



## Type VSDHC Reflection silencer with spark arrester

### Application

The TIO silencer/spark arrester type VSDHC can be installed in the exhausts of internal combustion engines etc. The VSDHC gives an excellent attenuation over a wide frequency range.

### Design

The operation of the silencer/spark arrester VSDHC is based on the resonance principle. The acoustical performance is determined by several expansion chambers. The gasflow passes through these chambers which are connected by perforated tubes. If high silencing-demands are required, the VSDHC can be efficiently combined with absorption silencers like our types HD, HDD, etc.

### Attenuation

Approximately 25 dB(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/spark arrester. The attenuation also depends on unsilenced noise level.

### Gas velocity

The maximum allowable gasvelocity 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

Graphic shows pressure loss of VSDHC silencer/spark arrester in relation to velocity. If required, we can advise and make computer calculations.

### Temperature

Maximum: 600°C.

Special designs are available for higher temperatures.

### Insulation

As the gasses are in direct connection with the body of the silencer, thermal insulation is recommended. In those applications where also the shell noise of the silencer can be of influence on the noise level, an acoustical insulation is recommended too.

### Material

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

### Paint

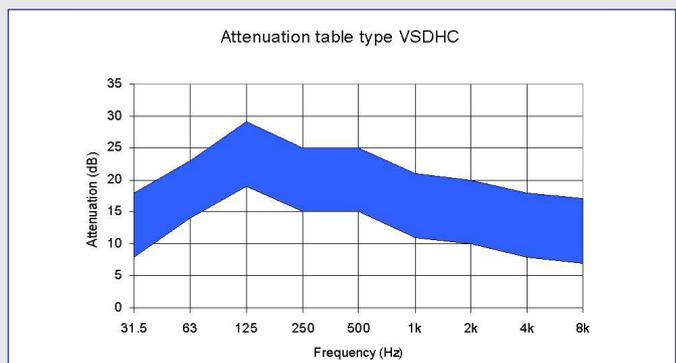
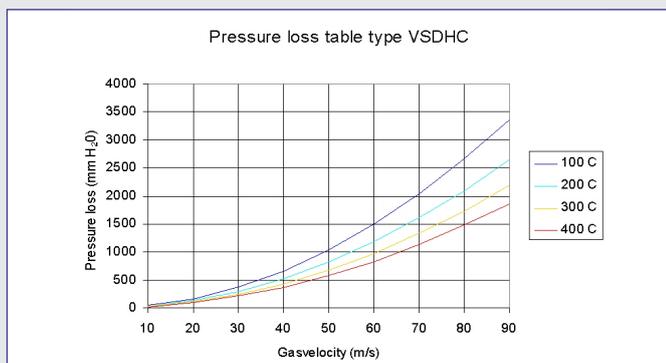
One layer of zincphosphate primer.

### Installation

Type VSDHC silencer/spark arrester may be installed vertically, horizontally or in any position wanted as close as possible to the engine, but in consideration of the position of the spark arrester. Because the gases are in direct connection with the body, the temperature of the wall will be fast equal to medium's temperature and expansion of the body of the silencer takes place. Before supporting and installing the VSDHC silencer/spark arrester, you have to consider the above. When installing at site, it is possible to weld suspensions on the body.

### Special connection

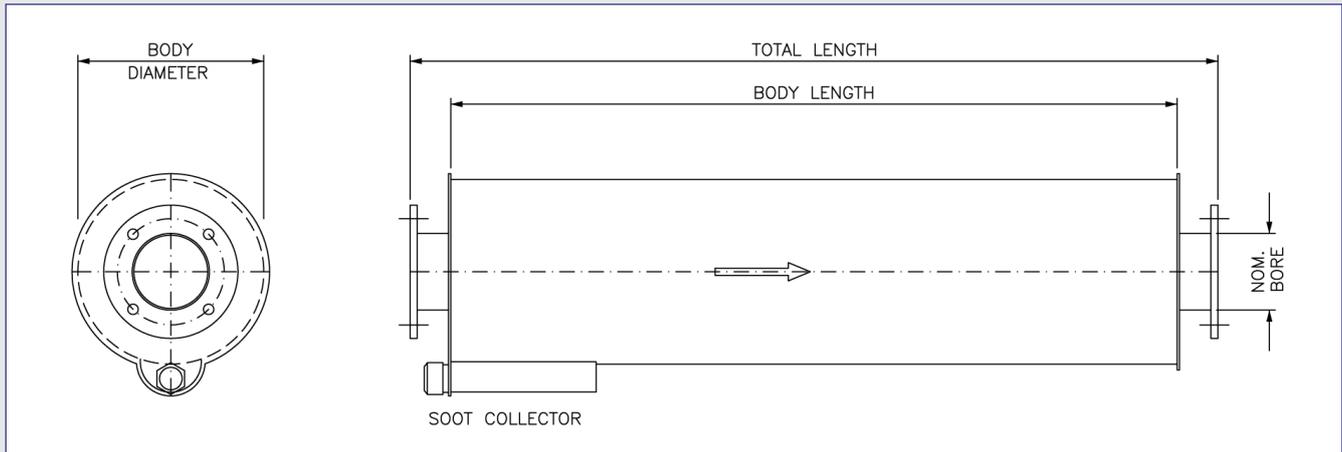
On request VSDHC silencer/spark arrester can be provided with radial in- and/or outlet or 2 inlets at frontside.



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## Type VSDHC Reflection silencer with spark arrester



### Executions with TIO thread

Silencer type	Nominal bore	Body diameter	Body length	Total length
1"	25	158	490	560

### Executions with TIO flanges

Silencer type	Nominal bore	Body diameter	Body length	Total length
1-1/5"	40	181	520	610
2"	50	240	680	770
2-2/5"	70	240	720	820
3"	80	240	1000	1120
3-1/2"	94	320	1050	1170
4"	100	369	1090	1220
5"	125	390	1335	1475
6"	150	457	1680	1830
7"	175	531	1830	1980
8"	200	608	1980	2130
9"	225	656	2440	2590
10"	250	756	2745	2895
11"	275	850	2800	3000
12"	300	911	2900	3100
13"	325	911	3350	3550
14"	350	911	3960	3960
15"	375	1020	4050	4050
16"	400	1067	4115	4115
18"	450	1220	4265	4265
20"	500	1370	4420	4420
22"	550	1370	5130	5130
24"	600	1525	5280	5280