

NOISE-DAMPING RECTANGULAR WALL AIR-INTAKE/EXHAUST VENTILATOR



Characteristics:

SWG rectangular wall air-intake/exhaust ventilator with fixed/angled sound damping inserts.

AL

SL

SO

SN

version: 16/01/26

Intended use

The SWG air-intake/exhaust ventilator is used at the ends of ventilation systems in order to suppress noise.

They are also used as noise barriers for the air transfer, for example, in power plants, engine and plant rooms, car parks and landing sites, etc.

Design

The SWG has profiled, non-movable louvres filled with a mineral wool damping insert with an additional covering of fibreglass. On the back of the damping grille, a steel bird guard net is mounted. The entire structure is made of galvanised steel as standard. Other RAL versions made out of aluminium or stainless steel are available upon special request.

Designing guidelines

Two design variants are available: the SWG150 and SWG300.

Where quantitative airflow control with simultaneous noise attenuation is required, it is recommended to use the SWG300 damping net with a multi-leaf damper mounted.

In a location exposed to direct weathering, it is recommended to use a PS damper with louvres filled with polyurethane foam (which minimises the impact of thermal bridges).

It is recommended to select an SWG with an active area corresponding to an effective velocity in the net cross-section of no more than 2 m/s.

Installation

SWG ventilators can be fixed to the partitions by means of screws through the holes in the ventilator frame (to be made on site) or through casting (the ventilator must not constitute a formwork for the mounting hole).

After installation of the counter-frame, a shut-off damper or a ventilation duct of standard dimensions can be fitted to the air-intake ventilator.

Dimensions

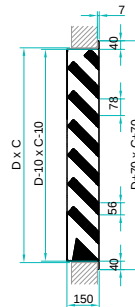


Figure 1. SWG 150 dimensions.

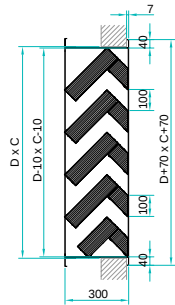


Figure 2. SWG 300 dimensions with a counter-frame to the duct.

Standard dimensions of the SWG air-intake ventilator:

- Width C = 400+2000 mm (every 50 mm)
- Height D = 350, 400, 500, 550, 600, 630, 700, 750, 800, 900, 950, 1000, 1100, 1150, 1200, 1300, 1350, 1400, 1500, 1550, 1600, 1700, 1750, 1800, 1900, 1950, 2000*, 2100*, 2150*, 2200*, 2250*, 2300*, 2350*, 2400*, 2500*, 2550*mm.

* The provided height dimensions for the type series do not apply to SWG150

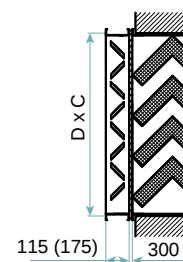


Figure 3. SWG 300 damping ventilator with a multileaf damper installed.

Technical Data

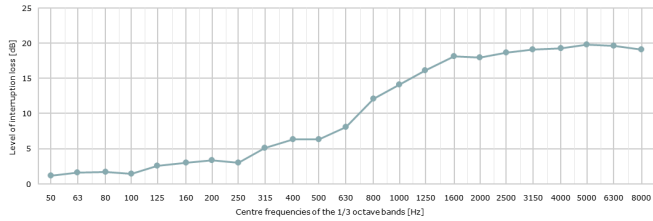


Chart 1. Theoretical noise attenuation level in the SWG150 sound frequency bands.

Table 1. SWG150 effective area.

SWG 150	Width, C [mm]						
	400	500	600	700	800	900	1000
350	0,045	0,056	0,067	0,078	0,089	0,100	0,112
550	0,069	0,086	0,103	0,120	0,138	0,155	0,172
750	0,109	0,137	0,164	0,191	0,219	0,246	0,273
950	0,133	0,167	0,200	0,233	0,267	0,300	0,334
1150	0,174	0,217	0,261	0,304	0,348	0,391	0,434
1350	0,198	0,248	0,297	0,347	0,396	0,456	0,495
1550	0,238	0,298	0,358	0,417	0,477	0,536	0,596
1750	0,279	0,348	0,418	0,488	0,558	0,627	0,697
1950	0,303	0,379	0,454	0,530	0,606	0,682	0,757

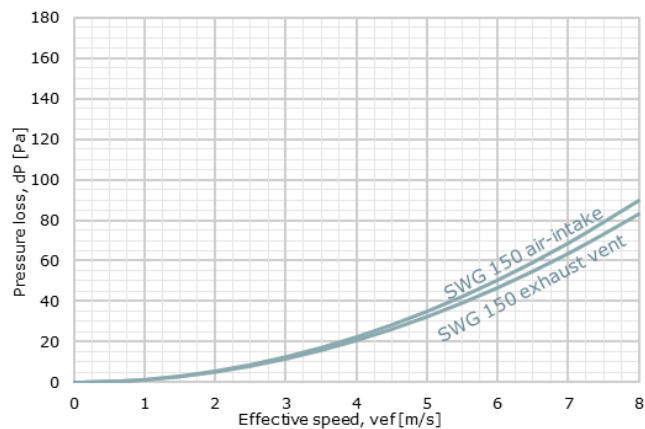


Chart 2. Pressure loss for the SWG150.

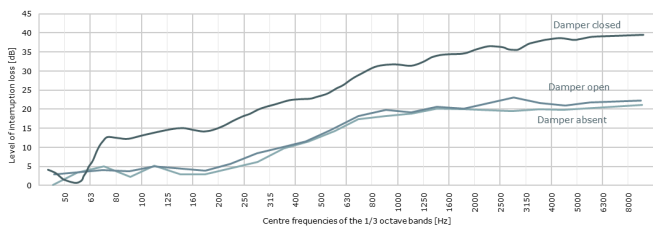


Chart 3. Theoretical noise attenuation level in the SWG300 sound frequency bands.

Table 2. SWG300 effective area.

SWG 300	Breite der Montageöffnung, C [mm]							A _{ef} [%]	
	400	500	600	700	800	900	1000		
Höhe der Montageöffnung, D [mm]	350	0,028	0,035	0,042	0,049	0,056	0,063	0,070	23
	550	0,056	0,070	0,084	0,098	0,112	0,126	0,140	28
	750	0,084	0,105	0,126	0,147	0,168	0,189	0,210	30
	950	0,112	0,140	0,168	0,196	0,224	0,252	0,280	31
	1150	0,140	0,175	0,210	0,245	0,280	0,315	0,350	32
	1350	0,168	0,210	0,252	0,294	0,336	0,378	0,420	32
	1550	0,196	0,245	0,294	0,343	0,392	0,441	0,490	33
	1750	0,224	0,280	0,336	0,392	0,448	0,504	0,560	33
	1950	0,252	0,315	0,378	0,441	0,504	0,567	0,630	33
	2150	0,280	0,350	0,420	0,490	0,560	0,630	0,700	33
	2350	0,308	0,385	0,462	0,539	0,616	0,693	0,770	33
	2550	0,336	0,420	0,504	0,588	0,672	0,756	0,840	34

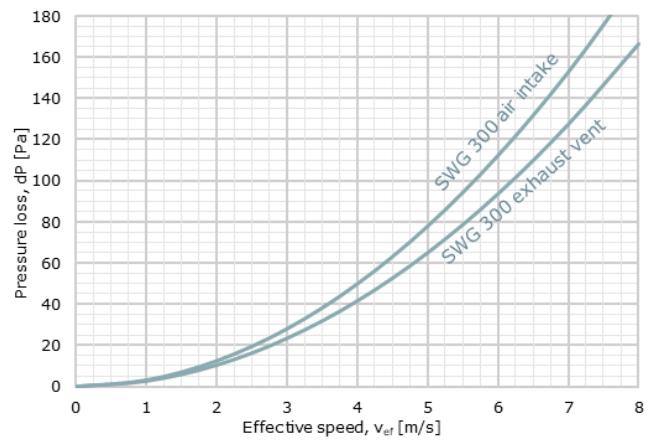


Chart 4. Pressure loss for the SWG300.

Table 3. SWG300 approximate weight [kg].

SWG 300	Width, C [mm]							
	400	500	600	700	800	900	1000	
Height, D [mm]	350	9,0	10,5	12,0	13,5	15,0	17,0	19,0
	550	14,5	17,0	19,0	21,0	23,5	26,0	29,0
	750	20,0	23,5	26,0	29,5	32,5	36,0	40,0
	950	24,5	29,0	33,0	37,0	41,0	46,0	51,0
	1150	31,0	36,0	41,0	46,0	51,0	56,0	61,0
	1350	36,0	42,0	48,0	54,0	60,0	66,0	72,0
	1550	41,0	48,0	55,0	62,0	69,0	76,0	83,0
	1750	46,0	54,0	62,0	70,0	78,0	86,0	94,0
	1950	51,0	60,0	69,0	78,0	87,0	96,0	105,0
	2150	58,0	68,0	77,0	86,0	96,0	106,0	115,0
	2350	62,0	73,0	84,0	95,0	106,0	116,0	127,0
	2550	68,0	80,0	91,0	102,0	114,0	126,0	138,0

SWG - Noise-damping rectangular wall air-intake/exhaust ventilator

When ordering, please provide information according to the following pattern:

SWG <T> - <C> x <D> - <P> - <RAL>

Where:

T	Type
	150– Depth 150 mm
	300– Depth 300 mm
C	Mounting hole width
	400-2000mm
D	Mounting hole height in mm
	350-2550mm
P	Finish*
	AL– Painted aluminium
	SL– Painted steel
	SO– Galvanised steel
	SN– Stainless steel, quality 1.4301 (304 according to AISI, 0H18N9 according to PN)
RAL	Colour as per RAL (for SL or AL finish)

* Optional values, if not specified, the default values will be used

Order example: **SWG300-800x1150-SL9010**