

Grille

AL30C



Description

The AL30C is a linear bar grille with fixed horizontal blades (0°) and 20 mm flat frame, made of aluminium. It can be used for supply air and exhaust. AL30C is supplied as standard with clips for installation in plenum PGFU/PGWU. The grille is available in dimensions 200x100 and 300x100.

Maintenance

Remove the grill to gain access to the plenum box or duct. External parts should be wiped with a damp cloth.

Accessories

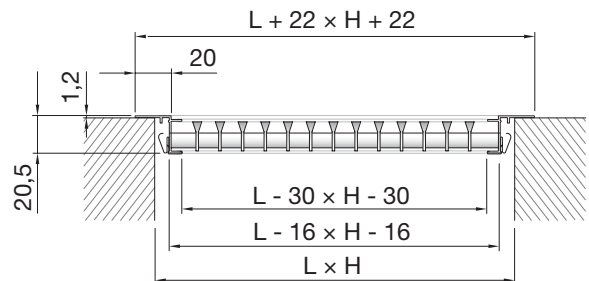
Plenum box: PGFU, PGWU
 Opposed blade damper: DGA (only for plenum PGFU)
 Sliding damper: SKG

Order code

	AL30C	300x100	-
Product			
Size			
Grilles standard finish:			
-	Anodized aluminium		
9003	RAL 9003, gloss 30		

Dimensions

Grid AL30C

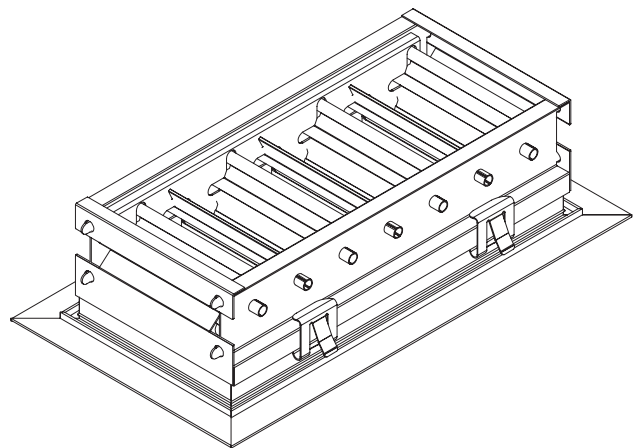


Grid AL30C + opposed blade damper DGA



Dimension LxH mm	Free area A _k m ²	m kg
200 x 100	0,010	0,2
300 x 100	0,017	0,3

Mounting of damper DGA on to grid AL30C



Materials and finish

Grille frame and blades: Aluminium
 Opposed blade damper: Galvanized steel
 Sliding damper: Galvanized steel

Grille standard finish:

- Aluminium anodized
- RAL 9003 gloss 30

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

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Quick selection, Supply air

Grid size [mm] A _k [m ²]	Air flow rate						
	m ³ /h	100	150	200	250	300	350
	l/s	28	42	56	69	83	97
200x100 0,010	L _{WA} [dB(A)]	24	36	46			
	v _k [m/s]	2,7	4	5,4			
	ΔP _t [Pa]	8	18	31			
	l _{0,2} [m]	4,2	6,3	8,4			
300x100 0,017	L _{WA} [dB(A)]	<20	23	32	38	44	49
	v _k [m/s]	1,7	2,5	3,4	4,1	5	5,8
	ΔP _t [Pa]	3	7	12	19	27	37
	l _{0,2} [m]	3,3	5	6,6	8,2	9,8	11,5

10 ≤ L_{WA} < 30

30 ≤ L_{WA} < 40

40 ≤ L_{WA} < 50

Data valid for:

- Supply air
- Isotherm conditions
- Throw without ceiling effect (distance >800 mm. to ceiling)

Terminology:

- A_k = effective free area
- V_k = effective face velocity
- ΔP_t = total pressure loss
- L_{WA} = sound power level
- l_{0,2} = throw to terminal velocity at 0,2 m/s

Quick selection, Extract air

Grid size [mm] A _k [m ²]	Air flow rate				
	m ³ /h	100	150	200	250
	l/s	28	42	56	69
200x100 0,010	L _{WA} [dB(A)]	30	42		
	v _k [m/s]	2,7	4		
	ΔP _t [Pa]	13	30		
300x100 0,017	L _{WA} [dB(A)]	<20	30	39	45
	v _k [m/s]	1,7	2,5	3,4	4,1
	ΔP _t [Pa]	5	12	21	31

10 ≤ L_{WA} < 30

30 ≤ L_{WA} < 40

40 ≤ L_{WA} < 50

Data valid for:

- Extract air

Terminology:

- A_k = effective free area
- V_k = effective face velocity
- ΔP_t = total pressure loss
- L_{WA} = sound power level

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Technical data

Capacity

Air flow rate q_v [l/s] and [m³/h], total pressure loss Δp_t [Pa], throw $l_{0,2}$ [m] and sound power level L_{WA} [dB(A)] can be seen in the diagrams.

Air Jet Dispersal

Throw l_{xx} [m] at an average speed of 0,2, 0,25 and 0,3 m/s, without ceiling effect, (distance from grille to ceiling over 800 mm), can be seen in the diagrams.

Sound power level L_{WA}

Sound power level L_{WA} [dB(A)] can be seen in the diagrams. The sound power levels apply for grilles without an opposed blade damper. See the table below for correction of sound power levels on damper settings [dB].

Frequency-related sound power level

The sound power level in the frequency band is defined as

$$L_{Wf} = L_{WA} + K_{ok}$$

K_{ok} values are given in the table below.

	Centre frequency Hz							
	63	125	250	500	1K	2K	4K	8K
Supply air	6	5	1	-3	-9	-14	-12	-8
Extract air	8	6	0	-4	-7	-12	-10	-9

Opposed blade damper DGA

Correction of total pressure loss Δp_t [Pa] and sound power level L_{WA} [dB(A)] using a damper. See table below.

Damper position	25% 50%		
	Open	Closed	Closed
Total pressure loss ΔP_t	x 1.2	x 1.9	x 10
Sound power level L_{WA}	+ 1	+ 9	+ 27

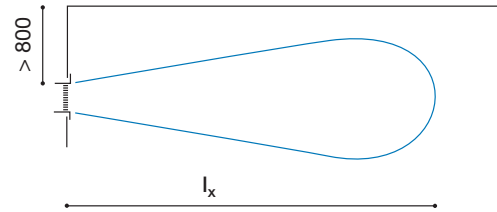
Extract air

Total pressure loss Δp_t	x 0.83
Sound power level L_{WA}	- 2

Throw and air jet dispersal

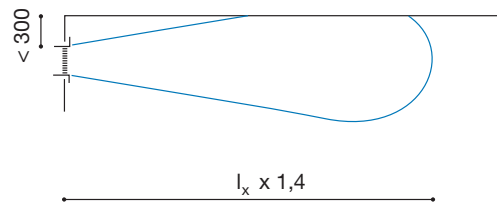
Throw

All given throw data applies for installation more than 800 mm from the ceiling.



For grilles installed less than 300 mm from the ceiling, the air throw is extended by 40% so that:

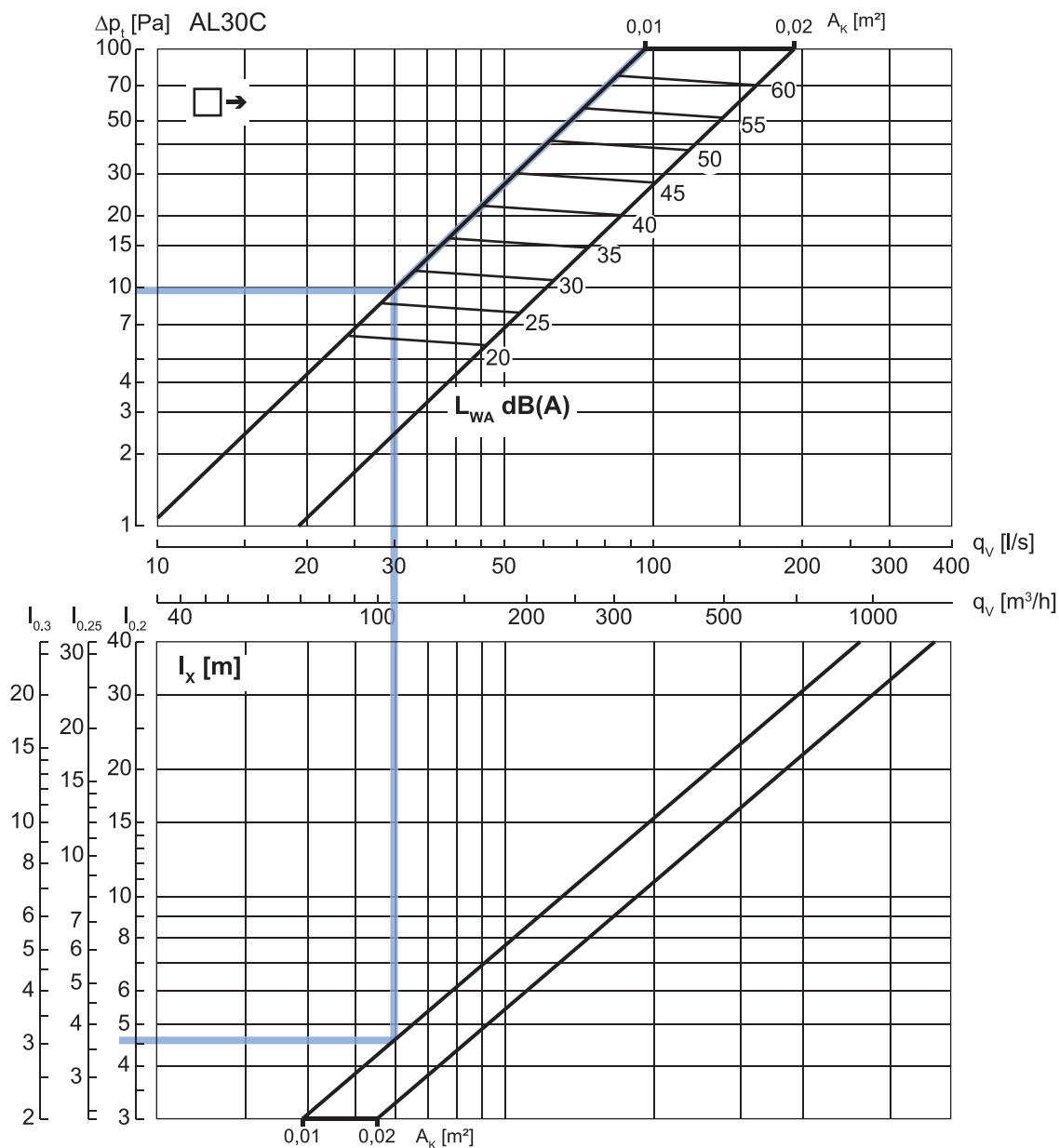
$$l_{x \text{ result}} = 1,4 \times l_x \text{ diagram value}$$



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Technical data – Supply air



Example:

Grille size (LxH): 200 × 100 mm
 Free area A_k : 0,01 m²
 Air flow rate q_v : 30 l/s (108 m³/h)

Data valid for:

- Supply air
- Isotherm conditions
- Throw without ceiling effect (distance >800 mm. to ceiling)

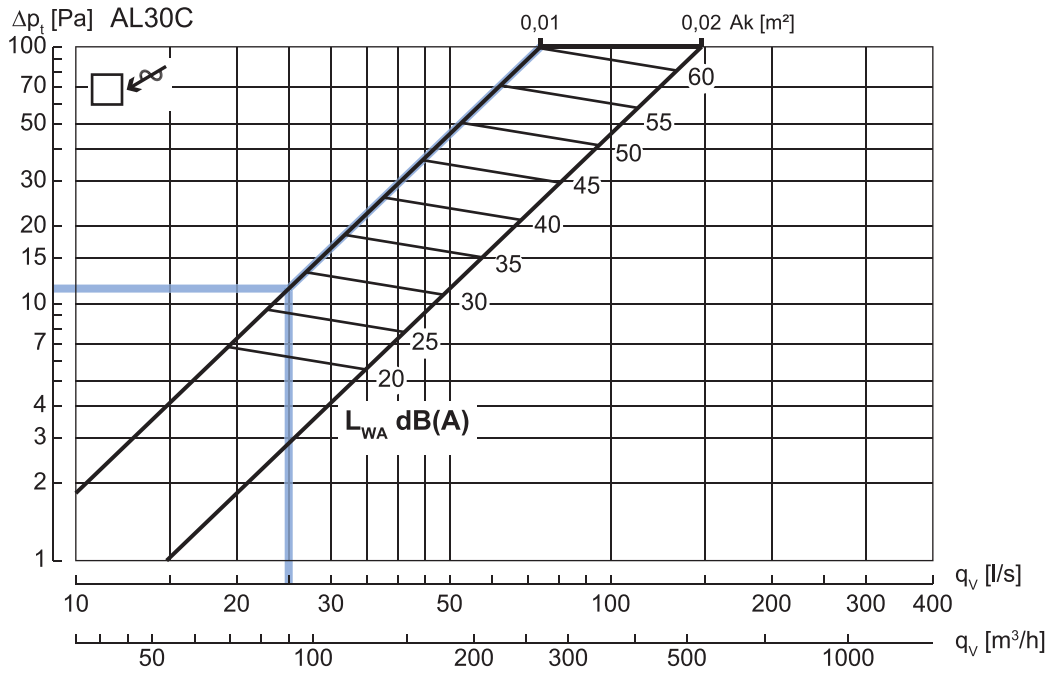
Results:

Sound power level L_{WA} : ~27 [dB(A)]
 Total pressure loss Δp_t : ~9 [Pa]
 Throw $l_{0,2}$: ~4,6 [m]

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Technical data – Extract air



Example:

Grille size (LxH): 200 × 100 mm
 Free area A_k : 0,01 m²
 Air flow rate q_v : 25 l/s (90 m³/h)

Data valid for:

- Extract air

Results:

Sound power level L_{WA} : ~27 [dB(A)]
 Total pressure loss Δp_t : ~12 [Pa]