

SORDO-A

Sound attenuator for circular ducts



QUICK FACTS

- Mineral wool covered with special polyester woven fabric.
- 100 mm shorter
- Tightness Class D
- M1 classified
- Excellent sound attenuation
- Type-approved
- Included in the MagiCAD database
- Fire-resistance Classes EI30 to EI60*

*See table for requisite safety distance



Technical Description

General

A circular sound attenuator with circular connection spigots.

Unique properties regarding fire-resistance class, fibre-migration proof design and sound attenuation.

Patent-pending self-supporting fibre-migration proof surface lining and end wall solution.

Function

Producers in every line of trade are constantly in pursuit of ways to downsize their products yet retain the same performance. This is also the case in the indoor climate system field. The smaller the products we at Swegon are able to fabricate; the more installation options the sub-contractor will have at his disposal. Reduced sizes also make the products easier to handle and install.

It was with these prerequisites in mind that we began to develop the new SORDO, our popular round sound attenuator with circular connection spigots.

Patented Solution

The result of our research work has been the development of a sound attenuator that is 100 mm shorter than our previous SORDO yet with the same excellent acoustical properties as before. Like for the SORDO's rectangular sister sound attenuator the CLA, the success of this design is to a great extent due to a completely new, patented production technique. The unique solution with the end walls integrated directly into the connection spigots and our new self-supporting fibre-migration-proof lining, where mineral wool is covered with a special polyester woven fabric inside the sound attenuator. This solution offers excellent tightness that contributes to the high performance. We have also been able to reduce both the inner and outer diameters of the new SORDO, which is also a reason for its excellent sound attenuation.

Design

The standard SORDO is made of galvanised sheet steel to Environmental Class C3 (equivalent to M2 to VVS-AMA 98).

The SORDO is fibre-migration-proof thanks to our new patent-pending solution with self-supporting surface layer, which is approved with regard to cleaning, fibre migration, resistance to ageing, emissions, etc.

Installation

The connection spigots on this product are designed for connection to ducts only. It is important to drive screws or blind rivets into the sheet-metal edge on the connection spigot. See Figure.

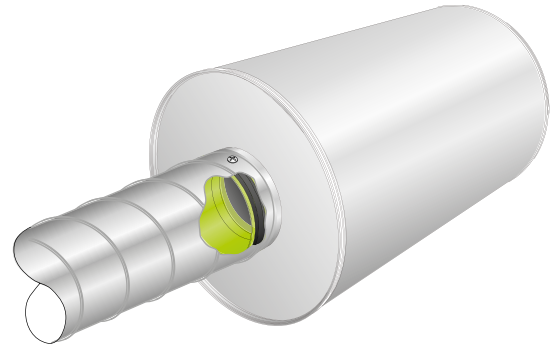


Figure 1. Sheet-metal edge firmly fixed in the connection spigot. For extra reliability, the joint duct should be fastened in the curled up sheet-metal edge (at least 25 mm) inside the connection spigot.

The product can be mounted by means of approved hangers that satisfy the provisions to load bearing capacity rating **R** corresponding to the fire resistance the structural element of the building, for example load bearing capacity rating **R 60** for elements of structure to fire-resistance class **EI60**.

Maintenance

The product is maintenance-free under normal operating conditions. According to its type approval rating, the sound attenuator can be cleaned using a rotating plastic brush.

The normal temperature for (continuous) use is between -30° and +50°C.

Environmental Considerations

The relevant building product declaration is available from our website.

Sizing

Sound attenuation

Sound attenuation is specified to ISO 7235, i.e. static integral attenuation for duct products.

Software

Prosilencer is a program for sizing and selection of sound attenuators. Prosilencer can easily be found on www.swegon.com

Swegon ProSilencer plugin for MagiCAD for AutoCAD and Revit means that you can choose a duct section from the drawings and automatically search for suitable sound attenuator options for the duct based on the duct form, dimensions, air flow and MagiCAD sound data.

The Swegon ProSilencer plugin is a part of the Swegon MagiCAD plugin for AutoCAD and Revit, which enables direct data transfer between Swegon’s calculation software and your MagiCAD project.

Pressure drop

The net area is less than the connection diameter for improved sound attenuation data (especially in the low frequencies). The pressure drop that SORDO duct-to-duct installation generates is specified in Diagram 1.

The specified data is based on a uniform air stream in and out of the product. Any dampers, duct bends or other products in the ducting near the sound attenuator will increase its pressure drop and level of flow-generated sound, and affect its sound attenuating properties.

Diagram 1. Airflow – pressure drop, SORDO-A

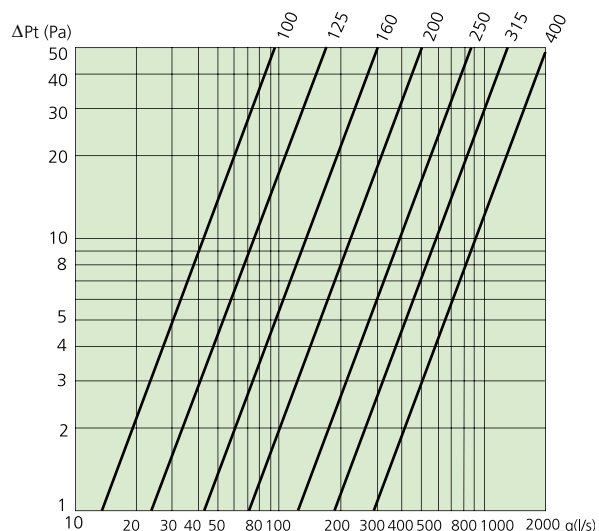


Table for the SORDO-A dimension print

Size mm	Ø d mm	Ø D mm	C mm	Length mm		
100	99	205	45	500	800	1100
125	124	226	45	500	800	1100
160	159	255	45	500	800	1100
200	199	288	45	500	800	1100
250	249	345	45	500	800	1100
315	314	403	45	500	800	1100
400	399	479	60	500	800	1100

SORDO-A

Version (with 50 mm thick mineral wool)

The new SORDO is an industrially fabricated product designed for excellent sound attenuation and ease of installation.

The standard SORDO is made of galvanised sheet steel.

The connection spigots are fitted with rubber seal rings. Type-approved to Tightness Class D.

SORDO has been granted type approval (TG SC0480-18) for Fire-resistance Classes E120, EI30, EI60 and EI120 provided that the safety distance required is complied with.

Specified safety distance in the table refers to evacuating persons or 2.5 kW/m².

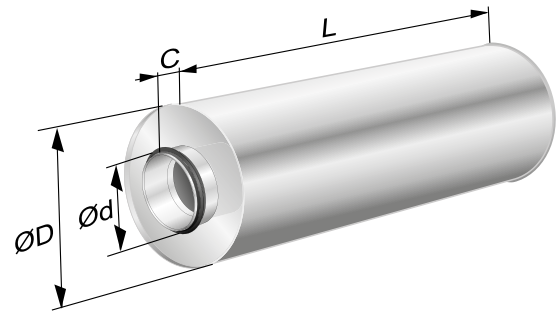


Figure 2. SORDO-A – Dimension print

The new SORDO is 100 mm shorter, with the same excellent acoustic data as before.

The overall dimension for connection sizes 100 up to and including 400 is shorter than previously.

The same degree of attenuation is made possible by, among others, reduced inner and outer diameters.

This reduces its weight and above all saves space.

SORDO-A, Acoustic Data

Size	Length (mm)	Ø d (mm)	Ø D (mm)	Static integral attenuation, dB to ISO 7235								Weight (kg)	Safety distance in mm *		
				63	125	250	500	1K	2K	4K	8K		EI30	EI60	EI120
100	500	99	205	5	7	12	24	37	45	35	24	3,4	50	90	150
	800	99	205	6	10	19	32	45	50	45	27	5.1	50	130	140
	1100	99	205	7	12	26	40	50	50	50	38	6.8	50	140	140
125	500	124	226	3	6	10	21	30	37	32	17	3.8	50	90	150
	800	124	226	4	9	16	30	40	50	38	25	5.7	50	130	150
	1100	124	226	5	12	21	39	50	50	44	33	7.8	50	150	150
160	500	159	255	3	5	10	17	25	32	17	14	4,5	50	90	160
	800	159	255	4	8	15	25	35	42	28	20	6.7	50	140	150
	1100	159	255	5	11	20	33	46	50	39	25	9	50	160	160
200	500	199	288	3	3	8	13	18	22	13	12	5.2	50	100	160
	800	199	288	3	5	11	20	30	35	20	17	7.9	50	140	160
	1100	199	288	4	7	15	27	42	48	27	19	10.5	50	170	170
250	500	249	345	2	2	5	10	16	15	8	6	6.6	50	100	170
	800	249	345	2	4	8	15	23	24	12	9	9.8	50	150	170
	1100	249	345	3	6	11	20	31	34	17	11	13.1	50	180	180
315	500	314	403	1	3	4	7	10	7	6	2	7.9	50	100	170
	800	314	403	1	4	7	12	17	14	8	4	11.8	50	160	180
	1100	314	403	2	5	9	17	25	21	10	6	15.8	50	190	190
400	500	399	479	1	3	3	7	10	7	5	3	10.1	50	110	180
	800	399	479	1	3	5	11	15	10	6	3	14.8	50	160	190
	1100	399	479	2	4	7	15	20	13	7	3	19.6	50	200	200

* = Specified safety distance for evacuating persons is based on a critical radiation level of 2.5 kW/m²

Safety distance to combustible material based on a critical radiation level of 10 kW/m² is 50 mm for all fire-resistance classes

Ordering Key

Product

Circular sound attenuators

SORDO

A- bbbb- cccc

Type:

Connection dimensions:

100, 125, 160, 200, 250, 315, 400

Length:

500, 800, 1100

Specification Text

Example of a specification text conforming to VVS AMA Standard.

Example

Swegon type SORDO-A round sound attenuators for connection to circular ducts, with the following functions:

- Type-approved
- Fire-resistance Class E120
- Fire-resistance Class EI60 with safety distance of 50mm
- Tightness Class D
- M1 classified
- Self-supporting surface layer
- Protection for fibre migration and cleanable
- 50 mm thick rock wool

Designation:	SORDO-A 200-800	xx items
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