

LOCKZONE Wall

Rectangular perforated wall diffusers



QUICK FACTS

- Guide vane perforations
- Cleanable
- Simple adjustment
- Used together with ALV commissioning box
- Standard colour White RAL 9003
 - 5 alternative standard colours
 - Other colours upon request

AIR FLOW - SOUND PRESSURE ROOM (Lp10A) *)							
LOCKZONE W Size	ALV Size	25 dB(A)		30 dB(A)		35 dB(A)	
		l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h
300-150	300-150-100	14	50	18	65	33	119
400-150	400-150-125	24	86	31	112	50	180
400-200	400-200-160	38	137	49	176	83	299
550-250	550-250-200	56	202	71	256	100	360
550-300	550-300-250	95	342	110	396	160	549

*) L_{p10A} = Sound pressure incl. A-filter with 4 dB room attenuation and 10 m² room absorption area.

The data specified in the table is applicable to 50 Pa total pressure.

Technical description

Design

Rectangular supply air diffusers for installation in a wall. The diffuser face is easy to remove and has guide vane perforations.

Materials and surface treatment

The diffuser face is made of sheet steel and aluminium. The ALV commissioning box is made of galvanized sheet steel. The interior and exterior surfaces of the air diffusers are painted.

- Standard colour:
 - White semi-gloss, lustre 40, RAL 9003/NCS S 0500-N
- Alternative standard colours:
 - Silver gloss, lustre 80, RAL 9006
 - Grey aluminium gloss, lustre 80, RAL 9007
 - White semi-gloss, lustre 40, RAL 9010
 - Black semi-gloss, lustre 35, RAL 9005
 - Grey semi-gloss, lustre 30, RAL 7037
- Non-painted finish and other colours available on request.

Accessories

Commissioning box:

ALV. Made of galvanized sheet steel. Contains removable commissioning damper, fixed measurement tapping and air distribution baffle. The commissioning box is available with two different connection options: rear and side connection respectively.

Cover plate:

ALVT 1. For the aesthetic installation of the ALV commissioning box.

Planning

The ALV commissioning box is well-suited for installation in 1200 mm plasterboard walls (600 mm centre to centre) and 900 mm plasterboard walls (450 mm centre to centre). See figure 1.

Installation

- Cut an opening in the wall according to the wall opening dimensions specified.
- Place the commissioning box in the opening.
- Sealant is applied between the commissioning box and mounting frame to avoid leakage. Insert the mounting frame into the commissioning box and secure it by means of screws in the short sides to the commissioning box and to the wall structure.
- The assembly and dismantling of the component parts are shown in Figure 1.
- Press the diffuser face to engage it in the mounting frame.

Commissioning

Commissioning must be carried out with the diffuser face in place. Pull the measurement hose and damper adjustment cords out of the air diffuser through the perforation. Connect a manometer to the measurement hose.



The desired commissioning pressure be computed by applying the rated coefficient of performance of the air diffuser. Set the damper to the correct blade position, tie a commissioning knot in the damper cords to indicate the damper position. Then lock the cords against the locking screw in the air distribution baffle. See Figure 1. 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

Clean the air diffuser when necessary using lukewarm water with added detergent. The duct system can be accessed after opening the diffuser face by pulling it down from the upper edge, withdrawing the air distribution baffle and lowering the fully open damper. See Figure 1.

Environment

The relevant building product declaration is available at www.swegon.com.

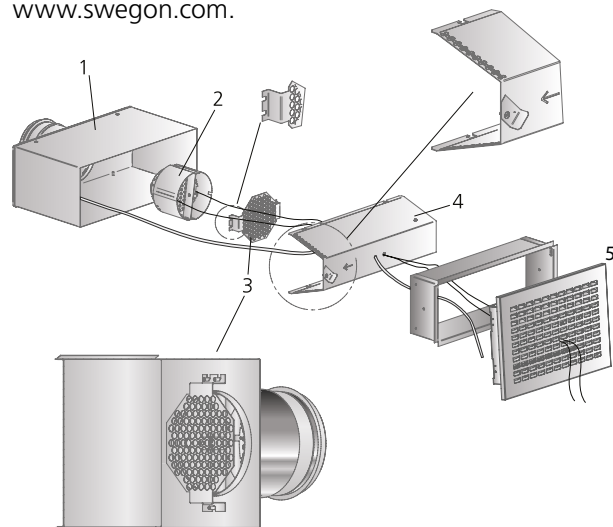


Figure 1. Installation.
To secure baffle (4) in bayonet catch and to secure the octagonal perforated face plate (3) against the duct connection.

1. Commissioning box
2. Damper action, bayonet catch
3. Octagonal air distribution plate
4. Air distribution baffle
5. Mounting frame + air diffuser

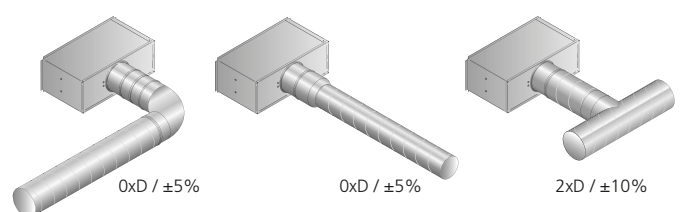


Figure 2. Installation alternatives, applies for all connections (B, K)

Sizing

- The sound level, dB(A), is applicable to rooms with 10 m² equivalent absorption area.
- Sound attenuation (ΔL) below is shown in the octave band. Orifice attenuation is included in the values.
- The throw, $l_{0,2}$, is measured under isothermal conditions.
- The diagrams illustrate data for the LOCKZONE Wall mounted with its top edge 200 mm from the ceiling. For throw correction figures for other distances between air diffuser and ceiling, see the Technical section in the catalogue.
- Recommended max. permissible temperature below room temperature: 12 °C.
- For calculating the width of the air stream, air velocities in the occupied zone or sound levels in rooms with other dimensions, please refer to our web calculation softwares available for download at www.swegon.com.

L_w = Sound power level

L_{p10A} = Sound pressure level dB (A)

K_{ok} = Correction for producing the L_w value in the octave band

$L_w = L_{p10A} + K_{ok}$ gives the frequency divided octave band

Sound data

LOCKZONE W + ALS – Supply Air

Sound power level, L_w (dB)

Table, K_{ok}

Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
LOCKZONE W	63	125	250	500	1000	2000	4000	8000
300-150	-1	7	5	-2	0	-5	-14	-22
400-150	-3	3	3	0	0	-4	-13	-20
400-200	-2	4	4	0	0	-5	-14	-19
550-250	-3	3	2	0	0	-6	-13	-19
550-300	-3	5	2	1	0	-7	-14	-20
Tol. ±	2	2	2	2	2	2	2	2

Sound Attenuation ΔL (dB)

Table, ΔL

Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
LOCKZONE W	63	125	250	500	1000	2000	4000	8000
300-150	20	12	8	2	6	13	7	7
400-150	18	8	7	5	6	7	10	12
400-200	14	11	4	3	5	7	5	5
550-250	11	11	3	4	2	3	5	8
550-300	13	9	2	3	5	3	4	5
Tol. ±	2	2	2	2	2	2	2	2

Sizing diagram

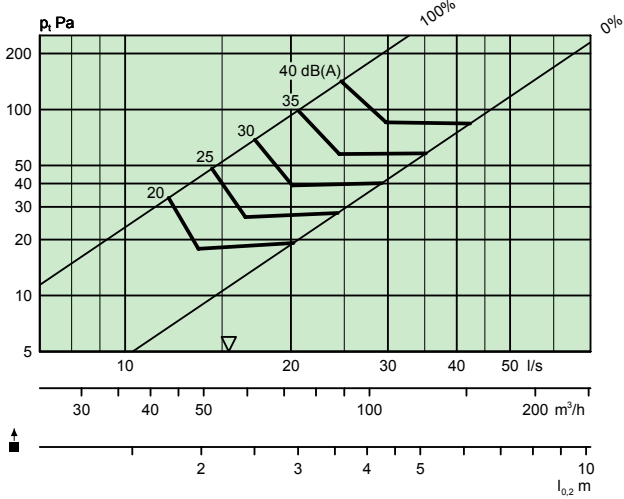
LOCKZONE W + ALV – Supply Air

Air flow – Pressure drop – Sound level – Throw

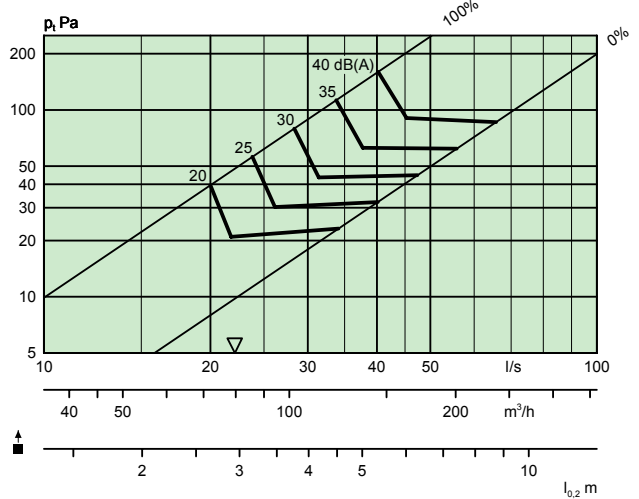
- The diagrams should not be used for commissioning.
- ▽ = Min. airflow required for obtaining sufficient commissioning pressure.

- The dB(A) values are for rooms with normal acoustic absorption (4 dB room attenuation).
- The dB(C) value is normally 6-9 dB higher than the dB(A) value.

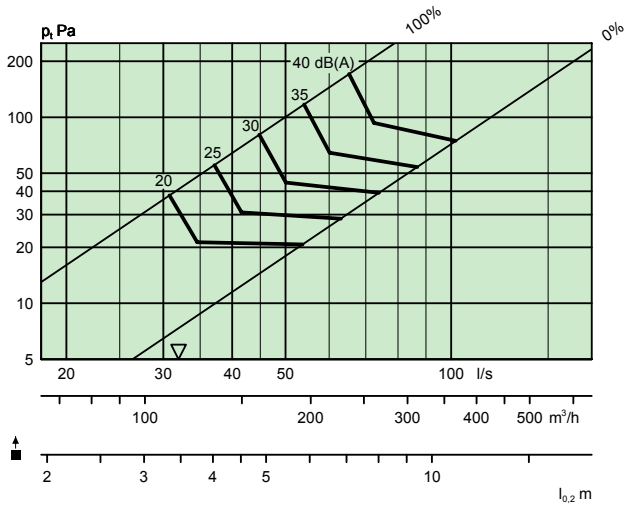
LOCKZONE Wall 300-150 + ALV 300-150-100-B/K



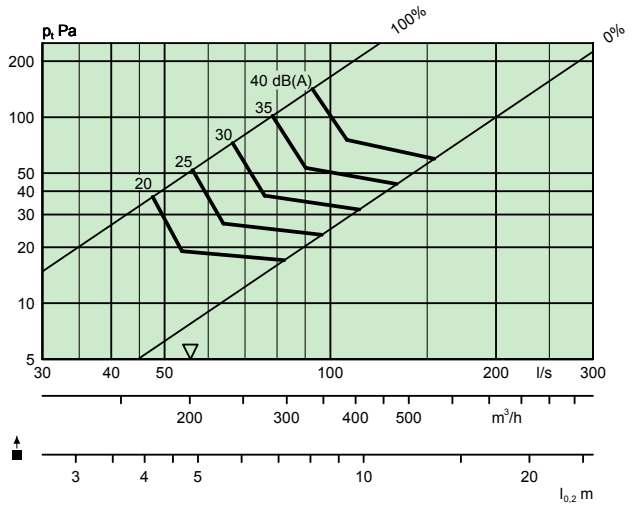
LOCKZONE Wall 400-150 + ALV 400-150-125-B/K



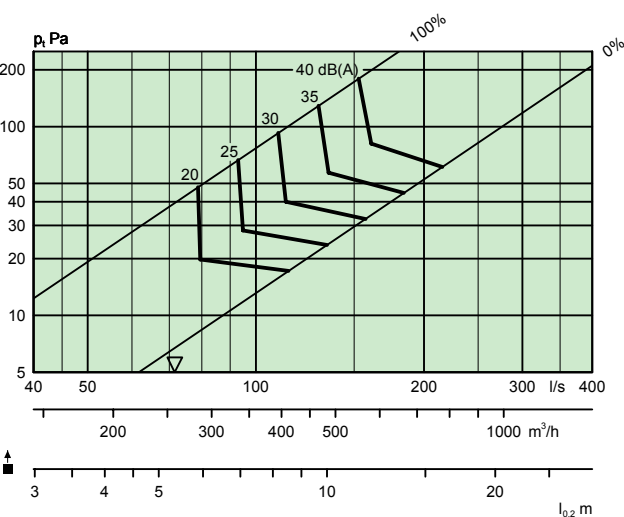
LOCKZONE Wall 400-200 + ALV 400-200-160-B/K



LOCKZONE Wall 550-250 + ALV 550-250-200-B/K



LOCKZONE Wall 550-300 + ALV 550-300-250-B/K



Dimensions and weight

LOCKZONE W

Size	A	B	ØD	F	G	G2	K	L	M	I x J	Weight, kg
300-150	330	180	99	295-375	225-305	270-350	85	145-225	195-275	305 x 155	3,0
400-150	430	180	124	295-375	225-305	331-411	85	180-260	240-320	405 x 155	3,5
400-200	430	230	159	315-395	225-305	331-411	100	145-225	225-305	405 x 205	4,0
550-250	580	280	199	360-440	251-331	371-451	120	145-225	245-325	555 x 255	6,5
550-300	580	330	249	385-465	251-331	425-505	145	145-225	275-355	555 x 305	7,5

The G2, K, L and M dimensions are applicable to a side-connected commissioning box.

Size of opening = I x J

CL = Center line

ALVT 1

Size	A	B	N
300-150	330	180	230
400-150	430	180	230
400-200	430	230	230
550-250	580	280	255
550-300	580	330	255

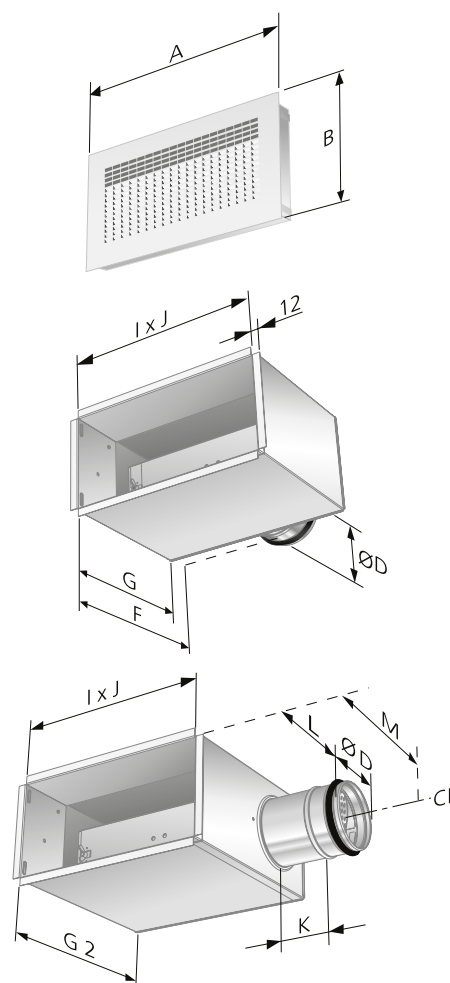


Figure 3. LOCKZONE W with ALV commissioning box.

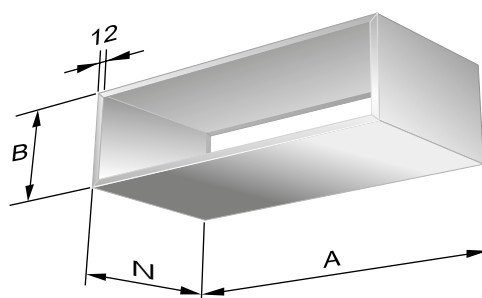


Figure 4. ALVT 1 cover plate.

Specification

Product

Rectangular perforated wall diffuser LOCKZONE W a -aaa -bbb

Version:

Nom. Width in mm:
300, 400, 550

Nom. height in mm:
150, 200, 250, 300

Standard range

Size: 300-150
400-150
400-200
550-250
550-300

Accessories

Commissioning box ALV e -aaa-bbb-ccc -d

Version:

For size: ALV
300-150 300-150-100
400-150 400-150-125
400-200 400-200-160
550-250 550-250-200
550-300 550-300-250

Connection alternatives:

Rear = B
Short side = K

Cover plate ALVT 1 e -aaa - bbb

Version:

Size: 300-150
400-150
400-200
550-250
550-300

Specification example

Swegon's complete rectangular perforated type LOCKZONE Wall air diffusers for wall mounting with type ALV commissioning box and the following functions:

- Guide vane perforations
- Powder paint sprayed and baked white finish
- Cleanable ALV commissioning box with removable adjustment damper, measuring method with low systematic error.

Size: LOCKZONE Wa - aaa - bbb with
 ALVe aaa - bbb - ccc -d xx st

Accessories:

Cover plate: ALVT 1e -aaa - bbb xx st