

Wall diffuser

DR24



Description

DR24 is a rectangular diffuser with adjustable bars suitable for installation in a wall or skirting board. The diffuser is suitable for the horizontal supply of cooled air. The bars in the front make it possible to vary the throw. The diffuser is used with a WB type plenum box. The plenum box is equipped with a damper and measuring device, enabling individual adjustment.

- Adjustable bars
- Flexible dispersal pattern
- 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.

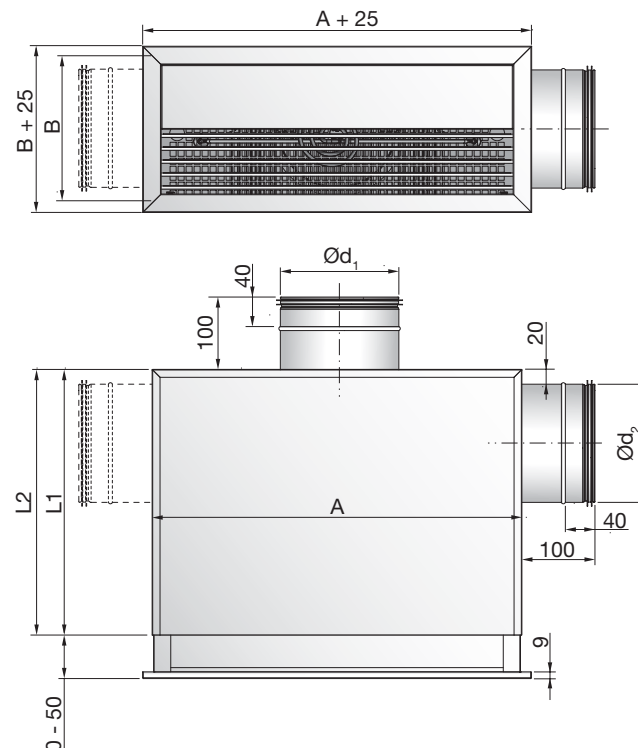
Order code

Product	DR24	S	A x B
Type	DR24		
Functional use		S (Supply 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: DR24-S-500x150 + WB-1-500x150

Dimensions



WB-1 Back connection

A x B Size mm	Ød ₁ mm	A mm	B mm	L1 mm	m 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	m 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 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

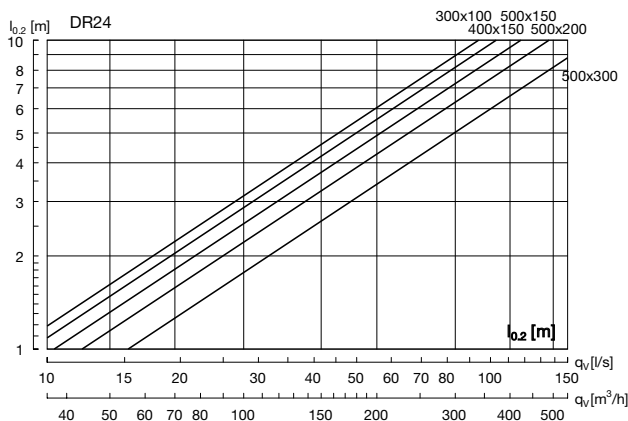
A x B mm	Minimum $P_t > 5$ Pa		$p_t = 50$ Pa $L_{WA} = 30$ dB(A)		$p_t = 50$ Pa $L_{WA} = 35$ dB(A)	
	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h
300 - 100	16	58	-	-	29	104
400 - 150	33	119	-	-	38	137
500 - 150	44	158	-	-	60	216
500 - 200	50	180	62	223	86	310
500 - 300	61	221	84	302	109	392

WB-2 Side connection

A x B mm	Minimum $P_t > 5$ Pa		$p_t = 50$ Pa $L_{WA} = 30$ dB(A)		$p_t = 50$ Pa $L_{WA} = 35$ dB(A)	
	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h
300 - 100	14	49	20	72	26	94
400 - 150	29	106	39	140	50	180
500 - 150	35	126	-	-	56	202
500 - 200	47	169	-	-	83	299
500 - 300	56	200	-	-	-	-

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 mm	Centre frequency Hz							
	63	125	250	500	1K	2K	4K	8K
300 - 100	24	18	14	7	9	11	11	12
400 - 150	21	19	7	6	9	11	11	11
500 - 150	20	19	7	9	8	10	10	10
500 - 200	17	15	5	10	8	12	10	10
500 - 300	15	12	4	13	9	11	10	10

WB-2 Side connection

A x B mm	Centre frequency Hz							
	63	125	250	500	1K	2K	4K	8K
300 - 100	22	17	11	8	10	13	11	11
400 - 150	21	16	5	9	8	12	11	11
500 - 150	19	18	5	8	8	10	10	10
500 - 200	18	13	3	9	11	6	8	7
500 - 300	15	10	4	4	12	12	11	11

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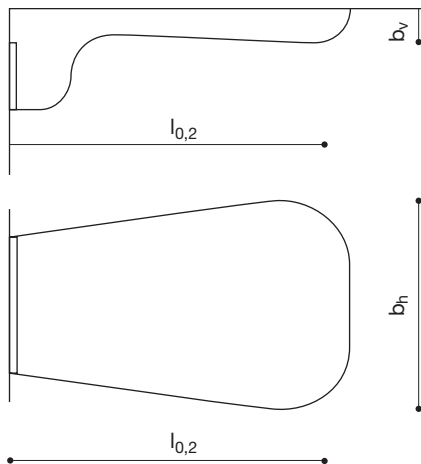
Technical data

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.



Normal throw 45° upwards

$l_{0,2}$: Diagram value

b_v : $0.05 \times l_{0,2}$

b_h : $1.8 \times l_{0,2}$

Long throw 0°

$l_{0,2}$: $1.5 \times$ Diagram value

b_v : $0.1 \times l_{0,2}$

b_h : $0.5 \times l_{0,2}$

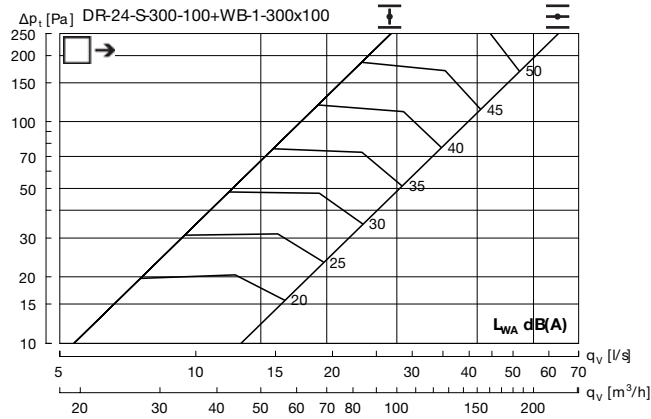
WB Damper



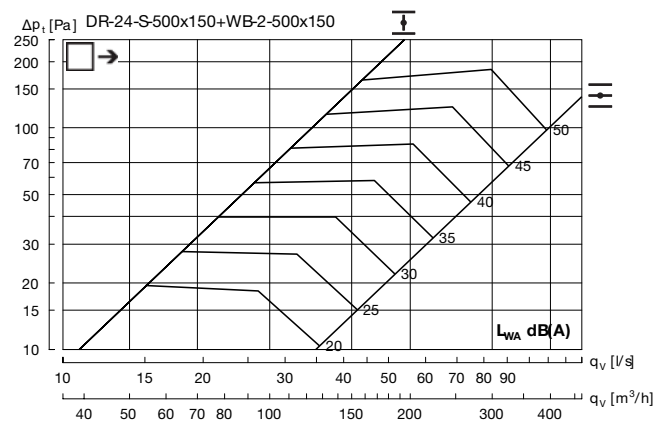
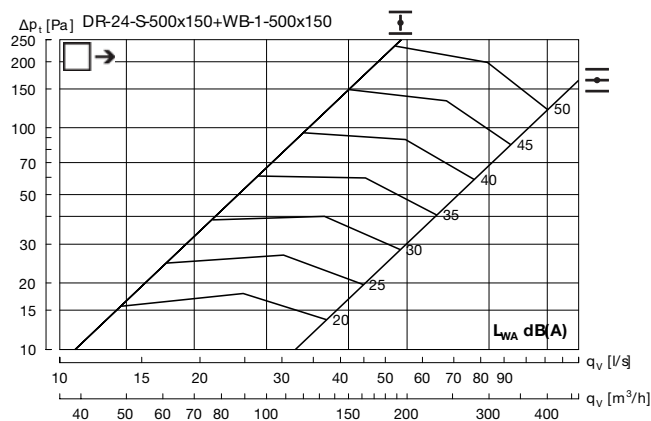
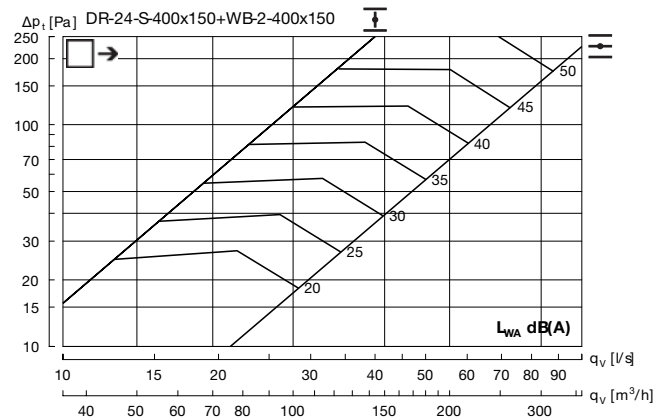
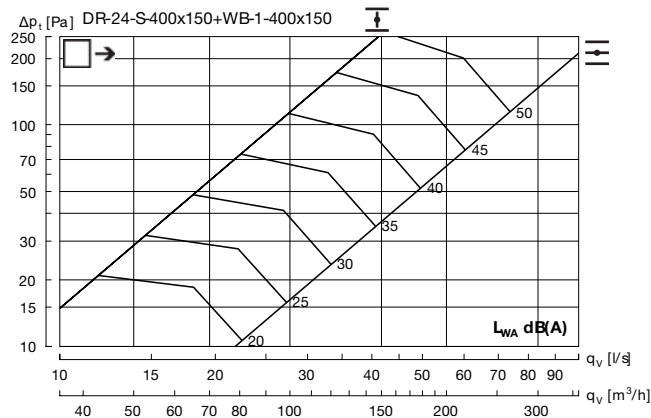
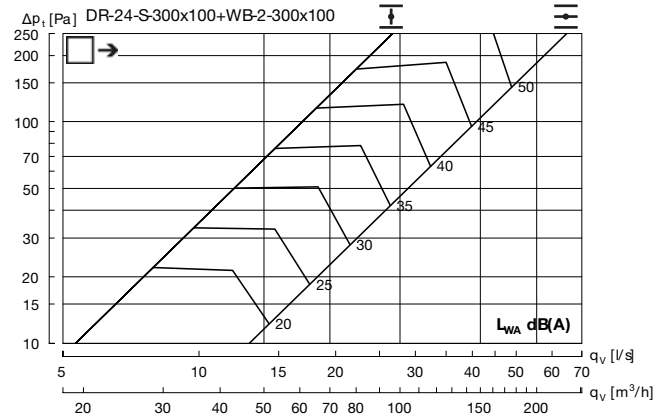
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WB 1 - back connection



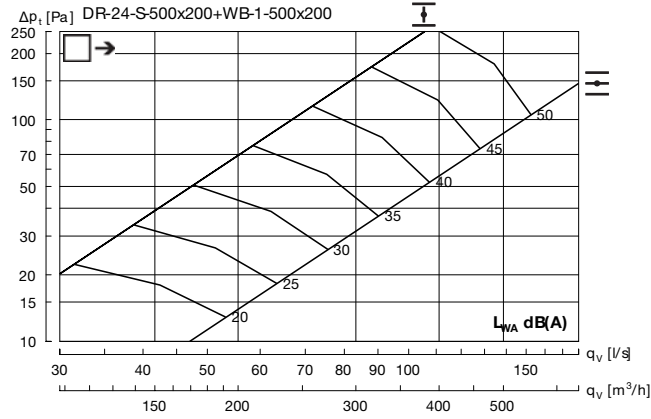
WB 2 - side connection



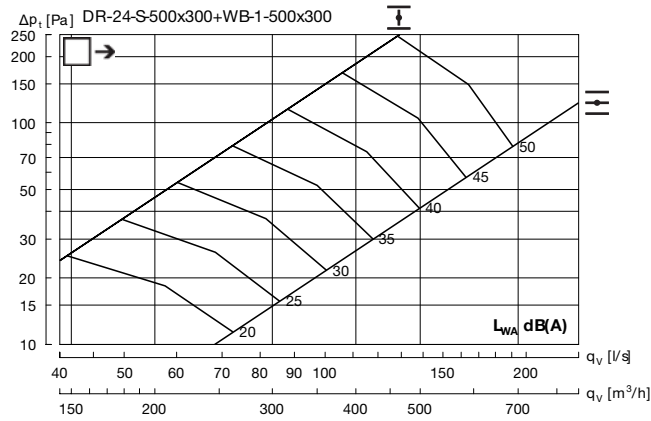
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WB 1 - back connection

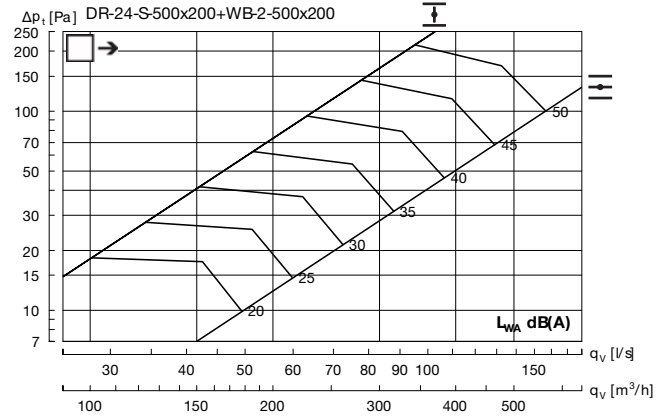


Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	4	2	1	0	-7	-18	-23	-31

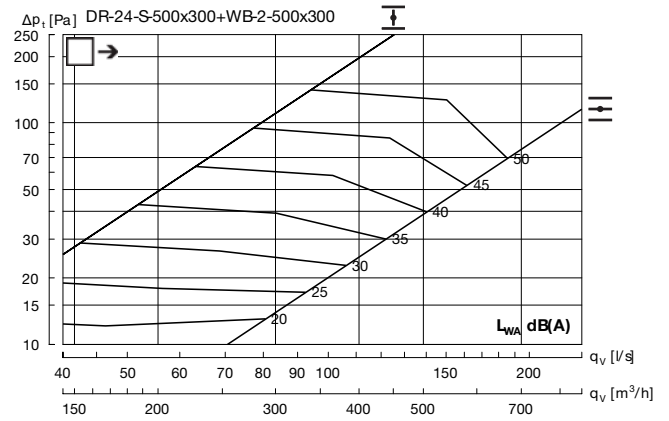


Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	2	2	2	0	-7	-16	-22	-30

WB 2 - side connection



Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	-1	2	0	-1	-4	-18	-23	-31



Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	3	2	-2	0	-4	-17	-28	-37