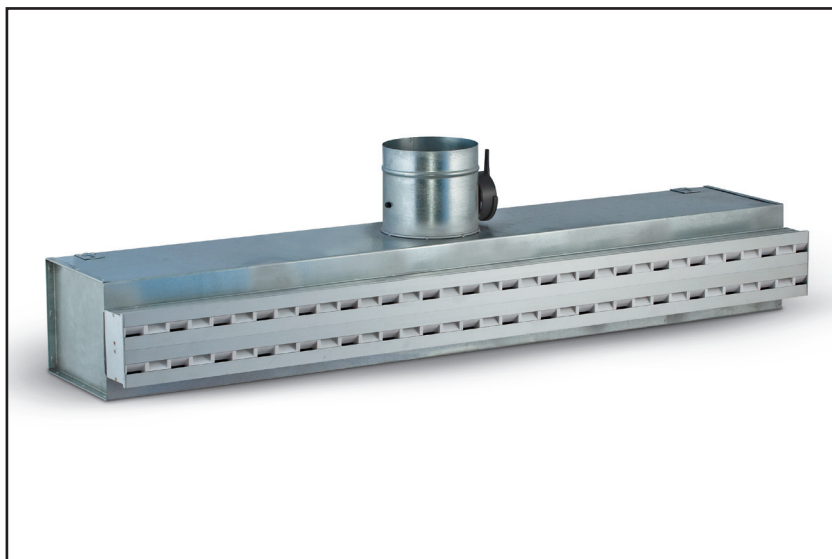


Linear ceiling diffusers NLWA



Linear ceiling diffusers are used in premises where thermal comfort is required. Alternate supplied air through induction process, can be easily mixed up with air inside the room. This feature allows diffusers to be used also in low height rooms. Intensification of mixing with indoor air results that the primary airflow with initial large temperature difference may be supplied into the occupied zone assuring people thermal comfort. Diffuser NLWA with deflectors made of inflammable plastic is designed to supply air in range of between 45 and 340 m³/hm.

Construction and materials such as aluminium and smooth plastics make these linear diffusers very esthetic, and perfect to apply whenever the high architectural standards must be met.

Connection boxes are made of galvanized steel sheet, and they are equipped with holders in order to easily install it in the ceiling. Boxes can be additionally lined with acoustic isolation, equipped with regulating dampers and hoses for airflow measurement. NLWA deflectors in basic version made of plastic in black or white colour, on request can be tinged with other colours from RAL palette. This element is placed between two parallel aluminium profiles.

Maximum temperature difference for heating $\Delta t_p \leq 6K$
 Maximum temperature difference for cooling $\Delta t_p \leq -10K$

Linear diffusers NLWA belong to inductive diffusers group. They have very wide range of airflow stability 30%÷100% V_{max} , enable them to be used in installation with variable amount of air.

Product facts

Linear slot diffuser NLWA

Available in 1,2,3 or 4 slots version
 Available in four lengths of diffuser 900, 1050, 1200 and 1500mm
 45° angle of air supply
 One- or two-way diffusion pattern

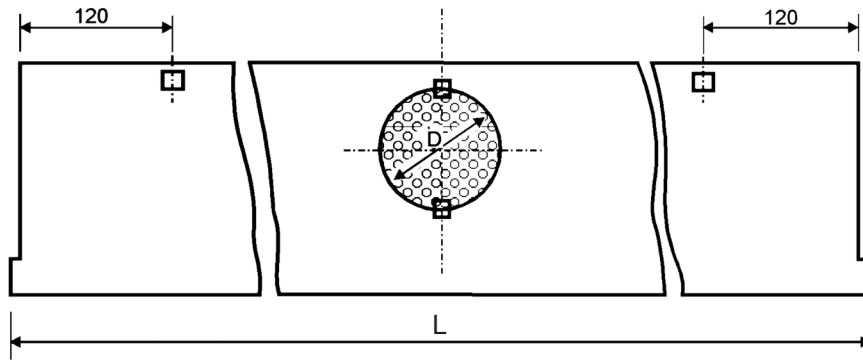
Product code example:

Slot diffuser NLWA-22-120-2-1
 Terminal of length 120, two slots, two way, black air deflectors, anodised aluminium finish.

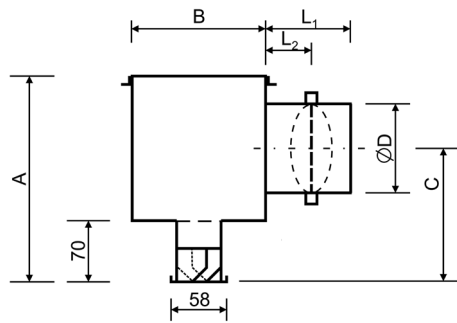
Connection box NLWS-105-16-2-0-1
 Length 105, uninsulated, placed on the top connection duct of size 16, equipped with blade damper.

Slot diffuser NLWA

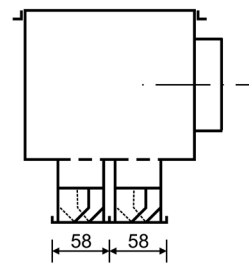
Dimensions



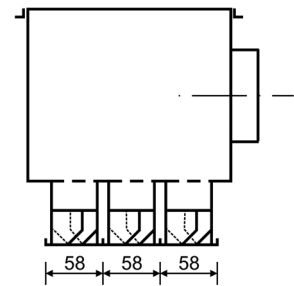
NLWA / 1



NLWA / 2

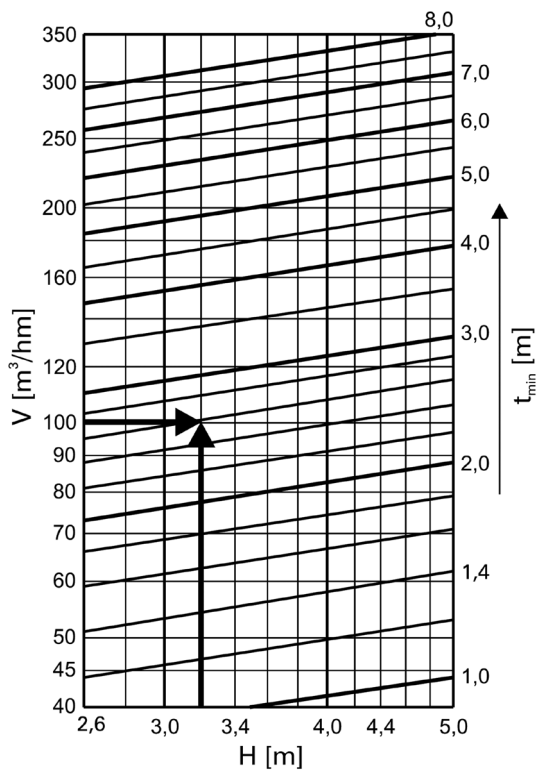
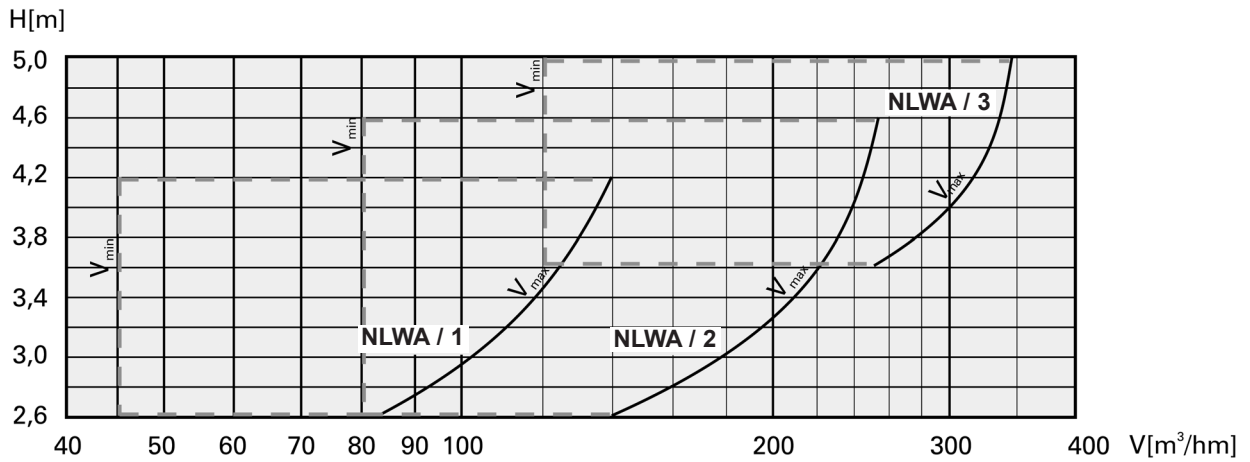


NLWA / 3



Type	Size L (cm)	Airflow V (m ³ /hm)	Pressure drop ΔP (Pa)	Height above the floor H _p (m)	Connection box					
					A (mm)	B (mm)	C (mm)	∅D (mm)	L ₁ (mm)	L ₂ (mm)
NLWA/1 (1 slot)	090	45÷140	12÷65	2,6÷4,2	235	125	155	99	100	50
	105							99÷124		
	120							99÷124		
	150							124		
NLWA/2 (2 slots)	090	80÷255	12÷55	2,6÷4,6	300	185	190	124	160	80
	105							124÷159		
	120							124÷159		
	150							159÷179		
NLWA/3 (3 slots)	090	120÷340	12÷45	3,6÷5,0	320	240	200	179	200	100
	105							179÷199		
	120							179÷199		
	150							199		

Slot diffuser NLWA



V – airflow per diffuser [m^3/hm]
 V_{max} – max. airflow per diffuser for given height above the floor [m^3/hm]
 H – height above the floor [m]
 t_{min} – Minimal distance between two parallely situated diffusers [m]

Example:

Total airflow $V_c = 20000 \text{ m}^3/h$
 $V_{max} = 108 \text{ m}^3/hm$
 $V = 100 \text{ m}^3/hm$

Diffuser height above the floor $H = 3,2 \text{ m}$

Insulated connection box

Diffuser length $L = 1200 \text{ mm}$ at $D = 99\text{mm}$

Throw length $20000/100 = 200 \text{ m}$
 $200 \text{ m}/1,2 \text{ m} = 166,6 \sim 167 \text{ pcs}$
 $t_{min} = 2,6 \text{ m}$
 $\Delta p = 28 \text{ Pa}$

Slot diffuser NLWA

Sound power level

NLWA/1 (one slot)

Size	Airflow V (m ³ /hm)	Uninsulated connection box						Insulated connection box					
		L _{WA} (dB)	Sound power level L _W for octave bands (Hz)					L _{WA} (dB)	Sound power level L _W for octave bands (Hz)				
L (cm)			125	250	500	1000	2000		125	250	500	1000	2000
090	70	19	19	16	16	-	-	18	18	16	15	-	-
	100	20	27	23	17	16	-	19	25	22	16	15	-
	140	25	29	26	20	18	16	23	28	24	19	17	15
105	70	18	19	17	16	-	-	18	18	16	15	-	-
	100	23	33	26	19	17	-	21	31	24	18	16	-
	140	27	34	30	24	21	17	26	32	28	23	20	19
120	70	19	27	22	18	-	-	18	26	20	17	-	-
	100	25	31	26	23	19	-	24	29	25	22	18	-
	140	31	36	35	27	23	19	29	34	32	26	21	17
150	70	22	29	25	19	16	-	21	28	24	17	16	-
	100	26	33	27	25	18	16	24	31	26	24	17	15
	140	34	39	36	32	27	20	33	37	35	31	26	18

NLWA/2 (two slots)

Size	Airflow V (m ³ /hm)	Uninsulated connection box						Insulated connection box					
		L _{WA} (dB)	Sound power level L _W for octave bands (Hz)					L _{WA} (dB)	Sound power level L _W for octave bands (Hz)				
L (cm)			125	250	500	1000	2000		125	250	500	1000	2000
090	160	19	20	18	17	-	-	18	19	17	16	-	-
	200	22	26	24	21	19	-	21	24	23	20	18	-
	250	27	29	26	22	19	17	25	27	25	21	18	17
105	160	19	22	21	19	-	-	18	21	20	18	-	-
	200	24	31	23	22	20	17	23	30	22	21	20	17
	250	29	35	33	29	22	19	27	34	31	27	21	18
120	160	23	25	22	20	17	16	22	24	21	19	16	16
	200	26	32	27	25	18	17	25	30	26	24	17	17
	250	33	37	34	31	24	19	31	35	33	30	23	18
150	160	24	32	24	21	21	-	23	31	23	20	20	-
	200	28	37	32	22	22	-	26	35	31	21	21	-
	250	35	43	38	33	26	20	33	41	37	32	26	19

NLWA/3 (three slots)

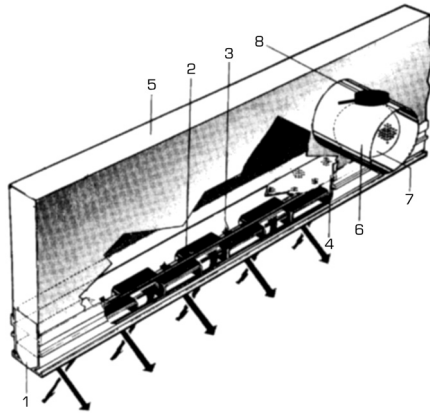
Size	Airflow V (m ³ /hm)	Uninsulated connection box						Insulated connection box					
		L _{WA} (dB)	Sound power level L _W for octave bands (Hz)					L _{WA} (dB)	Sound power level L _W for octave bands (Hz)				
L (cm)			125	250	500	1000	2000		125	250	500	1000	2000
090	260	20	27	24	19	-	-	20	26	23	18	-	-
	300	24	34	28	20	17	-	23	32	27	20	16	-
	340	26	36	31	22	18	16	25	35	30	21	18	15
105	260	23	30	26	20	18	-	22	30	25	20	17	-
	300	26	35	29	21	19	16	25	34	28	20	18	16
	340	28	38	32	24	22	18	27	36	31	23	20	17
120	260	26	35	28	22	18	17	25	33	27	21	17	17
	300	29	38	33	25	19	18	28	37	31	25	18	17
	340	31	41	37	28	22	18	30	39	36	27	21	18
150	260	28	37	32	24	18	16	27	36	31	24	17	16
	300	31	40	35	25	24	19	30	38	34	23	22	19
	340	34	42	37	29	28	22	33	40	36	28	27	20

Attenuation

Type of diffuser	Uninsulated connection box					Insulated connection box				
	Sound attenuation in dB for octave bands (Hz)					Sound attenuation in dB for octave bands (Hz)				
	125	250	500	1000	2000	125	250	500	1000	2000
NLWA/1	1	2	4	10	10	1	6	15	24	18
NLWA/2	1	2	4	10	10	1	6	15	24	18
NLWA/3	1	2	4	10	10	1	6	15	24	18

Construction, order code

Construction



Diffuser consists of following parts:

- 1 - terminal with holes in slot
- 2 - internal plastic deflectors slanting alternately downward at 45° angle
- 3 - airflow
- 4 - airflow stabilizer
- 5 - connection box
- 6 - connection spigot
- 7 - regulating damper
- 8 - damper's handle

Descriptive text

Linear slot diffuser NLWA for ceiling installation manufactured by Fläkt Woods.

Order code

Linear slot diffuser

NLWA-ab-ccc-d-e

Number of slots

- 1 = one
- 2 = two
- 3 = three

Diffusion pattern

- 1 = one way
- 2 = two way

Length (cm)

- 090, 105, 120, 150

Colour of deflectors

- 1 = white
- 2 = black

Surface finish

- 1 = anodised aluminium
- 3 = standard RAL 9010
- X = any other colour from RAL palette

Connection box

NLWS-aaa-bb-c-d-e

Length (cm)

- 090, 105, 120, 150

Connection duct size (cm)

- 10, 12, 16, 18, 20

Position of connection duct

- 1 = at the side
- 2 = on the top

Type

- 0 = uninsulated
- 1 = insulated

Damper

- 0 = without
- 1 = blade damper
- 2 = measurement and adjustment damper ZAED

