

TECHNICAL DATA SHEET

Aphonic Grille LSP

Description

High-performance aphonic grille, based on the innovative Slim Hurdle™ technology, which significantly reduces pressure drop, minimises footprint, and enhances overall performance. Baffles can be oriented both horizontally and vertically.

Intended use

The Aphonic Grille LSP can be installed:

- To reduce noise emissions from ventilation shafts while maintaining uninterrupted airflow.
- On air handling units, cooling units, and heat pumps, enabling ventilation and thermal exchange while attenuating noise emissions.
- On machine tools to attenuate environmental noise emissions without compromising heat dissipation or operational efficiency.

Features

- Internal baffles thickness: 20 mm
- Net open area: up to 70%
- External casing thickness: 13 mm
- Internal sound-absorbing layer: Noise Layer™ 10 Black – 918 gr/m².
- Shear Damping Mass: Damping Bulk™ 7 Mag. – 5,1 kg/m²
- Operating Temperature Range: from -20°C to +70°C
- Sound Absorption Coefficient (α_w): 0,90 – 0.95

Dimensions

- Standard: 600 x 1,000 (h) mm.

Fields of application

- Refrigeration units, evaporative towers, AHUs, chillers, and heat pumps
- Thermal power stations, electrical power plants, and technical rooms
- Ventilation systems and air intakes

- Machine tools, compressors, and cooling units
- Residential buildings installations.

Variants

Available in 5 models, acoustic performance from 11 to 19 dB

Model LSP 290

- Thickness: 290 mm.
- Net open area: 70% of the application surface
- Effective sound-absorbing surface: 4,7 m² per m² of silencer base area
- Rw: 7-11 dB(A)

Model LSP 350 super

- Thickness: 290 mm.
- Net open area: 70% of the application surface
- Effective sound-absorbing surface: 5,1 m² per m² of silencer base area
- Rw: 13 dB(A)

Model LSP 470

- Thickness: 470 mm.
- Net open area: 70% of the application surface
- Effective sound-absorbing surface: 5,9 m² per m² of silencer base area
- Rw: 11-15 dB(A)

Model Baffleless™

- Thickness: 250-500 mm.
- Net open area: 60% of the application surface
- Effective sound-absorbing surface: 4,1 m² per m² of silencer base area
- Rw: 15 dB(A)

Model LSP 580

- Thickness: 580 mm.

- Net open area: 70% of the application surface
- Effective sound-absorbing surface: 8,7 m² per m² of silencer base area
- R_w: 15-19 dB(A)

The variation in sound reduction, between minimum and maximum values over the average frequency range, is influenced by the receiver's location relative to the orientation of the "sound-absorbing blades".

Variable orientation of internal baffles, both vertical and horizontal, to enhance efficiency according to specific application requirements.

Pressure drop

Installed on high airflow systems: <5 Pa

LSP 290	Calculation results	
Gas velocity in the duct	3	m/s
Internal wall roughness	0.036322	r/d
Reynolds number	53755	
Friction coefficient (Colebrook)	0.0628	
Distributed pressure drop	0,58	Pa
Localised pressure drop	2,38	Pa
Total dynamic pressure drop	2,96	Pa

Acoustic performance (Insertion Loss)

Mod. LSP 290

→ R_w = 11 dB(A)*

Mod. LSP 470

→ R_w = 15 dB(A)*

Mod. LSP 580

→ R_w = 19 dB(A)*

*Perpendicular to the blade direction.

Frequency performance profile of Aphonic Grilles LSP

Mod. LSP 290

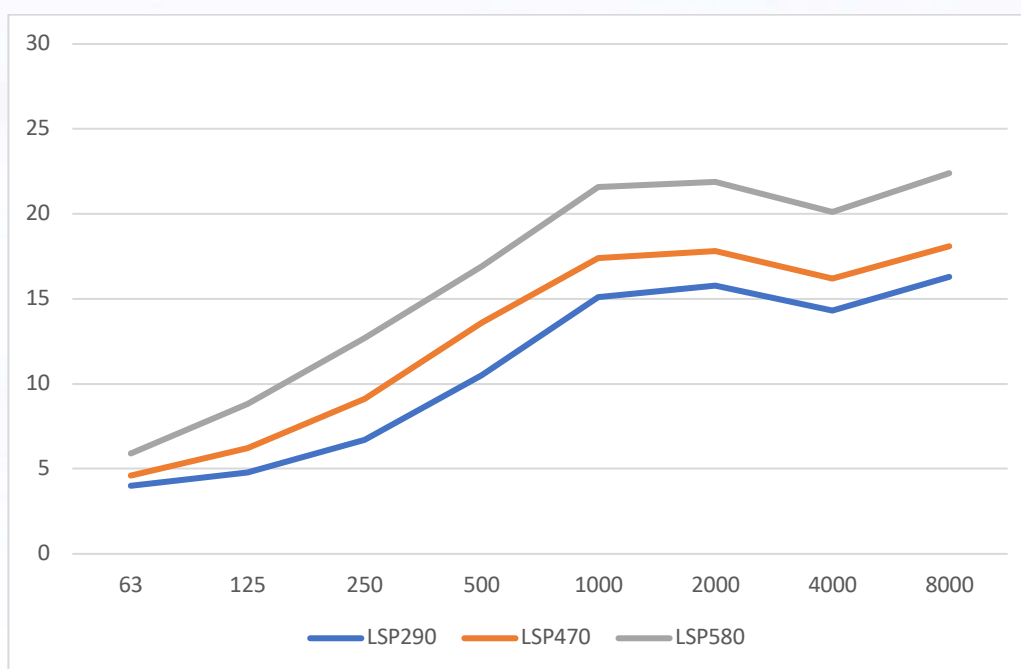
Octave Band Frequencies (Hz)	63	125	250	500	1000	2000	4000	8000
Measured attenuation (dB)	4	4,8	6,7	10,5	15,1	15,8	14,3	16,3

Mod. LSP 470

Octave Band Frequencies (Hz)	63	125	250	500	1000	2000	4000	8000
Measured attenuation (dB)	4,6	6,2	9,1	13,6	17,4	17,8	16,2	18,1

Mod. LSP 580

Octave Band Frequencies (Hz))	63	125	250	500	1000	2000	4000	8000
Measured attenuation (dB)	5,9	8,8	12,7	16,9	21,6	21,9	20,1	22,4



Per garantirne il risultato il prodotto deve essere applicato dopo una adeguata valutazione tecnico/acustica della fonte di rumore. I vani di applicazione o le superfici predisposte devono essere di tenuta acustica maggiore o uguale all'elemento Silenziatore. Al fine di massimizzare l'efficacia si consiglia una posa da parte di personale specializzato.

To ensure optimal results, the product must be installed following a thorough technical/acoustic assessment of the noise source. The installation compartments or prepared surfaces must ensure a sound insulation performance equal to or greater than that of the silencing element. For maximum effectiveness, installation by specialised personnel is strongly recommended.

The user is solely responsible for ensuring compliance with applicable laws and for obtaining necessary permits and authorisations.