

Wall diffuser

NR19



Description

NR19 is a rectangular diffuser with adjustable nozzles suitable for installation in a wall or skirting board. The diffuser is suitable for the horizontal supply of cooled air. The nozzles at the front make it possible to vary the dispersal pattern and thereby create different throws. The diffuser is used with a WB type plenum box. The plenum boxes are equipped with a damper and measuring device, enabling individual adjustment.

- Individually adjustable nozzles
- 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.

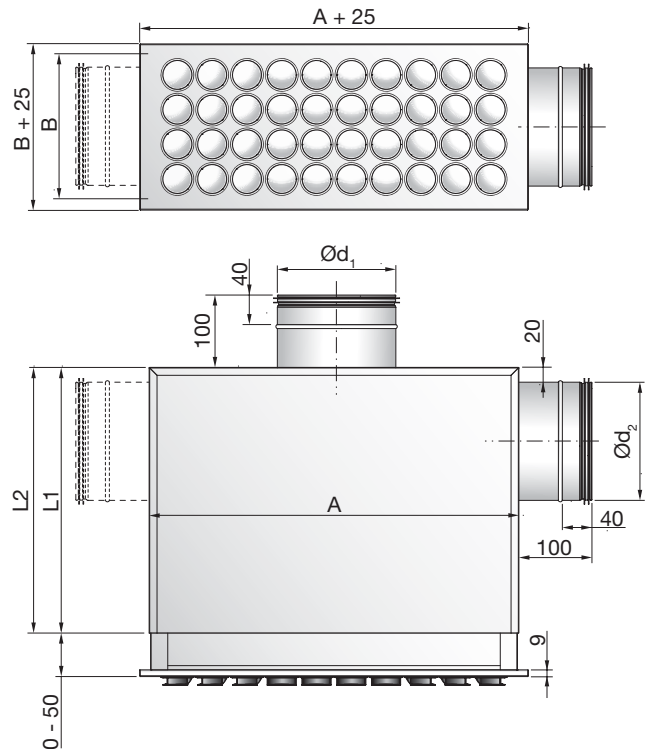
Order code

Product	NR19	S	A x B
Type	NR19		
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: NR19-S-500x200 + WB-2-500x200

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
Nozzles:	ABS plastic
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

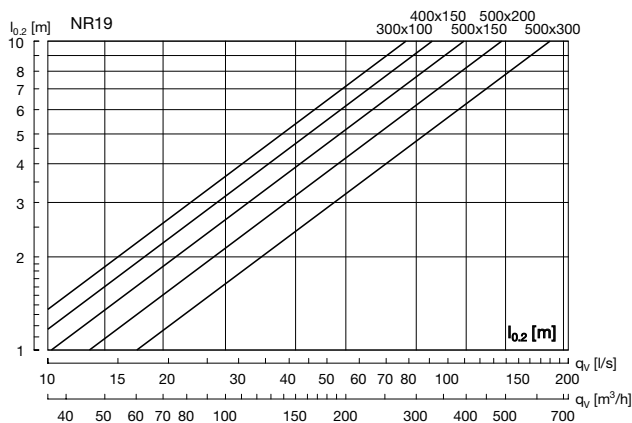
A x B mm	Minimum $P_t > 5$ Pa		$p_t = 50$ Pa $L_{WA}=30$ dB(A)		$p_t = 50$ Pa $L_{WA}=35$ dB(A)	
	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h
300 - 100	12	42	23	83	28	101
400 - 150	23	81	28	101	42	151
500 - 150	29	103	38	137	60	216
500 - 200	36	130	55	198	78	281
500 - 300	51	184	-	-	103	371

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	12	42	20	72	25	90
400 - 150	23	81	36	130	44	158
500 - 150	29	103	-	-	55	198
500 - 200	36	130	-	-	74	266
500 - 300	51	184	-	-	-	-

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	27	19	14	7	8	9	9	14
400 - 150	22	20	7	6	9	8	9	12
500 - 150	20	18	7	9	7	7	8	12
500 - 200	18	15	4	9	7	7	8	12
500 - 300	15	12	2	10	6	7	7	9

WB-2 Side connection

A x B mm	Centre frequency Hz							
	63	125	250	500	1K	2K	4K	8K
300 - 100	26	17	11	8	9	11	9	12
400 - 150	22	17	5	8	6	8	9	12
500 - 150	18	17	5	8	7	6	8	11
500 - 200	19	13	3	7	7	7	9	10
500 - 300	15	10	3	2	8	7	8	10

WB back and side connection



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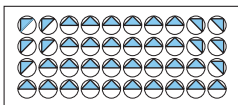
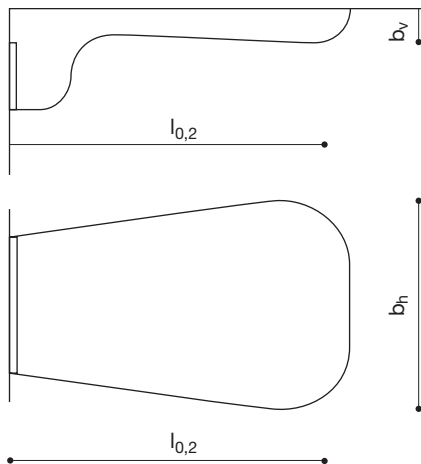
Technical data

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.

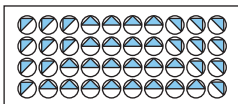


Normal nozzle setting

l_{02} : Diagram value

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

b_h : $0.7 \times l_{0,2}$

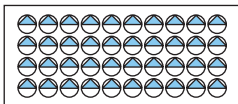


Short throw

l_{02} : $0.7 \times$ Diagram value

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

b_h : $0.85 \times l_{0,2}$



Long throw

l_{02} : $1.4 \times$ Diagram value

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

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



WB Damper



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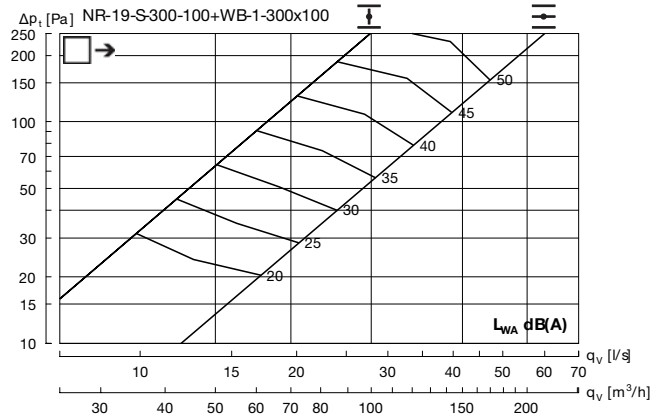
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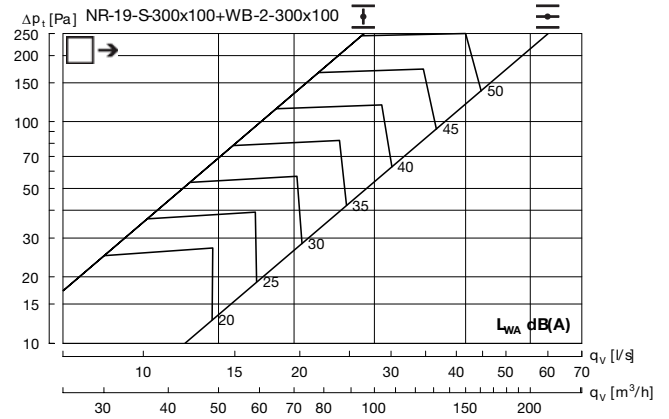
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WB 1 - back connection

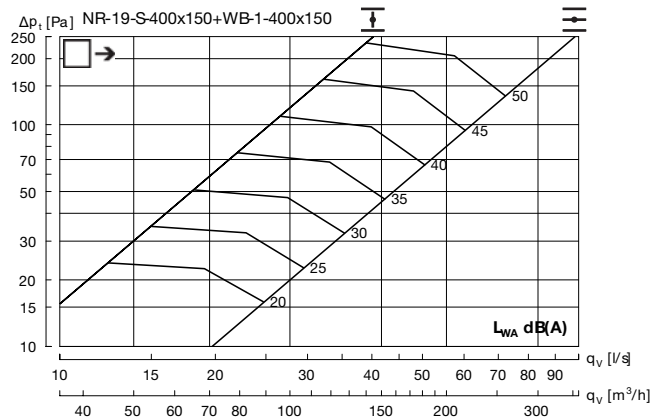
WB 2 - side connection



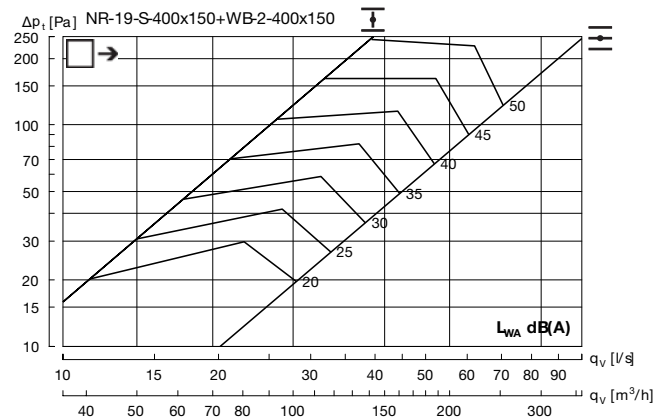
Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	13	-3	1	-1	-4	-14	-19	-26



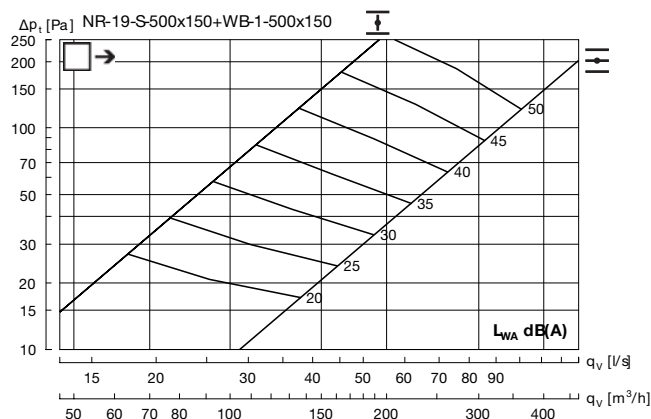
Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	3	0	4	-1	-6	-16	-21	-28



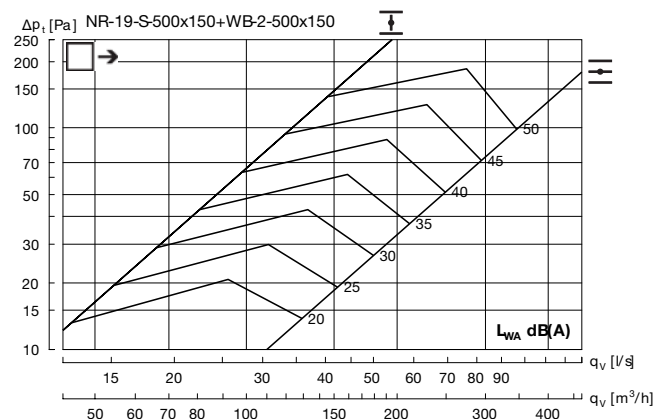
Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	2	0	1	0	-6	-14	-20	-27



Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	4	2	2	-2	-5	-12	-20	-28



Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	5	-1	2	0	-7	-14	-21	-29

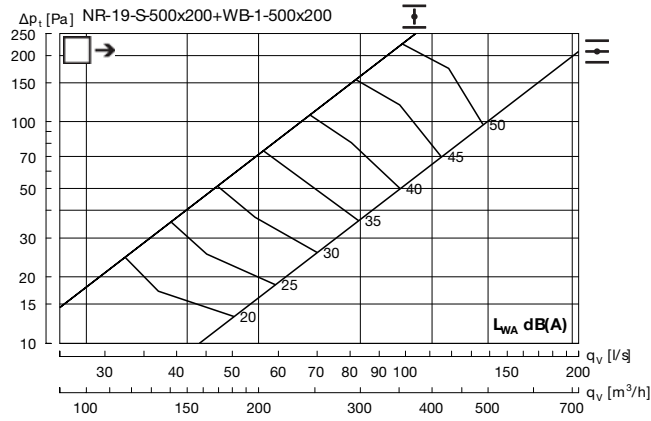


Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	5	1	0	-2	-4	-13	-22	-33

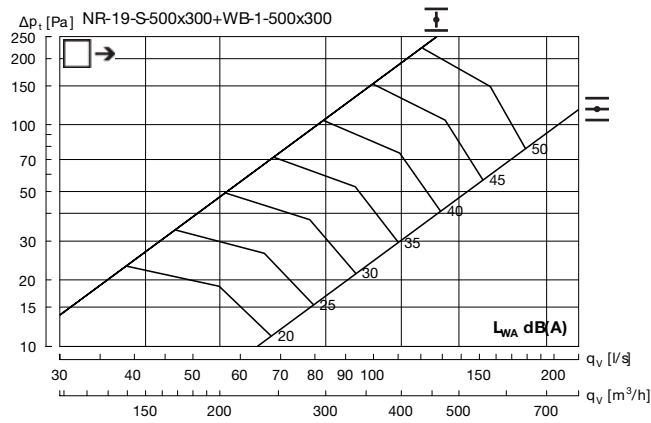
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WB 1 - back connection

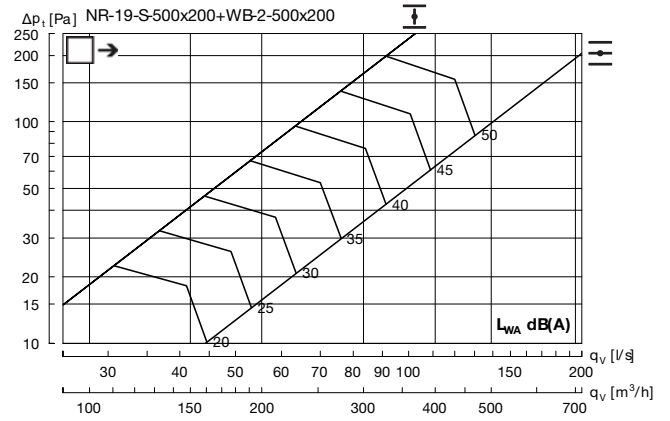


Hz	63	125	250	500	1K	2K	4K	8K
K_{sk}	4	-1	1	0	-6	-14	-21	-29

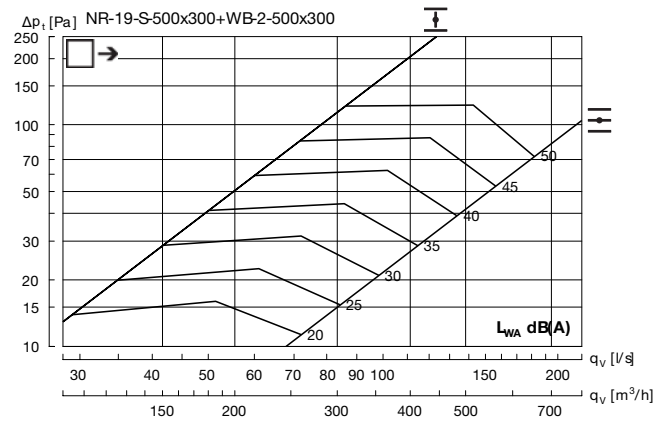


Hz	63	125	250	500	1K	2K	4K	8K
K_{sk}	7	2	2	0	-7	-14	-21	-31

WB 2 - side connection



Hz	63	125	250	500	1K	2K	4K	8K
K_{sk}	1	2	3	-1	-6	-16	-23	-31



Hz	63	125	250	500	1K	2K	4K	8K
K_{sk}	1	3	0	-1	-4	-16	-26	-37

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