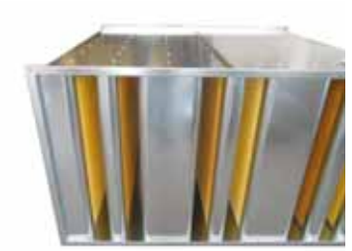
Rectangular attenuators

RAS



RAS attenuators are rectangular devices with high acoustic performance, designed and manufactured to attenuate noise along ventilation ducts while still maintaining reduced pressure drops in plant systems. The aerodynamic profiles on the internal sound-absorbing acoustic baffles minimize airflow resistance and noise regeneration.

MATERIALS AND FINISH

– Galvanized steel casing in the standard version.
– Sound-attenuation baffles manufactured using glass fibre with high sound absorption characteristics.
– Baffles are housed in galvanized sheet-steel frames, attached to the surface of the structure.

APPLICATION

Suitable for the attenuation of noise produced by fans and carried by the airflow in air conditioning and ventilation systems.
They ensure high noise attenuation performance and meet the requirements for both civil and industrial and special systems (e.g., hospitals, food and electronics industries).

ATTACHMENT

RAS duct attenuators are normally installed in the ducts. Installation is implemented using the flanges, with which the duct attenuators are equipped, to couple with the ducts.
The position of the duct attenuator must be appropriately designed so that there is no risk of return noise in the duct downstream of the attenuator.

VERSIONS

- **RAS** standard: baffles coated with a reinforced glass veil
- **RAS-LF** baffles protected by perforated sheet metal
- **RAS-HOSP** special hospital version. Silencers with perforated sheet metal and a CAVILEN - MELINEX protective membrane
- **RAS-VERT** reinforced construction version for vertical installation of the attenuator.

ACOUSTIC PERFORMANCE

RAS series **A** (**300** module)

Model	L	Octave [Hz]							
	[mm]	63	125	250	500	1k	2k	4k	8k
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
		Static insertion loss [dB]							

RAS series **L** (**350** module)

Model	L	Octave [Hz]							
	[mm]	63	125	250	500	1k	2k	4k	8k
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
		Static insertion loss [dB]							

RAS series **M** (**400** module)

Model	L	Octave [Hz]							
	[mm]	63	125	250	500	1k	2k	4k	8k
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	9	18	36	50	50	50	33	22
		Static insertion loss [dB]							

RAS

The correct type of attenuator for a specific application can be selected using the “Acoustic performance” tables found on the previous page.
For the selected attenuator, you can then determine:
1. the front dimensions based on the airflow rate and pressure drop
2. the pressure drops based on its front dimensions and airflow rate.

For this purpose, below there are the selection tables for three of the types we manufacture:
RAS-4A
RAS-4L
RAS-4M

These values characterize a 1200 mm long attenuator installed between two duct sections; for different conditions, please see the technical catalogue.

RAS-4A (**300** module)

Pressure drop	Front dimensions [mm]							
[Pa]	300 x 300	600 x 300	600 x 600	900 x 600	900 x 900	1500 x 900	1200 x 1200	1500 x 1200
10	550	1075	2150	3250	4850	8100	8650	10800
15	650	1325	2675	4000	5975	9975	10650	13325
30	975	1950	3900	5825	8750	14575	15550	19450
50	1225	2475	4975	7450	11150	18600	19875	24850
	Airflow rate [m^3/h]							

RAS-4L (**350** module)

Pressure drop	Front dimensions [mm]							
[Pa]	350 x 350	350 x 600	700 x 500	700 x 700	1050 x 800	1400 x 1000	1400 x 1200	1750 x 1100
10	1000	2025	3350	4725	8075	13425	16125	18475
20	1450	2875	4800	6725	11525	19200	23050	26400
30	1725	3450	5725	8025	13750	22925	27500	31525
40	1975	3925	6550	9175	15725	26200	31475	36025
	Airflow rate [m^3/h]							

RAS-4M (**400** module)

Pressure drop	DFront dimensions [mm]							
[Pa]	400 x 300	400 x 600	800 x 500	800 x 800	1200 x 800	1200 x 1200	1600 x 1200	1600 x 1500
10	1650	3300	5550	8850	13325	19950	26600	33275
20	2350	4725	7850	12575	18825	28250	37650	47100
30	2800	5625	9350	14975	22475	33700	44925	56150
	Airflow rate [m^3/h]							

Manufacturers normally tend to make attenuators using standard formats (200 mm thick baffles, 100, 150, or 200 mm spacing between baffles) which certainly meet practical and production requirements but do not always ensure the best performance in terms of pressure drop and attenuation at different frequencies with the same external dimensions.

FOR EVERY REQUIREMENT,
WE ARE ABLE TO OFFER THE MOST APPROPRIATE ATTENUATOR FOR YOUR SPECIFIC PURPOSE AND SUITABLE TO MEET YOUR NEEDS.

In the 17 different attenuator models that make up the RAS line, the thickness and centre distance of the baffles are not conventional but have been designed to offer the optimal solution for:

ACOUSTIC PERFORMANCE *(attenuation and regenerated noise)*

AERODYNAMIC PERFORMANCE *(pressure drop)*

DIMENSIONS AND WEIGHT *(free passage cross section)*

Rectangular attenuators

RAS

Model RAS- A / RAS-LF- A

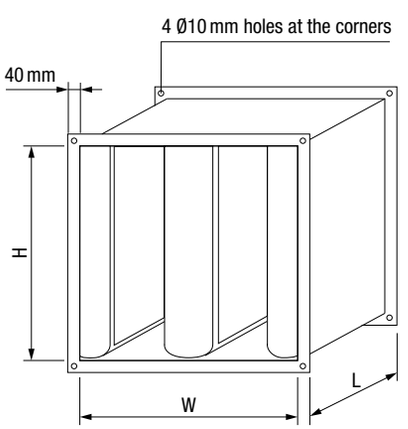
H from 300 to 800 mm

W	L	H [mm]							
		300		400		600		800	
[mm]	[mm]	RAS-.A €	RAS-LF-.A €	RAS-.A €	RAS-LF-.A €	RAS-.A €	RAS-LF-.A €	RAS-.A €	RAS-LF-.A €
300	600								
300	900								
300	1200								
300	1500								
300	1800								
300	2100								
300	2400								
600	600								
600	900								
600	1200								
600	1500								
600	1800								
600	2100								
600	2400								
900	600								
900	900								
900	1200								
900	1500								
900	1800								
900	2100								
900	2400								
1200	600								
1200	900								
1200	1200								
1200	1500								
1200	1800								
1200	2100								
1200	2400								
1500	600								
1500	900								
1500	1200								
1500	1500	◇	◇	◇	◇	◇	◇	◇	◇
1500	1800	◇	◇	◇	◇	◇	◇	◇	◇
1500	2100	◇	◇	◇	◇	◇	◇	◇	◇
1500	2400	◇	◇	◇	◇	◇	◇	◇	◇

RAS-HOSP version, includes a **10%** surcharge on the price of the **LF** series

◇ Prices ON REQUEST

We recommend using the LF version if the airflow velocity between the baffles exceeds 11 ms^{-1}



ACOUSTIC

Rectangular attenuators

RAS

Model RAS- A / RAS-LF- A

H from 1000 to 1600 mm

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

RAS-HOSP version, includes a **10%** surcharge on the price of the **LF** series

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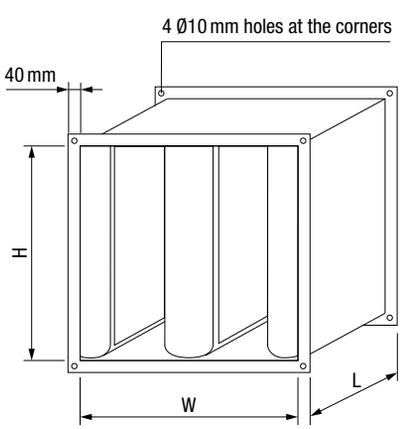

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ACOUSTIC

Rectangular attenuators

RAS

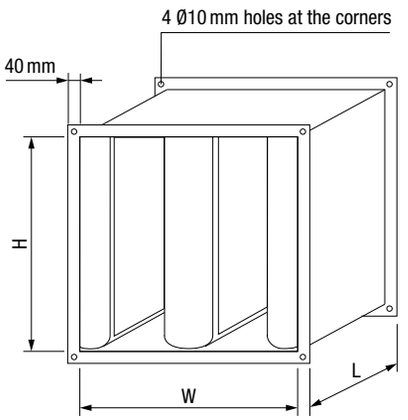
Modele RAS- L / RAS-LF- L

H from 300 to 800 mm

W	L	H [mm]							
		300		400		600		800	
[mm]	[mm]	RAS-.L €	RAS-LF-.L €	RAS-.A €	RAS-LF-.L €	RAS-.L €	RAS-LF-.L €	RAS-.L €	RAS-LF-.L €
350	600								
350	900								
350	1200								
350	1500								
350	1800								
350	2100								
350	2400								
700	600								
700	900								
700	1200								
700	1500								
700	1800								
700	2100								
700	2400								
1050	600								
1050	900								
1050	1200								
1050	1500								
1050	1800								
1050	2100								
1050	2400								
1400	600								
1400	900								
1400	1200								
1400	1500								
1400	1800								
1400	2100								
1400	2400								
1750	600								
1750	900								
1750	1200								
1750	1500	◇	◇	◇	◇	◇	◇	◇	◇
1750	1800	◇	◇	◇	◇	◇	◇	◇	◇
1750	2100	◇	◇	◇	◇	◇	◇	◇	◇
1750	2400	◇	◇	◇	◇	◇	◇	◇	◇

RAS-HOSP version, includes a **10%** surcharge on the price of the **LF** series

◇ Prices ON REQUEST



We recommend using the LF version if the airflow velocity between the baffles exceeds 11 ms^{-1}

ACOUSTIC

Rectangular attenuators

RAS

Mod. RAS- L / RAS-LF- L

H from 1000 to 1600 mm

W	L	H [mm]							
		1000		1200		1400		1600	
[mm]	[mm]	RAS-.L €	RAS-LF-.L €	RAS-.A €	RAS-LF-.L €	RAS-.L €	RAS-LF-.L €	RAS-.L €	RAS-LF-.L €
350	600								
350	900								
350	1200								
350	1500							◇	◇
350	1800							◇	◇
350	2100							◇	◇
350	2400							◇	◇
700	600								
700	900								
700	1200								
700	1500							◇	◇
700	1800							◇	◇
700	2100							◇	◇
700	2400							◇	◇
1050	600								
1050	900								
1050	1200								
1050	1500							◇	◇
1050	1800							◇	◇
1050	2100							◇	◇
1050	2400							◇	◇
1400	600								
1400	900								
1400	1200								
1400	1500							◇	◇
1400	1800							◇	◇
1400	2100							◇	◇
1400	2400							◇	◇
1750	600							◇	◇
1750	900							◇	◇
1750	1200							◇	◇
1750	1500	◇	◇	◇	◇	◇	◇	◇	◇
1750	1800	◇	◇	◇	◇	◇	◇	◇	◇
1750	2100	◇	◇	◇	◇	◇	◇	◇	◇
1750	2400	◇	◇	◇	◇	◇	◇	◇	◇

RAS-HOSP version, includes a **10%** surcharge on the price of the **LF** series

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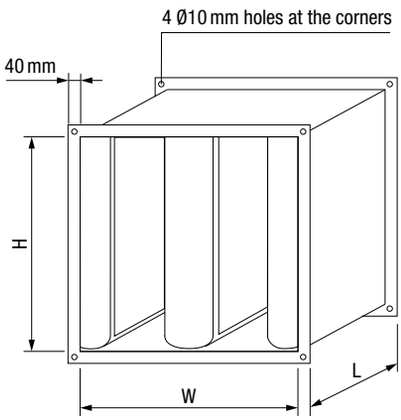

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ACOUSTIC

Rectangular attenuators

RAS

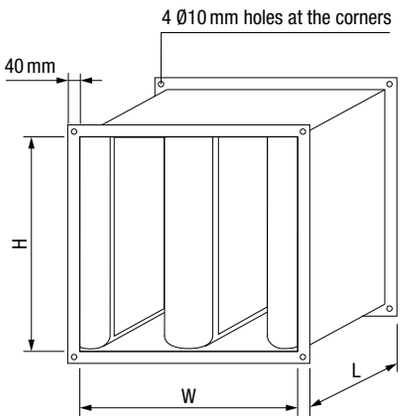
Modele RAS- M / RAS-LF- M

H from 300 to 800 mm

W	L	H [mm]							
		300		400		600		800	
		RAS-.M	RAS-LF-.M	RAS-.M	RAS-LF-.M	RAS-.M	RAS-LF-.M	RAS-.M	RAS-LF-.M
[mm]	[mm]	€	€	€	€	€	€	€	€
400	600								
400	900								
400	1200								
400	1500								
400	1800								
400	2100								
400	2400								
800	600								
800	900								
800	1200								
800	1500								
800	1800								
800	2100								
800	2400								
1200	600								
1200	900								
1200	1200								
1200	1500								
1200	1800								
1200	2100								
1200	2400								
1600	600								
1600	900								
1600	1200								
1600	1500	◇	◇	◇	◇	◇	◇	◇	◇
1600	1800	◇	◇	◇	◇	◇	◇	◇	◇
1600	2100	◇	◇	◇	◇	◇	◇	◇	◇
1600	2400	◇	◇	◇	◇	◇	◇	◇	◇
2000	600								
2000	900								
2000	1200								
2000	1500	◇	◇	◇	◇	◇	◇	◇	◇
2000	1800	◇	◇	◇	◇	◇	◇	◇	◇
2000	2100	◇	◇	◇	◇	◇	◇	◇	◇
2000	2400	◇	◇	◇	◇	◇	◇	◇	◇

RAS-HOSP version, includes a **10%** surcharge on the price of the **LF** series

◇ Prices ON REQUEST



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ACOUSTIC

Rectangular attenuators

RAS

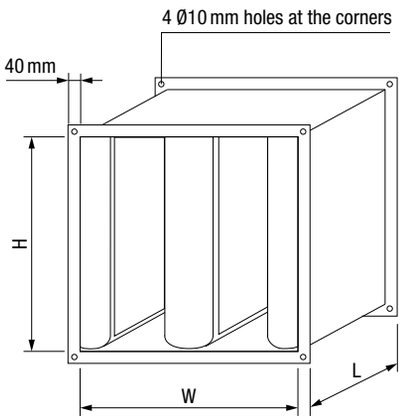
Modele RAS- M / RAS-LF- M

H from 1000 to 1600 mm

W	L	H [mm]							
		1000		1200		1400		1600	
[mm]	[mm]	RAS-.M €	RAS-LF-.M €	RAS-.M €	RAS-LF-.M €	RAS-.M €	RAS-LF-.M €	RAS-.M €	RAS-LF-.M €
400	600								
400	900								
400	1200								
400	1500							◇	◇
400	1800							◇	◇
400	2100							◇	◇
400	2400							◇	◇
800	600								
800	900								
800	1200								
800	1500							◇	◇
800	1800							◇	◇
800	2100							◇	◇
800	2400							◇	◇
1200	600								
1200	900								
1200	1200								
1200	1500							◇	◇
1200	1800							◇	◇
1200	2100							◇	◇
1200	2400							◇	◇
1600	600							◇	◇
1600	900							◇	◇
1600	1200							◇	◇
1600	1500							◇	◇
1600	1800							◇	◇
1600	2100							◇	◇
1600	2400							◇	◇
2000	600							◇	◇
2000	900							◇	◇
2000	1200							◇	◇
2000	1500	◇	◇	◇	◇	◇	◇	◇	◇
2000	1800	◇	◇	◇	◇	◇	◇	◇	◇
2000	2100	◇	◇	◇	◇	◇	◇	◇	◇
2000	2400	◇	◇	◇	◇	◇	◇	◇	◇

RAS-HOSP version, includes a **10%** surcharge on the price of the **LF** series

◇ Prices ON REQUEST



We recommend using the LF version if the airflow velocity between the baffles exceeds 11 ms^{-1}

ACOUSTIC