IRS Inside duct silencer

Application areas

- For sound insulation
- As an insert with full valve function
- Pressure control (also subsequently)

Description

The IRS is made from a special type of plastic foam with very good damping abilities. Pressure and air mass flow is easily adjusted by varying the number of open holes in the damper. The unique material and design of the damper results in low sound generation even at large pressure drops. The IRS is incredibly easy to install, which makes the damper ideal for use with existing installations.

Operation

The IRS is designed for circular pipes. He is completely produced of soft elastic plastic foam, which has good damping properties. The damper has a number of oval openings which are provided with insertable stopper. Regarding to the special material and design of the openings the noise generation , even for large pressure waves, is decreased. The IRS is provided with a measurement outlet opening in order to accelerate the setting.

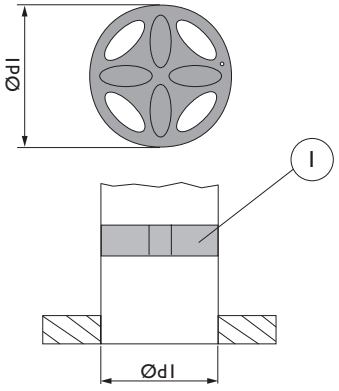
Soundproofing

The stable plastic foam has an open cell structure and a high density, which enables him to absorb noise in an exceptional manner. By cascading set multiple IRS in a channel is the noise damping further increased.

Material properties

The IRS is primarily made of polyester fiber. This material meets the SBI test, Pr EN 13823 Class B (B, s1, d0).
The IRS also includes a small proportion of flexible polyurethane foam. This substance is non-flammable and corresponds to the FMVSS-302 on combustible materials.
The material of the damping element consists of fire and mildew-proof foam, the requirements to the emission class M1 corresponds (melamine resin). The IRS corresponds to the fire class B.

Mounting

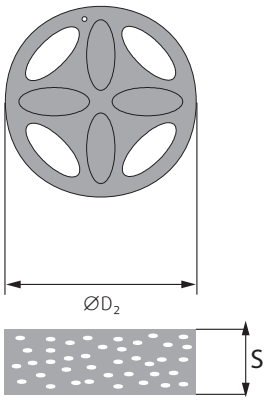


Easy and quick installation with pre-punched openings.

1. According to the required number remove the elliptical openings.

2. Push the IRS (I) into the ventilation duct.

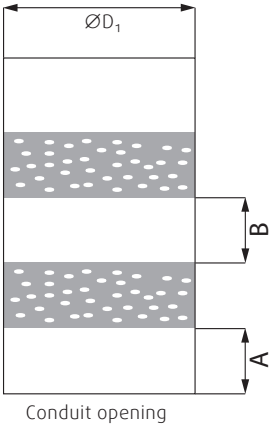
Dimensions



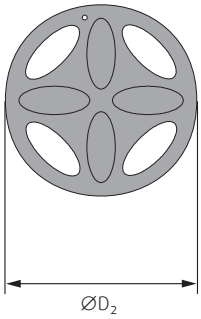
Size	ØD1	ØD2	S
80	80	82	50
100	100	102	50
125	125	127	50
160	160	162	50
200	200	202	50

ØD1 = Diameter of the pipe

Installation



To make the stated technical values asserted, it is necessary that the values shown in the drawing are complied with.



	A (mm)	B (mm)
Intake air	50-350	250
Deduction air	0-50	250

ØD1 = Diameter of the pipe

A = minimum distance between the conduit opening and the first IRS

B = minimum distance between two IRS

Acoustic values

Sound attenuation

Sound attenuation without end reflection

ISO 7235:2003

Table ΔL (dB)

Size	Number of openings	Hz							
		63	125	250	500	1K	2K	4K	8K
80	2	2.5	2	3	4.5	6	9	10	16
100	1	6.5	7.0	4.0	9.5	13	16	18	22
100	3	3.0	3.5	2.5	5.5	8.5	8.5	15	19
100	5	1.5	2.5	1.5	3.5	6.0	6.5	12	17
125	2	5.0	6.0	5.0	5.0	12	13	19	21
125	5	2.0	2.0	2.5	3.0	8.5	8.0	14	19
125	8	1.0	1.5	1.5	2.5	6.0	5.0	11	18
160	1	6.5	7.0	4.0	9.5	13	16	18	22
160	3	3.0	3.5	2.5	5.5	8.5	8.5	15	20
160	5	1.5	2.5	1.5	3.5	6.0	6.0	12	17
200	2	4.0	6.5	2.5	5.5	13	14	18	16
200	5	2.0	3.0	1.5	2.5	9.5	8.5	14	15
200	8	2.0	2.0	1.0	1.5	7.0	7.0	13	14