



Type SDAD Reflection/absorption silencer

Application

The TIO silencers type SDAD can be installed in the exhausts of internal combustion engines etc.

The SDAD silencer gives an excellent attenuation over a wide frequency range.

Design

The acoustical performance of the silencer type SDAD is determined by several expansion chambers. The gas flow first passes through these chambers which are connected by perforated tubes and then passes through a diffusor pipe. Last section of the silencer is filled up with highly efficient sound absorbing material.

The type SDAD is a combination of resonance – absorption silencer.

Attenuation

The attenuation is approximately 42dB(A).

The attenuation in each middle frequency is shown in the adjacent graphic. The shaded area shows the differences which probably appear due to the influence of temperature, back pressure and location of silencer. The attenuation also depends on unsilenced noise level.

Gas velocity

The recommended gas velocity is 35 – 50 m/sec. The maximum allowable gas velocity in the silencer is depending on the type of engine and related to the maximum back pressure which may be appear in the whole exhaust system.

Pressure loss

The graph shows the approximate pressure drop across the silencer in relation to the gas velocity.

If required, we can advise in detail and make computer calculations.

Temperature

Maximum: 600°C.

Special designs are available for higher temperatures.

Insulation

In order to avoid that noise radiation of the body of the silencer is of influence of the required noise level, it is recommended to insulate the silencer acoustically. As the body temperature is more or less the same as the temperature of the medium, we also advise to insulate the silencer thermically.

Material

In- and outside – normal steel, trade quality, acoustical material – mineral wool. Execution with other materials like stainless steel and Cor-Ten steel are possible.

Paint

One layer of zinc phosphate primer.

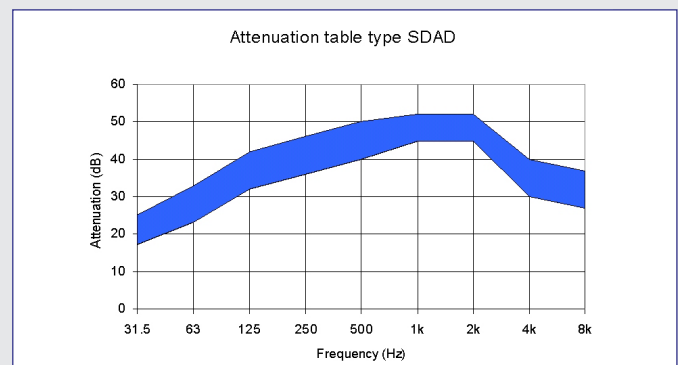
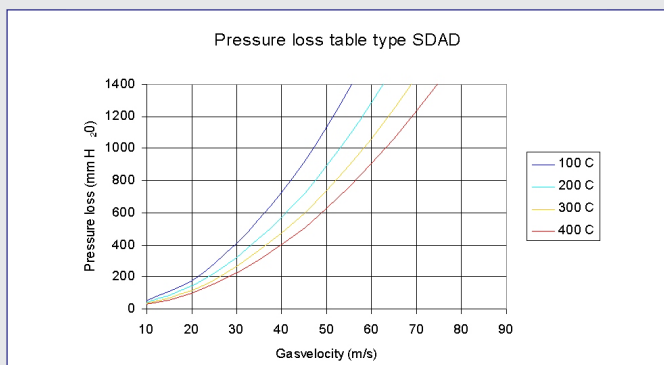
Installation

Type SDAD may be installed vertically, horizontally or in any position close to the engine.

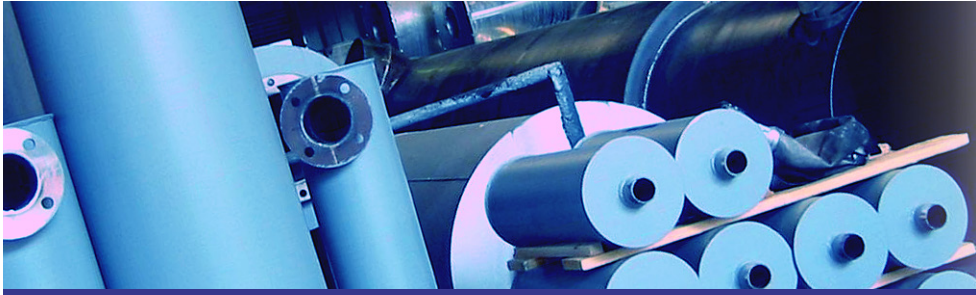
Special connection

For in- and outlet are special connections on request available.

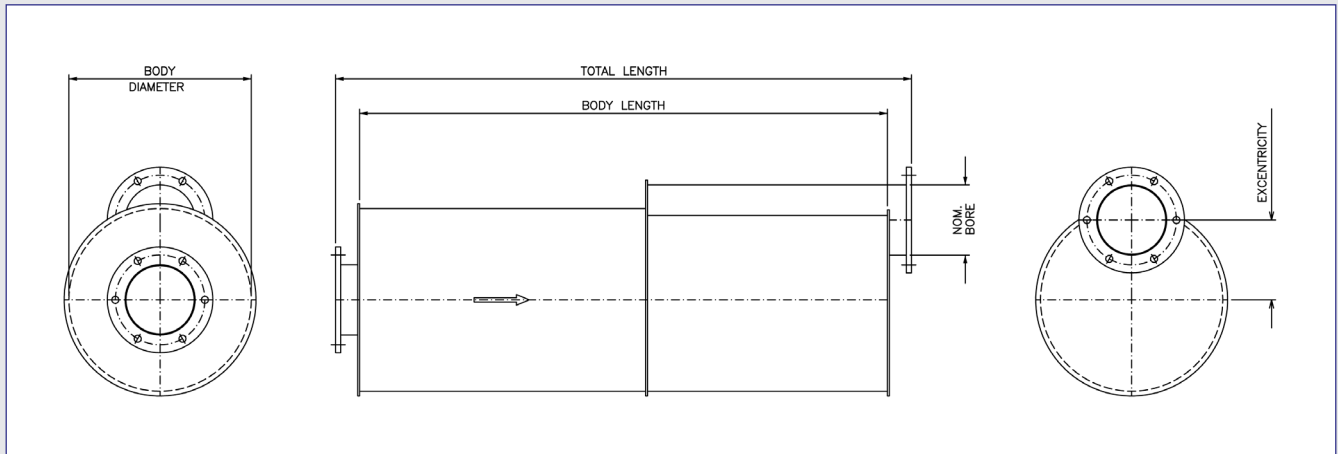
N.B. All TIO silencers can be combined with TIO spark arrestors.



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Executions with thread

Silencer type	Nominal bore	Body diameter	Body length	Total length	Excentricity
2"	50	240	490	580	73
2-1/2"	70	320	760	880	106
3"	80	320	760	880	106
3-1/2"	94	350	960	1080	127
4"	100	370	960	1090	126
5"	125	390	1185	1325	155
6"	150	480	1350	1500	185
7"	175	537	1400	1550	220
8"	200	570	1650	1800	249
9"	225	635	1800	1950	277
10"	250	700	1850	2000	313
11"	275	750	1900	2100	338
12"	300	830	2000	2200	373
14"	350	930	2200	2400	408
16"	400	1030	2400	2600	467
18"	450	1200	2800	3000	524
20"	500	1265	3000	3200	570
22"	550	1330	3300	3500	635
24"	600	1400	3600	3800	681