

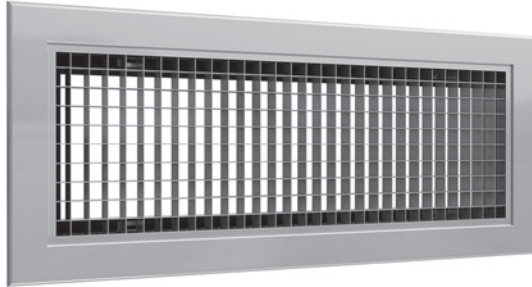
AF

Grille



Grille

AF



Description

AF is an aluminium filter holder grille for extract equipped with either washable or rigid filter class G3. Optional grids are eggcrate mesh 0° or 45° inclination and fixed 58° angle blades. The grille is suitable for wall installation. AF grille is available with plenum box (PBAF) as accessory.

Order code

Product	AF	1	a	b	c	ddd	x	eee	fff
Type	AF								
Frame	1 - 25 mm frame								
Grid	1 - Eggcrate 0° 2 - Eggcrate 45° 3 - Fixed 58° blades								
Installation	C Clips G Magnet hinged S Screw hinged K Knob hinged								
Accessories	W Washable filter F Rigid G3 filter								
Size	L: 200 - 1200 mm H: 100 - 600 mm, W (Washable filter) H: 150 - 600 mm, F (Rigid G3 filter)								
Grilles standard finish:	- Anodized aluminium 9003 RAL 9003, gloss 30 xxxx On request, other RAL colour								

Example 1: AF-11-C-W-500-200-9003

Example 2: AF-13-K-F-550-150

Min. - max. dimensions

AF-W (Washable filter)

H \ L	200	↔	1000	↔	1200
100					
↕					
400					
600					
↕					
600					

AF-F (Rigid filter)

H \ L	200	↔	1000	↔	1200
150					
↕					
400					
600					
↕					
600					

Standard grilles are available with 50 mm pitch within the above min. and max. sizes. Customized sizes available on request.

Maintenance

The grille should be removed to gain access to the plenum box or duct. The external parts should be wiped with a damp cloth.

Accessories

Plenum box: PBAF
Mounting frame: MFA, Only installation type C with rigid filter (F)

Materials and finish

Grilles frame and blades: Aluminum
Mounting frame: Galvanized steel

Grilles standard finish:
- Aluminum anodized
- RAL 9003 gloss 30

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

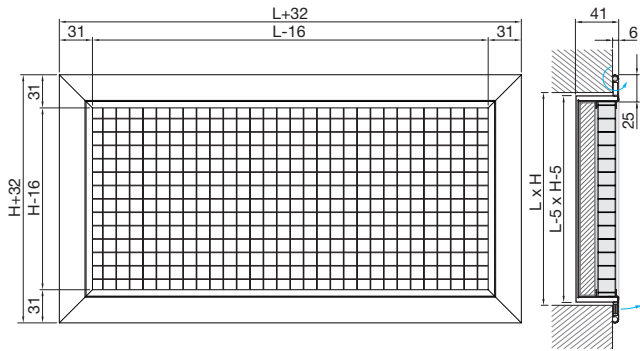
Grille

AF

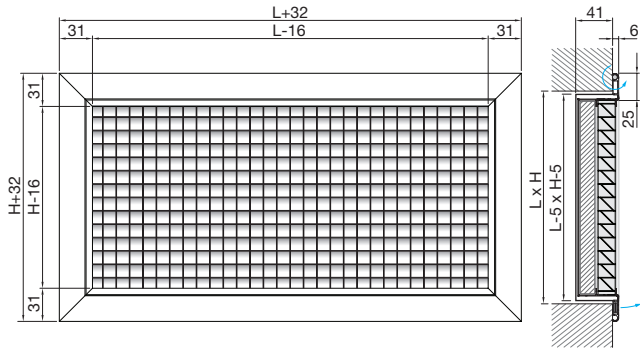
Frame and grid

Examples below show magnet hinged AF versions (G) with rigid filter (F). For other AF solutions see Installation and accessories.

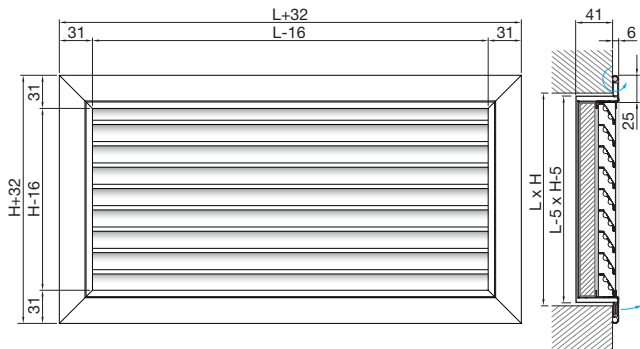
AF-11, 25 mm frame - 0° eggcrate grid.



AF-12, 25 mm frame - 45° eggcrate grid.



AF-13, 25 mm frame - 58° blade indination grid.

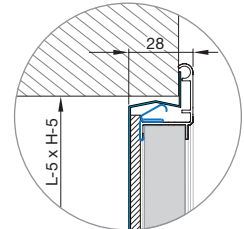
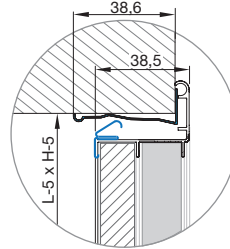


Installation

C - Clips

F - Rigid filter G3

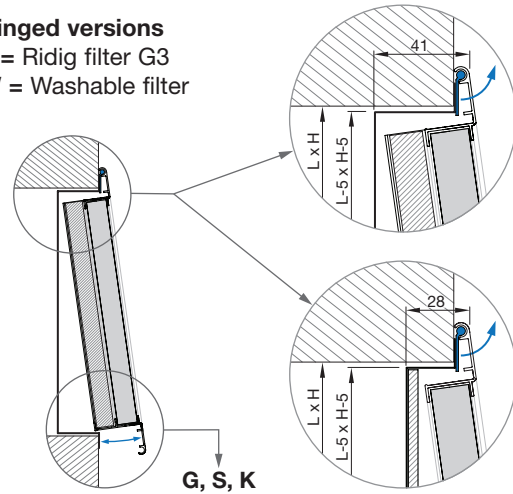
W - Washble filter



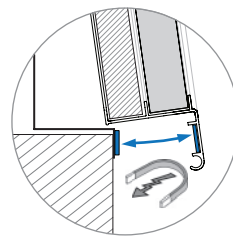
Hinged versions

F = Rigid filter G3

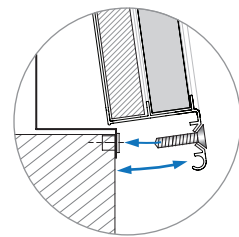
W = Washable filter



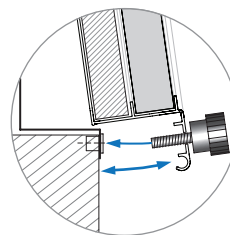
G - Magnets



S - Screw



K - Knob



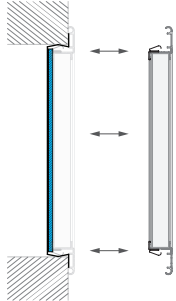
Grille

AF

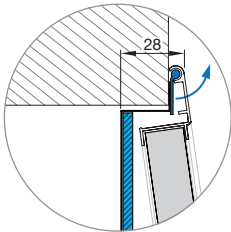
Accessories

W - Washable filter

Installation C

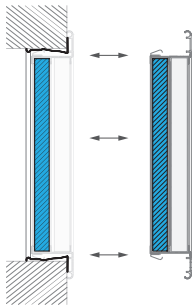


Installation G, S, K

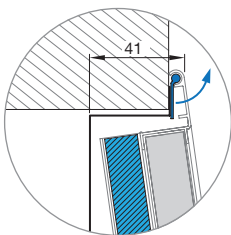


F - Rigid filter G3

Installation C (With standard MFA mounting frame).



Installation G, S, K



Grille

AF

Free area

H/L	AF-11 Filter grille, eggcrate 0° A _v (m ²)												
	200	250	300	350	400	450	500	550	600	700	800	900	1000
100	0.015	0.019	0.025	0.028	0.033	0.038	0.042	0.047	0.052	0.061	0.070	0.079	0.089
150	0.024	0.031	0.038	0.045	0.052	0.058	0.065	0.072	0.079	0.093	0.107	0.121	0.135
200	0.033	0.042	0.052	0.061	0.070	0.079	0.089	0.098	0.107	0.126	0.144	0.163	0.181
250	0.042	0.054	0.065	0.077	0.089	0.100	0.112	0.123	0.135	0.158	0.181	0.204	0.227
300	0.052	0.056	0.079	0.093	0.107	0.121	0.135	0.149	0.163	0.190	0.218	0.246	0.274
350	0.061	0.077	0.093	0.109	0.126	0.142	0.158	0.174	0.19	0.223	0.255	0.287	0.320
400	0.070	0.089	0.107	0.126	0.144	0.163	0.181	0.200	0.218	0.255	0.292	0.329	0.366
450	0.079	0.100	0.121	0.142	0.163	0.183	0.204	0.225	0.246	0.287	0.329	0.371	0.412
500	0.089	0.112	0.135	0.158	0.181	0.204	0.227	0.250	0.274	0.320	0.366	0.412	0.459
550	0.098	0.123	0.149	0.174	0.200	0.225	0.250	0.276	0.301	0.352	0.403	0.454	0.505
600	0.107	0.135	0.163	0.190	0.218	0.246	0.274	0.301	0.329	0.385	0.440	0.496	0.551

H/L	AF-12 Filter grille, eggcrate 0° A _v (m ²)												
	200	250	300	350	400	450	500	550	600	700	800	900	1000
100	0.013	0.170	0.022	0.026	0.030	0.034	0.038	0.043	0.047	0.055	0.064	0.072	0.080
150	0.022	0.028	0.034	0.041	0.047	0.053	0.059	0.066	0.720	0.085	0.097	0.110	0.123
200	0.030	0.038	0.047	0.055	0.064	0.072	0.080	0.089	0.097	0.114	0.131	0.148	0.165
250	0.038	0.049	0.059	0.070	0.080	0.091	0.101	0.112	0.123	0.144	0.165	0.186	0.207
300	0.047	0.059	0.072	0.085	0.097	0.110	0.123	0.135	0.148	0.173	0.198	0.223	0.249
350	0.055	0.070	0.085	0.099	0.114	0.129	0.144	0.158	0.173	0.202	0.232	0.261	0.291
400	0.064	0.080	0.097	0.114	0.131	0.148	0.165	0.181	0.198	0.232	0.265	0.299	0.333
450	0.072	0.091	0.110	0.129	0.148	0.167	0.186	0.204	0.223	0.261	0.299	0.337	0.375
500	0.080	0.101	0.123	0.144	0.165	0.186	0.207	0.228	0.249	0.291	0.333	0.375	0.417
550	0.089	0.112	0.135	0.158	0.181	0.204	0.228	0.251	0.247	0.320	0.366	0.413	0.459
600	0.097	0.123	0.148	0.173	0.198	0.223	0.249	0.274	0.299	0.350	0.400	0.450	0.501

H/L	AF-13 Filter grille, eggcrate 0° A _v (m ²)												
	200	250	300	350	400	450	500	550	600	700	800	900	1000
100	0.003	0.003	0.004	0.005	0.006	0.006	0.007	0.008	0.009	0.010	0.012	0.013	0.015
150	0.006	0.008	0.009	0.011	0.013	0.014	0.016	0.018	0.020	0.023	0.026	0.030	0.033
200	0.009	0.012	0.014	0.017	0.020	0.022	0.025	0.028	0.030	0.036	0.041	0.046	0.052
250	0.012	0.016	0.020	0.023	0.027	0.030	0.034	0.038	0.041	0.049	0.056	0.063	0.070
300	0.016	0.020	0.025	0.029	0.034	0.038	0.043	0.048	0.052	0.061	0.071	0.080	0.089
350	0.019	0.024	0.030	0.035	0.041	0.046	0.052	0.058	0.063	0.074	0.085	0.096	0.107
400	0.022	0.029	0.035	0.042	0.048	0.054	0.061	0.067	0.074	0.087	0.100	0.113	0.126
450	0.025	0.033	0.040	0.048	0.055	0.062	0.070	0.077	0.085	0.100	0.115	0.129	0.144
500	0.029	0.037	0.045	0.054	0.062	0.071	0.079	0.087	0.096	0.112	0.129	0.146	0.163
550	0.032	0.041	0.050	0.060	0.069	0.079	0.088	0.097	0.107	0.125	0.144	0.163	0.181
600	0.035	0.045	0.056	0.066	0.076	0.087	0.097	0.107	0.117	0.138	0.159	0.179	0.200

Quick selection, Extract air, AF 11

Grille size [mm]				Air flow rate																		
A _k [m ²]	m ³ /h	l/s		100	125	150	200	250	300	400	450	500	600	700	800	900	1000	1250	1500	1750	2000	
				(28)	(35)	(42)	(56)	(69)	(83)	(111)	(125)	(139)	(167)	(194)	(222)	(250)	(278)	(347)	(417)	(486)	(556)	
H=100	200x100 (0,015)	L _{WA} [dB(A)]	<20	<20	24																	
		V _k [m/s]	1,9	2,4	2,9																	
		Δp _t [Pa]	38	59	84																	
	300x100 (0,024)	L _{WA} [dB(A)]			<20	20	27															
		V _k [m/s]			1,8	2,4	2,9															
		Δp _t [Pa]			35	62	95															
	400x100 (0,033)	L _{WA} [dB(A)]					<20	<20	23													
H=150	300x150 (0,038)	L _{WA} [dB(A)]					<20	20	29													
		V _k [m/s]					1,8	2,2	3													
		Δp _t [Pa]					37	54	96													
	400x150 (0,052)	L _{WA} [dB(A)]							<20	20	24	28										
		V _k [m/s]							1,6	2,2	2,4	2,7										
		Δp _t [Pa]							29	53	67	82										
	500x150 (0,065)	L _{WA} [dB(A)]								<20	<20	21	27									
600x150 (0,079)	L _{WA} [dB(A)]									<20	<20	22	27	31								
H=200	400x200 (0,07)	L _{WA} [dB(A)]							<20	<20	<20	25	30									
		V _k [m/s]							1,6	1,8	2	2,4	2,8									
		Δp _t [Pa]							28	35	44	63	85									
	500x200 (0,089)	L _{WA} [dB(A)]									<20	<20	23	28	32							
		V _k [m/s]									1,6	1,9	2,2	2,5	2,8							
		Δp _t [Pa]									28	40	54	70	89							
	600x200 (0,107)	L _{WA} [dB(A)]										<20	<20	22	26	30						
800x200 (0,144)	L _{WA} [dB(A)]											<20	<20	<20	21	29	35					
H=300	500x300 (0,135)	L _{WA} [dB(A)]										<20	<20	20	23	31						
		V _k [m/s]										1,4	1,6	1,9	2,1	2,6						
		Δp _t [Pa]										23	30	38	46	72						
	600x300 (0,163)	L _{WA} [dB(A)]											<20	<20	<20	25	31	36				
		V _k [m/s]											1,4	1,5	1,7	2,1	2,6	3				
		Δp _t [Pa]											20	26	32	50	72	97				
	800x300 (0,218)	L _{WA} [dB(A)]														<20	<20	23	28	33		
	V _k [m/s]														1,3	1,6	1,9	2,2	2,6			
	Δp _t [Pa]														18	28	40	54	71			



Data valid for:

- Extract air

Total pressure loss with clean filter G3 class.

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



Grille

AF

Quick selection, Extract air, AF 12

Grille size [mm]			Air flow rate																		
A _k [m²]	m³/h	l/s	100	125	150	200	250	300	400	450	500	600	700	800	900	1000	1250	1500	1750	2000	
			(28)	(35)	(42)	(56)	(69)	(83)	(111)	(125)	(139)	(167)	(194)	(222)	(250)	(278)	(347)	(417)	(486)	(556)	
H=100	200x100 (0,013)	L _{WA} [dB(A)]	<20	21	27																
		V _k [m/s]	2,1	2,7	3,2																
		Δp _t [Pa]	38	60	86																
	300x100 (0,022)	L _{WA} [dB(A)]			<20	22	29														
		V _k [m/s]			1,9	2,6	3,2														
		Δp _t [Pa]			36	63	96														
	400x100 (0,03)	L _{WA} [dB(A)]				<20	20	26													
V _k [m/s]					1,9	2,3	2,8														
Δp _t [Pa]					34	52	76														
500x100 (0,038)	L _{WA} [dB(A)]					<20	<20	29													
	V _k [m/s]					1,8	2,2	2,9													
	Δp _t [Pa]					33	48	85													
600x100 (0,047)	L _{WA} [dB(A)]						<20	23	27	31											
	V _k [m/s]						1,8	2,4	2,7	3											
	Δp _t [Pa]						33	58	74	91											
800x100 (0,064)	L _{WA} [dB(A)]							<20	<20	22	28	33									
	V _k [m/s]							1,7	2	2,2	2,6	3									
	Δp _t [Pa]							32	41	51	73	99									
H=150	300x150 (0,034)	L _{WA} [dB(A)]					<20	22	32												
		V _k [m/s]					2	2,4	3,2												
		Δp _t [Pa]					38	55	98												
	400x150 (0,047)	L _{WA} [dB(A)]						<20	23	27	31										
		V _k [m/s]						1,8	2,4	2,7	3										
		Δp _t [Pa]						30	53	68	84										
	500x150 (0,059)	L _{WA} [dB(A)]							<20	20	24	30									
V _k [m/s]								1,9	2,1	2,3	2,8										
Δp _t [Pa]								34	43	53	76										
600x150 (0,072)	L _{WA} [dB(A)]							<20	<20	<20	24	29	34								
	V _k [m/s]							1,5	1,7	1,9	2,3	2,7	3,1								
	Δp _t [Pa]							23	29	36	52	70	92								
800x150 (0,097)	L _{WA} [dB(A)]								<20	<20	<20	21	25	29	33						
	V _k [m/s]										1,4	1,7	2	2,3	2,6	2,9					
	Δp _t [Pa]										20	29	39	51	65	80					
H=200	400x200 (0,064)	L _{WA} [dB(A)]						<20	<20	22	28	33									
		V _k [m/s]							1,7	2	2,2	2,6	3								
		Δp _t [Pa]							28	36	45	64	87								
	500x200 (0,08)	L _{WA} [dB(A)]								<20	<20	21	26	31	35						
		V _k [m/s]								1,6	1,7	2,1	2,4	2,8	3,1						
		Δp _t [Pa]								23	28	40	55	72	91						
	600x200 (0,097)	L _{WA} [dB(A)]									<20	<20	21	25	29	33					
V _k [m/s]										1,4	1,7	2	2,3	2,6	2,9						
Δp _t [Pa]										19	28	37	49	62	77						
800x200 (0,131)	L _{WA} [dB(A)]										<20	<20	21	24	31	38					
	V _k [m/s]										1,5	1,7	1,9	2,1	2,7	3,2					
	Δp _t [Pa]										21	27	35	43	67	96					
H=300	500x300 (0,123)	L _{WA} [dB(A)]										<20	<20	23	26	33					
		V _k [m/s]											1,6	1,8	2	2,3	2,8				
		Δp _t [Pa]											23	30	38	47	74				
	600x300 (0,148)	L _{WA} [dB(A)]												<20	<20	21	28	34	39		
		V _k [m/s]												1,5	1,7	1,9	2,3	2,8	3,3		
800x300 (0,198)	L _{WA} [dB(A)]														<20	20	26	31	35		
	V _k [m/s]															1,4	1,8	2,1	2,5	2,8	
	Δp _t [Pa]															18	28	40	55	72	

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

Data valid for:

- Extract air

Total pressure loss with clean filter G3 class.

Terminology:

- A_k = effective free area
- v_k = effective face velocity
- Δp_t = total pressure loss
- L_{WA} = sound power level
- I_{0,2} = throw to terminal velocity at 0.2 m/s

Grille

AF

Quick selection, Extract air, AF 13

Grille size [mm]			Air flow rate																	
A _k [m ²]	m ³ /h l/s	[dB(A)]	30	50	100	150	200	250	300	350	400	500	600	700	800	900	1000	1200	1400	1600
			(8)	(14)	(28)	(42)	(56)	(69)	(83)	(97)	(111)	(139)	(167)	(194)	(222)	(250)	(278)	(333)	(389)	(444)
H=100	200x100 (0,003)	L _{WA} [dB(A)]	29	43																
		V _k [m/s]	3,1	5,4																
		Δp _t [Pa]	7	20																
	300x100 (0,004)	L _{WA} [dB(A)]	<20	32	48															
		V _k [m/s]	1,9	3,4	6,8															
		Δp _t [Pa]	3	10	39															
	400x100 (0,006)	L _{WA} [dB(A)]	<20	24	41	50														
V _k [m/s]		1,4	2,5	5	7,4															
Δp _t [Pa]		2	6	23	52															
500x100 (0,007)	L _{WA} [dB(A)]		<20	35	44															
	V _k [m/s]		2	3,9	5,9															
	Δp _t [Pa]		4	16	35															
600x100 (0,009)	L _{WA} [dB(A)]		<20	30	40	47														
	V _k [m/s]		1,6	3,2	4,8	6,4														
	Δp _t [Pa]		3	11	25	45														
800x100 (0,012)	L _{WA} [dB(A)]			23	33	40	45	49												
	V _k [m/s]			2,4	3,6	4,8	5,9	7,1												
	Δp _t [Pa]			7	15	27	41	59												
H=150	300x150 (0,009)	L _{WA} [dB(A)]		<20	29	38	45	50												
		V _k [m/s]		1,5	3	4,5	6	7,4												
		Δp _t [Pa]		3	13	29	51	77												
	400x150 (0,013)	L _{WA} [dB(A)]			22	31	38	43	47											
		V _k [m/s]			2,2	3,3	4,4	5,4	6,5											
		Δp _t [Pa]			7	16	29	44	64											
	500x150 (0,016)	L _{WA} [dB(A)]			<20	26	32	37	41	45	48									
V _k [m/s]				1,7	2,6	3,5	4,3	5,1	6	6,9										
Δp _t [Pa]				5	11	19	29	42	57	75										
600x150 (0,02)	L _{WA} [dB(A)]			<20	21	28	33	37	41	44	49									
	V _k [m/s]			1,4	2,1	2,9	3,5	4,2	5	5,7	7,1									
	Δp _t [Pa]			3	8	13	20	30	40	53	83									
800x150 (0,026)	L _{WA} [dB(A)]				<20	21	26	30	34	37	42	46	50							
	V _k [m/s]				1,6	2,1	2,6	3,1	3,7	4,2	5,3	6,3	7,3							
	Δp _t [Pa]				4	8	12	17	23	31	48	70	94							
H=200	400x200 (0,02)	L _{WA} [dB(A)]			<20	21	28	32	37	40	44	49								
		V _k [m/s]			1,4	2,1	2,8	3,5	4,2	4,9	5,6	7								
		Δp _t [Pa]			4	8	15	22	32	44	57	90								
	500x200 (0,025)	L _{WA} [dB(A)]				<20	22	27	31	35	38	43	47							
		V _k [m/s]				1,7	2,2	2,7	3,3	3,9	4,4	5,5	6,7							
		Δp _t [Pa]				5	9	14	21	28	37	58	84							
	600x200 (0,03)	L _{WA} [dB(A)]				<20	<20	22	27	30	33	39	43	47						
V _k [m/s]					1,4	1,8	2,3	2,7	3,2	3,6	4,6	5,5	6,4							
Δp _t [Pa]					4	7	10	15	20	26	41	59	80							
800x200 (0,041)	L _{WA} [dB(A)]					<20	<20	20	23	26	32	36	40	43	45	48				
	V _k [m/s]					1,4	1,7	2	2,4	2,7	3,4	4,1	4,7	5,4	6,1	6,8				
	Δp _t [Pa]					4	6	8	11	15	24	34	46	60	76	94				
H=300	500x300 (0,043)	L _{WA} [dB(A)]					<20	<20	22	25	31	35	38	42	44	47				
		V _k [m/s]					1,6	1,9	2,3	2,6	3,2	3,9	4,5	5,2	5,8	6,5				
		Δp _t [Pa]					6	8	11	15	23	34	46	60	76	94				
	600x300 (0,052)	L _{WA} [dB(A)]					<20	<20	<20	21	26	30	34	37	40	42	47			
		V _k [m/s]					1,3	1,6	1,9	2,1	2,7	3,2	3,7	4,3	4,8	5,3	6,4			
		Δp _t [Pa]					4	6	8	10	16	24	32	42	53	66	94			
	800x300 (0,071)	L _{WA} [dB(A)]								<20	<20	<20	23	27	30	33	35	40	43	46
V _k [m/s]									1,4	1,6	2	2,4	2,8	3,1	3,5	3,9	4,7	5,5	6,3	
Δp _t [Pa]									5	6	9	14	18	24	30	38	54	74	96	

10 ≤ L_{WA} < 30 30 ≤ L_{WA} < 40 40 ≤ L_{WA} < 50

Data valid for:

- Extract air

Total pressure loss with clean filter G3 class.

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

Grille

AF

Technical data

Capacity

Air flow rate q_v [l/s] and [m³/h], total pressure loss Δ_{pt} [Pa] 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 diagram. The sound power levels apply for grilles without an opposed blade damper.

Frequency-related sound power level

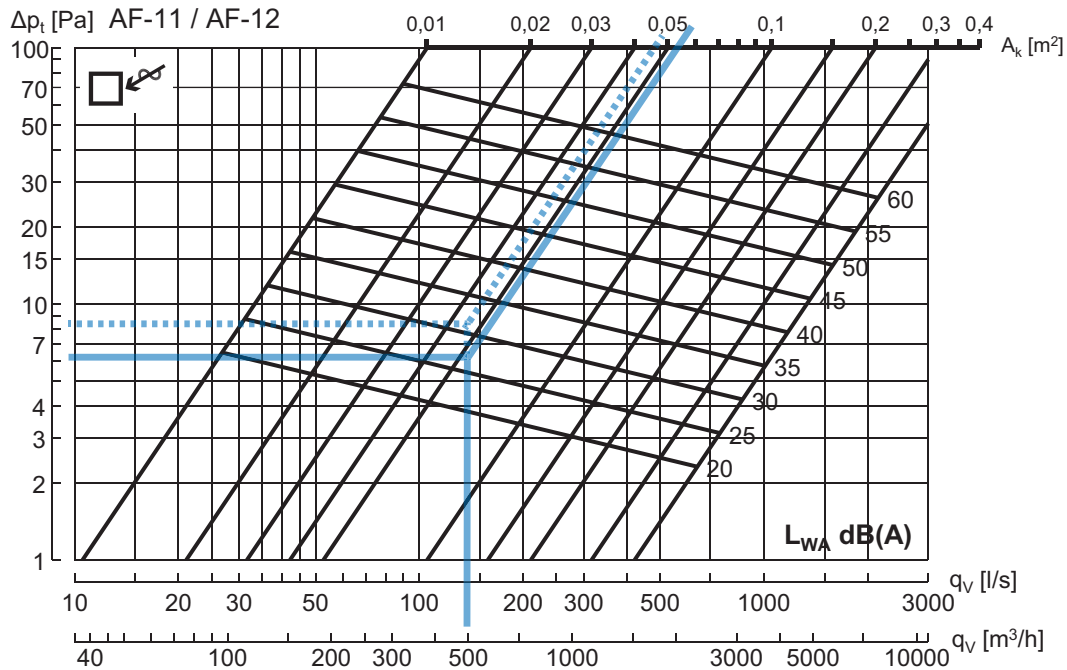
The sound power level in the frequency band is defined as

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

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

	Centre frequency Hz							
	63	125	250	500	1K	2K	4K	8K
Extract	-2	-1	-4	-7	-6	-6	-16	-22

Technical data



Example 1: AF-11 (Full blue line in diagram)

Grille size (LxH): 400x150 mm
 Free area A_k : 0.052 [m²]
 Air flow rate q_v : 500 m³/h (139 l/s)

Result:

Sound power level L_{WA} : ~28 dB(A)
 Total pressure loss Δp_t : ~ 6 pa*

* Δp_t results for extract air without filter.
 For results with filter, go to relevant Quick selection table or www.lindQST.com.

Data valid for:

- Extract air, (Filter not included).

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

Example 2: AF-12 (Dotted blue line in diagram)

Grille size (LxH): 400x150 mm
 Free area A_k : 0.047 [m²]
 Air flow rate q_v : 500 m³/h (139 l/s)

Result:

Sound power level L_{WA} : ~31 dB(A)
 Total pressure loss Δp_t : ~ 8 pa*

* Δp_t results for extract air without filter.
 For results with filter, go to relevant Quick selection table or www.lindQST.com.

Data valid for:

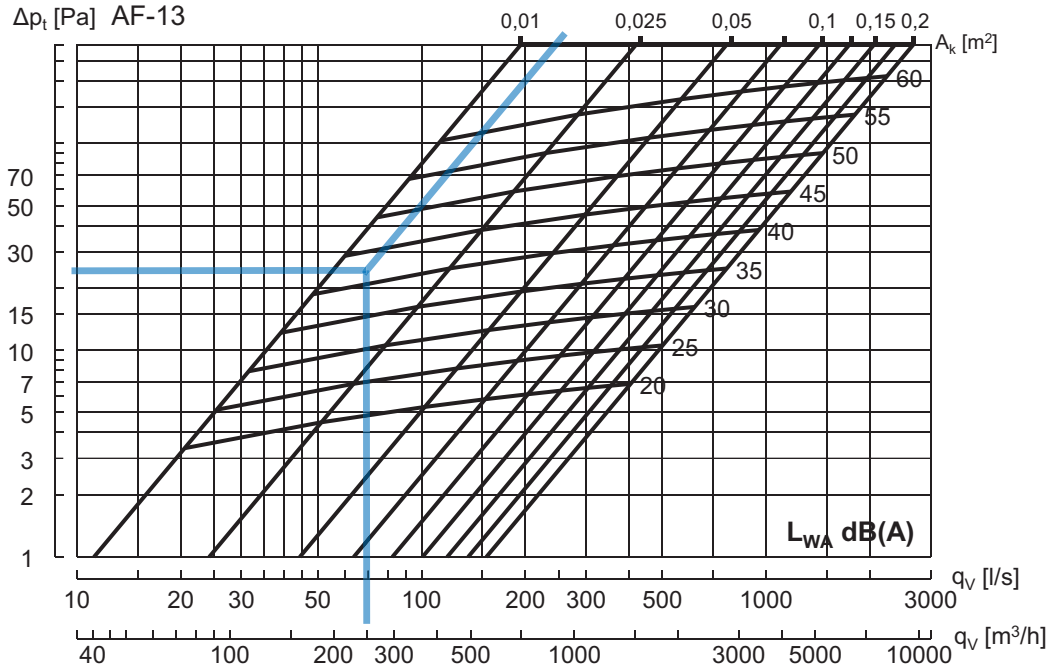
- Extract air, (Filter not included).

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

Grille

AF

Technical data



Example 1: AF-13 (Dotted blue line in diagram)

Grille size (LxH): 400x150 mm
 Free area A_k : 0.013 [m²]
 Air flow rate q_v : 250 m³/h (69 l/s)

Result:

Sound power level L_{WA} : ~ 43 dB(A)
 Total pressure loss Δp_t : ~ 25 pa*

* Δp_t results for extract air without filter.

For results with filter, go to relevant Quick selection table or www.lindQST.com.

Data valid for:

- Extract air, (Filter not included).

For grilles with free area > 0.2 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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