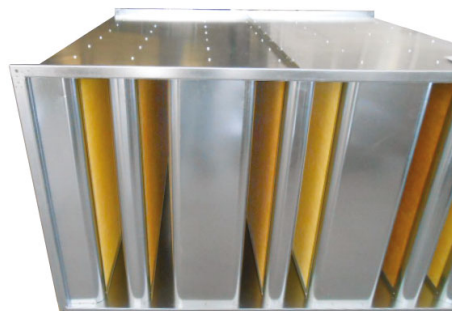


RAS



RAS attenuators are rectangular devices boasting high acoustical performance, designed and built to attenuate noise along the ventilation lines and, at the same time, keep pressure drops of the plant systems minimised. The aerodynamic profiles on the internal sound attenuation splitters minimise resistance to air stream and regeneration of noise.

MATERIAL AND FINISH

- Casing in galvanized steel in the standard version.
- Sound attenuation splitters consisting of glass fibre having high acoustic absorption features.
- Splitters housed inside holding frames in galvanized steel sheet, secured on the surface of the structure.

APPLICATION

Suitable in air conditioning and ventilation systems to attenuate the noise produced by the fans and conveyed by the air flow.

They meet the requirements both for civil systems and for industrial and special systems (e.g. hospitals, food industry and electronics) and ensure high noise reduction performance.

VERSIONS

- Standard RAS: splitters covered with reinforced fiber glass.
- RAS-LF: splitters protected by perforated sheet.
- RAS-HOSP: special hospital execution. Attenuators with perforated sheet and CAVILEN - MELINEX protective membrane.
- RAS-VERT: reinforced construction version for vertical installation of the attenuator.

FASTENING

RAS attenuators are normally duct-mounted. They are assembled using the flanges they are fitted with, which match the ones on the ducts. The position of the attenuator must be carefully studied so as to avoid a noise return through the duct at the end of the attenuator itself.

ACOUSTICAL PERFORMANCE

RAS series A (module 300)

Model	L [mm]	Octaves [Hz]							
		63	125	250	500	1k	2k	4k	8k
		Static insertion loss [dB]							
RAS - 2A	600	5	10	15	20	30	28	19	17
RAS - 3A	900	7	13	19	27	41	41	30	22
RAS - 4A	1200	9	16	24	35	50	49	35	26
RAS - 5A	1500	10	18	29	41	50	50	43	30
RAS - 6A	1800	12	20	34	46	50	50	46	32
RAS - 7A	2100	13	23	39	48	50	50	50	34
RAS - 8A	2400	14	25	43	50	50	50	50	35

RAS series L (module 350)

Model	L [mm]	Octaves [Hz]							
		63	125	250	500	1k	2k	4k	8k
		Static insertion loss [dB]							
RAS - 2L	600	4	6	11	16	21	19	15	14
RAS - 3L	900	5	8	16	24	29	26	18	16
RAS - 4L	1200	6	10	20	31	37	32	21	17
RAS - 5L	1500	6	12	24	37	43	38	24	19
RAS - 6L	1800	7	14	27	42	49	43	28	20
RAS - 7L	2100	8	16	31	49	50	47	31	21
RAS - 8L	2400	9	18	36	50	50	50	33	22

RAS series M (module 400)

Model	L [mm]	Octaves [Hz]							
		63	125	250	500	1k	2k	4k	8k
		Static insertion loss [dB]							
RAS - 2M	600	3	4	8	13	15	12	10	10
RAS - 3M	900	5	7	12	19	22	16	12	11
RAS - 4M	1200	5	8	16	25	29	21	14	13
RAS - 5M	1500	6	9	19	30	36	25	16	14
RAS - 6M	1800	7	11	24	36	43	29	18	15
RAS - 7M	2100	7	13	27	41	50	33	19	16
RAS - 8M	2400	8	14	30	47	50	37	21	17

RAS

The choice of the correct type of attenuator for the specific application can be made referring to the "Acoustical performance" tables provided on the previous page.

The following features can then be determined for the chosen attenuator:

- the front sizes based on the flow rate and pressure drop
- the pressure drop based on its front sizes and the air flow rate

For this purpose the following selection tables are provided for:

- pressure drops
- front sizes
- air flow rate

for 3 of the types we produce

RAS - 4A

RAS - 4L

RAS - 4M

RAS - 4A (module 300)

Pressure drop [Pa]	Front sizes [mm]							
	300 x 300	600 x 300	600 x 600	900 x 600	900 x 900	1500 x 900	1200 x 1200	1500 x 1200
	Air flow [m ³ /s]							
10	0.15	0.30	0.60	0.90	1.35	2.25	2.40	3.00
15	0.18	0.37	0.74	1.11	1.66	2.77	2.96	3.70
30	0.27	0.54	1.08	1.62	2.43	4.05	4.32	5.40
50	0.34	0.69	1.38	2.07	3.10	5.17	5.52	6.90

RAS - 4L (module 350)

Pressure drop [Pa]	Front sizes [mm]							
	350 x 350	350 x 600	700 x 500	700 x 700	1050 x 800	1400 x 1000	1400 x 1200	1750 x 1100
	Air flow [m ³ /s]							
10	0.28	0.56	0.93	1.31	2.24	3.73	4.48	5.13
20	0.40	0.80	1.33	1.87	3.20	5.33	6.40	7.33
30	0.48	0.96	1.59	2.23	3.82	6.37	7.64	8.76
40	0.55	1.09	1.82	2.55	4.37	7.28	8.74	10.01

RAS - 4M (module 400)

Pressure drop [Pa]	Front sizes [mm]							
	400 x 300	400 x 600	800 x 500	800 x 800	1200 x 800	1200 x 1200	1600 x 1200	1600 x 1500
	Air flow [m ³ /s]							
10	0.46	0.92	1.54	2.46	3.70	5.54	7.39	9.24
20	0.65	1.31	2.18	3.49	5.23	7.85	10.46	13.08
30	0.78	1.56	2.60	4.16	6.24	9.36	12.48	15.6

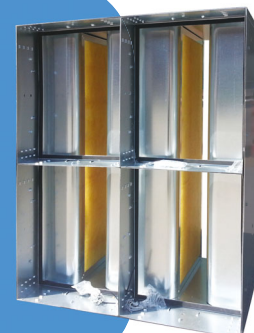
* These values refer to a 1200 mm long attenuator installed between two ducts. Consult the technical catalogue for different conditions.

Builders usually tend to produce attenuators using standard formats (splitters 200 mm thick, distance between centres between splitters 100, 150, 200 mm) that certainly meet the needs of production practicality, but not always guarantee the best performance in terms of pressure drop and attenuation at the different frequencies, external dimensions being equal.

The thickness and distance between centres of the splitters in the 17 different attenuator models making up the RAS series are not conventional, but instead studied to offer the optimum solution for:

- acoustical performance (attenuation and regenerated noise)
- air performance (pressure drops)
- size and weight (free passage section)

We are able to offer the attenuator best suited for the specific purpose and best suited for your requirements.



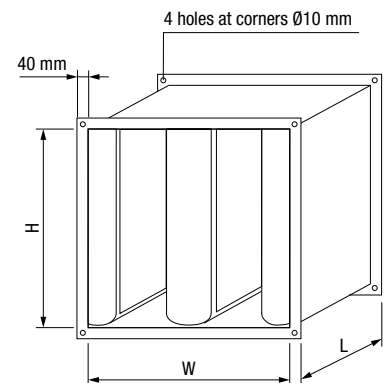
RAS

DIMENSIONS AND PRICES

RAS Series A attenuators (H from 300 to 800 mm)

[mm]		300		400		600		800	
W	H	RAS €	RAS/LF €	RAS €	RAS/LF €	RAS €	RAS/LF €	RAS €	RAS/LF €
300	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
600	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
900	600								
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	1800								
	2100								
	2400								
1200	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
1500	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								

RAS-HOSP version on the LF version of RAS attenuator increase 10%



RAS

DIMENSIONS AND PRICES

RAS Series A attenuators (H from 1000 to 1600 mm)

[mm]	H	1000		1200		1400		1600	
		RAS €	RAS/LF €	RAS €	RAS/LF €	RAS €	RAS/LF €	RAS €	RAS/LF €
300	W								
	L								
	600								
	900								
	1200								
	1500								
	1800								
600	2100								
	2400								
	600								
	900								
	1200								
	1500								
	1800								
900	2100								
	2400								
	600								
	900								
	1200								
	1500								
	1800								
1200	2100								
	2400								
	600								
	900								
	1200								
	1500								
	1800								
1500	2100								
	2400								
	600								
	900								
	1200								
	1500								
	1800								

For the attenuators of a size equal to or greater than those shown, using version LF is recommended if the passage velocity between the splitters is greater than 7 ms⁻¹

RAS-HOSP version on the **LF** version of **RAS** attenuator increase **10%**

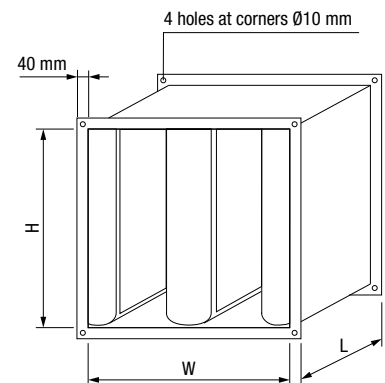
RAS

DIMENSIONS AND PRICES

RAS Series L attenuators (H from 300 to 800 mm)

[mm]		300		400		600		800	
W	H	RAS €	RAS/LF €	RAS €	RAS/LF €	RAS €	RAS/LF €	RAS €	RAS/LF €
350	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
700	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
1050	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
1400	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
1750	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								

RAS-HOSP version on the LF version of RAS attenuator increase 10%



RAS

DIMENSIONS AND PRICES

RAS Series L attenuators (H from 1000 to 1600 mm)

[mm]	H	1000		1200		1400		1600	
		RAS €	RAS/LF €	RAS €	RAS/LF €	RAS €	RAS/LF €	RAS €	RAS/LF €
350	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
700	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
1050	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
1400	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
1750	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								

For the attenuators of a size equal to or greater than those shown, using version LF is recommended if the passage velocity between the splitters is greater than 7 ms⁻¹

RAS-HOSP version on the **LF** version of **RAS** attenuator increase **10%**

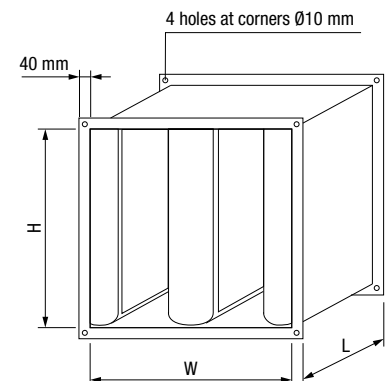
RAS

DIMENSIONS AND PRICES

RAS Series M attenuators (H from 300 to 800 mm)

[mm]		300		400		600		800	
W	H	RAS €	RAS/LF €	RAS €	RAS/LF €	RAS €	RAS/LF €	RAS €	RAS/LF €
400	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
800	600								
	900								
	1200								
	1500								
	1800								
	2100								
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	1200								
	1500								
	1800								
	2100								
	2400								
2000	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								

RAS-HOSP version on the LF version of RAS attenuator increase 10%



RAS

DIMENSIONS AND PRICES

RAS Series M attenuators (H from 1000 to 1600 mm)

[mm]	H	1000		1200		1400		1600	
		RAS €	RAS/LF €	RAS €	RAS/LF €	RAS €	RAS/LF €	RAS €	RAS/LF €
400	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								
800	600								
	900								
	1200								
	1500								
	1800								
	2100								
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	2400								
2000	600								
	900								
	1200								
	1500								
	1800								
	2100								
	2400								

For the attenuators of a size equal to or greater than those shown, using version LF is recommended if the passage velocity between the splitters is greater than 7 ms⁻¹

RAS-HOSP version on the **LF** version of **RAS** attenuator increase **10%**