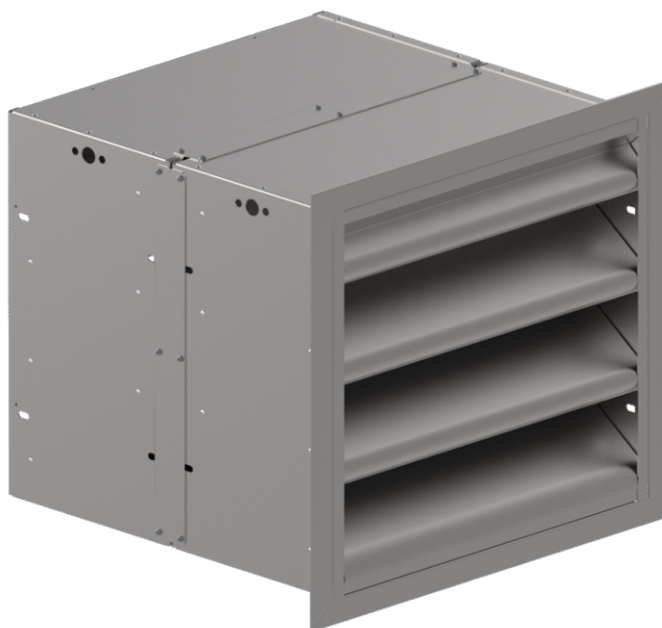


GF3F - GF6F ZN



Acoustic louvre for external air intake single 300mm depth or double 600mm 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 300 mm;
- Perimetral flange 40mm undrilled, thickness 1,5 mm;
- Fixed blades pitch 150 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 50 kg/m³, thickness 50mm, with black glass fiber veil;
- Micro-expanded mesh on each individual blade to protect the glass veil and sound-absorbing material;
- Final bottom blade with special drip edge 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 600mm (**GF6F** model);
- Execution made of stainless steel AISI304 finishing 2B (**X4** version) / AISI316L finishing 2B (**X6** version) / natural aluminium EN AW 5754 H111 (**AN** version);
- Powder-coated finish (available only for galvanized steel or aluminum versions).

Operating limits:

- Dimensions WxH: min 300x450 mm / max 2000x2250mm. Single pieces with $A_{max} = 4,6m^2$ with limit $H \leq 2850$ mm / $B \leq 2000$ 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, chart and tests: page 6.

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

Certifications and Testing:

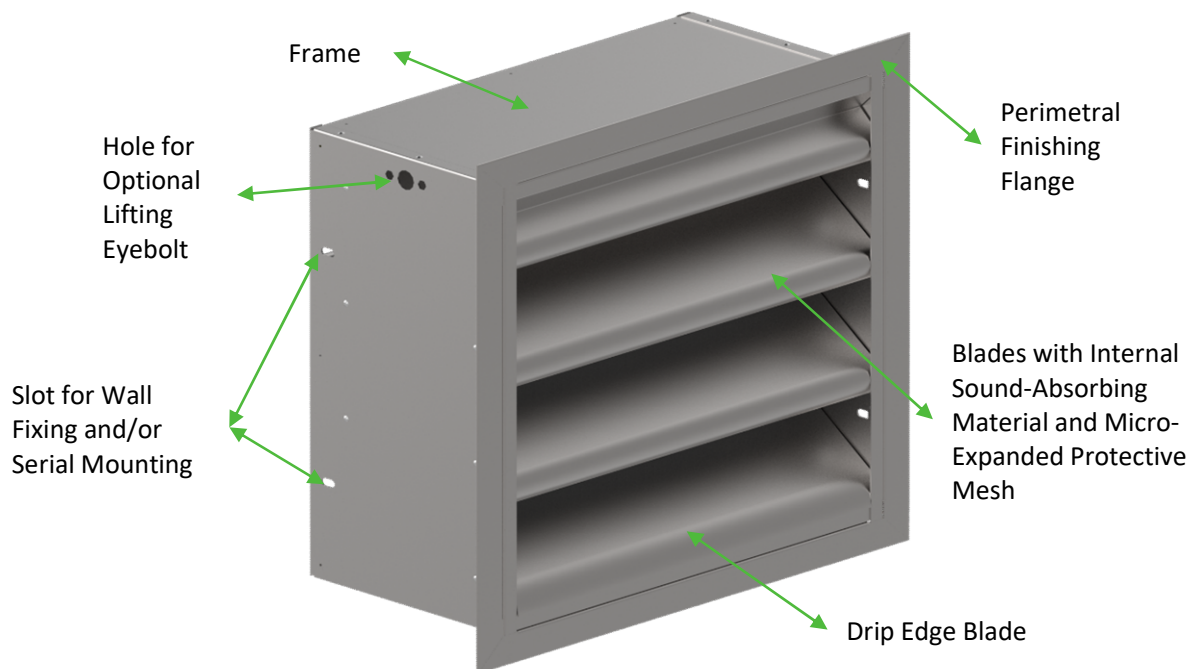
- Sound absorbing material with Euroclass A1 fire resistance in accordance with EN 13501;
- Transmission Loss tests carried out in accordance ISO 15186 and ISO 717 at Almacoustic laboratory (test report no. A250044-01/B);
- Acoustic absorption tests carried out in accordance with ISO 354 at Almacoustic 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).



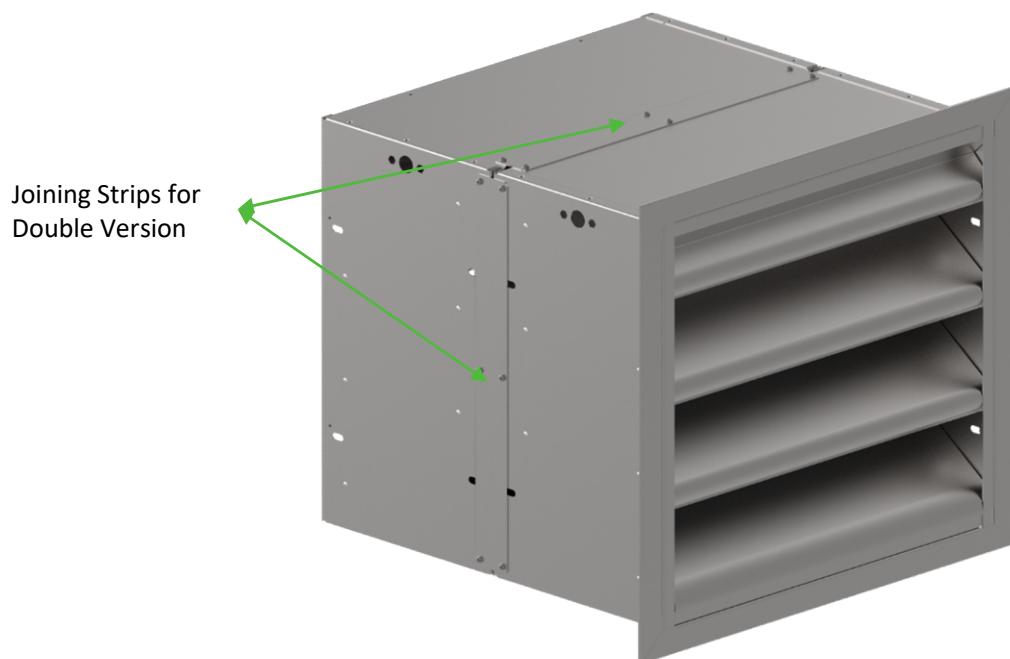
GF3F - GF6F ZN

Acoustic louvre for external air intake single 300mm depth or double 600mm depth in galvanized steel

Additional Construction Details GF3F



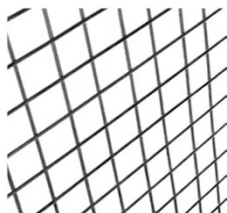
Additional Construction Details GF6F



Option and Available Accessories

Optional Protection Mesh (Rear on the GF3 and Central on the GF6)

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;

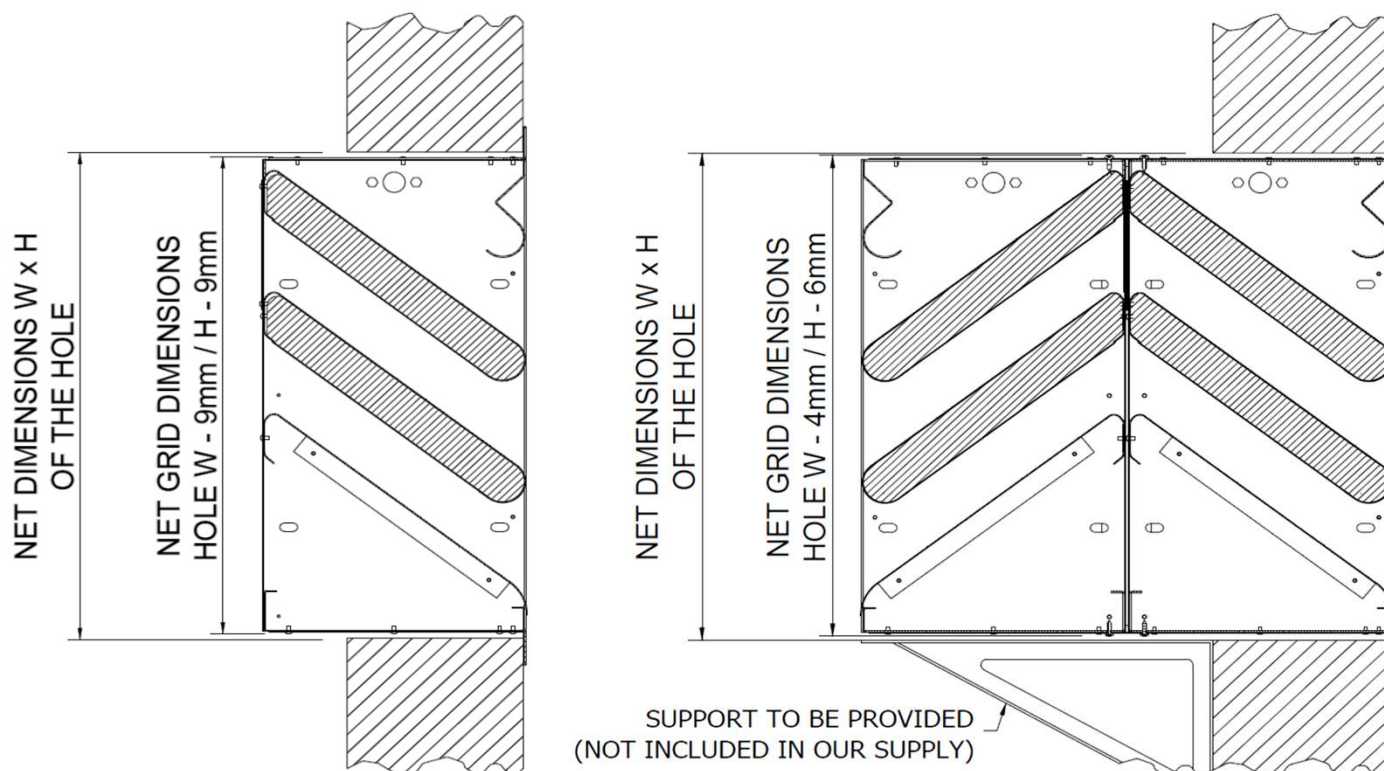




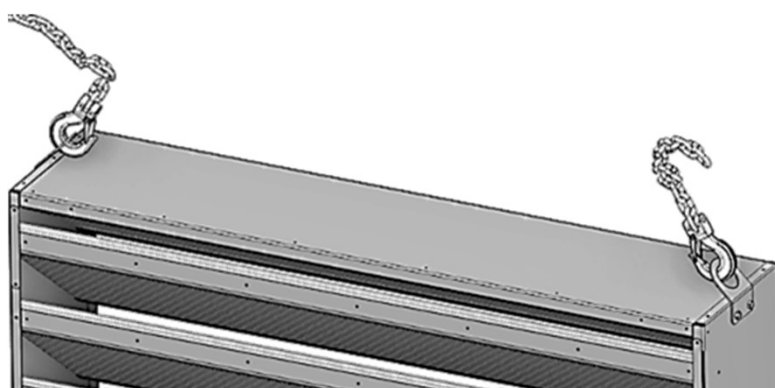
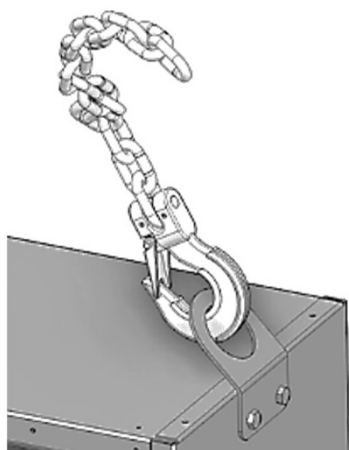
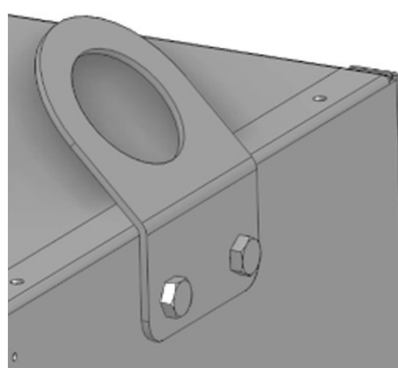
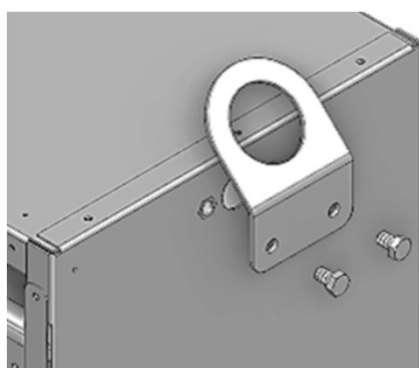
GF3F - GF6F ZN

Acoustic louvre for external air intake single 300mm depth or double 600mm depth in galvanized steel

Louvre Installation Type



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

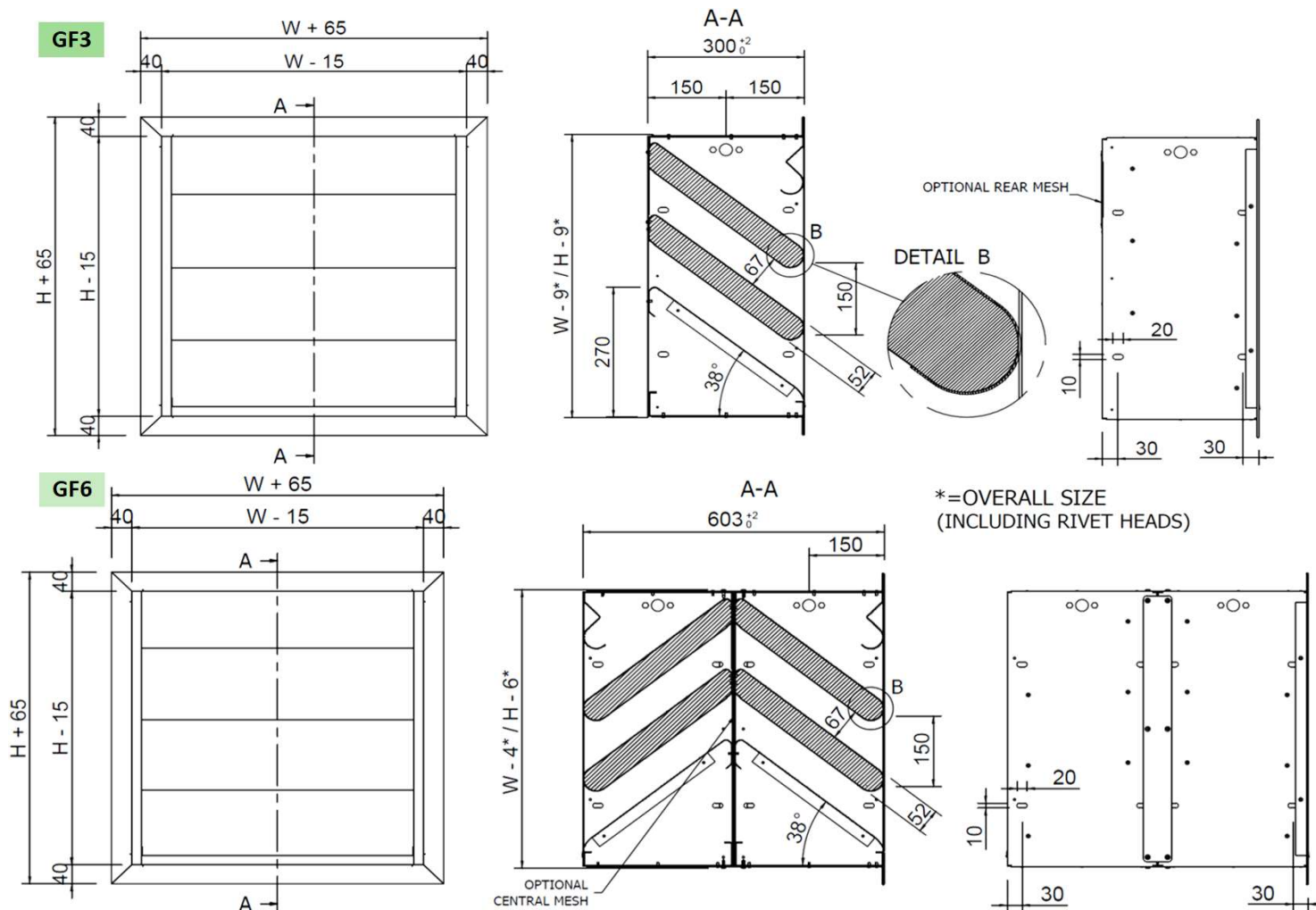




GF3F - GF6F ZN

Acoustic louvre for external air intake single 300mm depth or double 600mm depth in galvanized steel

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



mm	Dimensional Table and Related Weights GF3F ZN [Kg]																
W\H	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850
300	11,0	14,1	17,2	20,3	23,3	26,4	29,5	32,6	35,7	38,8	41,8	44,9	48,0	51,1	54,2	57,3	60,3
400	13,1	16,8	20,4	24,1	27,8	31,4	35,1	38,8	42,4	46,1	49,7	53,4	57,1	60,7	64,4	68,0	71,7
500	15,2	19,5	23,7	28,0	32,2	36,4	40,7	44,9	49,2	53,4	57,6	61,9	66,1	70,4	74,6	78,8	83,1
600	17,4	22,2	27,0	31,8	36,6	41,4	46,3	51,1	55,9	60,7	65,5	70,4	75,2	80,0	84,8	89,6	94,5
700	19,5	24,9	30,3	35,7	41,1	46,5	51,9	57,3	62,6	68,0	73,4	78,8	84,2	89,6	95,0	100,4	105,8
800	21,6	27,6	33,5	39,5	45,5	51,5	57,4	63,4	69,4	75,4	81,3	87,3	93,3	99,3	105,2	111,2	117,2
900	23,7	30,3	36,8	43,4	49,9	56,5	63,0	69,6	76,1	82,7	89,2	95,8	102,4	108,9	115,5	122,0	128,6
1000	25,8	33,0	40,1	47,2	54,4	61,5	68,6	75,8	82,9	90,0	97,1	104,3	111,4	118,5	125,7	132,8	139,9
1100	27,9	35,7	43,4	51,1	58,8	66,5	74,2	81,9	89,6	97,3	105,0	112,8	120,5	128,2	135,9	143,6	151,3
1200	30,1	38,3	46,6	54,9	63,2	71,5	79,8	88,1	96,4	104,7	113,0	121,2	129,5	137,8	146,1	154,4	162,7
1300	32,2	41,0	49,9	58,8	67,6	76,5	85,4	94,3	103,1	112,0	120,9	129,7	138,6	147,5	156,3	165,2	174,1
1400	34,3	43,7	53,2	62,6	72,1	81,5	91,0	100,4	109,9	119,3	128,8	138,2	147,6	157,1	166,5	176,0	185,4
1500	36,4	46,4	56,5	66,5	76,5	86,5	96,6	106,6	116,6	126,6	136,7	146,7	156,7	166,7	176,8	186,8	196,8
1600	38,5	49,1	59,7	70,3	80,9	91,5	102,1	112,8	123,4	134,0	144,6	155,2	165,8	176,4	187,0	197,6	208,2
1700	40,6	51,8	63,0	74,2	85,4	96,6	107,7	118,9	130,1	141,3	152,5	163,6	174,8	186,0	197,2	208,4	
1800	42,8	54,5	66,3	78,0	89,8	101,6	113,3	125,1	136,8	148,6	160,4	172,1	183,9	195,6	207,4		
1900	44,9	57,2	69,6	81,9	94,2	106,6	118,9	131,3	143,6	155,9	168,3	180,6	192,9	205,3			
2000	47,0	59,9	72,8	85,8	98,7	111,6	124,5	137,4	150,3	163,3	176,2	189,1	202,0				

Note : for double depth execution, GF6F model, multiply the table values by 2.



GF3F - GF6F ZN

Acoustic louvre for external air intake single 300mm depth or double 600mm depth in galvanized steel

mm	Nominal Area Dimensional Table GF3 - GF6 [m ²]																
W\H	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850
300	0,14	0,18	0,23	0,27	0,32	0,36	0,41	0,45	0,50	0,54	0,59	0,63	0,68	0,72	0,77	0,81	0,86
400	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
500	0,23	0,30	0,38	0,45	0,53	0,60	0,68	0,75	0,83	0,90	0,98	1,05	1,13	1,20	1,28	1,35	1,43
600	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
700	0,32	0,42	0,53	0,63	0,74	0,84	0,95	1,05	1,16	1,26	1,37	1,47	1,58	1,68	1,79	1,89	2,00
800	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
900	0,41	0,54	0,68	0,81	0,95	1,08	1,22	1,35	1,49	1,62	1,76	1,89	2,03	2,16	2,30	2,43	2,57
1000	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	2,70	2,85
1100	0,50	0,66	0,83	0,99	1,16	1,32	1,49	1,65	1,82	1,98	2,15	2,31	2,48	2,64	2,81	2,97	3,14
1200	0,54	0,72	0,90	1,08	1,26	1,44	1,62	1,80	1,98	2,16	2,34	2,52	2,70	2,88	3,06	3,24	3,42
1300	0,59	0,78	0,98	1,17	1,37	1,56	1,76	1,95	2,15	2,34	2,54	2,73	2,93	3,12	3,32	3,51	3,71
1400	0,63	0,84	1,05	1,26	1,47	1,68	1,89	2,10	2,31	2,52	2,73	2,94	3,15	3,36	3,57	3,78	3,99
1500	0,68	0,90	1,13	1,35	1,58	1,80	2,03	2,25	2,48	2,70	2,93	3,15	3,38	3,60	3,83	4,05	4,28
1600	0,72	0,96	1,20	1,44	1,68	1,92	2,16	2,40	2,64	2,88	3,12	3,36	3,60	3,84	4,08	4,32	4,56
1700	0,77	1,02	1,28	1,53	1,79	2,04	2,30	2,55	2,81	3,06	3,32	3,57	3,83	4,08	4,34	4,59	
1800	0,81	1,08	1,35	1,62	1,89	2,16	2,43	2,70	2,97	3,24	3,51	3,78	4,05	4,32	4,59		
1900	0,86	1,14	1,43	1,71	2,00	2,28	2,57	2,85	3,14	3,42	3,71	3,99	4,28	4,56			
2000	0,90	1,20	1,50	1,80	2,10	2,40	2,70	3,00	3,30	3,60	3,90	4,20	4,50				

mm	Real Net Free Airflow Area Table GF3 - GF6 [m ²]																
W\H	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850
300	0,02	0,04	0,06	0,08	0,09	0,11	0,13	0,15	0,17	0,19	0,21	0,23	0,24	0,26	0,28	0,30	0,32
400	0,03	0,05	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,41	0,43
500	0,03	0,06	0,10	0,13	0,16	0,19	0,22	0,26	0,29	0,32	0,35	0,38	0,42	0,45	0,48	0,51	0,54
600	0,04	0,08	0,12	0,15	0,19	0,23	0,27	0,31	0,35	0,39	0,42	0,46	0,50	0,54	0,58	0,62	0,66
700	0,05	0,09	0,14	0,18	0,23	0,27	0,32	0,36	0,41	0,45	0,50	0,54	0,59	0,63	0,68	0,72	0,77
800	0,05	0,10	0,16	0,21	0,26	0,31	0,36	0,41	0,47	0,52	0,57	0,62	0,67	0,73	0,78	0,83	0,88
900	0,06	0,12	0,18	0,23	0,29	0,35	0,41	0,47	0,53	0,58	0,64	0,70	0,76	0,82	0,88	0,93	0,99
1000	0,07	0,13	0,20	0,26	0,33	0,39	0,46	0,52	0,59	0,65	0,72	0,78	0,85	0,91	0,98	1,04	1,11
1100	0,07	0,14	0,21	0,29	0,36	0,43	0,50	0,57	0,64	0,72	0,79	0,86	0,93	1,00	1,07	1,15	1,22
1200	0,08	0,16	0,23	0,31	0,39	0,47	0,55	0,63	0,70	0,78	0,86	0,94	1,02	1,09	1,17	1,25	1,33
1300	0,08	0,17	0,25	0,34	0,42	0,51	0,59	0,68	0,76	0,85	0,93	1,02	1,10	1,19	1,27	1,36	1,44
1400	0,09	0,18	0,27	0,37	0,46	0,55	0,64	0,73	0,82	0,91	1,01	1,10	1,19	1,28	1,37	1,46	1,55
1500	0,10	0,20	0,29	0,39	0,49	0,59	0,69	0,78	0,88	0,98	1,08	1,18	1,27	1,37	1,47	1,57	1,67
1600	0,10	0,21	0,31	0,42	0,52	0,63	0,73	0,84	0,94	1,05	1,15	1,26	1,36	1,46	1,57	1,67	1,78
1700	0,11	0,22	0,33	0,44	0,56	0,67	0,78	0,89	1,00	1,11	1,22	1,33	1,45	1,56	1,67	1,78	
1800	0,12	0,24	0,35	0,47	0,59	0,71	0,82	0,94	1,06	1,18	1,30	1,41	1,53	1,65	1,77		
1900	0,12	0,25	0,37	0,50	0,62	0,75	0,87	1,00	1,12	1,24	1,37	1,49	1,62	1,74			
2000	0,13	0,26	0,39	0,52	0,66	0,79	0,92	1,05	1,18	1,31	1,44	1,57	1,70				

Nota : 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 table values by 40%.

mm	Percentage Difference Between Nominal Area and Net free Airflow Area Table GF3 - GF6 [%]																
H	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850
%	14%	21%	25%	28%	30%	31%	33%	33%	34%	35%	35%	36%	36%	37%	37%	37%	37%



GF3F - GF6F ZN

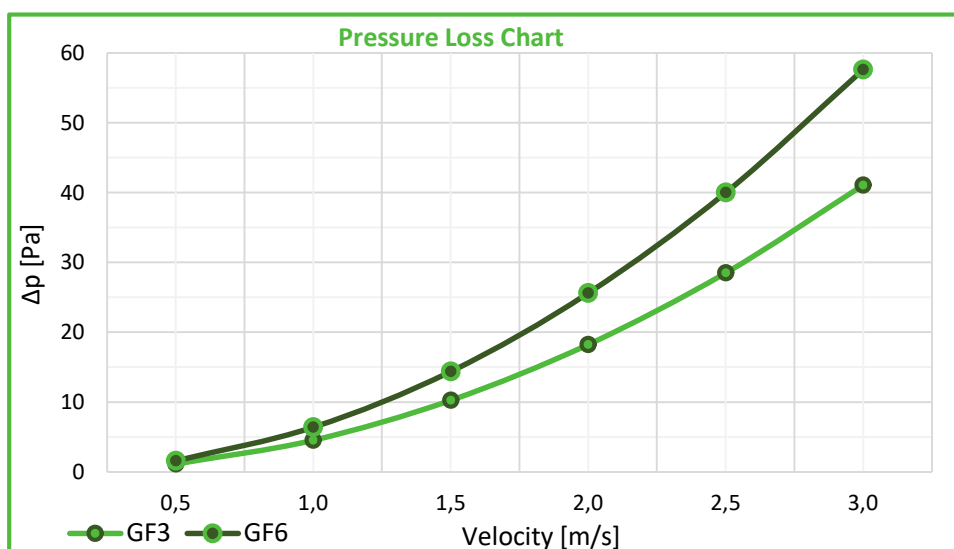
Acoustic louvre for external air intake single 300mm depth or double 600mm depth in galvanized steel

LOUVRE MODEL	Attenuation Table (in accordance ISO 5135)									Sound Insulation (in accordance ISO 717)
	Frequency [Hz]									
	63	125	250	500	1000	2000	4000	8000		<i>R_w</i> (C;Ctr;C ₅₀₋₃₁₅₀ ;Ctr ₅₀₋₃₁₅₀)
SINGLE GF3	8	8	7	13	18	18	16	16	dB	16 (-1; -3; -1; -3)
DOUBLE GF6	8	5	10	21	31	32	27	27	dB	22 (-2; -6; -2; -7)

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 GF3	α_s	0,33	0,73	0,69	0,82	0,74	0,63	0,56	0,51	0,7
DOUBLE GF6	α_s	0,8	0,62	0,74	0,78	0,76	0,6	0,49	0,38	0,65

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 GF3	0,5	28,5	26,4	<20	<20	<20	<20	<20	22,3	31,4
	1,0	34,8	29,0	23,4	<20	<20	<20	<20	22,3	36,4
	1,5	39,9	34,3	33,0	29,6	21,6	<20	<20	22,3	42,0
	2,0	44,4	40,5	39,3	36,8	33,0	23,9	<20	22,3	47,4
	3,0	54,6	51,1	50,1	47,7	45,9	41,7	33,4	25,0	58,0
DOUBLE GF6	0,5	28,8	26,1	<20	<20	<20	<20	<20	22,3	23,3
	1,0	41,6	33,6	29,3	24,1	<20	<20	<20	22,3	27,3
	1,5	49,1	44,2	38,9	36,6	31,2	21,6	<20	22,3	37,5
	2,0	46,7	48,1	45,3	43,4	40,2	33,3	22,7	22,4	44,8
	3,0	57,1	56,8	55,5	52,8	52,2	47,6	41,1	30,2	56,1

Pressure Loss Table (in accordance ISO 7235)		
LOUVRE MODEL	Front Vel. [m/s]	Δp [Pa]
SINGLE GF3	0,5	1
	1,0	5
	1,5	10
	2,0	18
	3,0	41
DOUBLE GF6	0,5	2
	1,0	6
	1,5	14
	2,0	26
	3,0	58



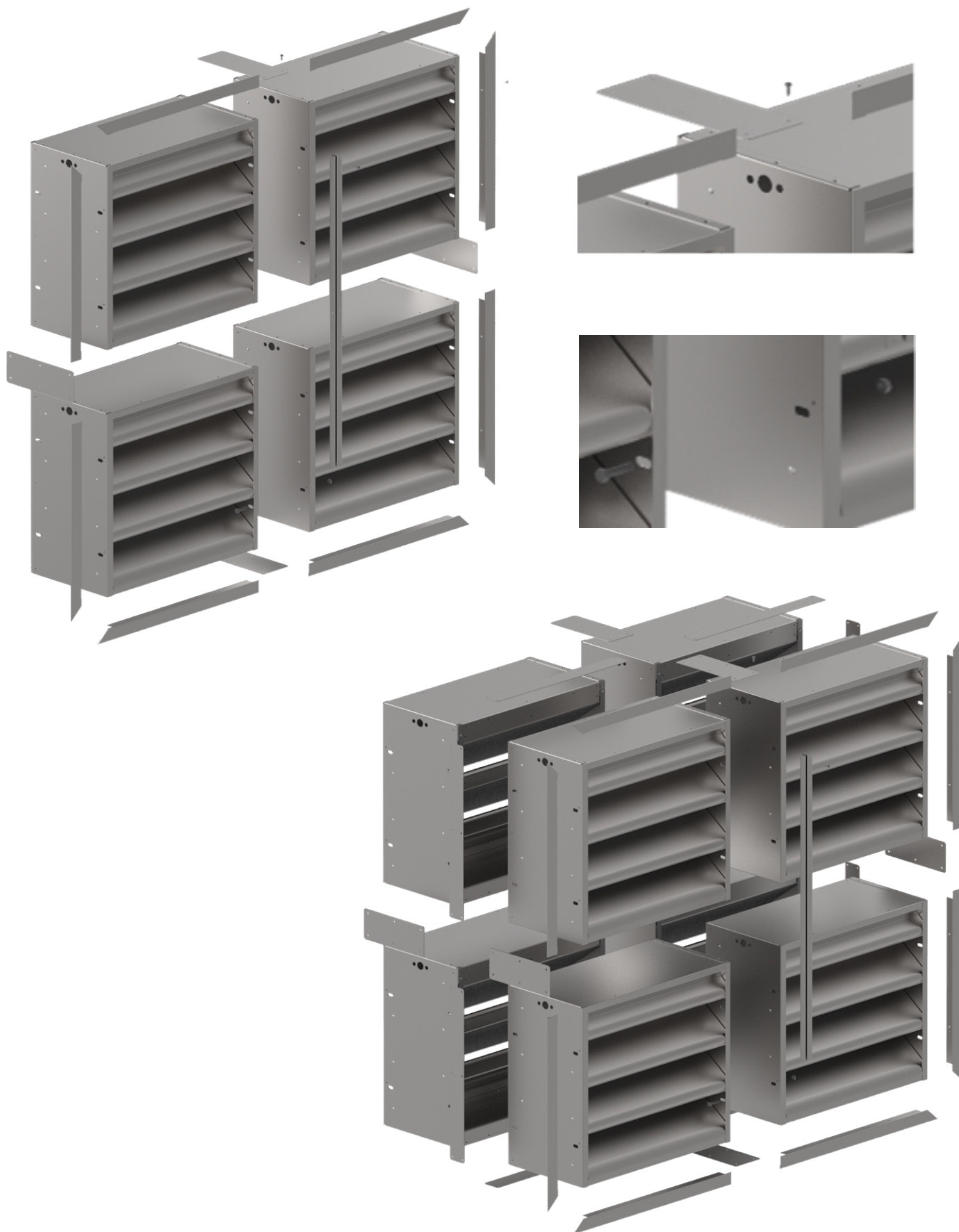
Note: The 3 m/s velocity limit is related to water droplet carryover. Laboratory tests show that up to this velocity, droplets flow by gravity along the blade profile. Between 3.2 and 3.5 m/s, droplets begin to climb the profile and pass through the grille, a phenomenon that increases above 3.7 m/s.



GF3F - GF6F ZN

Acoustic louvre for external air intake single 300mm depth or double 600mm 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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