

ACOUSTIC LOUVRES

TYPE SRI₁

Application

An acoustic louver creates the ideal acoustic barrier in ventilation apertures in structures, and is suitable for several applications as air inlets and outlets in both processing plants or naturally ventilated areas. In addition, louvers can be used as screening walls around ventilated enclosures in processing-/air conditioning-/or electrical generator plants. Available options with the louvers are bird mesh, water trap and flange connection which should be specified separately. The SRI₁ type is best suited for outdoor use in rough weather conditions, typically in an offshore environment.

Material and dimensions

The dimensions of a louver should not exceed 7m² due to practical considerations, and if larger sizes are required a multisectioned solution should be used instead. Minimum size of a louver is recommended to be 1m². The material alternatives available for the louvers are: pregalvanized steel, aluminium and stainless steel. Painted finish of the louver is available upon request. The insulation material used consists of non-toxic and non-combustible mineral wool, and is firmly covered by polyester or glass fibre cloth and a perforated plate.

Noise data

Noise data for the louver is available according to the following standards:

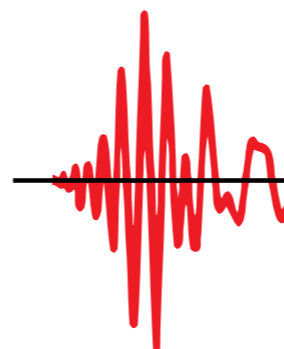
- SFS-EN ISO 140-3:1995(1): "Measurement of sound insulation in buildings and of building elements – Part 2:1991 Determination, verification and application of precision data. – Part 3:1995: Laboratory measurements of airborne sound insulation of buildings elements."
- SFS-EN ISO 717-1:1996(2): "Rating of sound insulation in building and of building elements – Part 1:1996 Airborne sound insulation."
- ISO 5219:1984: "Air distribution and air diffusion – Laboratory aerodynamic testing and rating of air terminal devices."
- ISO 5135:1997: "Determination of sound power levels of noise from air-terminal devices, air terminal units, dampers, valves by measurement in reverberation room."

The sound reduction achieved by a louver is heavily dependent on the sound field and by the surrounding arrangement. This is why measurements on site will often vary from laboratory measurements, because the louver on site will be affected by factors as flanking noise, background noise, vibration etc. In order to get the best possible result, please contact Acoustics for accurate noise calculations for your particular need. For more information on self-generated noise for the acoustic louver, please contact Acoustics.

SPECIFICATIONS

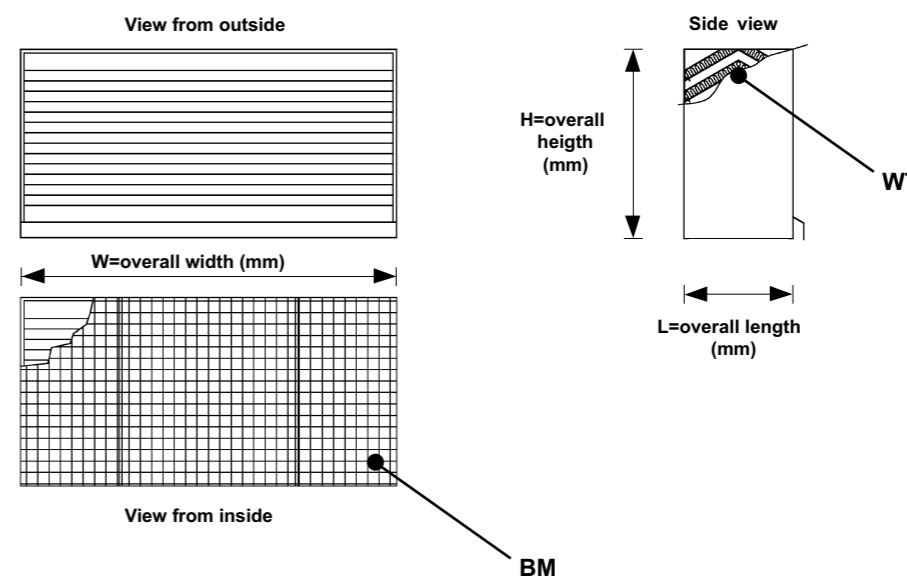
	Louvre type	Area code	Pressure drop code	Width (mm)	Height (mm)	Length (mm)	Options	Material
				W	H	L		
To be specified	_____	_____	_____	_____	_____	_____	_____	_____
To be specified	_____	_____	_____	_____	_____	_____	_____	_____
To be specified	_____	_____	_____	_____	_____	_____	_____	_____
700-2500	_____	_____	_____	_____	_____	_____	_____	_____
700-2500	_____	_____	_____	_____	_____	_____	_____	_____
To be specified	_____	_____	_____	_____	_____	_____	_____	_____
To be specified	_____	_____	_____	_____	_____	_____	_____	_____
To be specified	_____	_____	_____	_____	_____	_____	_____	_____

Example: SRI₁-2-3-61-1500W x 1200H x 300L-BM-WT-AISI316L



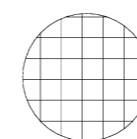
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DIMENSIONS



OPTIONS

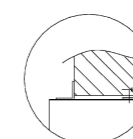
The following are options, and should be specified separately:



BIRD MESH
BM



WATER TRAP
WT



FLANGE CONNECTION
FL



CURVES AND TABLES

Type	Nominal dimensions mm			Area code	Pressure drop code	R _w	Airborne sound reduction index R, dB					
	Width W	Height H	Length L				Octave band centre frequency, Hz					
							125	250	500	1K	2K	4K
SR _I -1	700-1500	700	600	2	78	21	7	11	19	23	27	30
		1000		2	67	21	7	11	19	23	27	30
		1200		2	63	21	7	11	19	23	27	30
		1400		2	60	21	7	11	19	23	27	30
		1600		2	57	21	7	11	19	23	27	30
		1800		2	55	21	7	11	19	23	27	30
		2000		2	53	21	7	11	19	23	27	30
		2200		2	50	21	7	11	19	23	27	30
		2400		2	48	21	7	11	19	23	27	30
		2500		2	47	21	7	11	19	23	27	30
SR _I -1	700-2500	700	600	1	102	15	6	7	12	14	21	20
		1000		1	86	15	6	7	12	14	21	20
		1200		1	81	15	6	7	12	14	21	20
		1400		1	75	15	6	7	12	14	21	20
		1600		1	71	15	6	7	12	14	21	20
		1800		1	68	15	6	7	12	14	21	20
		2000		1	66	15	6	7	12	14	21	20
		2200		1	63	15	6	7	12	14	21	20
		2400		1	61	15	6	7	12	14	21	20
		2500		1	59	15	6	7	12	14	21	20
SR _I -2	700-2500	700	300	3	77	13	6	7	11	13	16	21
		1000		3	64	13	6	7	11	13	16	21
		1200		3	61	13	6	7	11	13	16	21
		1400		3	58	13	6	7	11	13	16	21
		1600		3	55	13	6	7	11	13	16	21
		1800		3	52	13	6	7	11	13	16	21
		2000		3	50	13	6	7	11	13	16	21
		2200		3	48	13	6	7	11	13	16	21
		2400		3	46	13	6	7	11	13	16	21
		2500		3	45	13	6	7	11	13	16	21
SR _I -1&2	700-2500	700	1000	2	162	28	10	13	29	35	39	44
		1000		2	135	28	10	13	29	35	39	44
		1200		2	128	28	10	13	29	35	39	44
		1400		2	122	28	10	13	29	35	39	44
		1600		2	116	28	10	13	29	35	39	44
		1800		2	114	28	10	13	29	35	39	44
		2000		2	111	28	10	13	29	35	39	44
		2200		2	108	28	10	13	29	35	39	44
		2400		2	106	28	10	13	29	35	39	44
		2500		2	104	28	10	13	29	35	39	44

EXAMPLE

Airflow: 4.0 m³/s

Selected type: SR_I 2-3-61 1500W x 1200H x 300Lmm

Diagram 3 - Self generated noise:

Read: SWL_{tot} = 62 dB

Frequency correction - table 1

63	125	250	500	1K	2K	4K	8K
60	55	51	50	48	45	36	27

Diagram 4 - Pressure drop code: 61.

Read: 57 Pa

SELF GENERATED NOISE - FREQUENCY CORRECTION

$$SWL_{\text{frequency}} = SWL_{\text{tot}} + CF$$

CORRECTION FACTORS (CF)

ADD dB T ABLE 1

FREQUENCY CORRECTION

Centreband frequency, Hz ref 10⁻¹² Watt

63	125	250	500	1K	2K	4K	8K
-2	-7	-11	-12	-14	-17	-26	-35

Note1: Pressure drop values are based on air density 1,2 kg/m³ and temperature 20C°.

Note2: For risk of water intrusion, max. velocity over louvre panel (gross area) should not exceed 1m/s.

