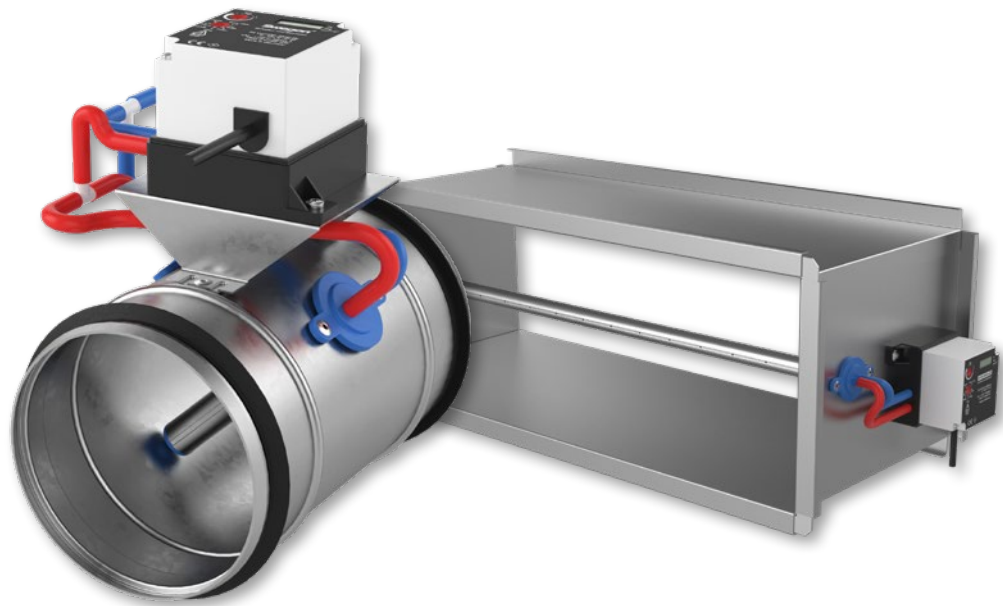


REACT M

Measurement unit



QUICK FACTS

- Stand-alone measurement unit for measuring air flow
- Rapid access to readings via the controller display
- Quick setting of parameters
- Analogue controls or Modbus control
- Can be easily anti-condensation insulated in the duct system
- Variants:
 - Circular connections: Ø100-630 mm
 - Rectangular connections: 200x200-1400x700 mm

REACT M Size	FLOW RANGE			
	Min.		Max.*	
	l/s	m ³ /h	l/s	m ³ /h
100	5	18	90	324
125	9	32	147	529
160	16	58	254	914
200	25	90	404	1454
250	40	144	658	2369
315	63	227	1054	3794
400	102	367	1732	6235
500	164	590	2670	9612
630	300	1080	4174	15026

* Nominal flow (V_{nom}), based on 250 Pa in pressure reading.

Technical description

General

- Intended for measuring comfort ventilation.
- Moist, cold and aggressive environments must be avoided.
- Can be installed in both supply and extract air systems.
- The minimum air flow must be considered during design.

Design

- Integrated air flow sensor.
- Analogue controls 0(2)-10 V or Modbus control.

Circular variant:

- Connection: Ø100-630 mm.
- Always supplied with dust protection.
- Shelf with 30 mm spacer to facilitate condensation insulation of the duct system.
- A factory-insulated model available on request.

Rectangular variant:

- Connection 200x200-1400x700 mm.
- Other sizes are also available on request.

Functions

- Measurement of air flow.
- Display for direct reading.
- Settings can be made directly on the controller with the help of a screwdriver.

Materials and surface treatment

- All sheet-metal parts are galvanized sheet steel (Z275).
- Measuring rods are aluminium.

Project design / Typical room

See separate documentation "REACT Description of functions & wiring diagram", available for download via www.swegon.com.

Maintenance

The product does not require any maintenance/service, except for cleaning when necessary. See the separate Instructions for Use, available on www.swegon.com.

Environment

The Building Materials Declaration is available from www.swegon.com.

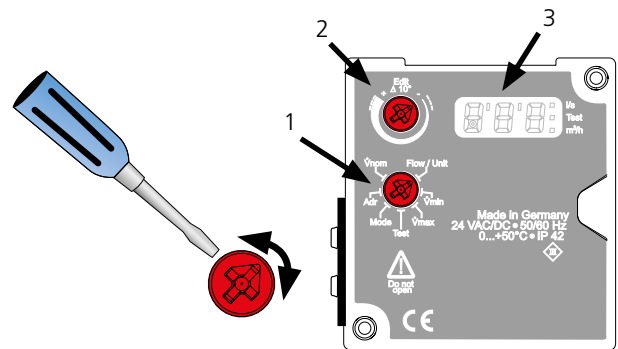
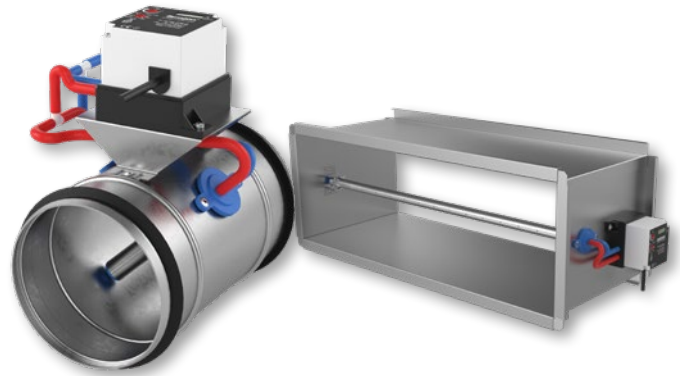


Figure 1. REACT M controller.

1. Function wheel
2. Edit wheel
3. Display

Accessories

- FSR, clamp/quick coupling for easy dismantling in a circular design for cleaning and inspection.



Figure 2. FSR.

Technical data

IP class:	IP42
Corrosivity class:	C3
Leakage classes according to SS-EN 1751	
- Leakage class, casing:	C
Ambient temperature	
Operation:	0 – +50 °C
Storage:	-20 – +50°C
RH:	10 - 95% (non-condensing)
CE marking:	2014/35/EU (LVD) 2014/30/EU (EMC) 2011/65/EU (RoHS2)

Electrical data

Power supply:	24 V AC/DC ±20% 50 - 60 Hz
Fixed connection cable, 1000 mm with cable size.	3 x 0.75 mm ² 2 x 0.38 mm ² <i>See figure 3 below.</i>
Power consumption, for transformer rating:	
REACT M	0.6 W 1.3 VA

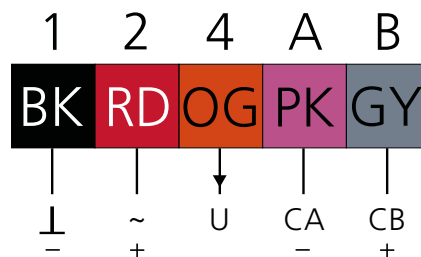


Figure 3. Electrical connections.

Connections

1-2 – Supply voltage	24 V AC/DC
4 – Actual value signal (U)	0..10/(2..10) V
A-B – Modbus	

Sizing

Air flows – all designs

- Important! Increased air flow gives increased duct velocity and increased sound level.

Acoustic data – circular design

Sound power level

- The diagrams show the A-weighted sound power (L_{WA} -dB), as a function of the air flow and pressure drop across the damper.
- Correct L_{WA} with correction factor K_{ok} from the tables below to obtain the sound power levels for each octave band ($L_W = L_{WA} + K_{ok}$).

Correction factors for conversion to sound power in octave bands:

L_{WA} = Sound level with A-filter but without room attenuation in the sizing diagram for duct products.

K_{ok} = Correction factor in octave bands.

Sound power in octave bands

$$L_W = L_{WA} + K_{ok} \text{ [dB]}$$

Correction factor, K_{ok}

Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
100	7	18	8	0	-3	-9	-17	-22
125	6	16	6	-2	-3	-7	-19	-23
160	5	15	4	-3	-4	-9	-11	-22
200	2	15	3	-4	-4	-7	-14	-22
250	7	12	4	-4	-4	-6	-12	-19
315	5	11	3	-6	-4	-6	-14	-23
400	8	10	1	-6	-4	-7	-16	-24
500	8	9	0	-5	-3	-7	-17	-24
630	7	8	1	-4	-2	-9	-17	-25
Tol. ±	6	3	2	2	2	2	2	2

Rectangular design

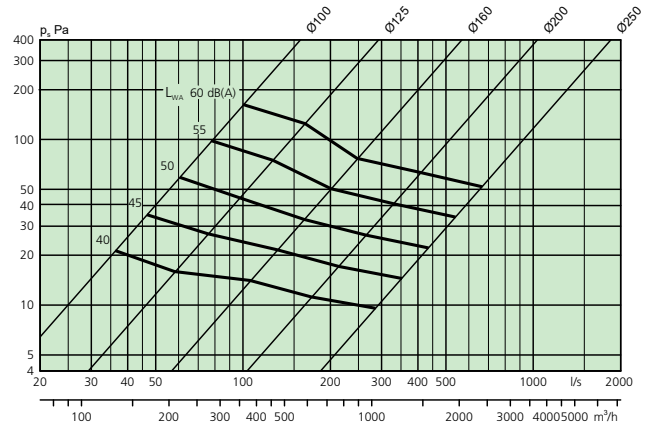
No increased pressure drop by rectangular design.

Sizing diagram – Circular, all designs

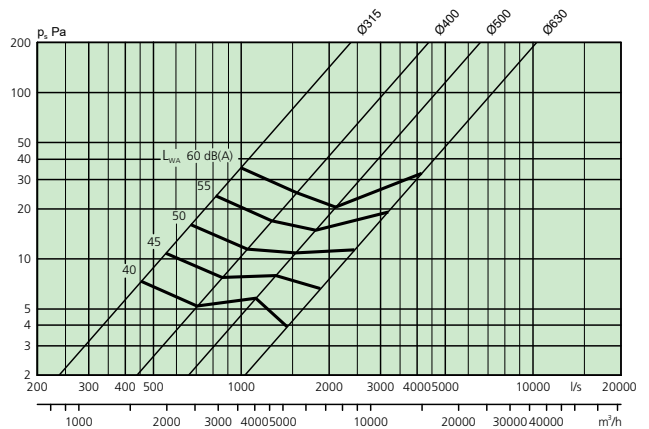
Air flow – Pressure drop – Sound level

- Specified sound levels, L_{WA} : 40, 50, 60 and 70 dB(A).
- The data is for the sound created in ducts.

REACT M 100, 125, 160, 200, 250



REACT M 315, 400, 500, 630



Installation, torque, dimensions and weights

Circular design

Size ØD (mm)	A (mm)	B (mm)	C (mm)	Weight (kg)	Flow range				Tolerance Q* ±5% with at least ±x l/s
					Min.		Max=Vnom ^{*)}		
					l/s	m³/h	l/s	m³/h	
100	220	50	200	0.8	5	18	90	324	2
125	220	50	225	0.9	9	32	147	529	2
160	220	50	260	1.1	16	58	254	914	2
200	220	50	300	1.2	25	90	404	1454	3
250	220	50	350	1.4	40	144	658	2369	5
315	220	50	415	1.7	63	227	1054	3794	8
400	220	50	500	2.1	102	367	1732	6235	13
500	230	50	600	2.5	164	590	2670	9612	20
630	230	50	730	3.0	300	1080	4174	15026	32

^{*)} Vnom at 250 Pa in pressure reading.

*Installed according to the instructions

Installation – all designs

- The product's air flow measurement requires a straight duct section as per the installation figures.
- In unfavourable conditions before or with disruption, the product's tolerances cannot be guaranteed.
- Instructions for Use are supplied with the product on delivery, but can also be downloaded from www.swegon.com.

Installation – circular version

- Installation is position dependent.
- Can be installed horizontally or vertically.

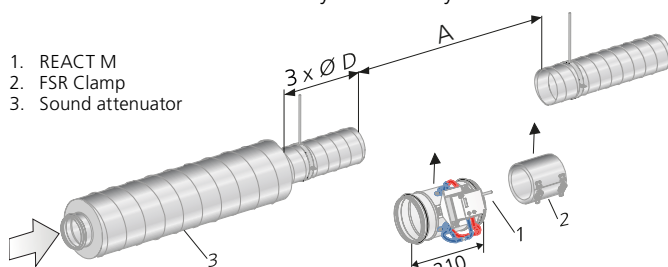


Figure 4. Requires a straight duct section of 3 x Ø for sound attenuators with baffle or centre body.

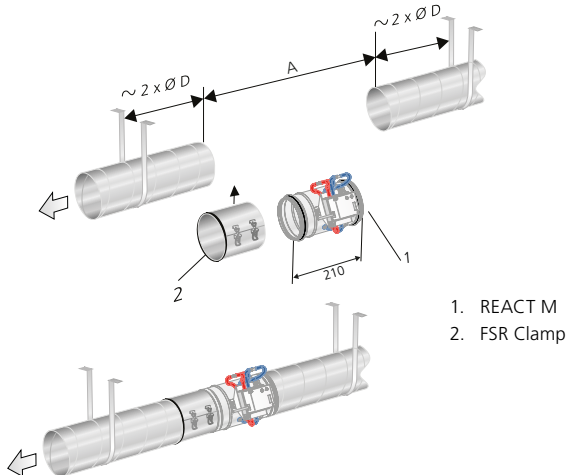


Figure 5. Installation in the duct system. The ducts must be firmly fixed to the frame of the building on each side of REACT M.

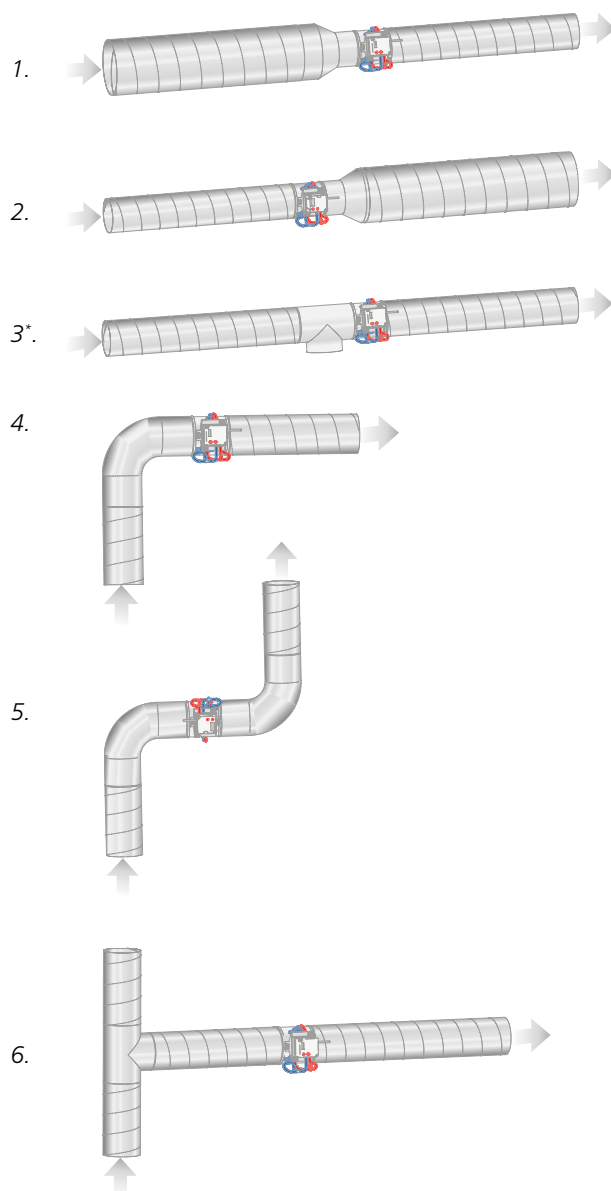


Figure 6. Straight duct section requirements, circular ducts, quantity Ø before the product: Figures 1-5 require no straight duct section (figure 3* illustrates the T piece with cleaning hatch). Figure 6 requires a straight duct section before the product equivalent to 4 x the diameter of the duct.

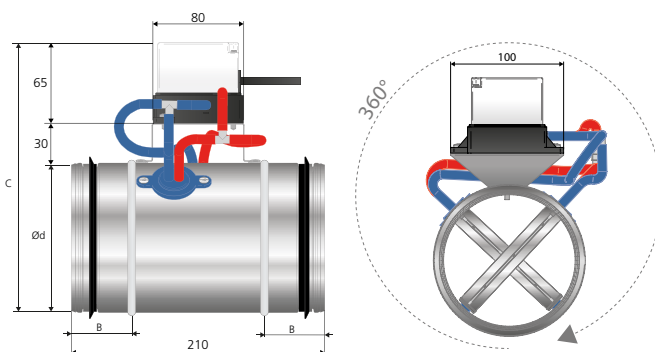


Figure 7. Dimensions (mm), REACT M circular. The damper can be installed at an optional angle.

Rectangular design

Size WxH (mm)	Weight (kg)	Flow range				Tolerance Q* ±5% with at least ±x l/s
		Min		Max=Vnom ¹⁾		
		l/s	m ³ /h	l/s	m ³ /h	
200 x 200	2.5	67	240	527	1897	8
300 x 200	3.0	100	360	790	2845	12
400 x 200	3.4	133	480	1054	3793	17
500 x 200	3.9	167	600	1317	4742	21
600 x 200	4.3	200	720	1581	5690	25
700 x 200	4.8	233	840	1844	6638	29
800 x 200	5.3	267	960	2107	7586	33
1000 x 200	6.2	333	1200	2634	9483	42
300 x 300	3.4	152	548	1204	4334	19
400 x 300	3.8	203	731	1605	5779	25
500 x 300	4.3	254	914	2006	7223	32
600 x 300	4.8	305	1096	2408	8668	38
700 x 300	5.1	355	1279	2809	10113	44
800 x 300	5.7	406	1462	3210	11557	51
1000 x 300	6.6	508	1827	4013	14447	63
400 x 400	4.4	273	983	2158	7769	34
500 x 400	4.9	341	1228	2697	9711	43
600 x 400	5.3	409	1474	3237	11653	51
700 x 400	5.9	478	1720	3776	13595	60
800 x 400	6.4	546	1965	4316	15537	68
1000 x 400	7.3	682	2457	5395	19421	85
1200 x 400	8.3	819	2948	6474	23306	102
1400 x 400	9.2	955	3439	7553	27190	119
1600 x 400	10.2	1092	3931	8632	31074	136
500 x 500	5.3	429	1543	3388	12195	54
600 x 500	5.7	514	1851	4065	14634	64
700 x 500	6.3	600	2160	4743	17073	75
800 x 500	6.7	686	2468	5420	19513	86
1000 x 500	7.7	857	3085	6775	24391	107
1200 x 500	8.7	1028	3702	8130	29269	129
1400 x 500	9.7	1200	4319	9485	34147	150
1600 x 500	10.7	1371	4936	10840	39025	171
600 x 600	6.4	618	2227	4890	17602	77
700 x 600	7.0	722	2598	5704	20536	90
800 x 600	7.4	825	2969	6519	23470	103
1000 x 600	8.5	1031	3711	8149	29337	129
1200 x 600	9.5	1237	4453	9779	35204	155
1400 x 600	10.5	1443	5195	11409	41072	180
1600 x 600	11.6	1649	5937	13039	46939	206
700 x 700	7.4	844	3038	6671	24014	105
800 x 700	7.9	964	3472	7624	27445	121
1000 x 700	8.9	1205	4339	9530	34306	151
1200 x 700	9.9	1446	5207	11435	41168	181
1400 x 700	11.0	1688	6075	13341	48029	211

¹⁾Vnom at 250 Pa in pressure reading.
*Installed according to the instructions

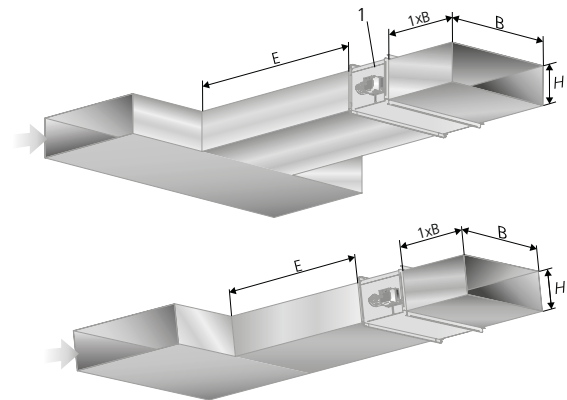
Installation – rectangular design

Dimension B in the figure and table below is found in the table “Rectangular design” to the left.

- Installation is position dependent.
- Can be installed horizontally or vertically.

Straight section before REACT M in rectangular ducts

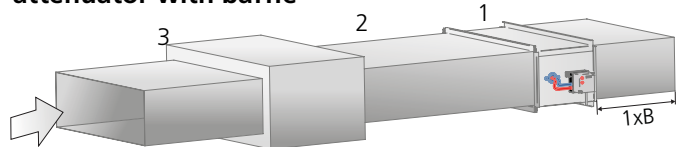
Type of disruption	E (m ₂ =5%)	E (m ₂ =10%)
One 90° bend	E = 3 x B	E = 2 x B
T piece	E = 3 x B	E = 2 x B



1. Controller/Actuator always on the side of the rectangular damper.
E = Straight section.
W = Width, duct.
H = Height, duct.

Figure 8. Straight section requirements, rectangular ducts.

Straight duct section before/after REACT M – sound attenuator with baffle



- 1. = Rectangular REACT M
- 2. = Straight duct ≥3xB.
- 3. = Sound attenuator with baffle.

Figure 9. Straight duct section requirements, rectangular REACT M and sound attenuator with baffle. Installation with a straight duct section applies to both the supply air and the extract air.

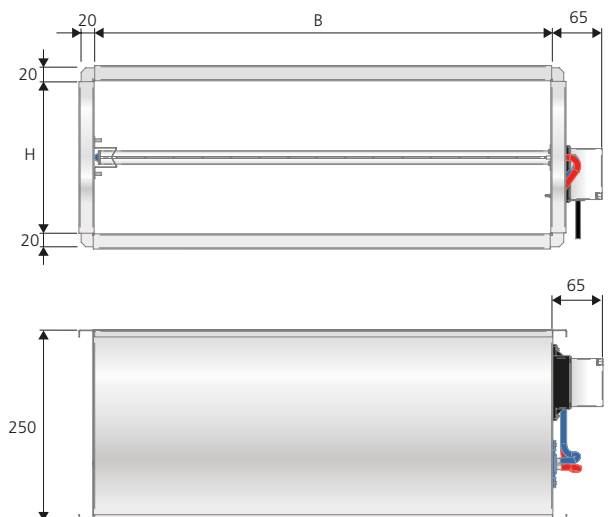


Figure 10. Dimensions (mm), REACT M rectangular.

Specification

Product

Circular design

Circular measurement unit REACT M a bbb

Version:

Size:

100, 125, 160, 200, 250, 315, 400, 500, 630

Rectangular design

Rectangular measurement unit REACT M a bbb-ccc

Version:

Size: W x H (see the table on page 6)

Accessories

Clamp for circular ventilation ducts FSR c -aaa

Version:

Dimension: 100, 125, 160, 200, 250, 315, 400, 500, 630

Specification text

Example of a specification text according to VVS AMA.

QJJ Flow measurement unit in ventilation duct

Make: Swegon

Type: REACT M

Measurement unit for ducts with the following functions:

- Measures air flow
- Available in a circular or rectangular variants
- Can be installed in both supply and extract air systems
- Can be ordered with factory-fitted insulation
- Shelf with 30 mm spacer to facilitate condensation insulation of the duct system

Must be installed with a minimum straight duct section on the inlet side as per the product sheet.

Size circular: Ø 100 to Ø 630

Size rectangular: 200 x 200 to 1400 x 700

Specification

Standard SS-EN 1751: 2014, Annex C

Power supply: 24 V AC ±15% 50 - 60 Hz

IP class: IP20

Air tightness class, casing: C

Corrosivity class: C3

Tolerance flow measurement: ±5%, however, at least ±X l/s according to the table in the product sheet

Type: REACT Ma bbb xx pcs
 REACT Ma bbb-ccc xx pcs

Accessories

Clamp for circular ventilation ducts FSRc aaa xx pcs