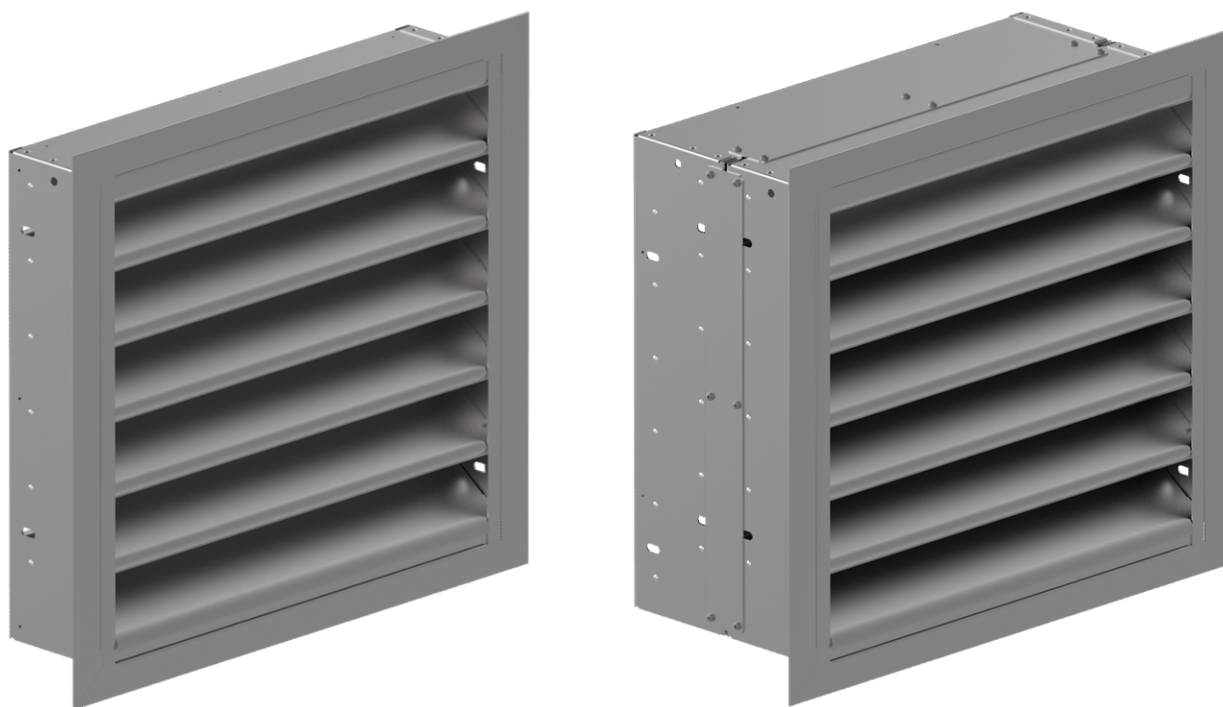


GF14F - GF28F ZN



Acoustic louvre for external air intake single 140mm depth or double 280mm depth in galvanized steel



ACOUSTIC

Description and application:

Acoustic louvre with fixed, sound attenuating blades, designed to allow airflow while providing effective noise attenuation. It is ideal for applications where is necessary to limit sound transmission between adjacent environments or towards the outside.

It is used in building ventilation systems to combine air passage with noise reduction.

Suitable for installation on walls, ducts, or at external air intakes, for both civil and industrial applications.

Construction:

- Execution made of Z200 galvanized steel;
- Frame thickness 1,5 mm, riveted, depth 140 mm;
- Perimetral flange 40mm undrilled, thickness 1,5mm;
- Fixed blades pitch 100 mm, riveted, thickness 1 mm;
- Blades with special profile to contain the sound-absorbing material, rounded at the ends for better airflow distribution;
- Sound-absorbing material in rock mineral wool, density 100 kg/m³, thickness 25mm, with black glass fiber fabric VDI6022;
- Final bottom blade with special drip profile;
- Silicon free.

Available executions:

- Anti-bird mesh, square pattern Q=12x12 (R version);
- Anti-insect mesh, diamond pattern size 3x2,2 in AISI304;
- Removable side lifting eyebolts;
- Double depth execution 280mm (GF28F model);
- Execution made of stainless steel AISI304 finishing 2B (X4 version) / AISI316L finitshing 2B (X6 version) / natural aluminium EN AW 5754 H111 (AN version);
- Powder-coated finishing (available only for galvanized steel or aluminum versions).

Operating limits:

- Dimensions WxH: min 300x300 mm / max 1700x1500mm. Single pieces with $A_{max} = 2,6m^2$ with limits $H \leq 2000$ mm / $B \leq 1700$ mm;
- Temperature range: from -20* to +150 °C;
- Dimensional drawing and weight: page 4;
- Max front Velocity: 3 m/s (see **Note** page 6);
- Performance, graph and tests: page 6.

* Negative temperature is achievable only if ice formation is prevented.

Certifications and Testing:

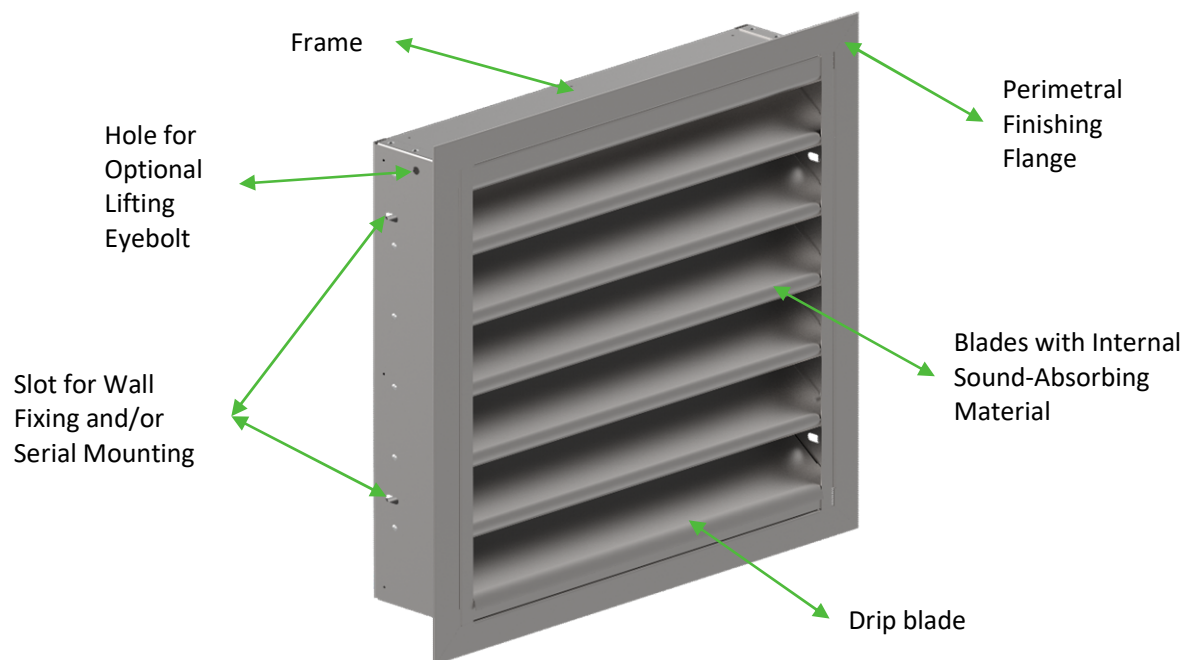
- Sound absorbing material with Euroclass A1 fire resistance in accordance with EN 13501;
- Transmission Loss tests carried out in accordance with ISO 15186 and ISO 717 at Almacoustic laboratory (test report no. A250044-01/B);
- Acoustic absorbtion tests carried out in accordance with ISO 354 at Almacoustic laboratory (test report no. A250044-02/B);
- Regenerated noise and pressure loss test carried out in accordance with ISO 7235 and ISO 5135 at Almacoustic laboratory (test report no. A250044-03/B).



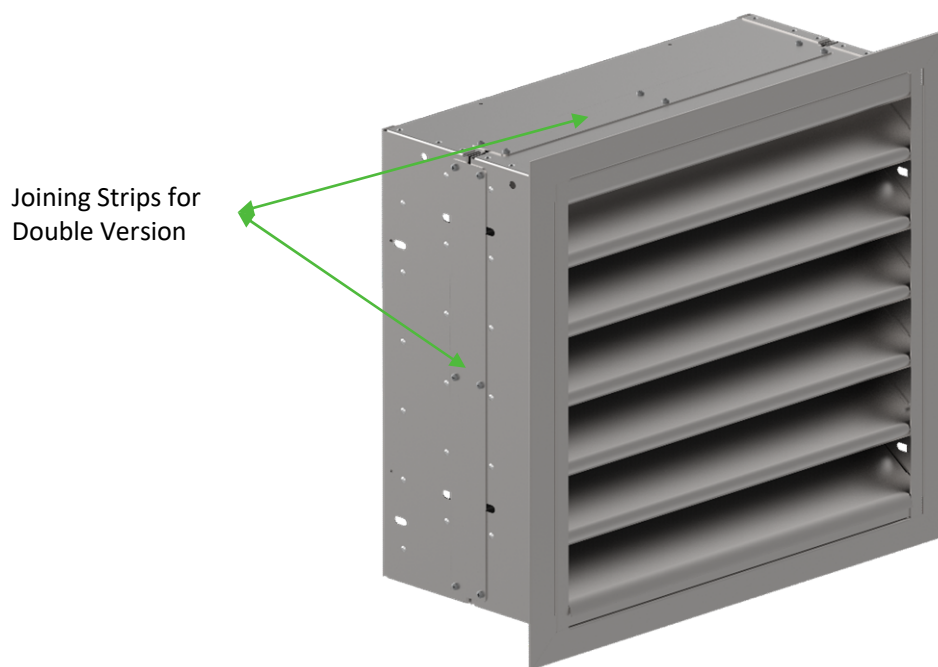
GF14F - GF28F ZN

Acoustic louvre for external air intake single 140mm depth or double 280mm depth in galvanized steel

Additional Construction Details GF14F



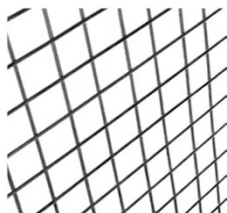
Additional Construction Details GF28F



Option and Available Accessories:

Optional Protection Mesh (Rear on the GF14 and Central on the GF28)

Anti-bird mesh with square pattern
Q = 12x12;



Anti-insect mesh with diamond pattern
size = 3x2,2 in AISI304;



Lifting

Paire of removable side eyebolts;

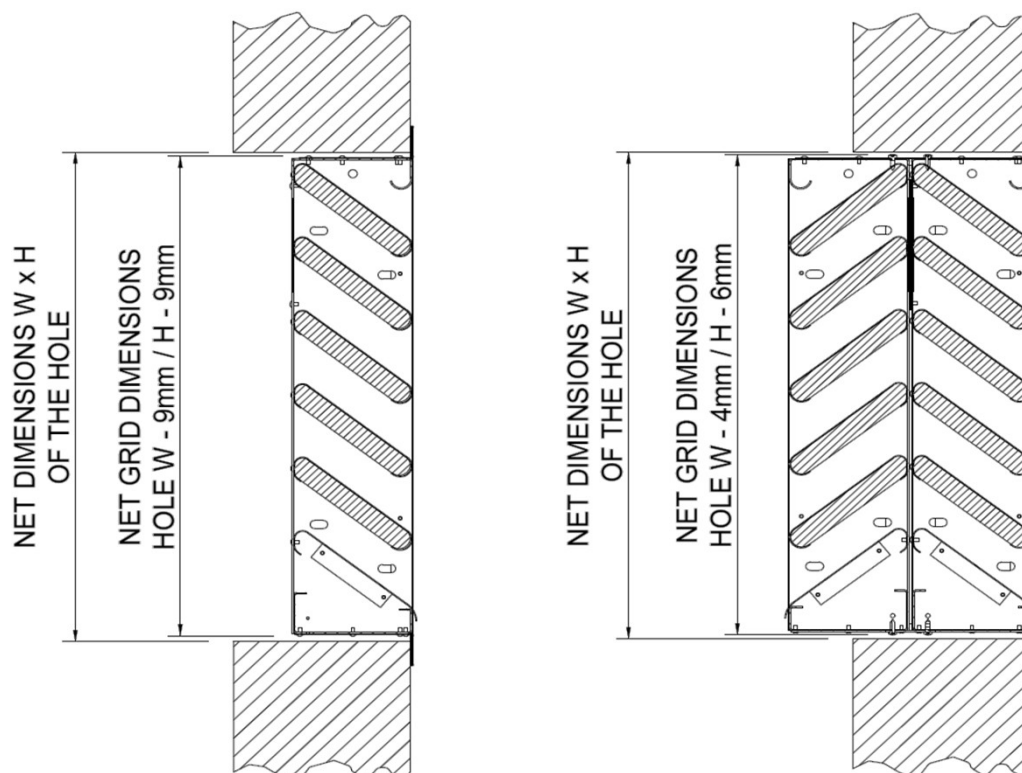




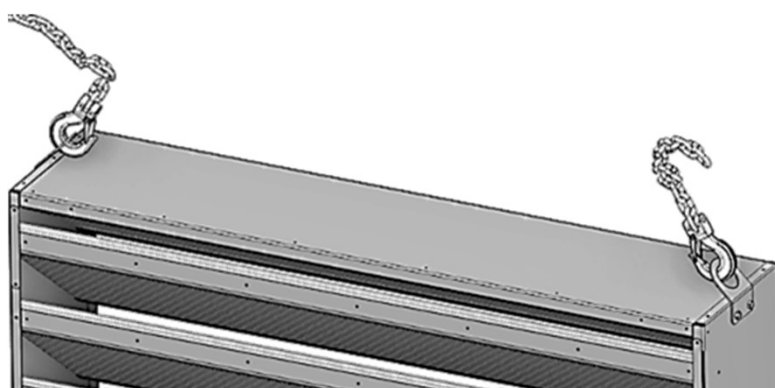
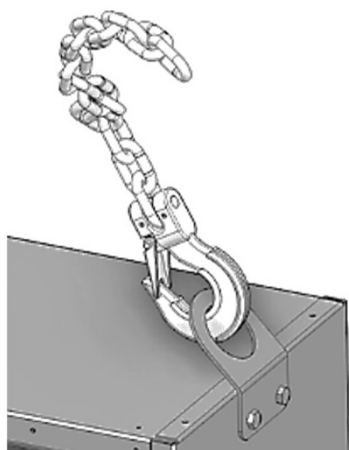
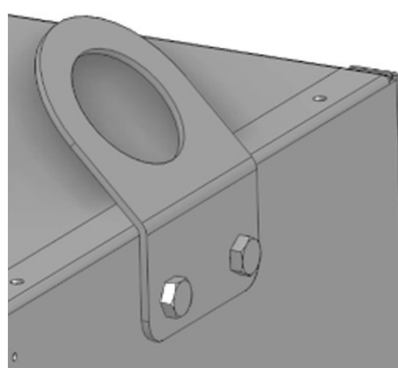
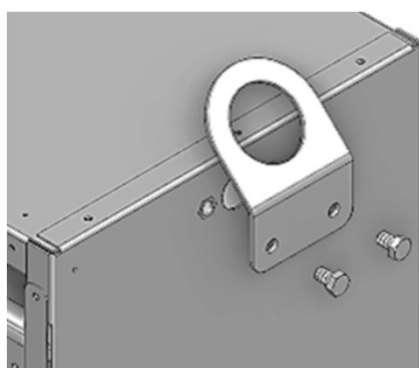
GF14F - GF28F ZN

Acoustic louvre for external air intake single 140mm depth or double 280mm depth in galvanized steel

Louvre Installation Type



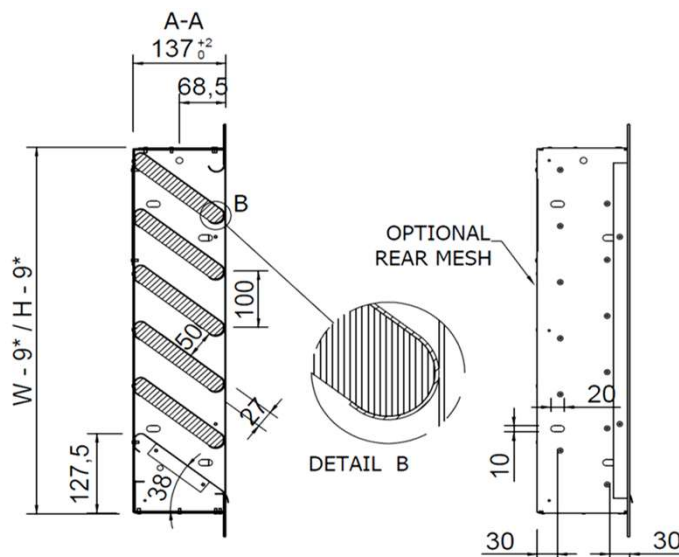
Mounting and Lifting Type with Optional Eyebolts (chains and slings not included)



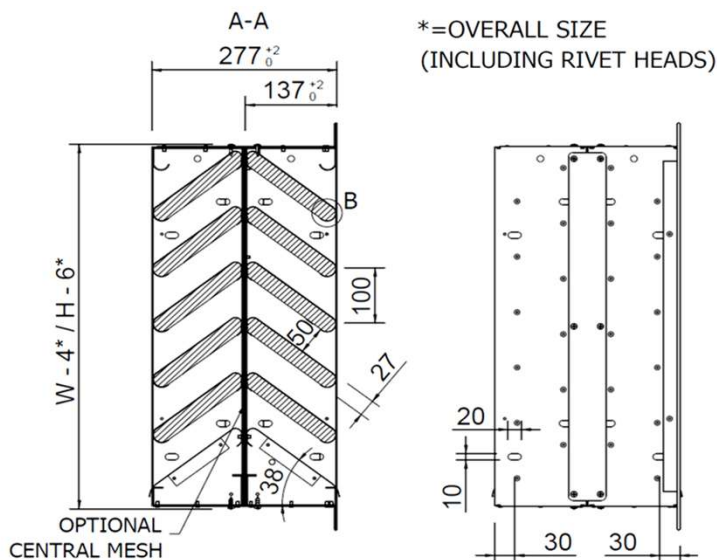


Dimensional Drawing and Standard Size Table (size in mm, always referred to the wall hole)

Technical drawing of a rectangular frame. The overall width is labeled $W + 65$ and the overall height is labeled $H + 65$. The inner width is labeled $W - 15$ and the inner height is labeled $H - 15$. The frame has a double-line border with a thickness of 40 units on all sides. A vertical dashed line and a horizontal dashed line intersect at the center, with arrows labeled 'A' pointing outwards from the center, indicating a section line.



Technical drawing of a rectangular frame. The overall width is labeled $W + 65$ and the overall height is labeled $H + 65$. The inner width is labeled $W - 15$ and the inner height is labeled $H - 15$. The frame has a double-line border. The top and bottom borders are labeled A with arrows pointing to them. The left and right borders are labeled 40 with arrows pointing to them. The frame is divided into six horizontal sections by five internal lines.



*=OVERALL SIZE
(INCLUDING RIVET HEADS)

mm	Dimensional Table and Related Weights GF14F ZN [Kg]																	
W\H	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
300	6,0	7,2	8,3	9,5	10,7	11,8	13,0	14,2	15,3	16,5	17,7	18,8	20,0	21,2	22,3	23,5	24,7	25,8
400	7,3	8,7	10,0	11,4	12,8	14,1	15,5	16,8	18,2	19,6	20,9	22,3	23,7	25,0	26,4	27,8	29,1	30,5
500	8,6	10,1	11,7	13,3	14,8	16,4	18,0	19,5	21,1	22,7	24,2	25,8	27,4	28,9	30,5	32,1	33,6	35,2
600	9,9	11,6	13,4	15,2	16,9	18,7	20,4	22,2	24,0	25,7	27,5	29,3	31,0	32,8	34,6	36,3	38,1	39,9
700	11,1	13,1	15,1	17,0	19,0	21,0	22,9	24,9	26,9	28,8	30,8	32,8	34,7	36,7	38,6	40,6	42,6	44,5
800	12,4	14,6	16,8	18,9	21,1	23,2	25,4	27,6	29,7	31,9	34,1	36,2	38,4	40,6	42,7	44,9	47,0	49,2
900	13,7	16,1	18,4	20,8	23,2	25,5	27,9	30,3	32,6	35,0	37,3	39,7	42,1	44,4	46,8	49,2	51,5	53,9
1000	15,0	17,6	20,1	22,7	25,3	27,8	30,4	32,9	35,5	38,1	40,6	43,2	45,8	48,3	50,9	53,4	56,0	58,6
1100	16,3	19,0	21,8	24,6	27,3	30,1	32,9	35,6	38,4	41,1	43,9	46,7	49,4	52,2	55,0	57,7	60,5	63,2
1200	17,6	20,5	23,5	26,5	29,4	32,4	35,3	38,3	41,3	44,2	47,2	50,1	53,1	56,1	59,0	62,0	65,0	67,9
1300	18,9	22,0	25,2	28,3	31,5	34,7	37,8	41,0	44,1	47,3	50,5	53,6	56,8	59,9	63,1	66,3	69,4	72,6
1400	20,1	23,5	26,9	30,2	33,6	36,9	40,3	43,7	47,0	50,4	53,7	57,1	60,5	63,8	67,2	70,5		
1500	21,4	25,0	28,5	32,1	35,7	39,2	42,8	46,3	49,9	53,5	57,0	60,6	64,1	67,7	71,3			
1600	22,7	26,5	30,2	34,0	37,8	41,5	45,3	49,0	52,8	56,5	60,3	64,1	67,8	71,6				
1700	24,0	28,0	31,9	35,9	39,8	43,8	47,8	51,7	55,7	59,6	63,6	67,5	71,5					

Note : for double depth execution, GF28F model, multiply the table values by 2.



GF14F - GF28F ZN

Acoustic louvre for external air intake single 140mm depth or double 280mm depth in galvanized steel

mm	Nominal Area Dimensional Table GF14 - GF28 [m ²]																	
W\H	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
300	0,09	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,33	0,36	0,39	0,42	0,45	0,48	0,51	0,54	0,57	0,60
400	0,12	0,16	0,20	0,24	0,28	0,32	0,36	0,40	0,44	0,48	0,52	0,56	0,60	0,64	0,68	0,72	0,76	0,80
500	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50	0,55	0,60	0,65	0,70	0,75	0,80	0,85	0,90	0,95	1,00
600	0,18	0,24	0,30	0,36	0,42	0,48	0,54	0,60	0,66	0,72	0,78	0,84	0,90	0,96	1,02	1,08	1,14	1,20
700	0,21	0,28	0,35	0,42	0,49	0,56	0,63	0,70	0,77	0,84	0,91	0,98	1,05	1,12	1,19	1,26	1,33	1,40
800	0,24	0,32	0,40	0,48	0,56	0,64	0,72	0,80	0,88	0,96	1,04	1,12	1,20	1,28	1,36	1,44	1,52	1,60
900	0,27	0,36	0,45	0,54	0,63	0,72	0,81	0,90	0,99	1,08	1,17	1,26	1,35	1,44	1,53	1,62	1,71	1,80
1000	0,30	0,40	0,50	0,60	0,70	0,80	0,90	1,00	1,10	1,20	1,30	1,40	1,50	1,60	1,70	1,80	1,90	2,00
1100	0,33	0,44	0,55	0,66	0,77	0,88	0,99	1,10	1,21	1,32	1,43	1,54	1,65	1,76	1,87	1,98	2,09	2,20
1200	0,36	0,48	0,60	0,72	0,84	0,96	1,08	1,20	1,32	1,44	1,56	1,68	1,80	1,92	2,04	2,16	2,28	2,40
1300	0,39	0,52	0,65	0,78	0,91	1,04	1,17	1,30	1,43	1,56	1,69	1,82	1,95	2,08	2,21	2,34	2,47	2,60
1400	0,42	0,56	0,70	0,84	0,98	1,12	1,26	1,40	1,54	1,68	1,82	1,96	2,10	2,24	2,38	2,52		
1500	0,45	0,60	0,75	0,90	1,05	1,20	1,35	1,50	1,65	1,80	1,95	2,10	2,25	2,40	2,55			
1600	0,48	0,64	0,80	0,96	1,12	1,28	1,44	1,60	1,76	1,92	2,08	2,24	2,40	2,56				
1700	0,51	0,68	0,85	1,02	1,19	1,36	1,53	1,70	1,87	2,04	2,21	2,38	2,55					

mm	Real Net Free Airflow Area Table GF14 - GF28 [m ²]																	
W\H	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
300	0,03	0,04	0,06	0,07	0,09	0,10	0,11	0,13	0,14	0,16	0,17	0,19	0,20	0,21	0,23	0,24	0,26	0,27
400	0,04	0,06	0,08	0,10	0,12	0,13	0,15	0,17	0,19	0,21	0,23	0,25	0,27	0,29	0,31	0,33	0,35	0,37
500	0,05	0,07	0,10	0,12	0,15	0,17	0,19	0,22	0,24	0,27	0,29	0,32	0,34	0,36	0,39	0,41	0,44	0,46
600	0,06	0,09	0,12	0,15	0,18	0,20	0,23	0,26	0,29	0,32	0,35	0,38	0,41	0,44	0,47	0,50	0,53	0,56
700	0,07	0,10	0,14	0,17	0,21	0,24	0,27	0,31	0,34	0,38	0,41	0,45	0,48	0,51	0,55	0,58	0,62	0,65
800	0,08	0,12	0,16	0,20	0,24	0,27	0,31	0,35	0,39	0,43	0,47	0,51	0,55	0,59	0,63	0,67	0,71	0,75
900	0,09	0,13	0,18	0,22	0,27	0,31	0,35	0,40	0,44	0,49	0,53	0,58	0,62	0,66	0,71	0,75	0,80	0,84
1000	0,10	0,15	0,20	0,25	0,30	0,34	0,39	0,44	0,49	0,54	0,59	0,64	0,69	0,74	0,79	0,84	0,89	0,94
1100	0,11	0,16	0,22	0,27	0,33	0,38	0,43	0,49	0,54	0,60	0,65	0,71	0,76	0,81	0,87	0,92	0,98	1,03
1200	0,12	0,18	0,24	0,30	0,36	0,41	0,47	0,53	0,59	0,65	0,71	0,77	0,83	0,89	0,95	1,01	1,07	1,13
1300	0,13	0,19	0,26	0,32	0,39	0,45	0,51	0,58	0,64	0,71	0,77	0,84	0,90	0,96	1,03	1,09	1,16	1,22
1400	0,14	0,21	0,28	0,35	0,42	0,48	0,55	0,62	0,69	0,76	0,83	0,90	0,97	1,04	1,11	1,18		
1500	0,15	0,22	0,30	0,37	0,45	0,52	0,59	0,67	0,74	0,82	0,89	0,97	1,04	1,11	1,19			
1600	0,16	0,24	0,32	0,40	0,48	0,55	0,63	0,71	0,79	0,87	0,95	1,03	1,11	1,19				
1700	0,17	0,25	0,34	0,42	0,51	0,59	0,67	0,76	0,84	0,93	1,01	1,10	1,18					

Note : If the louvre is equipped with the optional rear anti-bird mesh (square pattern 12×12, 75% open area ratio), reduce the table values by 25%.

If the louvre is equipped with the optional rear anti-insect mesh (diamond pattern 3×2.2, 60% open area ratio), reduce the values by 40%.

mm	Percentage Difference Between Nominal Area and Net free Airflow Area Table GF14 - GF28 [%]																	
H	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
%	32%	36%	38%	40%	41%	42%	42%	43%	43%	44%	44%	44%	44%	45%	45%	45%	45%	45%



GF14F - GF28F ZN

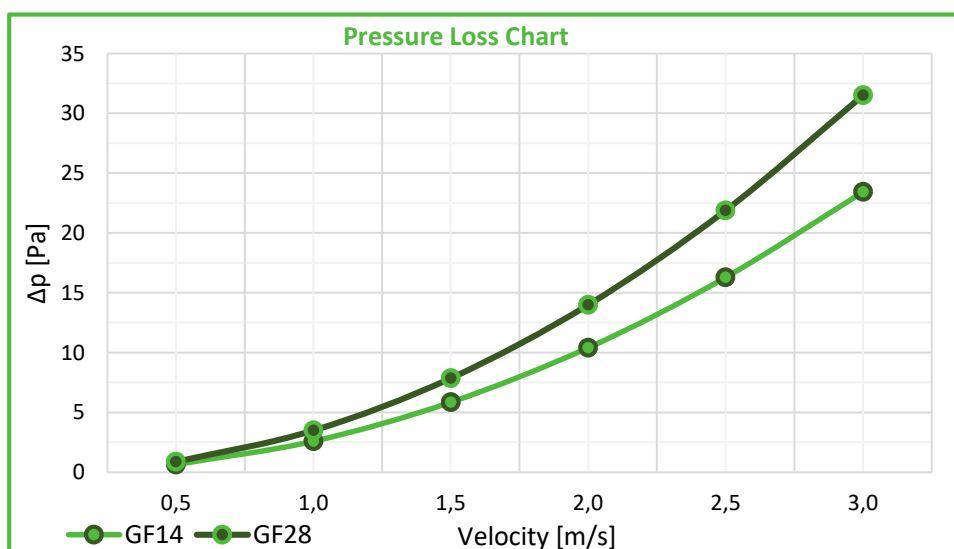
Acoustic louvre for external air intake single 140mm depth or double 280mm depth in galvanized steel

LOUVRE MODEL	Attenuation Table (in accordance ISO 5135)									Sound Insulation (in accordance ISO 717)
	Frequency [Hz]									Rw (C;Ctr;C ₅₀₋₃₁₅₀ ;Ctr ₅₀₋₃₁₅₀)
	63	125	250	500	1000	2000	4000	8000		
SINGLE GF14	4	4	5	6	9	12	12	13	dB	9 (0; -1; 0; -1)
DOUBLE GF28	6	6	6	8	15	23	21	22	dB	14 (-1; 3; -1; 4)

LOUVRE MODEL		Sound Absorption Coefficients Table (in accordance ISO 15186 and ISO 717)								
		Frequency [Hz]								α_w
		63	125	250	500	1000	2000	4000	8000	
SINGLE GF14	α_s	0,03	0,08	0,35	0,62	0,74	0,81	0,68	0,48	0,6
DOUBLE GF28	α_s	0,14	0,35	0,59	0,79	0,89	0,84	0,73	0,56	0,85

Regenerated Noise Table (in accordance ISO 5135)										
LOUVRE MODEL	V [m/s]	Frequency [Hz] and noise data [dB]								Overall [dB(A)]
		63	125	250	500	1000	2000	4000	8000	
SINGLE GF14	0,5	28,1	25,4	<20	<20	<20	<20	<20	22,7	23,6
	1,0	34,2	26,9	<20	<20	<20	<20	<20	22,6	23,8
	1,5	37,5	32,8	22,3	<20	<20	<20	<20	22,6	25,2
	2,0	40,7	41,7	33,6	27,5	<20	<20	<20	22,7	30,7
	3,0	48,8	46,8	45,7	40,8	36,0	27,4	<20	23,4	42,4
DOUBLE GF28	0,5	27,6	25,7	<20	<20	<20	<20	<20	22,7	23,6
	1,0	33,6	29,5	<20	<20	<20	<20	<20	22,6	24,1
	1,5	38,8	36,9	31,4	26,4	<20	<20	<20	22,6	28,8
	2,0	43,5	42,1	42,0	36,5	26,3	<20	<20	22,7	36,9
	3,0	54,2	51,5	54,6	49,5	42,7	33,2	25,8	24,4	50,4

Pressure Loss Table (in accordance ISO 7235)		
LOUVRE MODEL	Front Vel. [m/s]	Δp [Pa]
SINGLE GF14	0,5	1
	1,0	3
	1,5	6
	2,0	10
	3,0	23
DOUBLE GF28	0,5	1
	1,0	4
	1,5	8
	2,0	14
	3,0	32



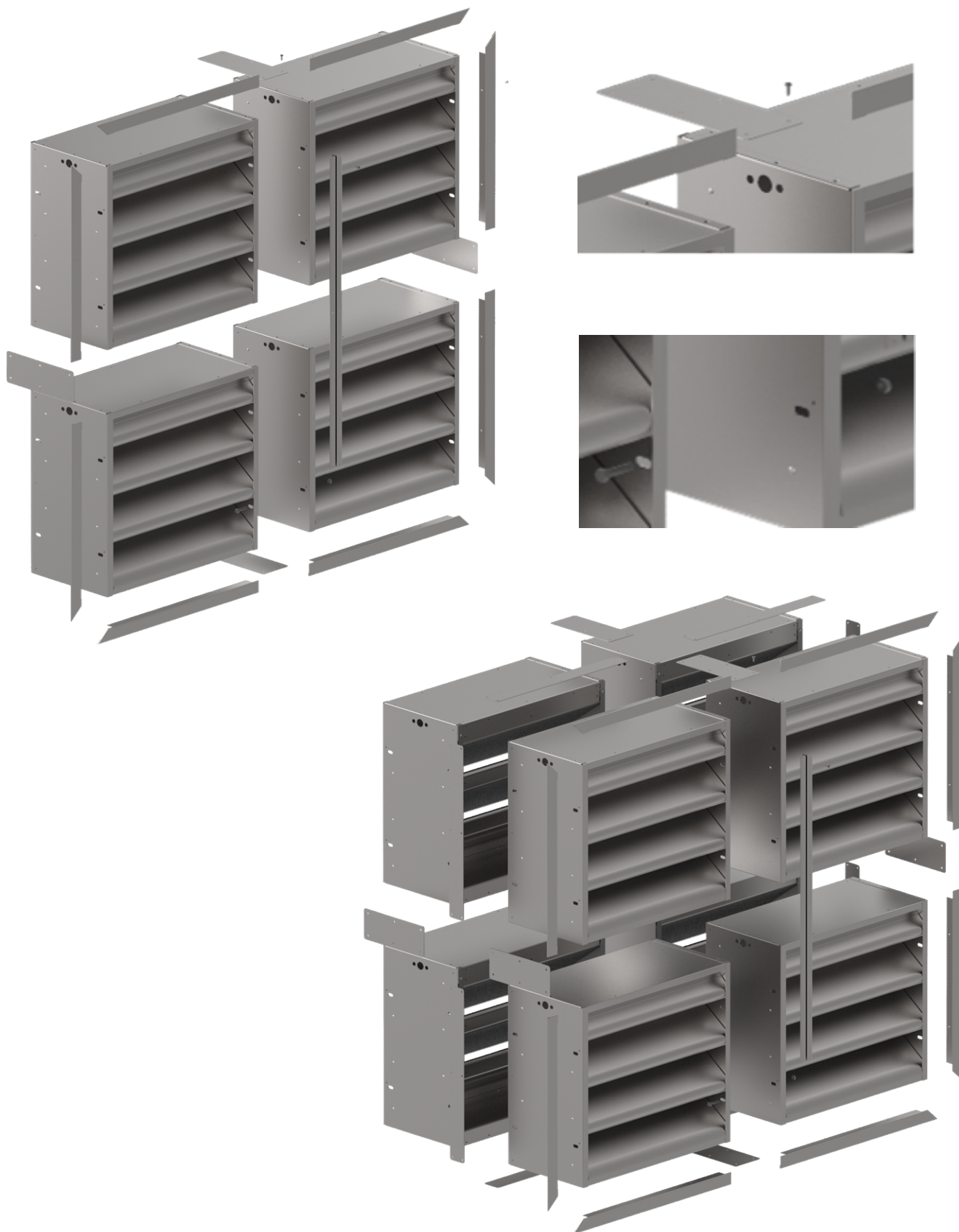
Note: The 3 m/s limit is related to water droplet carryover. Laboratory tests show that up to this velocity, droplets flow by gravity along the blade profile. Between 3.2 and 3.5 m/s, droplets begin to climb the profile and pass through the grille, a phenomenon that increases above 3.7 m/s.



GF14F - GF28F ZN

Acoustic louvre for external air intake single 140mm depth or double 280mm depth in galvanized steel

Illustration of Special Execution Divided in Pieces with Joining Plates Kit



AZIENDA CON SISTEMA
DI GESTIONE QUALITÀ
CERTIFICATO DA DNV GL
ISO 9001

AZIENDA CON
SISTEMA DI GESTIONE
AMBIENTALE CERTIFICATO
DA DNV
ISO 14001



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