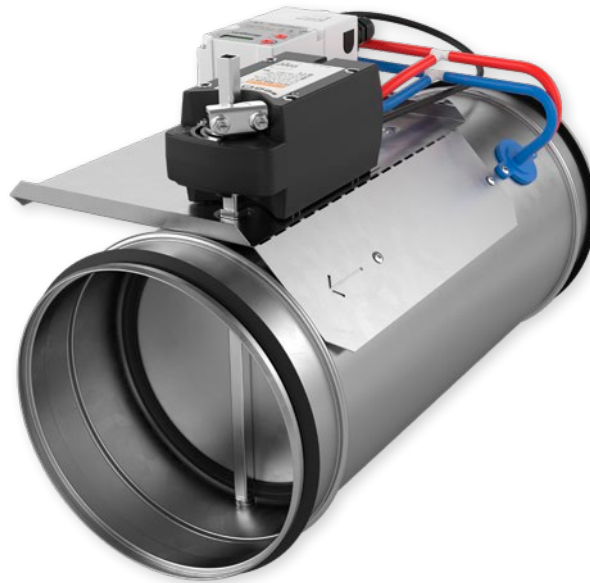


REACT V-SR GMB

Variable flow damper with spring return – Gruner Modbus



QUICK FACTS

- Variable or constant flow regulation
- Can be mounted directly at bends and duct transitions/reductions (circular)
- Rapid setting/reading of parameters via the controller's display
- Analogue control and Modbus control
- Variants:
 - Circular connections: Ø100-630 mm
 - Rectangular connections: Available on request

REACT V-SR GMB Size	FLOW RANGE			
	Min.		Max.*	
	l/s	m³/h	l/s	m³/h
100	5	18	67	241
125	9	32	108	389
160	16	58	184	662
200	25	90	292	1051
250	40	144	470	1692
315	63	227	747	2689
400	102	367	1240	4464
500	164	590	1900	6840
630	300	1080	2950	10620

* Nominal flow (Vnom), based on 120 Pa in pressure reading.

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Technical description

General

- Intended for flow regulation of comfort ventilation.
- Moist, cold and aggressive environments must be avoided.
- Can be installed in both supply and extract air systems.
- Pressure independent but recommended working range between minimum pressure drop of 10 Pa to 300 Pa over the damper.
- The minimum air flow must be considered during planning.
- For good regulation, a minimum difference between V_{min} and V_{max} of 20% of the product's V_{nom} is recommended.

Design

- Integrated air flow sensor.
- Analogue control and Modbus control.
- Alternative options (Order item):
 - De-energised closed (NC), standard.
 - De-energised open (NO), ordered as Special.

Circular design

- Connection: Ø100-630 mm.
- Always supplied with dust protection.

Rectangular design

- Rectangular design available on request.

Functions

- Variable flow or constant flow regulation.
- 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).

Project design / Typical room

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

Maintenance

The product does not require any maintenance/service, except for any 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.

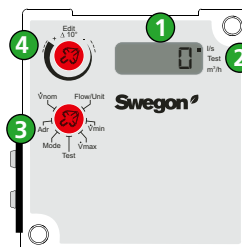


Figure 1. REACT V-SR GMB controller.

1. Display
2. Unit matrix
3. Function wheel
4. Edit wheel

Accessories

FSR	Clamp for easy dismantling of a circular design for cleaning and inspection
DETECT Occupancy V110	Occupancy detector for wall and corner installation
DETECT Occupancy T360	Occupancy detector for ceiling installation
LUNA RC	Room controller for temperature control with display
LUNA RC CO ₂	Room controller for temperature control and CO ₂ , with display
LUNA RE	Room controller for temperature regulation
DETECT IAQ	CO ₂ and temperature controller
DETECT IAQ OCS	CO ₂ and temperature controller that also detects occupancy
DETECT IAQ D	CO ₂ and temperature controller for duct installation



FSR



DETECT O V110



DETECT O T360



LUNA RC /
LUNA RC CO₂



LUNA RE



DETECT IAQ



DETECT IAQ OCS



DETECT IAQ D

Technical data

IP class:	IP42
Corrosivity class:	C3
Pressure class:	A
Leakage classes according to SS-EN 1751	
- Leakage class, casing:	C
- Leakage class, damper, closed:	4
Running time, electric (90°):	
5 Nm:	100 s
10 / 20 Nm:	150 s
Return time spring:	max. 20 s (90°)
Ambient temperature	
Operation:	0 – +50 °C
Storage:	-20 – +50°C
RH:	10 - 95% (non-condensing)
CE marking:	2006/42/EC (MD) 2014/30/EU (EMC) 2011/65/EU (RoHS2)

Electrical data

Power supply:	24 V AC/DC ±15% 50 - 60 Hz	
Connection to screw terminals, cable size	6 x 0.5-2.5 mm ²	
	See Figure 2 below.	
Power consumption, for transformer rating:		
REACT V-SR GMB 5 Nm	5.0 W	6.5 VA
REACT V-SR GMB 10 Nm	5.0 W	8.0 VA
REACT V-SR GMB 20 Nm	8.0 W	11.5 VA
See torque in table on page 6.		

Connection

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

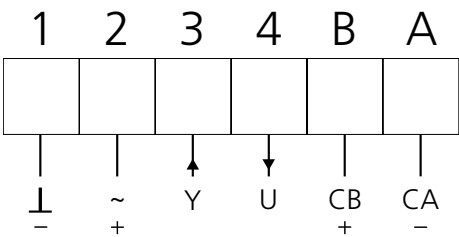


Figure 2. Connection.

Sizing

- Note: Increased air flow gives increased duct velocity and increased sound level.

Sound data

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.

K_{trans} = Correction factor in octave bands for transmitted sound.

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	7	5	-1	-5	-10	-17	-22
125	7	9	6	-2	-4	-10	-19	-25
160	5	10	6	-3	-5	-11	-18	-24
200	5	10	5	-2	-5	-11	-19	-27
250	8	5	2	-3	-6	-10	-18	-24
315	4	6	3	-3	-6	-10	-18	-25
400	6	3	1	-3	-5	-10	-17	-26
500	3	0	-1	-3	-5	-10	-17	-28
630	3	-1	-2	-3	-5	-9	-17	-27
Tol. ±	6	3	2	2	2	2	2	2

Transmitted sound through uninsulated casing

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

Correction factor K_{trans}

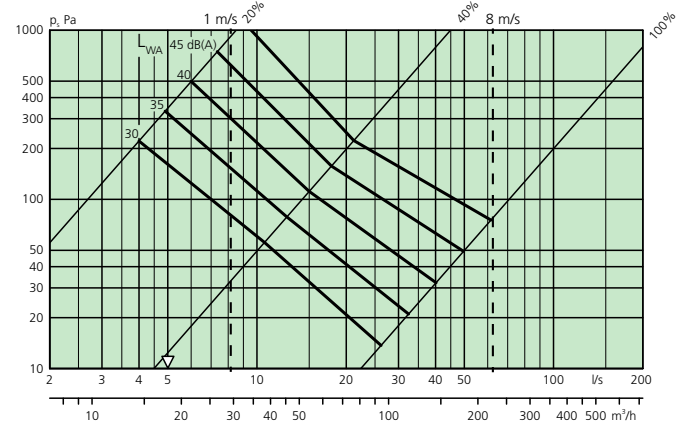
Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
100	-2	-9	-7	-10	-9	-10	-15	-22
125	-4	-9	-8	-13	-9	-12	-19	-27
160	-7	-9	-10	-15	-12	-15	-20	-28
200	-9	-11	-13	-16	-14	-16	-23	-32
250	-8	-18	-17	-19	-17	-17	-23	-31
315	-14	-19	-18	-21	-18	-19	-25	-34
400	-13	-23	-22	-22	-19	-21	-26	-37
500	-18	-28	-27	-24	-21	-22	-28	-40
630	-18	-27	-27	-24	-21	-21	-29	-38
Tol±	6	3	2	2	2	2	2	2

Sizing diagram

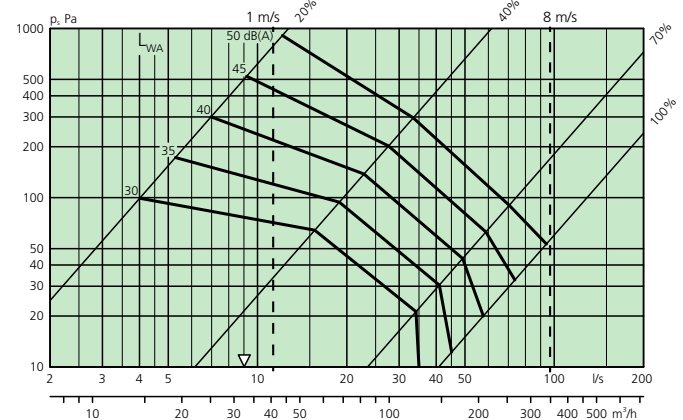
Air flow – Pressure drop – Sound level

- Specified sound levels, L_{WA} : 30, 35, 40, 45 and 50 dB(A).
- The data is for the sound created in ducts.
- 100% corresponds to the damper being fully open.
- ▽ = Min. air flow.

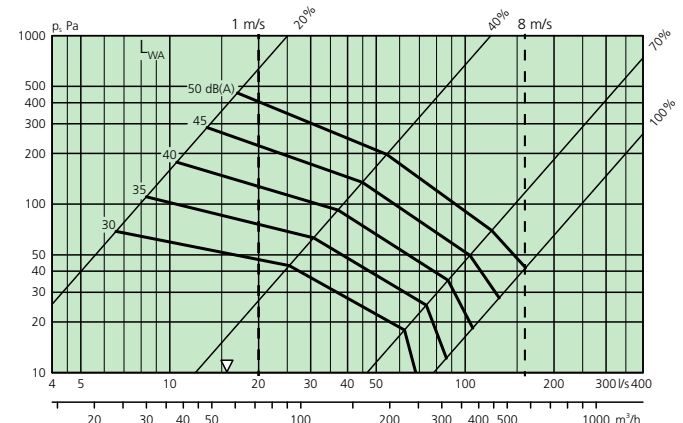
REACT V-SR GMB 100



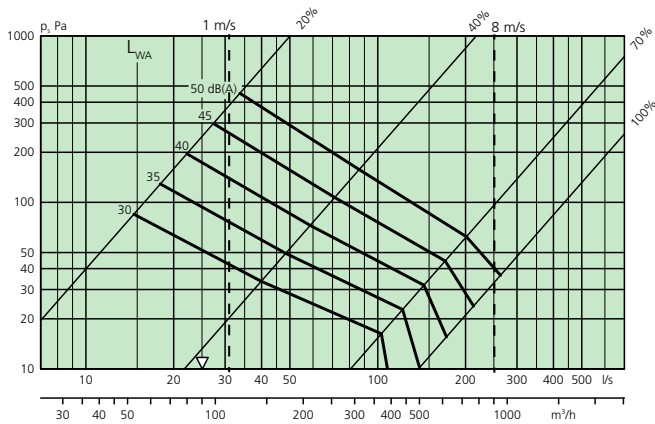
REACT V-SR GMB 125



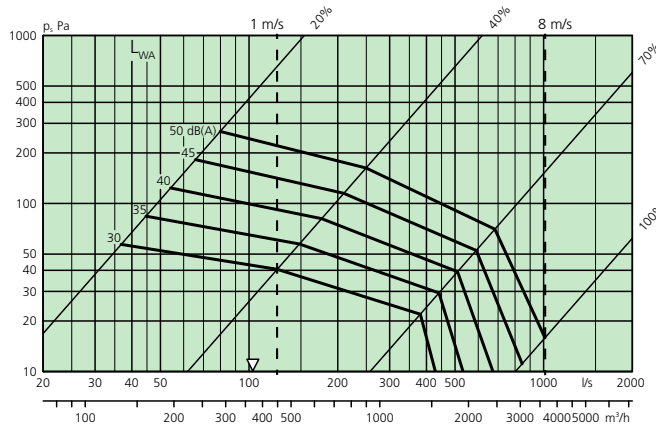
REACT V-SR GMB 160



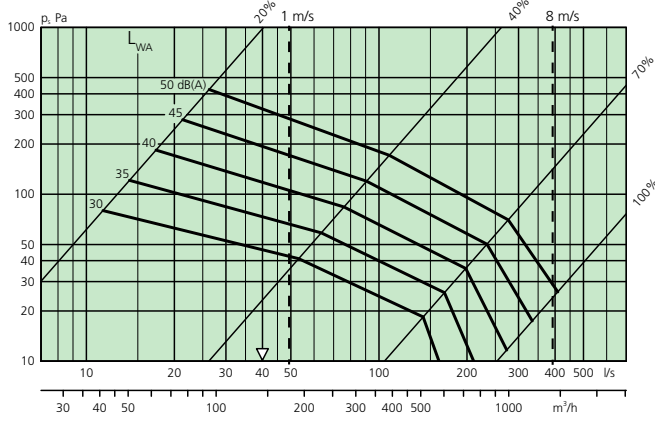
REACT V-SR GMB 200



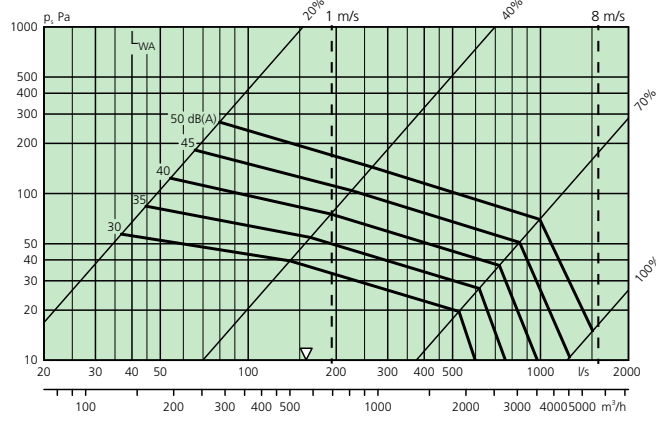
REACT V-SR GMB 400



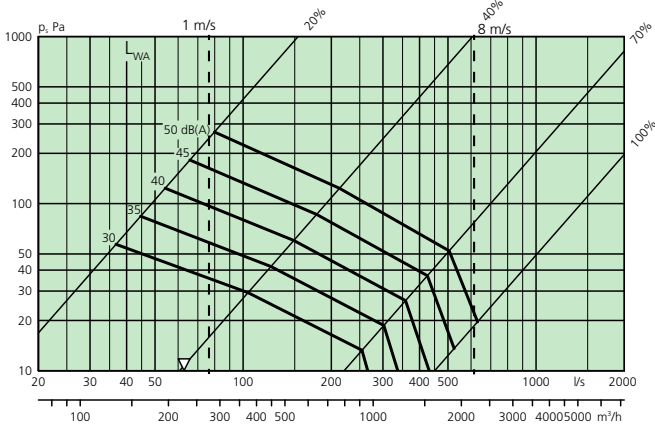
REACT V-SR GMB 250



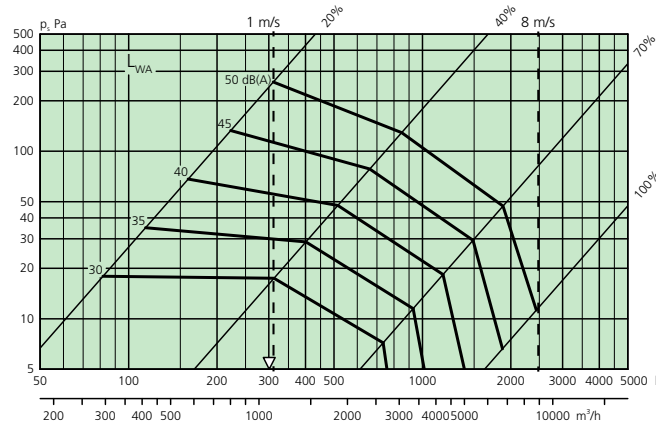
REACT V-SR GMB 500



REACT V-SR GMB 315



REACT V-SR GMB 630



Installation, torque, dimensions and weights

Dimensions

Size Ød (mm)	A (mm)	B (mm)	C (mm)	E (mm)	Torque (Nm)	Weight (kg)	Flow range				Tolerance Q* ±5% but at least ±x	
							Min.		Max = Vnom ^{*)}			
							l/s	m³/h	l/s	m³/h	l/s	m³/h
100	475	485	190	50	5	2.7	5	18	67	241	2	7
125	475	485	215	50	5	2.9	9	32	108	389	2	7
160	475	485	255	50	5	3.1	16	58	184	662	2	7
200	475	485	300	50	5	3.7	25	90	292	1051	3	11
250	525	535	350	50	5	4.5	40	144	470	1692	5	18
315	560	570	415	50	10	6.0	63	227	747	2689	8	29
400	695	705	505	60	10	8.0	102	367	1240	4464	13	47
500	820	840	605	60	10	10.6	164	590	1900	6840	20	72
630	915	935	735	60	20	15.5	300	1080	2950	10620	32	115

^{*)}Vnom at 120 Pa in pressure reading.

*Installed according to the instructions.

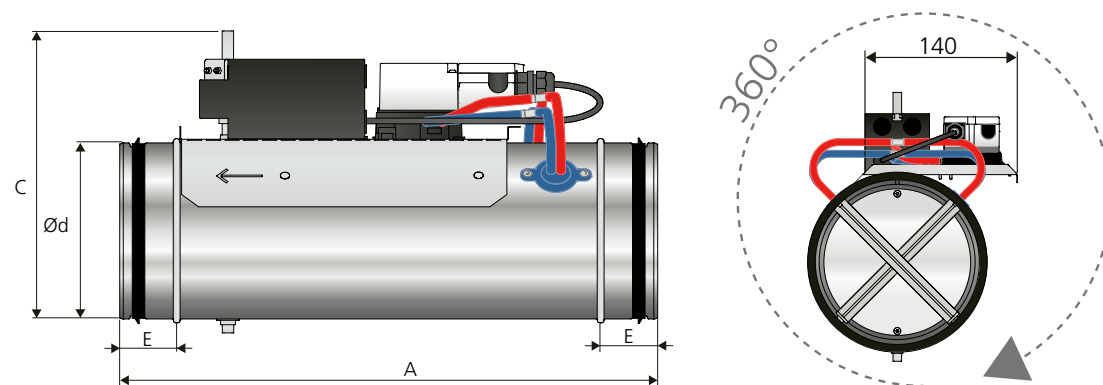


Figure 7. Dimensions (mm), REACT V-SR GMB. The damper can be installed at an optional angle.

Installation

- 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.
- Installation is position dependent.
- The product can be installed horizontally or vertically.
- Instructions for Use are supplied on delivery, but can also be downloaded from www.swegon.com.

Straight duct section requirements

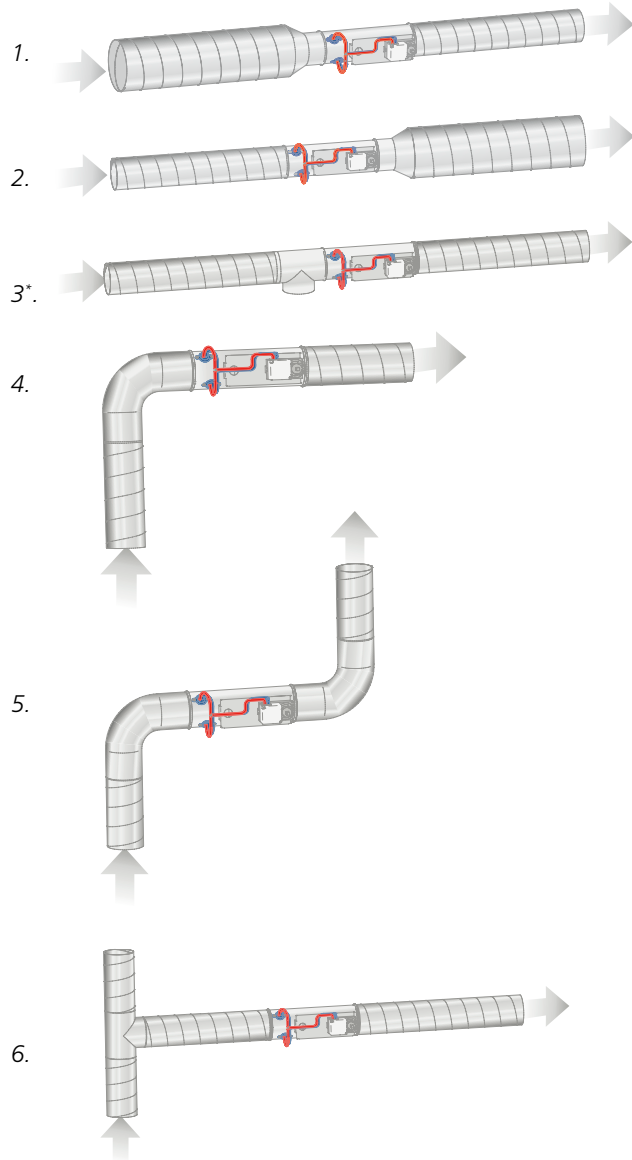


Figure 4. Straight duct section requirements, number of Ø before product:

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 damper equivalent to 4 x the diameter of the duct.

Straight duct section requirements in case of sound attenuator with baffle

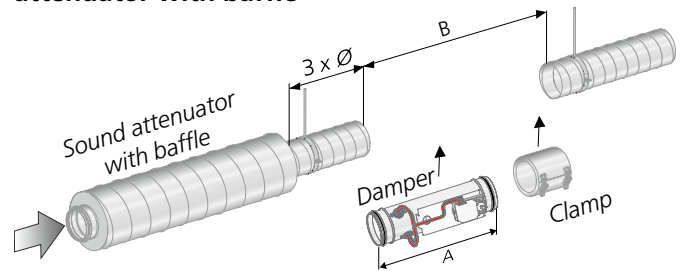


Figure 5. Straight duct section requirements 3 x Ø in case of sound attenuator with baffle or centre body.

Installation in the duct system

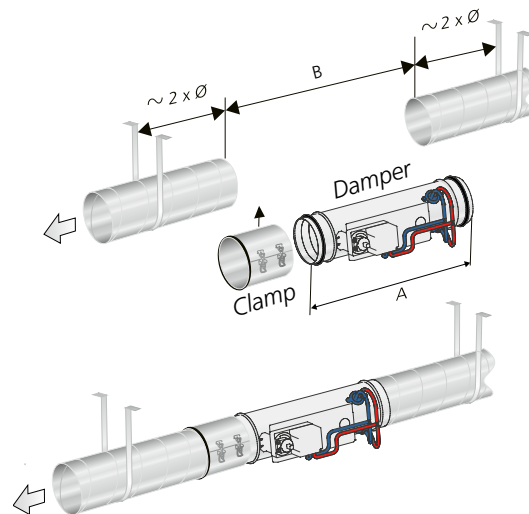


Figure 6. Installation in the duct system. The ducts must be firmly fixed to the frame of the building on each side of the product.

Specification

Product

Circular variable flow damper REACT V-SR GMB a bbb

Version:

Size:

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

NC = De-energised closed, standard

NO = De-energised open, ordered as special

REACT V-SR GMB factory setting -

Damper motor = NC, Vmax = Vnom l/s and Vmin = 0 l/s

Accessories

FSR

Clamp for circular ventilation ducts FSR c aaa

Version:

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

LUNA RC

Room controller for temperature regulation LUNA RC a TEMP-MB

Version:

Room controller for temperature regulation and CO₂ LUNA RC a CO2 -TEMP-MB

Version:

LUNA RE

Room controller for temperature regulation LUNA d PE -S MB

Version:

Design: Screw terminal

DETECT IAQ

Carbon dioxide and temperature controller for room area DETECT IAQ a CO2 -TEMP-MB

Version:

Carbon dioxide and temperature controller with PIR for room area DETECT IAQ OCS a CO2 -TEMP-MB

Version:

Carbon dioxide and temperature controller for ventilation duct DETECT IAQ D a CO2 -TEMP-MB

Version:

DETECT Occupancy

Occupancy detector DETECT O a aaaa

Version:

Type:

Wall mounted: V110

Ceiling mounted: T360

