

PVDb

Perforated supply air diffuser for walls

PVDb



FUNCTION

The PVDb is a complete rectangular supply air diffuser for walls. Suitable for constant or variable flow. Air supply preferably at under-temperature.

QUICK FACTS

- Complete diffuser
- Cleanable
- Removable damper
- Simple commissioning, fixed measuring unit
- Adjustable throw

QUICK GUIDE

PVDb Size	Min. flow	AIR FLOW - SOUND LEVEL		
		25 dB(A)	I/s 30 dB(A)	35 dB(A)
300 x 100	7	15	18	22
400 x 150	16	28	33	38
500 x 150	21	34	40	48
550 x 220	24	40	48	55

For open slot and open damper.
Min. flow on balancing pressure drop = 5 Pa.

DESIGN

The PVDb consists of 2 sections. The ALVa plenum box with a fixed measuring unit has a removable acoustic baffle and removable damper to permit easy access for duct cleaning. The measuring unit and damper setting device are easily accessible from the room. The diffuser section, with a removable acoustic baffle, is made of aluminium and galvanised sheet steel and is painted white. The plenum box is unpainted.

The PVDb is available in two versions: with the duct connection at the rear or with side connection. Each model is available in 4 different sizes.

ACCESSORIES

PVDt 1air deflector for adjustment of the spread pattern.

PLANNING

INSTALLATION: The plenum box is mounted to the wall from the room. All sizes fit c/c 600 mm beam partitions. The diffuser section is pressed into the box after painting/wallpapering. PVDt 1air deflector is used to achieve a shorter throw.

COMMISSIONING: To be carried out with the diffuser section mounted. This method of measurement has a documented low method error.

Lockable adjustment. The measuring unit and damper setting device are easily accessible from the room.

TECHNICAL DATA

Sound level dB(A) applies to rooms of 10 m² equivalent absorption area.

Throw $L_{0,2}$ is applicable to isothermal conditions.

Spread pattern

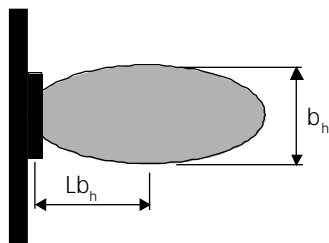
(For isothermal air supply)

Open slot

$$b_h = l_{0,2} \times 0.6$$
$$L_{bh} = l_{0,2} \times 0.4$$

Closed slot

$$b_h = l_{0,2} \times 0.4$$
$$L_{bh} = l_{0,2} \times 0.3$$

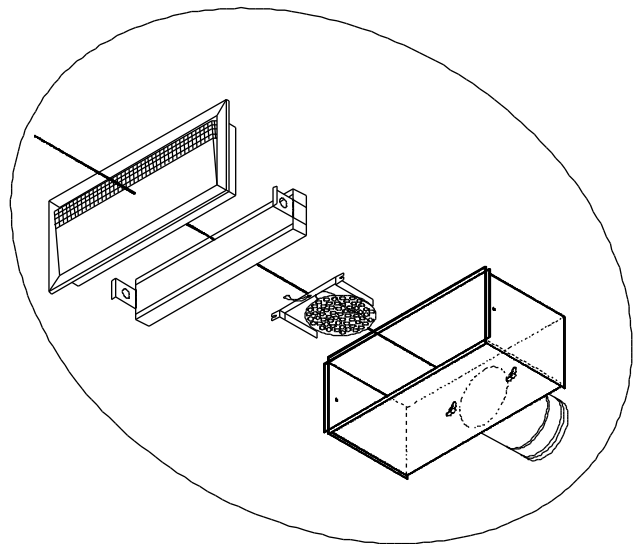
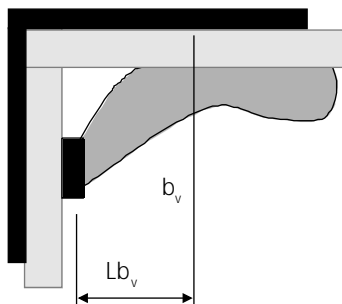


Open slot

$$b_v = l_{0,2} \times 0.06$$
$$L_{bv} = l_{0,2} \times 0.1$$

Closed slot

$$b_v = l_{0,2} \times 0.04$$
$$L_{bv} = l_{0,2} \times 0.1$$



Sound data - supply air

Sound power level L_w (dB)

Table K_{OK}

Size PVDb	Mid-frequency (octave band) Hz						
	125	250	500	1000	2000	4000	8000
300x100	10	8	1	-3	-9	-26	-28
400x150	13	8	1	-4	-12	-26	-29
500x150	11	8	1	-4	-10	-22	-26
550x200	10	7	1	-2	-6	-21	-27
Tol. ±	2	2	2	2	2	2	2

Sound attenuation ΔL (dB)

Table ΔL

Size PVDb	Mid-frequency (octave band) Hz						
	125	250	500	1000	2000	4000	8000
300x100	19	12	15	18	16	20	24
400x150	16	13	15	17	15	23	22
500x150	16	12	15	15	9	11	13
550x200	15	13	17	17	17	17	16
Tol. ±	2	2	2	2	2	2	2

Engineering graphs

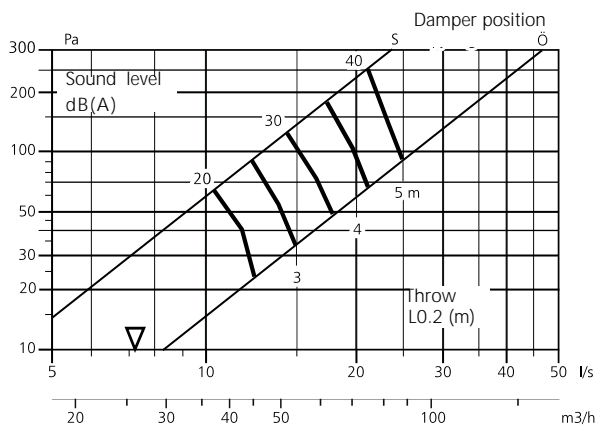
The graphs present the data for the PVDb mounted with its upper edge 200 mm from the ceiling and open slot. If the PVDb is located closer, the throw is increased by approximately 25%. With the damper closed, the sound level is 2 dB higher and the throw is increased by up to 50%.

For side connection, K, the sound level increases by about 2 dB(A) and the pressure drop by about 10%.

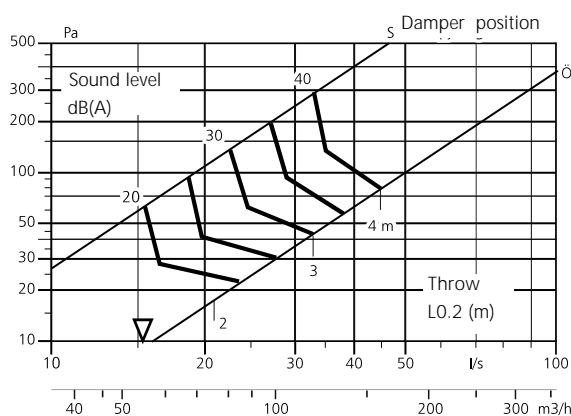
These graphs should not be used for commissioning.

∞ = min. balancing pressure drop.

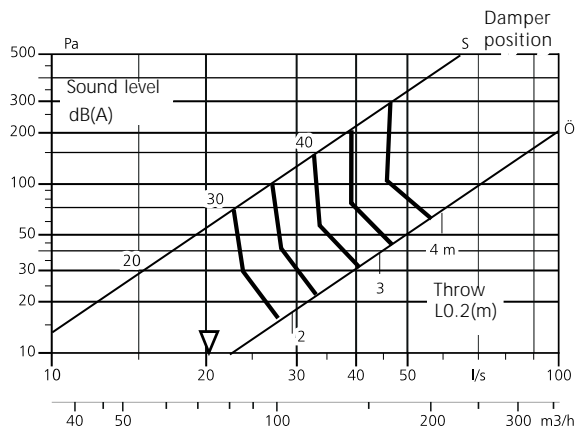
PVDb 300-100



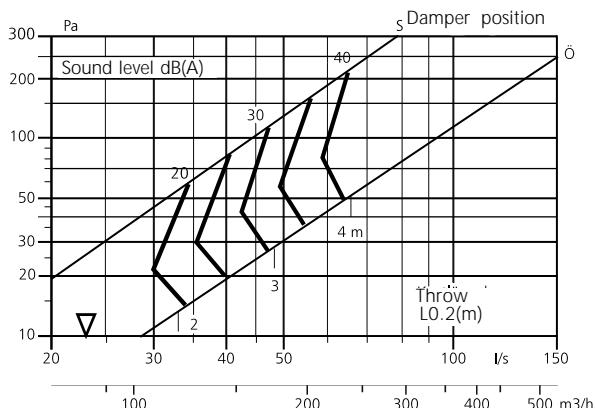
PVDb 400-150



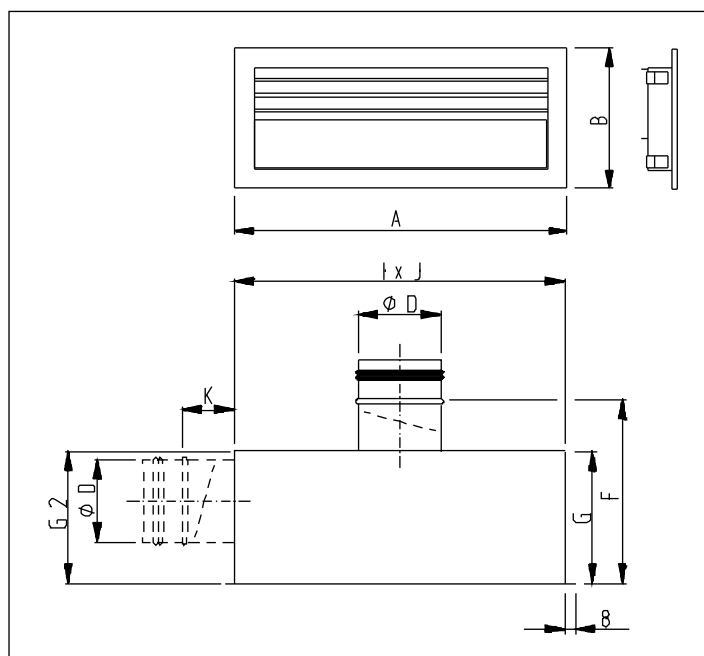
PVDb 500-150



PVDb 550-200



DIMENSIONS AND WEIGHTS



Size	A	B	ØD	F	G	I x J	Weight, kg	Connection short side	
300x100	315	118	79	220	164	300x100	2,0	K	G2
400x150	415	168	99	245	209	400x150	3,2	45	235
500x150	515	168	124	295	209	500x150	4,2	80	275
550x200	565	218	159	350	214	550x200	5,7	80	300
								100	340

Hole-making size = I x J

ORDER KEY

Product designation

Complete perforated
supply air diffuser

PVDb

aaa-bbb-c

Size: 300x100, 400x150
500x150, 550x200

Connection: B (rear)
K (short side)

Specification example

Stifab Farex perforated supply air diffuser, type PVDb, with the following functions:

- Adjustable throw by using the slot
- Removable commissioning damper with regulating cords
- Measurement function with low measurement error
- Internal, removable sound absorber
- Powder-coated in white

Accessories

Air deflector

PVDT 1aaa

Size: 300x100, 400x150
500x150, 550x200