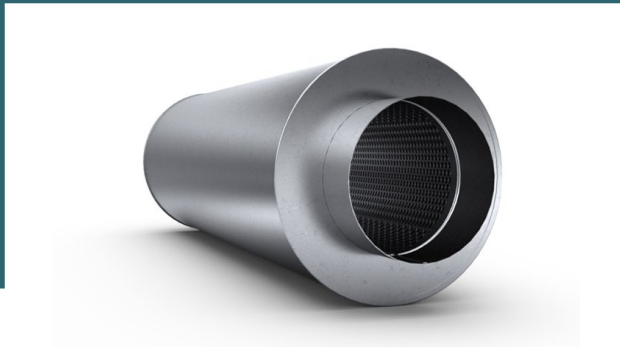


TAR

SOUND ATTENUATORS



Intended use:

TAR silencers are designed for attenuating the noise transferred by circular ducts in ventilation systems.

Intended use

They are usually located between fans and intake or extraction ducts as well as before intake ventilators which supply air to rooms requiring high acoustic comfort.

Design

An external attenuator housing is made of galvanized steel sheet. Inside the housing, there is an attenuating insert, made of non-flammable sound absorbing material, protected by a shutter made of perforated galvanized steel sheet. TARs are normally fitted with nipple connectors adjusted to the standardized diameters of circular spiro ducts. It is possible to order customized silencers with sleeve or flange connectors. In a stainless version, the steel elements mentioned above are made of 1.4301 stainless steel (according to PN-EN 10027-2).

Application

The tightness of the silencer housing is normally classed as A (according to EN 1751) and makes it possible to use TAR silencers in ventilation systems, where the internal pressure is up to 630 Pa. There is a possibility of ordering a special B or C leakage class housing (according to EN 1751). The recommended airflow speed for using TAR silencers is up to 12 m/s.

Installation

TAR silencers may be installed vertically or horizontally by means of lifting slings.

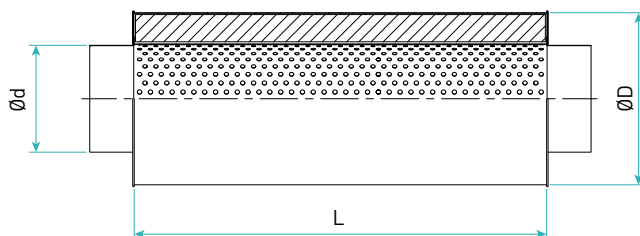


Figure 1. Circular attenuator TAR.

Selection TAR

Table 1. Dimensions and empty weight.

Ød	ØD	L	Weight at L = 1 [m]
80	180	500	7,8
100	200	1000	9,1
125	225		10,7
160	360		18,3
200	400	500	21,4
250	450		25,2
315	615	1000	38,2
400	700		45,6
500	800	1500	54,6
630	930		66,7
800	1100		83,2

Table 2. Air-regenerated noise L_w [dB_(A)].

Average silencer [mm]	V [m/s]			
	5,0	8,0	10,0	12,0
80		15	22	27
100		16	23	28
125		17	24	30
160	4	21	27	32
200	5	22	28	34
250	8	24	31	36
315	10	26	32	38
400	13	27	34	41
500	16	31	37	43
630	17	32	38	44
800	20	34	42	47

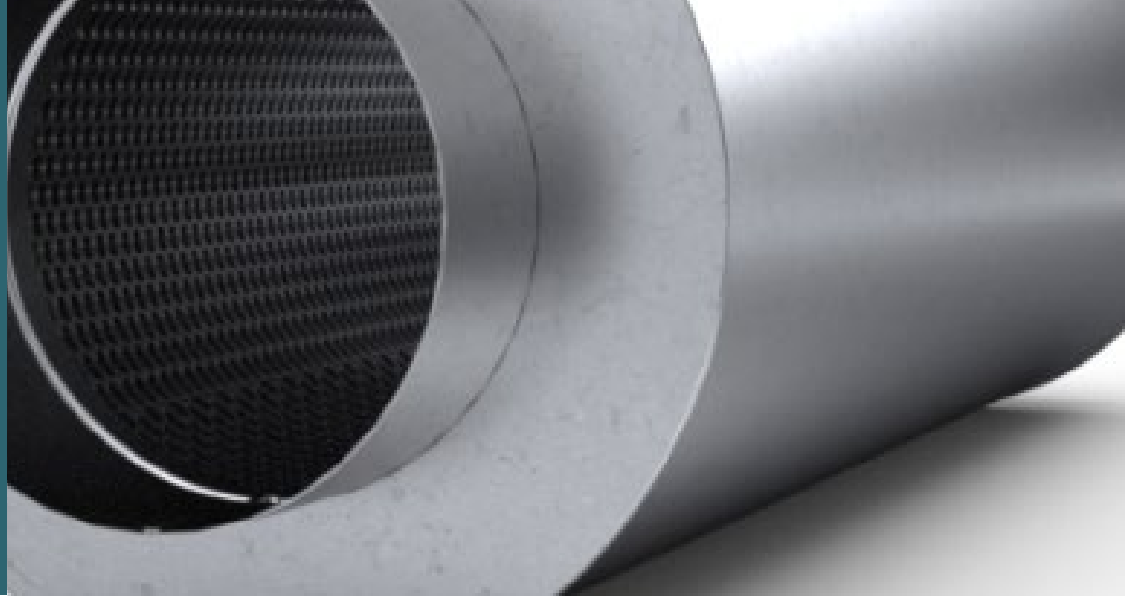
Attenuation values in dB for individual frequency bands.

Table 3. L = 500 mm.

Diameter [m]	Frequency [Hz]							
	63	125	250	500	1000	2000	4000	8000
80	2	5	7	14	28	26	21	17
100	2	4	7	14	25	22	18	15
125	1	4	7	13	23	19	15	13

SN

SO



Diameter [m]	Frequency [Hz]							
	63	125	250	500	1000	2000	4000	8000
160	2	7	11	17	19	19	15	8
200	2	6	10	16	18	16	11	6
250	2	5	9	14	16	13	9	5
315	2	4	8	12	15	10	6	4
400	1	3	7	11	13	8	5	3
500	1	3	6	9	12	7	4	2
630	0	2	5	7	11	5	3	2
800	0	1	4	6	9	4	2	2

Table 4. L = 1000 mm.

Diameter [m]	Frequency [Hz]							
	63	125	250	500	1000	2000	4000	8000
80	5	8	18	32	47	50	36	27
100	5	8	16	30	43	47	32	24
125	3	7	15	27	39	40	27	20
160	4	10	18	32	39	32	21	15
200	4	9	16	29	33	26	15	12
250	3	8	14	25	28	20	11	9
315	3	7	12	22	24	16	8	7
400	2	6	10	19	20	13	5	5
500	2	5	9	15	17	10	4	4
630	2	3	7	12	14	8	3	3
800	1	2	5	8	12	6	2	2

Table 5. L = 1500 mm.

Diameter [m]	Frequency [Hz]							
	63	125	250	500	1000	2000	4000	8000
125	4	9	20	35	49	50	37	26
160	4	18	31	39	50	43	31	20
200	4	16	28	35	46	34	22	16
250	4	14	24	32	41	27	15	12
315	3	12	21	28	36	21	10	9
400	3	10	17	24	31	16	7	7
500	2	8	13	21	27	13	5	5
630	2	6	10	17	22	10	3	4
800	2	4	6	13	17	8	2	3

Nomogram I

TAR silencer parameter selection.

Marking:

V_t [m³/h] – total airflow

V [m/s] – flow rate

Δp [Pa] – total pressure loss

d [mm] – flow diameter

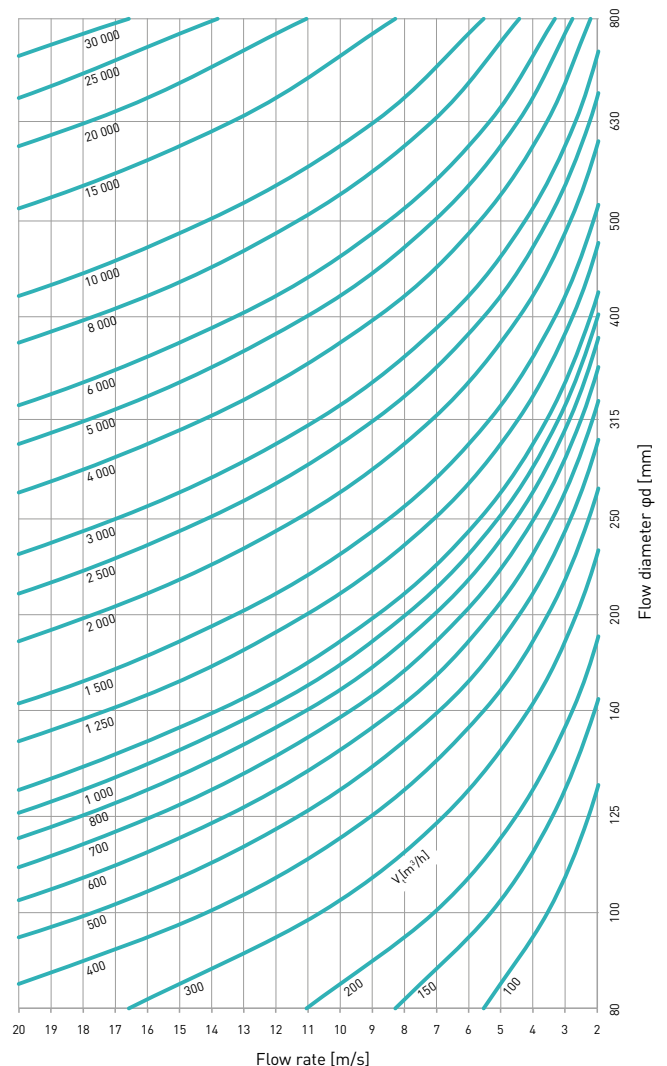


Chart 1.

Nomogram II

Pressure loss depending on velocity, flow and silencer length.

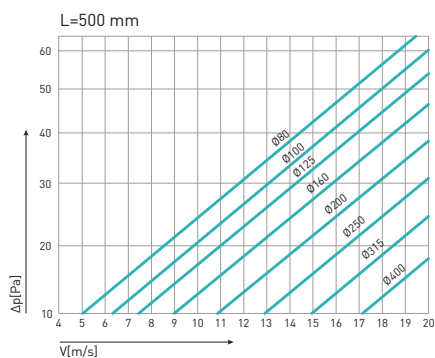


Chart 2.

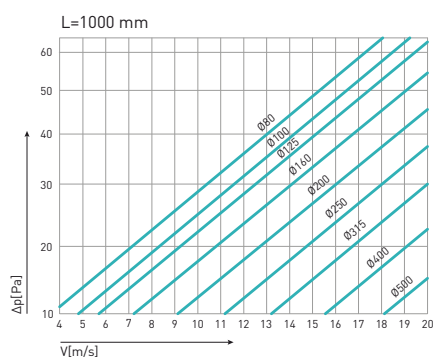


Chart 3.

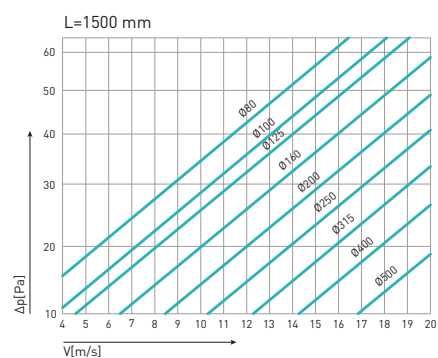


Chart 4.

TAR – sound attenuators

When ordering, please provide information in accordance with the following pattern:

TAR - <D> - <L> - <J> - <P> - <KL>

Where:

D silencer internal diameter in mm: 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800

L silencer length in mm: 500, 1000, 1500

J connector*

N - nipple

M - sleeve

K - flange

P material*

SO - galvanized steel

SN - stainless steel

KL leakage class according to EN 1751*

A - leakage class housing

B - leakage class housing

C - leakage class housing

* optional values – if they are not provided, the default values will be used

Order example: **TAR-200-1000-N-SO-A**

