

SILCULAR

Circular Attenuators

APPLICATION

The SILcular range of attenuators is designed for direct connection to axial fans or for inclusion in ductwork systems.

A wide range of standard units with full performance data (derived from tests carried out in accordance with BS4718-1971) offer a simple solution to the majority of airborne noise problems.

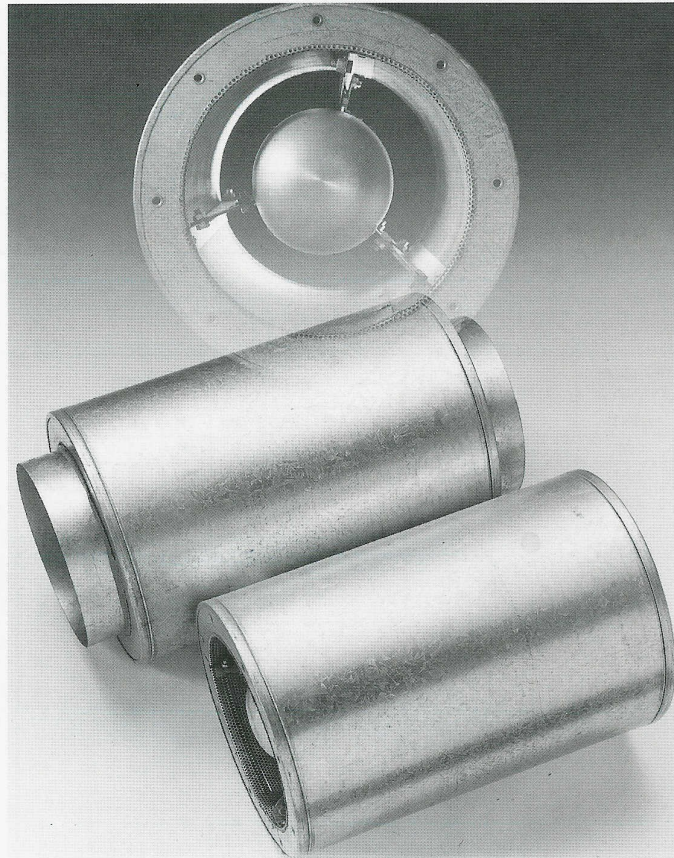
Full, easy to use selection data including static insertion losses are shown on the reverse.

CONSTRUCTION SPECIFICATION

Standard SILcular attenuators are constructed with cases from pre-galvanised mild steel having a minimum thickness of 0.9mm, infill from highly absorbent mineral wool with a density of 60-70Kg/M interfaced with glass cloth, behind pre-galvanised perforated/expanded metal mild steel sheet.

Central absorbent pods (where required) are concentrically mounted and incorporate coned entry and exit noses to reduce pressure loss.

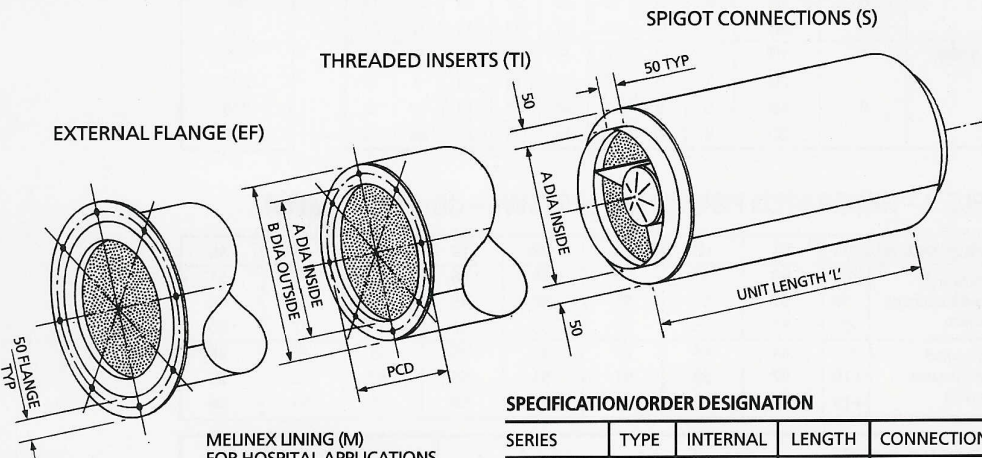
SILcular attenuators are also available with special internal and external finishes



or constructed to individual material specifications including PVC, GRP, stainless steel and aluminium to suit applications such as process air

handling, dust extraction, high humidity extract, wet or dry fume extract, offshore installations and gas turbine intake systems.

CIRCULAR ATTENUATORS - SPECIFICATION GUIDE (SIL A WITHOUT POD / SIL B WITH POD)



SARGENTS

SARGENTS IS A B.S.I. REGISTERED COMPANY TO BS 5750 PART 1



SARGENTS ACOUSTICS

A DIVISION OF HUNTER INTERNATIONAL LIMITED



HUNTER INTERNATIONAL

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Step-by-Step Selection Instruction

TABLE 1

Read Air volume horizontally from selected unit size. Pressure drop shown at top of column (this table is for SIL B units only. Pressure loss thorough SIL A units is negligible).

TABLE 2

Lists static insertion losses in dB for differing diameters, with and without centre pods.

Unit lengths are expressed in terms of internal diameter 'D'.

TABLE 3

Shows attenuator self generated noise levels at various air velocities.

Values are shown for positive and negative flow.

The generated sound power level enables attenuator dynamic insertion loss (D.I.L.) to be derived.

TABLE 4

Gives approximate weights for the corresponding attenuators on Table 2 (weights vary slightly with connection type).

SARGENTS reserve the right in view of their continuous programme of development and improvement, to revise or alter their range of products and prices without prior notice.

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TABLE 1 – AIR FLOW/PRESSURE LOSS

INTERNAL DIAMETER (MM)	PRESSURE LOSS (Pa)									
	10	20	30	40	50	60	70	80	90	100
300	0.34	0.46	0.57	0.66	0.75	0.82	0.89	0.95	1.01	1.07
450	0.76	1.04	1.29	1.49	1.69	1.85	2.01	2.13	2.28	2.42
600	1.36	1.86	2.29	2.65	3.01	3.30	3.58	3.80	4.05	4.30
750	2.12	2.91	3.58	4.14	4.71	5.16	5.60	5.94	6.33	6.72
900	3.06	4.19	5.16	5.97	6.78	7.43	8.07	8.55	9.12	9.69
1050	4.17	5.71	7.03	8.13	9.23	10.11	10.98	11.64	12.41	13.18
1200	5.45	7.46	9.18	10.62	12.05	13.21	14.35	15.21	16.22	17.22

Air Volume (m³/s)

Note: Above figures refer to SILcular 'B' Units only

TABLE 2 – STATIC INSERTION LOSS (dB)

INTERNAL DIAMETER (MM)	TYPE	LENGTH	OCTAVE BAND CENTRES (HZ)							
			63	125	250	500	1K	2K	4K	8K
150	A	2D	0	1	2	9	16	12	12	10
200	A	2D	0	1	2	10	16	12	12	10
300	A	1D	3	4	7	11	11	9	4	2
		2D	3	4	8	13	16	11	6	5
	B	1D	6	6	12	19	24	26	24	20
		2D	7	8	14	22	29	31	26	22
450	A	1D	2	2	7	9	11	6	3	3
		2D	4	6	10	16	18	11	6	5
	B	1D	6	5	11	17	21	26	21	18
		2D	8	9	18	26	31	31	28	25
600	A	1D	2	3	5	9	9	6	2	1
		2D	4	5	11	16	18	12	6	5
	B	1D	6	6	10	17	22	24	19	17
		2D	8	9	16	26	31	31	26	22
750	A	1D	1	2	3	8	8	7	4	3
		2D	3	5	10	14	17	14	8	5
	B	1D	7	8	16	27	28	20	20	18
		2D	9	12	22	35	35	27	26	23
900	A	1D	2	2	3	7	7	7	4	3
		2D	3	3	9	13	16	14	8	5
	B	1D	7	8	17	28	26	19	19	17
		2D	9	12	24	35	34	26	25	22
1050	A	1D	1	1	3	6	9	7	4	3
		2D	2	3	8	11	15	13	7	5
	B	1D	8	9	19	29	27	19	18	17
		2D	8	12	24	34	33	23	22	21
1200	A	1D	2	2	3	5	8	8	5	2
		2D	3	5	10	12	15	14	9	5
	B	1D	6	8	17	30	28	19	19	18
		2D	8	11	23	35	35	25	24	22

TABLE 4

APPROX WEIGHT (KG)
3.5
4.0
9.5
15.5
10.5
18.0
15
26
19
32
28
48
33
56
42
70
50
84
50
86
58
100
76
129
90
154
179
304
200
340

TABLE 3 – GENERATED POWER LEVELS (SWL – dbre 10⁻¹² Watts)

SILENCER FACE VELOCITY	63	125	250	500	1K	2K	4K	8K
Airflow and sound in opposing direction	-15	58	58	59	56	56	55	51
	-10	51	51	51	50	45	45	40
	-5	37	35	40	35	30	28	20
Airflow and sound in same direction	+5	44	44	38	37	39	36	20
	+10	57	55	51	51	50	47	30
	+15	64	62	58	57	58	56	48

SILENCER FACE AREA M ²	0.25	0.5	1	2	4	8	16
PWL ADJUSTMENT db	-6	-3	0	+3	+6	+9	+12

Above figures refer to Silcular B units only.

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