as well as air flows and required functions.

## Accessories

### SLAVE Room slave unit

The slave unit is a flow controlling unit, which is totally controlled by CONTROL Room. The slave unit is normally placed in the extract air system in a room. The air flow through the slave unit may deviate from the airflow of the master unit by a programmable offset-value.

#### Quick facts

- Static clogging free airflow measurement
- Position-dependant
- Shut-off damper to tightness class 4
- Insulated design (optional)
- Rectangular version as an option, rectangular dampers should always be mounted with their shafts horizontal.

#### Ordering key

Slave unit SLAVE R b aaa -bb

Version:

Size: 100, 125, 160, 200, 250, 315, 400, 500  
Specify W x H for rectangular diffuser according to the measurement figure.

Design type:

N=uninsulated  
IR = insulated (not rectangular)

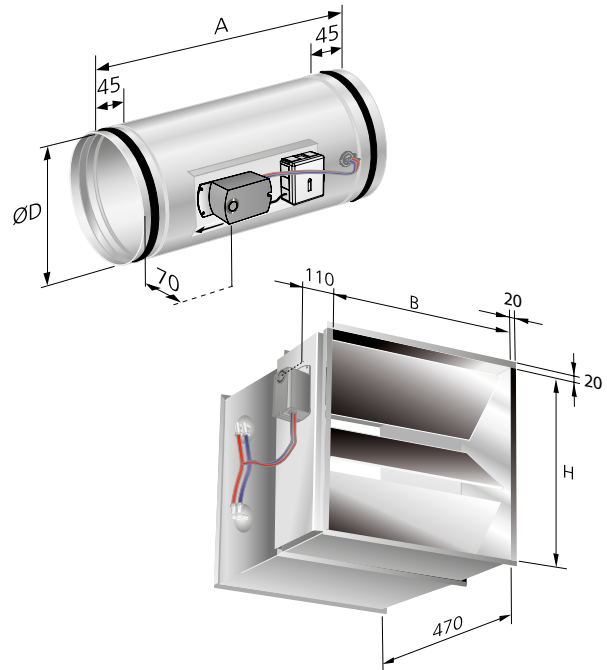


Figure 12. SLAVE Room, circular and rectangular design. Rectangular dampers should always be mounted with their shaft horizontal.

CONTROL Room

### FSR Clamp

Clamp made of galvanised sheet steel, used for facilitating installation and removal of damper units. The clamp has adjustable eccentric locking devices for simple and quick locking/opening. The rubber gasket allows sealing directly against duct nipple. The clamp is always installed on "the room side" of the damper.

#### Quick facts

- Thick rubber seal
- Adjustable eccentric locking devices

Size	ØD (mm)	Ød (mm)	Weight (kg)
100	125	99	0,4
125	150	124	0,4
160	185	159	0,6
200	225	199	0,6
250	275	249	0,7
315	340	314	0,8
400	425	399	1,2
500	525	499	1,4

#### Ordering key

Clamp FSR c -aaa

Version:

Size: 100, 125, 160, 200, 250, 315, 400, 500

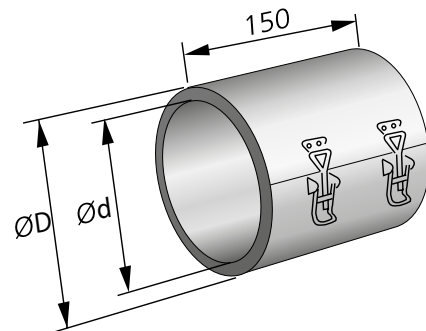


Figure 13. FSR Clamp.

### DETECT Quality

DETECT Quality is an electronic CO<sub>2</sub> sensor used for CONTROL Room in room version to control the need for ventilation in buildings. The setting values are managed by CONTROL Room.

**Quick facts:**

- CO<sub>2</sub> sensor
- Measuring range: 0-2000 ppm
- Output signal 0-10 V DC.

**Electrical data**

Supply voltage	24 V ±20 % AC/DC
Power consumption	3 VA
Ambient temperature	0 °C – +50 °C
Reaction time	2 min
Humidity	0-95% RH (non-condensing)
Degree of protection, installed in a room	IP 20
OUT1 0-10 V DC	0-2000 ppm

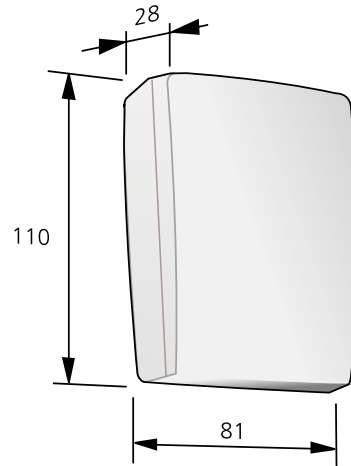


Figure 14. DETECT Q-0

**Ordering key**

Carbon dioxide sensor	DETECT Q	a	-a
Version:			
Type:			
Without display: 0			

**LINK Modbus**

RJ12 modular cable for wired TUNE Control.

**Ordering key**

LINK Modbus RJ12 cord	LINK M	a	-aa
Version:			
Length: 2, 3, 5 or 10 m			



Figure 15. LINK Modbus

**DETECT M**

Condensation guard for application on the cooling coil pipe (self-adhesive). Used for 2-step cooling for preventing condensate precipitation. The sensor detects moisture in response to changes in resistance and therefore must not be insulated.

**Ordering key**

Condensation guard	DETECT M
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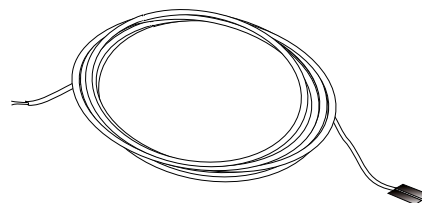


Figure 16. DETECT M

### DETECT Occupancy

DETECT Occupancy is an IR type presence detector for use in combination with CONTROL Room for readjusting between presence and absence of occupants. Adjustable on/off switching delay. Available for wall or ceiling mounting. A mounting bracket that enables angular adjustment of the sensor for optimal coverage of the room is included for the wall-mounted variant.

**Quick facts:**

- IR detector of double enclosure type
- Available for ceiling or wall installation
- Adjustable for optimal room coverage
- Normally open and normally closed changeover contacts
- Adjustable on/off switching delay
- White enclosure

**Electrical data**

Supply voltage	24 V ±2 V AC/DC
Power consumption	1 VA
Ambient temperature	-20 °C – +50 °C
Degree of protection, installed in a room	IP 20
Max. detection area	15 x 15 m

**Ordering key**

Presence detector	DETECT O	a	-aaa
Version:			
Type:			
Wall mounted:	V110		
Ceiling mounted:	T360		

### POWER Adapt

Single-phase protective transformer for power plug connection/permanent wiring, unearthed or earthed. The transformer is made of impact-resistant, light grey, self-extinguishing thermoplastic. POWER Adapt meets applicable requirements for electrical safety/emissions and immunity.

**Technical data**

Input voltage	230 V 50-60 Hz
Output voltage	24 V AC
Power	60/150 VA
Enclosure:	IP33

**Ordering key**

1-phase protective transformer	POWER A	a	-aaa
Version:			
Size:	60 VA, 150 VA		

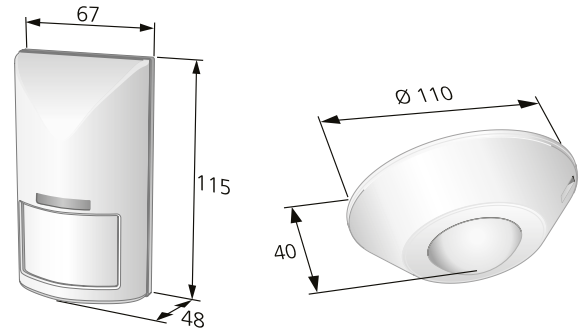


Figure 17. DETECT Occupancy

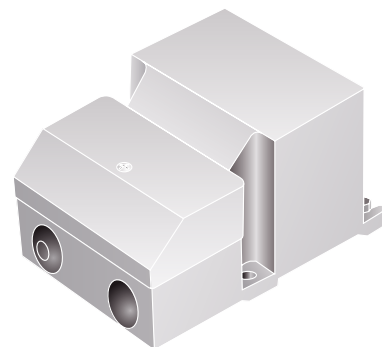


Figure 18. POWER Adapt 60/150 VA.

**ACTUATOR**

Thermo-actuator, on/off in NC version with pin-connection cable ends. NC = Normally closed.

- Power supply: 24 V AC/DC, ±10%, 0-60 Hz
- Temperature:
- Operating temperature, room air: 0-60 °C
- Operating temperature, energy carrier: 10-100 °C
- Cable: Fixed two-wire cable, L= 1.0 m, Ø 0.75 mm<sup>2</sup>
- Power consumption, start: 6 VA for a maximum of 2 min.
- Power consumption, operation: 1.8 VA
- Degree of protection: IP 54
- Connection: As standard, the VA-80 adapter is included, fits an M30 x 1.5 mm threaded socket.

For alternative adapters contact Swegon.

**“First open” function**

The actuator is set to the “first open” function on delivery. This means that the actuator is open when it is installed making it easier to pressure test and vent the water system. The function will be automatically disabled after the actuator has been energized for approx. 6 minutes. A clicking noise will be heard after which the actuator will change over to the NC mode and the normal regulation function will begin.

**Ordering key**

Valve actuator ACTUATOR a  
Version:

**VALVE**

Radiator valve of angled or straight design. Dull nickel-plated bronze.

- Max. permissible operating pressure: 1000 kPa
- Max. permissible pressure drop: Across open valve: 20 kPa  
Across closed valve: 150 kPa
- Min. permissible inlet flow temperature: of 110 °C

**Ordering key**

Radiator valve VALVE a -a -bb  
Version:  
Straight version = S  
Angled version = A  
DN: 110, 115 or 120

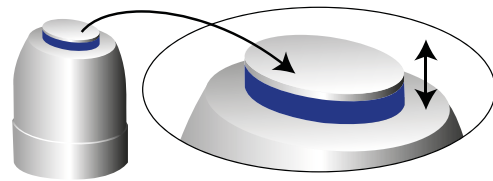


Figure 19. ACTUATOR damper blade position indicator. The actuator’s cylinder shaped position indicator clearly shows, from all angles, which operating setting is current. When the indicator is at its lowest position and at the same height as the enclosure, the actuator is in closed position. When the indicator is in the raised position above the enclosure, the actuator is in the open position.

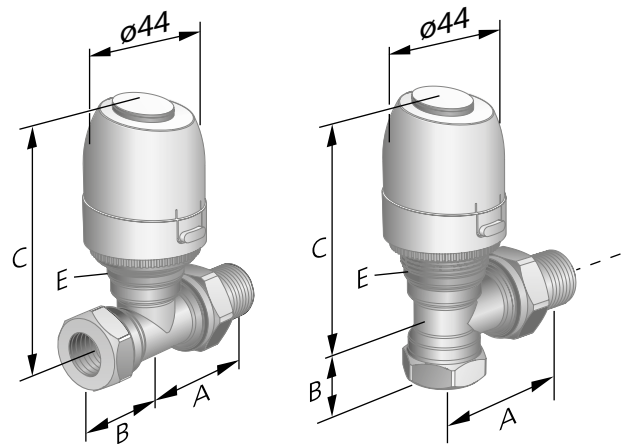


Figure 20. VALVE-S valve and VALVE-A respectively with ACTUATOR valve actuator mounted. E = M30 x 1.5 mm threaded mount

DN	Threads (inch)	Dimensions (mm)			k <sub>v</sub> -value
		A	B	C	
S 110	3/8"	59	26	81	0,09-0,63
S 115	1/2"	61	33	81	0,10-0,89
S 120	3/4"	63	35	81	0,31-1,41
A 110	3/8"	49	20	81	0,09-0,63
A 115	1/2"	53	23	81	0,10-0,89
A 120	3/4"	63	26	81	0,31-1,14