

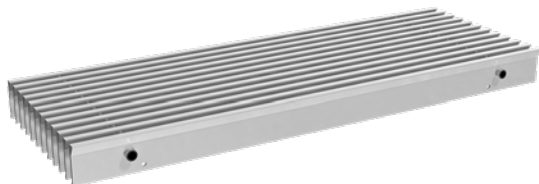
AG

Grille



Grille

AG



Description

AG is a pedestrian grille made of aluminum for floor installation. The grille can be installed with or without frame and adjustable height screws are optional. AG is available with opposed blade damper and dust basket accessories.

AG is tested and certified according to ISO UNI EN 13264 in the "light" resistance class. This class is the highest achievable in aluminum and allows a concentrated load of 450 kg in the middle without breaking and up to 150 kg without damage (600x600 size grille).

AG grille is available in various standard dimensions. Customized sizes available on request.

Order

Product	AG	a	b	c	d	eee x fff	gggg
Type							
AG							
Frame							
0 - No frame							
1 - Frame with no flange							
Grid							
0 - Fixed grid 0°							
1 - Fixed grid 15°							
Installation							
- Not prepared							
A Adjustable height, type A (Standard)							
B Adjustable height, type B							
Accessories							
- No accessories							
D Opposed blade damper							
B* Basket							
DB* Opposed blade damper + basket							
* B and DB option, ONLY frame type 1							
Size							
L: 200 - 1200 mm							
H: 100 - 600 mm							
H: 150 - 600 mm, ONLY for installation type A and B (For L > 600 mm, see page 3)							
Grilles standard finish:							
- Anodized aluminium							

Example 1: AG-10-A-DB-400-200

Example 2: AG-00-500-200

Min. - max. dimensions

H \ L	200	↔	1200
100			
↕			
600			

AG dimensions for installation type A and B

H \ L	300	↔	1200
150			
↕			
600			

Standard grilles are available in steps of 50 mm within the above min. and max. sizes.

Customized sizes available on request.

LindQST

Use the advanced Lindab web tool LindQST to calculate the full range of grilles and to find the suitable grille type and dimension for all applications.

Product selection, room dimensioning and documentation search are easy available directly on web and mobile devices.

Find this and much more on www.lindqst.com.

Maintenance

The grille should be removed to gain access to the damper, basket or duct. The external parts should be wiped with a damp cloth.

Accessories

Opposed blade damper: D

Basket: B

Materials and finish

Grille frame and blades: Anodized aluminium

Opposed blade damper: Galvanized steel

Basket: Galvanized steel

Grilles standard finish:

- Aluminium anodized

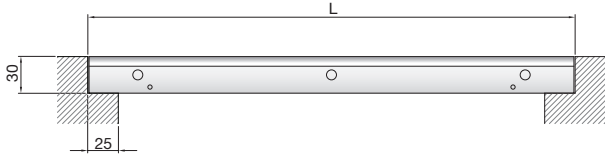
Please contact Lindab's sales department for further information.

Grille

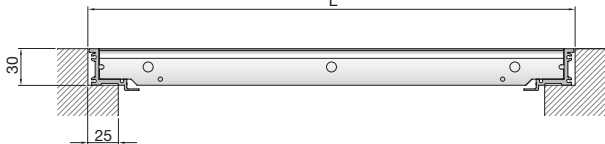
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Frame

0 - No frame.



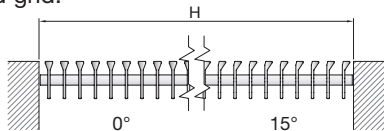
1 - Frame with no flange.



Grid

0 - 0° fixed grid.

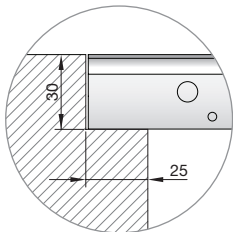
1 - 15° fixed grid.



Installation

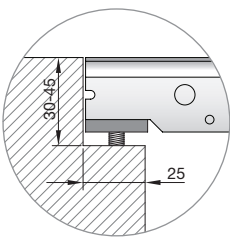
The 3 types of installation below are valid for frame 0 and 1. Examples shown below are frame 0.

- Not prepared

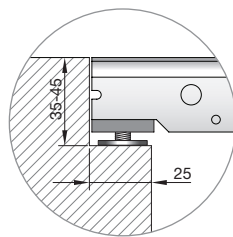


A- Adjustable height (Standard)

B - Adjustable height.



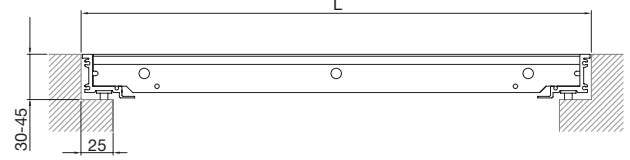
A



B

Accessories

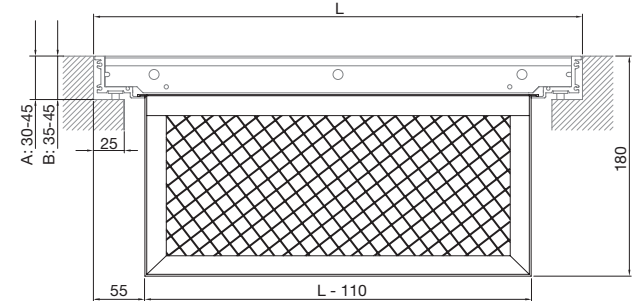
- No accessories.



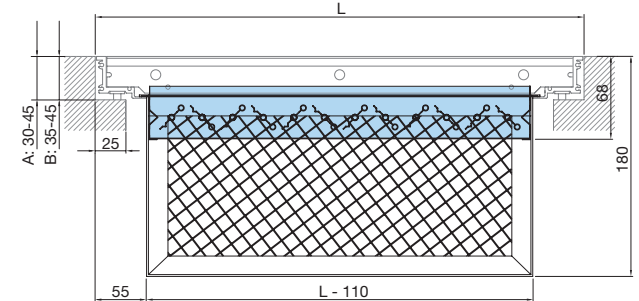
D - Opposed blade damper.



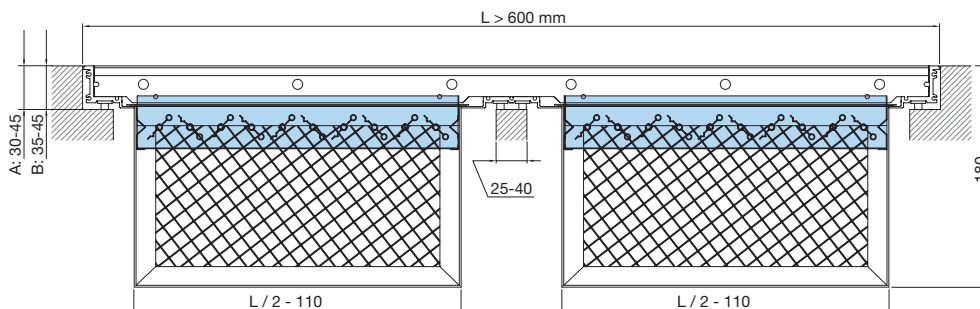
B - Basket *



DB - Damper + basket *



* Accessories types D and DB are only possible when the AG grille is chosen with frame (1).



AG grilles with $L > 600$ are certified according to UNI EN 13264 standard, ONLY if the grilles are installed complete with frame and central support. (Max. width of 40 mm).

Grille

AG

Free area

H / L	AG-0 Pedestrian grille without frame												
	A _k [m ²]												
	200	250	300	350	400	450	500	550	600	1000	1100	1150	1200
100	0,007	0,008	0,010	0,012	0,013	0,015	0,017	0,019	0,021	0,024	0,028	0,032	0,035
150	0,012	0,015	0,018	0,022	0,025	0,028	0,031	0,035	0,038	0,045	0,051	0,058	0,065
200	0,018	0,022	0,027	0,031	0,036	0,041	0,046	0,051	0,055	0,065	0,075	0,085	0,095
250	0,023	0,029	0,035	0,041	0,048	0,054	0,060	0,066	0,073	0,086	0,098	0,111	0,124
300	0,029	0,036	0,044	0,051	0,059	0,067	0,074	0,082	0,090	0,106	0,122	0,138	0,154
350	0,034	0,043	0,052	0,061	0,070	0,080	0,089	0,098	0,108	0,126	0,145	0,164	0,184
400	0,039	0,050	0,060	0,071	0,082	0,092	0,103	0,114	0,125	0,147	0,169	0,191	0,213
450	0,045	0,057	0,069	0,081	0,093	0,105	0,118	0,130	0,142	0,167	0,192	0,218	0,243
500	0,050	0,064	0,077	0,091	0,104	0,118	0,132	0,146	0,160	0,188	0,216	0,244	0,273
550	0,056	0,071	0,086	0,101	0,116	0,131	0,146	0,162	0,177	0,208	0,239	0,271	0,302
600	0,061	0,078	0,094	0,111	0,127	0,144	0,161	0,177	0,194	0,229	0,263	0,297	0,332

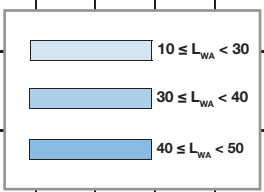
H / L	AG-1 Pedestrian grille with frame												
	A _k [m ²]												
	200	250	300	350	400	450	500	550	600	1000	1100	1150	1200
100	0,005	0,007	0,008	0,010	0,011	0,013	0,014	0,016	0,017	0,020	0,023	0,026	0,029
150	0,011	0,014	0,017	0,020	0,023	0,026	0,029	0,032	0,035	0,041	0,047	0,053	0,059
200	0,016	0,021	0,025	0,030	0,034	0,038	0,043	0,047	0,052	0,061	0,070	0,079	0,089
250	0,022	0,028	0,034	0,039	0,045	0,051	0,057	0,063	0,069	0,081	0,094	0,106	0,118
300	0,027	0,035	0,042	0,049	0,057	0,064	0,072	0,079	0,087	0,102	0,117	0,133	0,148
350	0,033	0,042	0,050	0,059	0,068	0,077	0,086	0,095	0,104	0,122	0,141	0,159	0,178
400	0,038	0,049	0,059	0,069	0,079	0,090	0,100	0,111	0,121	0,143	0,164	0,186	0,207
450	0,044	0,055	0,067	0,079	0,091	0,103	0,115	0,127	0,139	0,163	0,188	0,212	0,237
500	0,049	0,062	0,076	0,089	0,102	0,116	0,129	0,143	0,156	0,184	0,211	0,239	0,267
550	0,055	0,069	0,084	0,099	0,113	0,128	0,143	0,158	0,174	0,204	0,235	0,265	0,296
600	0,060	0,076	0,092	0,109	0,125	0,141	0,158	0,174	0,191	0,224	0,258	0,292	0,326

Grille



Quick selection, Supply air, AG-1

Grille size [mm]		Air flow rate																		
A _k [m ²]	m ² /h l/s	100	150	200	250	300	350	400	500	600	700	800	900	1000	1250	1500	2000	2500	3500	
		(28)	(42)	(56)	(69)	(83)	(97)	(111)	(139)	(167)	(194)	(222)	(250)	(278)	(347)	(417)	(556)	(694)	(972)	
H=100	300x100 (0,008)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	22 3,4 9 3,6	33 5,1 20 5,4	41 6,7 35 7,2	47 8,3 54 8,9														
	400x100 (0,011)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 2,5 5 3,1	26 3,7 11 4,6	34 5 19 6,2	40 6,1 29 7,6	45 7,4 43 9,2	49 8,6 58 10,7												
	500x100 (0,014)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	20 3 7 4,1	28 3,9 12 5,5	34 4,9 18 6,8	39 5,9 27 8,2	44 6,8 36 9,5	48 7,8 48 10,9												
	600x100 (0,017)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 2,4 5 3,7	24 3,3 8 5	30 4 13 6,2	35 4,8 18 7,4	39 5,6 25 8,7	43 6,5 33 9,9	49 8,1 51 12,4											
H=150	300x150 (0,017)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 2,5 5 3,8	24 3,4 9 5,1	30 4,1 13 6,2	35 5 19 7,5	40 5,8 26 8,8	44 6,6 34 10	50 8,3 54 12,6											
	400x150 (0,023)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 2,5 5 4,4	23 3,1 7 5,4	28 3,7 11 6,5	33 4,3 14 7,6	36 4,9 19 8,6	43 6,2 30 10,8	48 7,4 43 13											
	500x150 (0,029)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 2 3 3,9	20 2,4 5 4,8	23 2,9 7 5,7	27 3,4 9 6,7	31 3,9 12 7,7	37 4,9 19 9,6	42 5,9 27 11,6	47 6,8 36 13,4	50 7,8 47 15,4									
	600x150 (0,035)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 2 3 4,3	20 2,4 5 5,2	23 2,8 6 6,1	27 3,2 8 7	33 4 13 8,7	38 4,8 18 10,5	42 5,6 25 12,2	46 6,4 32 14	49 7,2 41 15,7									
H=200	400x200 (0,034)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 2 3 4,4	20 2,4 5 5,3	23 2,9 6 6,2	27 3,3 8 7	33 4,1 13 8,8	38 4,9 19 10,6	43 5,7 25 12,3	47 6,5 33 14,1	50 7,4 42 15,9									
	500x200 (0,043)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 1,9 3 4,7	20 2,3 4 5,5	23 2,6 5 6,3	27 3,2 7 7,9	33 3,9 12 9,4	38 4,5 16 11	43 5,2 21 12,5	47 6,5 33 14,1	50 7,8 41 15,7									
	600x200 (0,052)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 1,9 3 5	20 2,1 4 5,7	23 2,7 6 7,1	27 3,2 8 8,6	33 3,7 11 10	38 4,3 14 11,4	43 4,8 18 12,8	49 5,4 22 14,3	50 6,7 35 17,8									
	800x200 (0,07)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 1,6 2 5,5	20 1,9 3 6,6	23 2,2 4 7,6	27 2,5 5 8,7	33 2,8 6 9,8	38 3,2 8 11	43 3,6 10 12,3	47 4,9 19 15,3	50 5,9 28 18,4									
	1000x200 (0,089)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 1,6 2 5,5	20 1,9 3 6,6	23 2,2 4 7,6	27 2,5 5 8,7	33 2,8 6 9,8	38 3,2 8 11	43 3,6 10 12,3	47 4,9 19 15,3	50 5,9 28 18,4									
H=300	500x300 (0,072)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 1,9 3 6,1	20 2,3 4 7,3	23 2,7 5 8,5	27 3,1 6 9,7	33 3,5 7 10,9	38 3,9 8 12,2	43 4,8 12 15,2	47 5,8 18 18,2	50 6,4 26 21,8									
	600x300 (0,087)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 1,6 2 5,5	20 1,9 3 6,6	23 2,2 4 7,7	27 2,6 5 8,8	33 2,9 6 9,9	38 3,2 8 11	43 3,6 10 13,8	47 4,8 12 16,6	50 6,4 22 22,1									
	800x300 (0,117)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 1,7 2 6,6	20 1,9 3 7,6	23 2,1 4 8,5	27 2,4 5 9,5	33 2,8 6 11,9	38 3,2 8 14,3	43 3,6 10 19	47 4,7 18 23,7	50 5,9 27 29,3									
	1000x300 (0,148)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 1,5 2 6,3	20 1,7 3 7,2	23 1,9 4 8,1	27 2,2 5 9,1	33 2,5 6 11,3	38 2,8 8 13,6	43 3,1 9 16,4	47 3,9 12 21,8	50 4,7 17 21,8									
H=500	500x500 (0,129)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 1,5 2 6,3	20 1,7 3 7,2	23 1,9 4 8,1	27 2,2 5 9,1	33 2,5 6 11,3	38 2,8 8 13,6	43 3,1 9 16,4	47 3,9 12 21,8	50 4,7 17 21,8									
	600x600 (0,191)	L _{WA} [dB(A)] V _k [m/s] Δp _t [Pa] L _{0,2} [m]	<20 1,5 2 7,4	20 1,8 3 9,3	23 2,2 4 11,2	27 2,9 5 14,9	33 3,6 7 18,6	38 4,3 10 25,6	43 5,4 14 33,6	47 6,3 20 47,2	50 7,2 27 54,4									



Terminology:

- A_k = effective free area
- v_k = effective face velocity
- Δp_t = total pressure loss without filter
- L_{WA} = sound power level
- L_{0,2} = Throw to terminal velocity at 0.2 m/s

Data valid for:

- Supply air
- Isotherm conditions

Quick selection, Extract air, AG-1

Grille size [mm]		Air flow rate																			
		m³/h	75	100	250	400	550	700	850	1000	1150	1300	1450	1600	1750	1900	2050	2200	2350	2500	
A _k [m²]		(21)	(28)	(69)	(111)	(153)	(194)	(236)	(278)	(319)	(361)	(403)	(444)	(486)	(528)	(569)	(611)	(653)	(694)		
H=100	300x100 (0,008)	L _{WA} [dB(A)]	<20	25																	
		V _k [m/s]	2,5	3,4																	
		Δp _t [Pa]	8	15																	
		L _{WA} [dB(A)]		<20	45																
	400x100 (0,011)	V _k [m/s]		2,5	6,1																
		Δp _t [Pa]		8	49																
	500x100 (0,014)	L _{WA} [dB(A)]		<20	38																
		V _k [m/s]		2	4,9																
		Δp _t [Pa]		5	31																
	600x100 (0,017)	L _{WA} [dB(A)]			33	48															
		V _k [m/s]			4	6,5															
		Δp _t [Pa]			21	54															
H=150	300x150 (0,017)	L _{WA} [dB(A)]			34	49															
		V _k [m/s]			4,1	6,6															
		Δp _t [Pa]			22	57															
		400x150 (0,023)	L _{WA} [dB(A)]			26	41														
		V _k [m/s]			3,1	4,9															
		Δp _t [Pa]			12	31															
	500x150 (0,029)	L _{WA} [dB(A)]			20	34	44														
		V _k [m/s]			2,4	3,9	5,4														
		Δp _t [Pa]			8	20	37														
	600x150 (0,035)	L _{WA} [dB(A)]			<20	29	39	47													
		V _k [m/s]			2	3,2	4,4	5,6													
		Δp _t [Pa]			5	13	25	41													
H=200	400x200 (0,034)	L _{WA} [dB(A)]			<20	30	40	47													
		V _k [m/s]			2	3,3	4,5	5,7													
		Δp _t [Pa]			5	14	26	42													
		500x200 (0,043)	L _{WA} [dB(A)]			24	34	41	47												
			V _k [m/s]			2,6	3,6	4,5	5,5												
			Δp _t [Pa]			9	17	27	39												
	600x200 (0,052)	L _{WA} [dB(A)]			<20	28	36	42	47												
		V _k [m/s]			2,1	2,9	3,7	4,5	5,4												
		Δp _t [Pa]			6	11	18	27	37												
	800x200 (0,07)	L _{WA} [dB(A)]			<20	20	28	34	39	43	47	50									
		V _k [m/s]			1,6	2,2	2,8	3,4	4	4,5	5,1	5,7									
		Δp _t [Pa]			3	6	10	15	20	27	34	43									
	1000x200 (0,089)	L _{WA} [dB(A)]				<20	22	28	33	37	41	44	47	50							
		V _k [m/s]				1,7	2,2	2,7	3,1	3,6	4,1	4,5	5	5,5							
		Δp _t [Pa]				4	6	9	13	17	22	27	33	39							
H=300	500x300 (0,072)	L _{WA} [dB(A)]			<20	20	27	33	38	43	46	50									
		V _k [m/s]			1,6	2,1	2,7	3,3	3,9	4,5	5	5,6									
		Δp _t [Pa]			3	6	10	14	20	26	33	41									
		600x300 (0,087)	L _{WA} [dB(A)]				<20	22	28	33	38	41	45	48							
		V _k [m/s]			1,8	2,2	2,7	3,2	3,7	4,2	4,6	5,1									
		Δp _t [Pa]			4	7	10	13	18	23	28	34									
	800x300 (0,117)	L _{WA} [dB(A)]				<20	20	25	30	33	37	40	43	45	47	50					
		V _k [m/s]				1,7	2	2,4	2,7	3,1	3,4	3,8	4,1	4,5	4,9	5,2					
		Δp _t [Pa]				4	5	7	10	12	15	19	22	26	31	35					
	1000x300 (0,148)	L _{WA} [dB(A)]					<20	<20	23	27	31	34	36	39	41	43	45	47			
		V _k [m/s]					1,6	1,9	2,2	2,4	2,7	3	3,3	3,6	3,8	4,1	4,4	4,7			
		Δp _t [Pa]					3	5	6	8	10	12	14	17	19	22	25	29			
H=500	500x500 (0,129)	L _{WA} [dB(A)]					<20	<20	23	27	31	34	37	40	43	45	47	49			
		V _k [m/s]					1,5	1,8	2,2	2,5	2,8	3,1	3,4	3,8	4,1	4,4	4,7	5,1			
		Δp _t [Pa]					3	4	6	8	10	13	15	18	22	25	29	33			
H=600	600x600 (0,191)	L _{WA} [dB(A)]							<20	<20	20	24	27	30	32	34	37	39	41		
		V _k [m/s]							1,5	1,7	1,9	2,1	2,3	2,5	2,8	3	3,2	3,4	3,6		
		Δp _t [Pa]							3	4	5	6	7	8	10	12	13	15	17		

10 ≤ LWA < 30 30 ≤ LWA < 40 40 ≤ LWA < 50

Data valid for:

- Extract air

Terminology:

- A_k = effective free area
- v_k = effective face velocity
- Δp_t = total pressure loss without filter

Grille

AG

Technical data

Capacity

Air flow rate q_v [l/s] and [m³/h], total pressure loss Δp_t [Pa] through $l_{0,2}$ [m] and sound power level L_{WA} [dB(A)] can be seen in the diagram on next page for a given example.

Sound power level L_{WA}

Sound power level L_{WA} [dB(A)] can be seen in the diagrams. The sound levels apply for grilles without a damper. See the table below for correction of sound level on dispersal [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	8	6	-1	-5	-8	-13	-10	-5
Extract air	8	5	1	-7	-13	-18	-15	-4

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 1,05	x 1,7	x 3,6
Sound power level L_{WA}	+ 2	+ 7	+ 22

Extract air

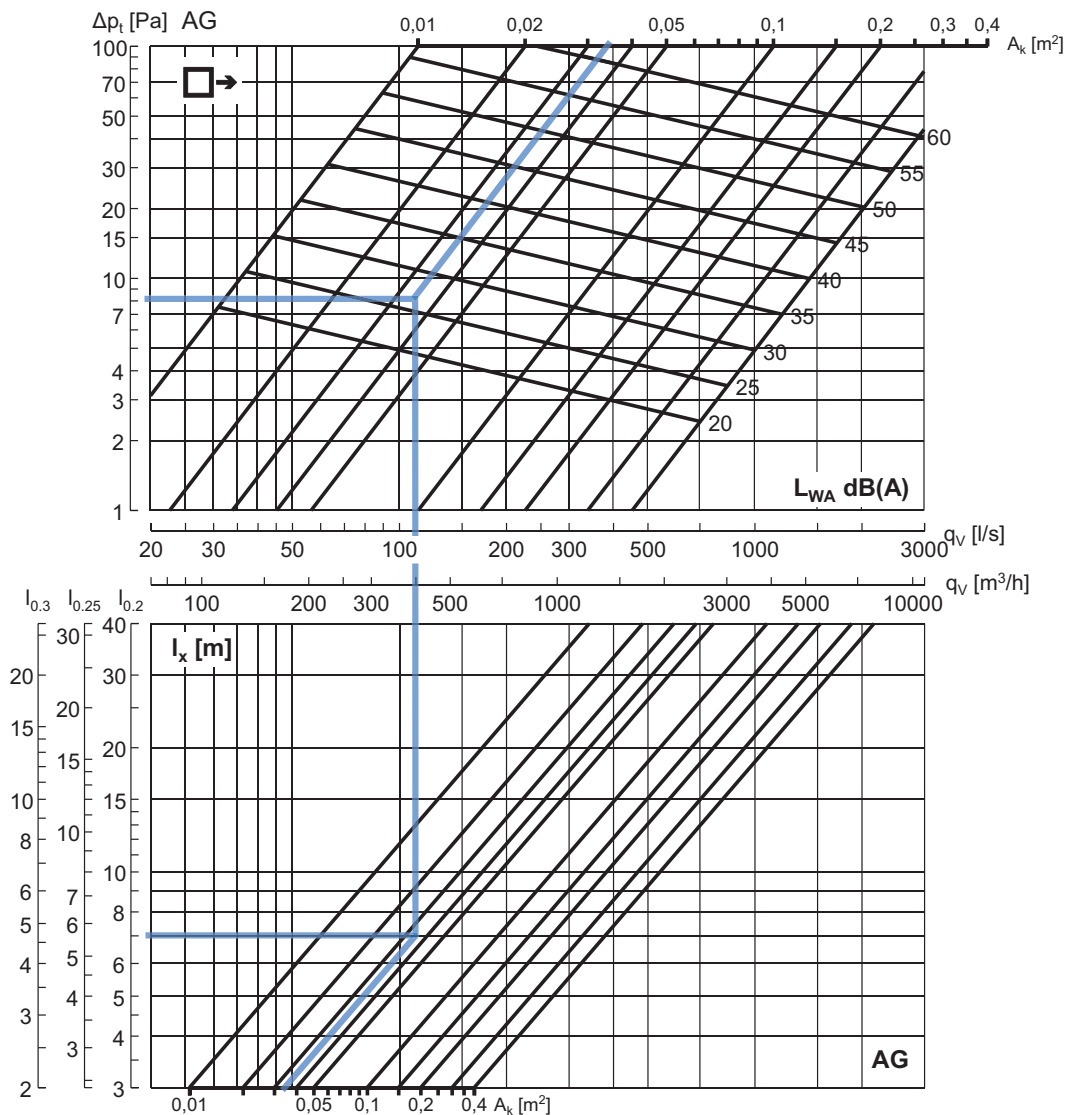
Total pressure loss Δp_t	x 0.86
Sound power level L_{WA}	- 2

Grille

AG

Technical data

Supply air, AG-1



Example AG-1:

Grille size (LxH): 400 x 200 mm
 Free area A_k : 0.034 [m²]
 Air flow rate q_v : 400 m³/h (111 l/s)

Result:

Sound power level L_{WA} : ~ 27 dB(A)
 Total pressure loss Δp_t : ~ 8 [pa] (Without filter)
 Throw $l_{0.2}$: ~ 7 [m]

Data valid for:

- Supply air
- Isotherm conditions

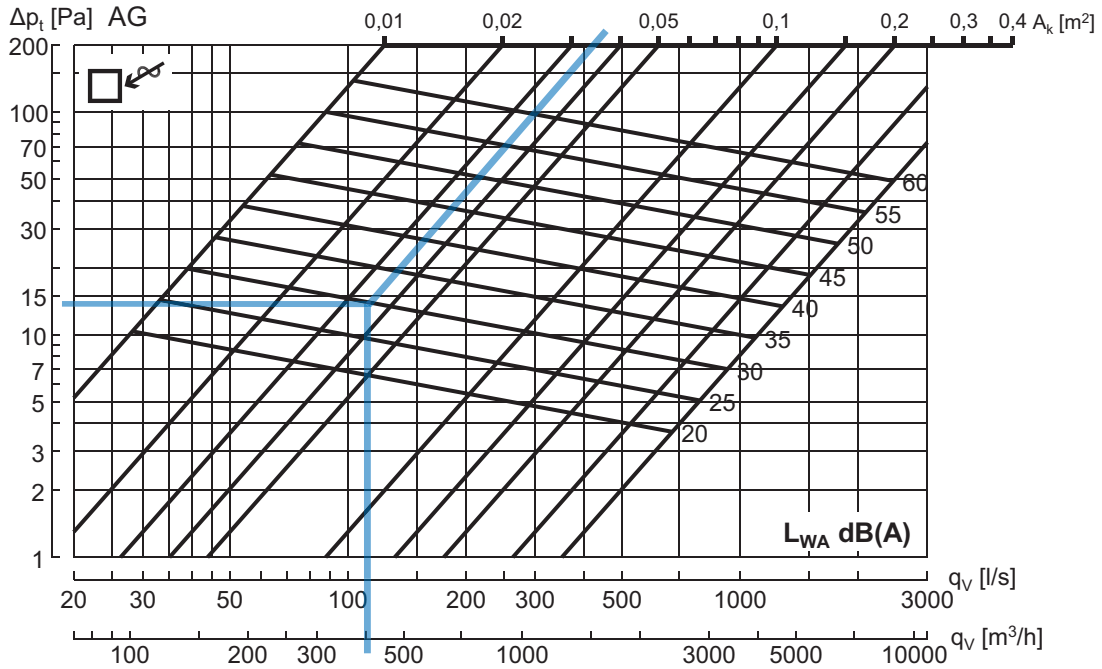
For grilles with free area > 0.4 m², we refer to use Lindabs online calculation tool on www.lindab.com

Grille

AG

Technical data

Extract air, AG-1



Example AG-1:

Grille size (LxH): 400 x 200 mm
 Free area A_k : 0.034 [m²]
 Air flow rate q_v : 400 m³/h (111 l/s)

Result:

Sound power level L_{WA} : ~ 30 dB(A)
 Total pressure loss Δp_t : ~ 14 [pa] (Without filter)

Data valid for:

- Extract air.

For grilles with free area > 0.4 m², we refer to use Lindabs online calculation tool on www.lindQST.com.



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.

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