

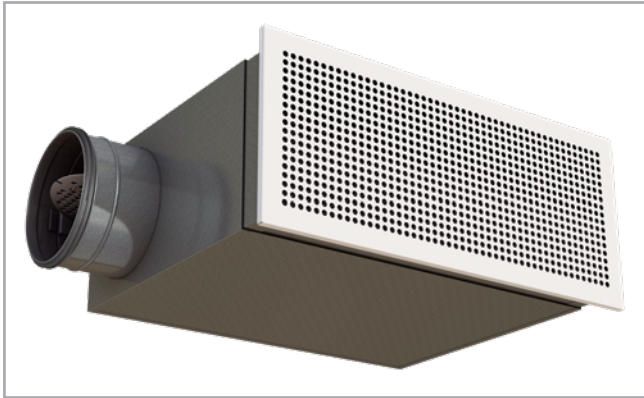
Lindab **PR1**

Wall diffuser



Wall diffuser

PR1



Description

PR1 is a rectangular diffuser for installation in a wall or skirting board with perforated front plate in various designs (see summary). The diffuser is suitable for the horizontal supply of cooled air and exhaust. The diffuser for supply air is used with a WB type plenum box, and for air exhaust, with a VBA type plenum box. The plenum boxes are equipped with a damper and measuring device, enabling individual adjustment.

- Large capacity
- Discrete appearance
- Regardless of straight ducting before the diffuser
- Telescopic function in the plenum box

Maintenance

The front can be removed and the damper taken out for cleaning of internal parts or to gain access to the duct. The visible parts of the diffuser can be wiped with a damp cloth.

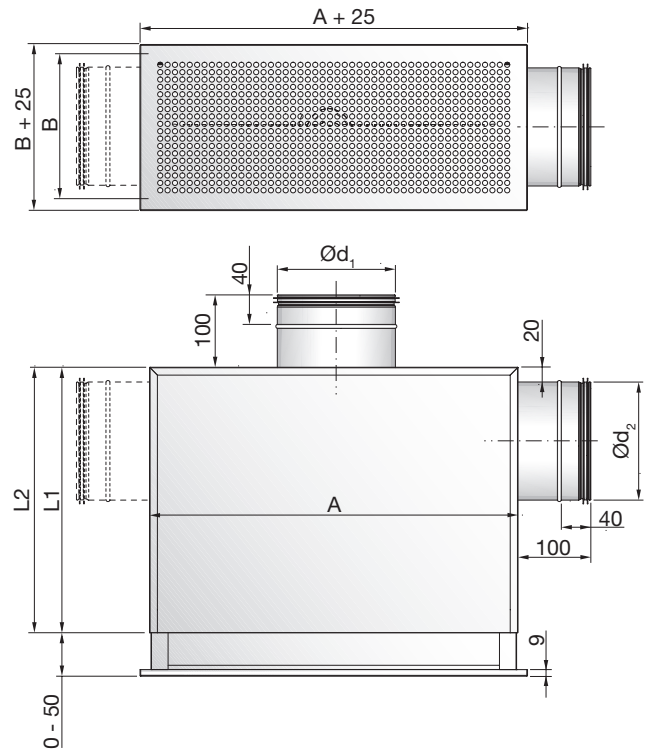
Order code

Product	PR	a	B	A x B
Type	PR			
Pattern	Pattern 1 - 4			
Functional use	S (Supply air) E (Exhaust air)			
Size (A x B)	300x100 - 500x300			

Product	WB	a	A x B
Type	WB		
Connection	1 = Back 2 = Side		
Size (A x B)	300x100 - 500x300		

Example: PR-1-S-400x150 + WB-1-400x150

Dimensions



WB-1 Back connection

A x B Size mm	Ød ₁ mm	A mm	B mm	L1 mm	Weight kg
300 - 100	80	300	100	240	2.50
400 - 150	100	400	150	240	3.50
500 - 150	125	500	150	240	4.30
500 - 200	160	500	200	240	5.50
500 - 300	200	500	300	240	7.40

WB-2 Side connection

A x B Size mm	Ød ₂ mm	A mm	B mm	L2 mm	Weight kg
300 - 100	80	300	100	280	2.50
400 - 150	100	400	150	300	3.50
500 - 150	125	500	150	325	4.30
500 - 200	160	500	200	360	5.50
500 - 300	200	500	300	400	7.40

Materials and finish

Diffuser: Galvanised steel
 Standard finish: Powder-coated
 Standard colour: RAL 9003 or 9010 white, gloss 30

The diffuser is available in other colours. Please contact Lindab's sales department for further information.

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Technical data

Capacity

Volume flow q_v [l/s] and [m³/h], total pressure loss Δp_t [Pa], throw $l_{0.2}$ and sound level L_{WA} [dB(A)] can be seen in the diagrams.

Frequency-related sound effect level

The sound effect level in the frequency band is defined as $L_{WOK} = L_{WA} + K_{ok}$. K_{ok} values are specified in charts beneath the diagrams on the following pages.

Quick selection

WB-1 Back connection

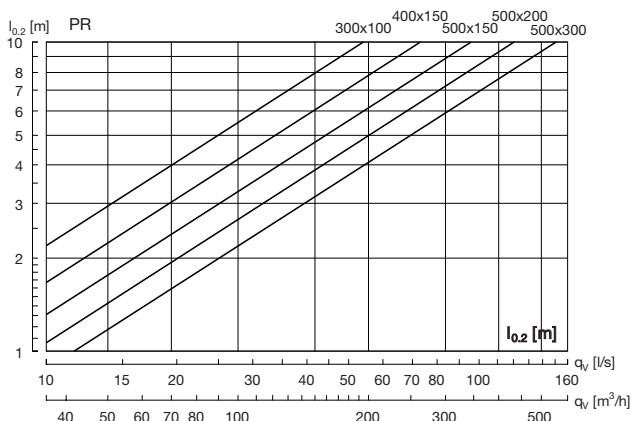
A x B Size	Minimum $p_t > 5$ Pa		$p_t = 50$ Pa $L_{WA}=30dB(A)$		$p_t = 50$ Pa $L_{WA}=35dB(A)$	
	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h
300 - 100	12	42	23	83	28	101
400 - 150	22	78	-	-	40	144
500 - 150	34	122	37	133	60	216
500 - 200	38	138	-	-	79	284
500 - 300	38	137	83	299	107	385

WB-2 Side connection

A x B Size	Minimum $p_t > 5$ Pa		$p_t = 50$ Pa $L_{WA}=30dB(A)$		$p_t = 50$ Pa $L_{WA}=35dB(A)$	
	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h
300 - 100	10	37	21	76	27	97
400 - 150	22	81	34	122	43	155
500 - 150	28	102	-	-	57	205
500 - 200	34	122	62	223	76	274
500 - 300	46	165	-	-	-	-

Throw $l_{0.2}$

The throw is specified at a terminal velocity of 0.2 m/s.



Sound attenuation

The diffuser's sound attenuation function from duct to room, including end reflection - see table below.

WB-1 Back connection

A x B Size	Centre frequency Hz							
	63	125	250	500	1K	2K	4K	8K
300 - 100	25	18	14	7	9	10	8	11
400 - 150	21	20	7	6	9	7	6	8
500 - 150	19	19	7	8	7	9	9	10
500 - 200	18	16	5	10	8	13	10	11
500 - 300	15	12	3	12	8	11	9	10

WB-2 Side connection

A x B Size	Centre frequency Hz							
	63	125	250	500	1K	2K	4K	8K
300 - 100	26	17	11	7	9	12	10	11
400 - 150	21	17	4	9	7	11	10	10
500 - 150	19	18	5	8	7	9	9	10
500 - 200	18	13	5	8	10	11	12	13
500 - 300	15	10	5	6	11	12	11	10

VBA

Size	Centre frequency Hz							
	63	125	250	500	1K	2K	4K	8K
300 x 100	23	19	11	10	8	12	10	12
400 x 150	14	10	8	10	11	12	10	12
500 x 150	15	11	9	8	8	11	10	10
500 x 200	13	10	9	8	8	9	10	11

Balancing

Balancing data is contained in a separate brochure.

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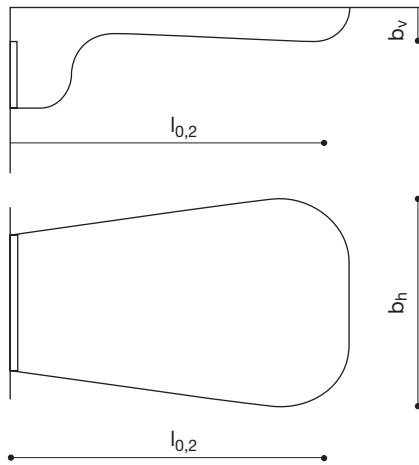
Technical data

Air jet dispersal

l_b = Distance from the diffuser to the point where there is maximum dispersal.

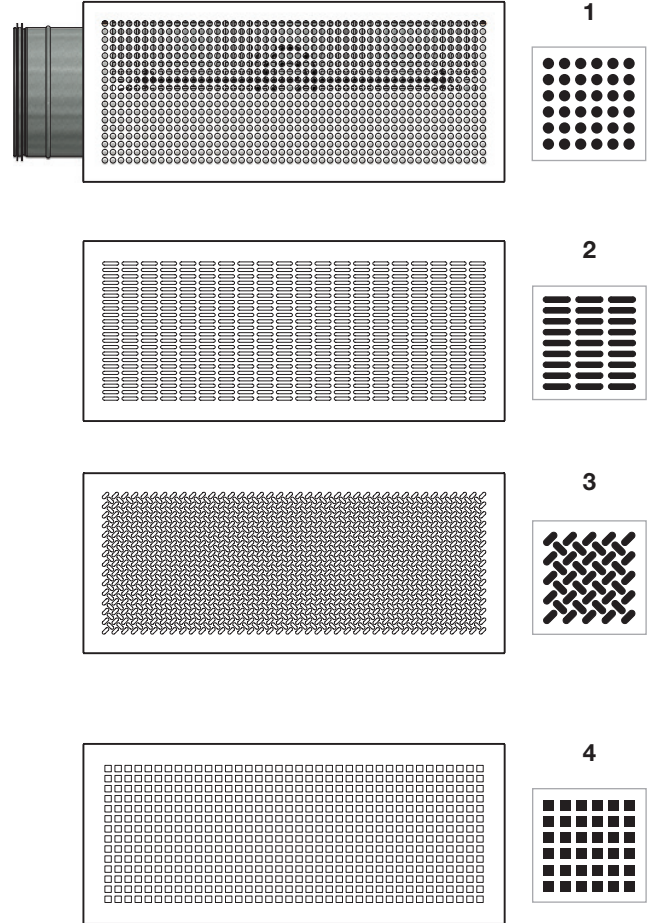
b_v = Depth of the air jet on a vertical plane.

b_h = Width of the air jet on a horizontal plane.

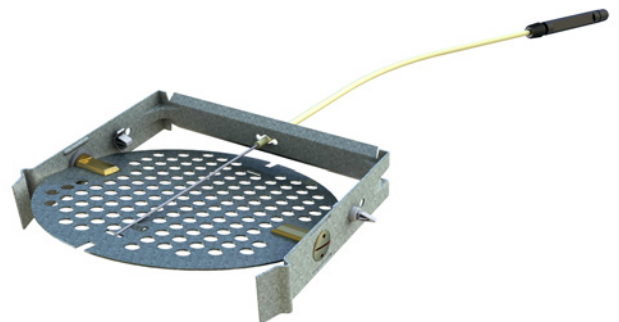


$l_{0,2}$: Diagram value
 b_v : $0.05 \times l_{0,2}$
 b_h : $0.7 \times l_{0,2}$

Pattern 1 - 4



WB Damper

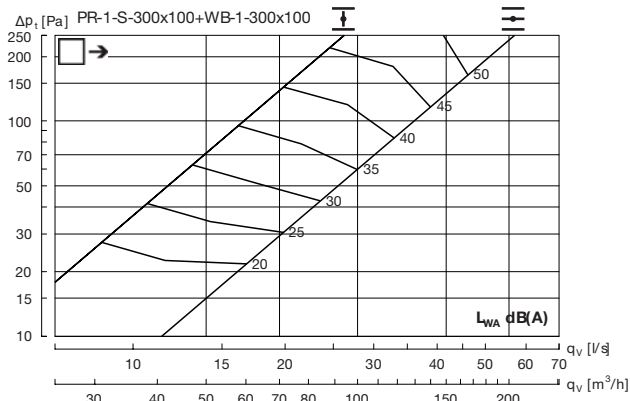


Wall diffuser

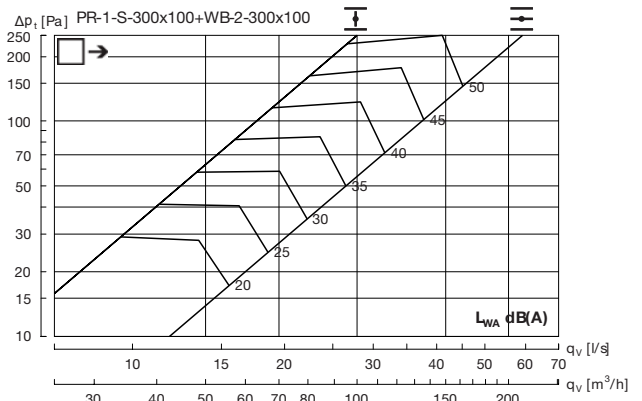
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WB 1 - back connection

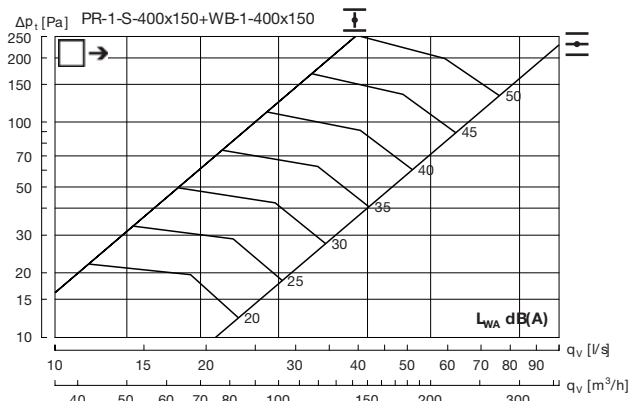
WB 2 - side connection



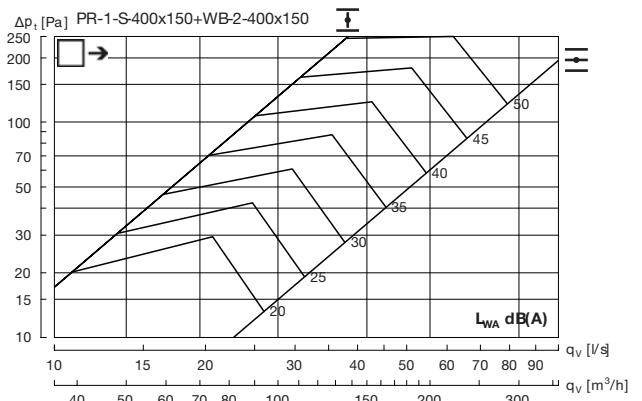
Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	0	-4	1	-1	-5	-14	-20	-25



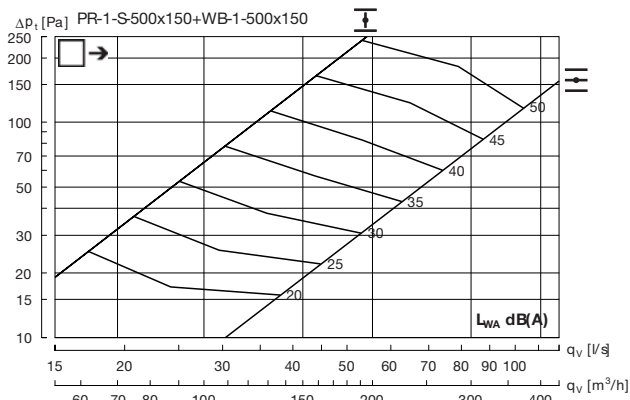
Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	3	-1	4	-2	-6	-17	-22	-22



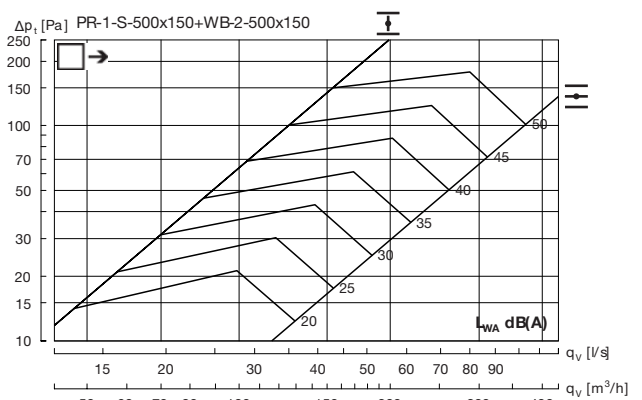
Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	7	-2	1	0	-6	-15	-20	-26



Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	-2	-1	1	-2	-3	-14	-20	-26



Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	3	-1	2	0	-7	-16	-23	-29



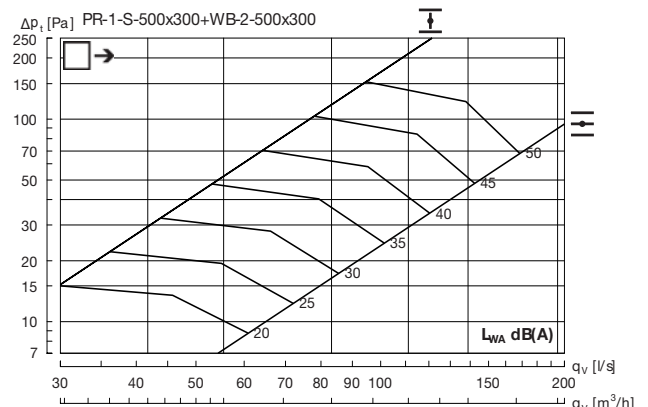
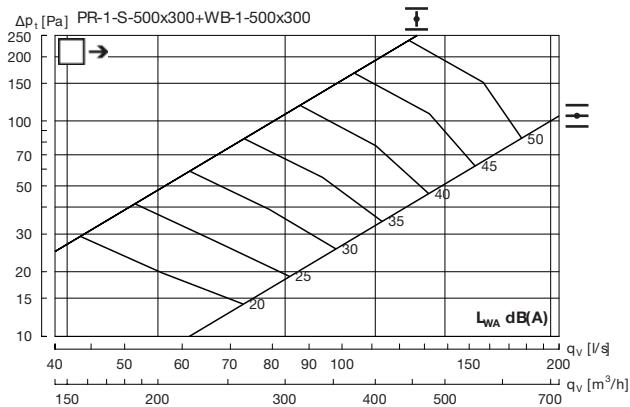
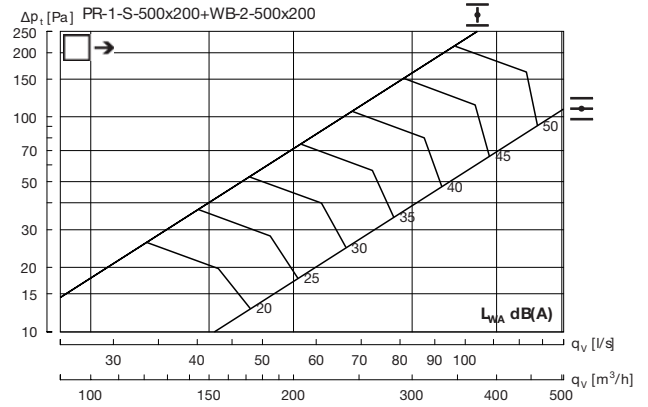
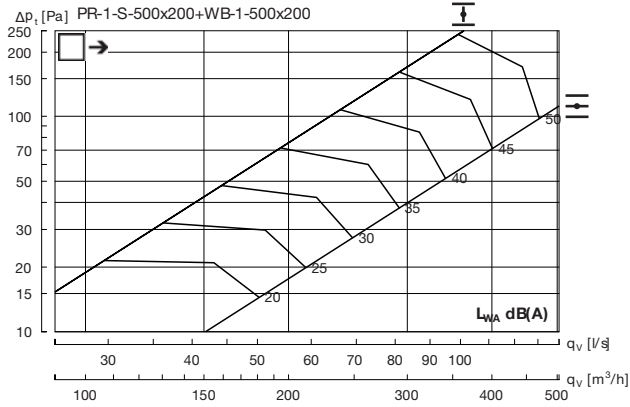
Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	8	-1	1	-1	-4	-15	-24	-32

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WB 1 - back connection

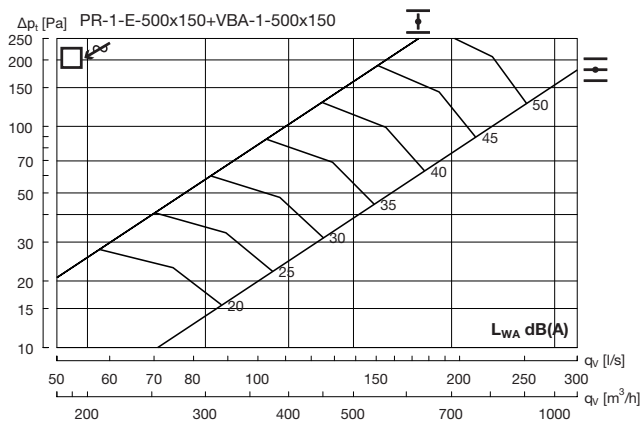
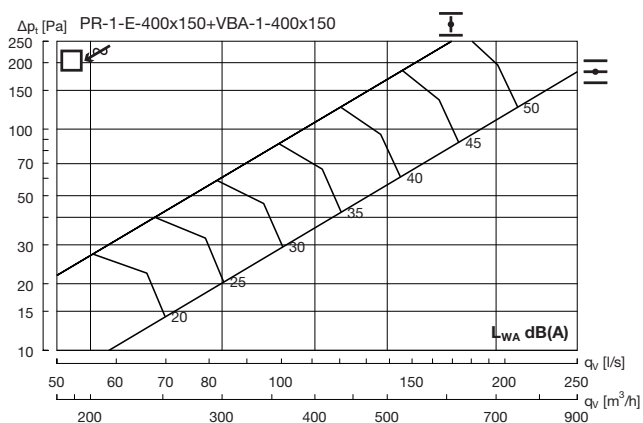
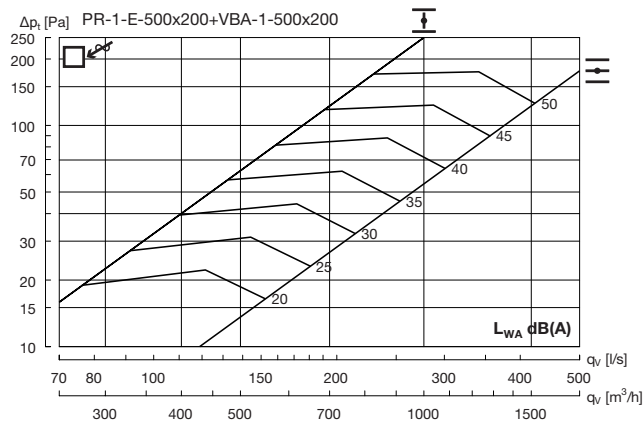
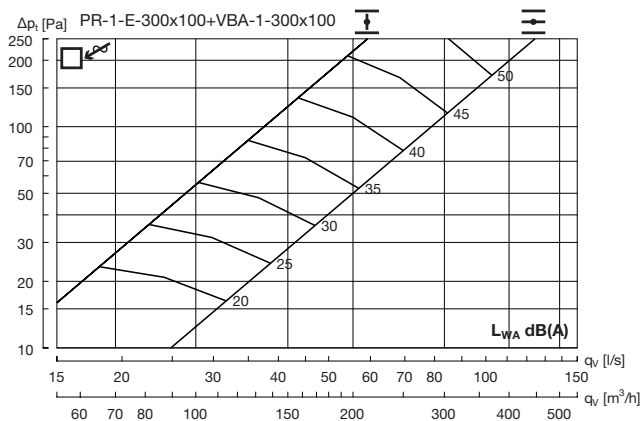
WB 2 - side connection



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VBA - back connection (extract)



Correction sound

Correction values for conversion of diagram data for connection from the side or top – see table below.

	PR + VBA-2 side	PR + VBA-4 Top
Open damper	+2 dB	+4 dB
50% Open damper	+1 dB	+1 dB
Closed damper	0 dB	0 dB



Most of us spend the majority of our time indoors. Indoor climate is crucial to how we feel, how productive we are and if we stay healthy.

We at Lindab have therefore made it our most important objective to contribute to an indoor climate that improves people's lives. We do this by developing energy-efficient ventilation solutions and durable building products. We also aim to contribute to a better climate for our planet by working in a way that is sustainable for both people and the environment.

[Lindab](#) | For a better climate