

Cylindrical Silencers

Axial Fans are installed with cylindrical silencers to reduce the sound to an acceptable level. Cylindrical silencers are commonly used as it can be connected directly to the round inlet or discharge side of a fan.

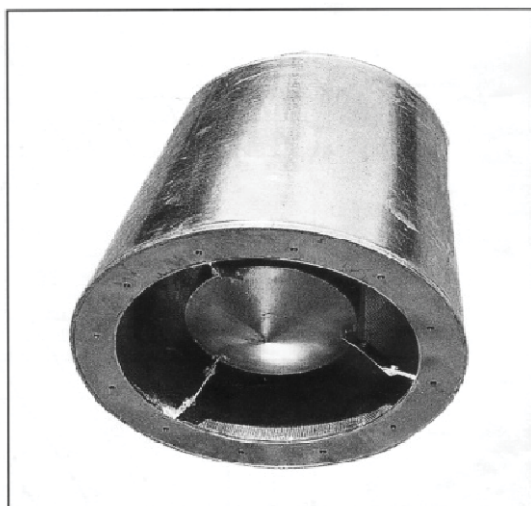
Rosenberg cylindrical silencers are available in two types:

RS - open cylinder design.

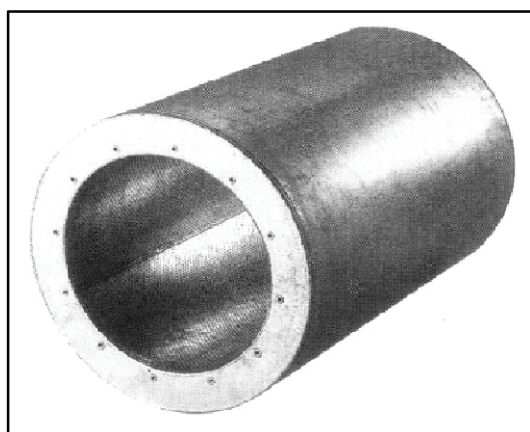
RSM - fitted with an concentric pod, producing better attenuation.

Three standard length of silencers are available:-

1. One diameter length: RSM-1D and RS-1D
2. One and half diameter length: RSM-1.5D and RS-1.5D
3. Two diameter length: RSM-2D and RS-2D



RSM Type Cylindrical Silencer



RS Type Cylindrical Silencer

Construction

Silencer casings are of rolled, pre-galvanized steel sheet 1.2mm thick with end flange ring incorporated with self-insert nuts for easy installation. The ends of the silencers are drilled and tapped to match flanges of Rosenberg axial flow fans.

The absorbent material is an acoustic grade non-combustible mineral wool encased by a galvanized perforated steel sheet. When a pod is fitted, it is of perforated metal, retaining an infill of acoustic grade mineral wool.

The silencer constructional integrity is suitable for pressure up to 2500Pa.

For critically clean and wet conditions, e.g. hospitals and kitchen exhaust or moisture resistance area, Melinex lining of the acoustic infill can be provided to prevent the ingress of moisture or grease. A small reduction of attenuation in the higher frequencies due to this lining are expected.

RSM and RS silencer are available from inner diameter of 315mm to 1600mm.

Performance

Acoustic performance data shown are obtained with test conducted in accordance to ISO 7235 standard. The silencer attenuation is defined as the dynamic insertion loss. The values quoted in the tables attached represent the difference between the sound power level, dBW of a fan and silencer combination and the dBW rating of the fan alone.

Dynamic insertion losses are the attenuation recorded under working conditions.

RS silencer have a pressure drop equivalent to a similar length of plain ducting with the same diameter. RSM silencer dynamic pressure loss is:

$$= 0.5 \times \text{density of air} \times (\text{K factor}) \times (\text{Face velocity})^2$$

$$= 0.6 \times (\text{K factor}) \times (\text{Face velocity})^2$$

K factor are given in the attached table.

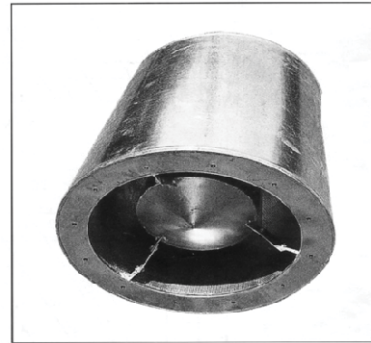
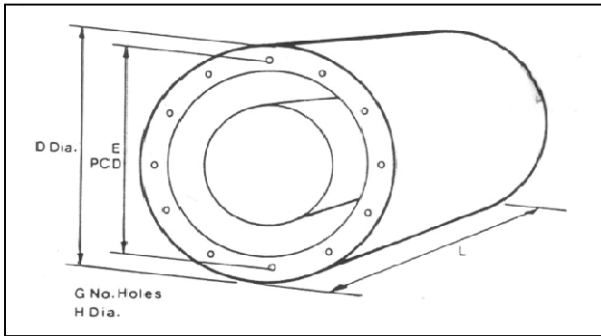
Alternatively the pressure loss can be obtained from the pressure loss chart attached.

Temperature Range

Standard silencers are suitable for temperature from -40°C to 250°C.

Finishing

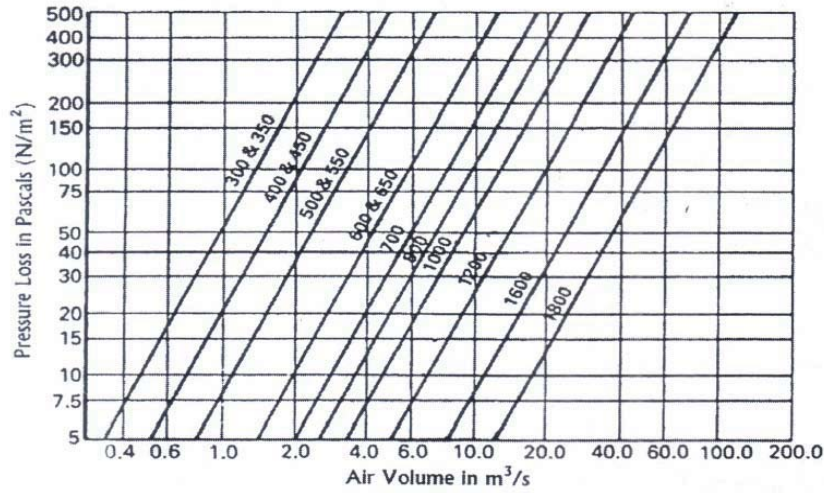
Standard finishing with galvanized zinc coating. Other finishing like epoxy paint are available with extra cost upon request.



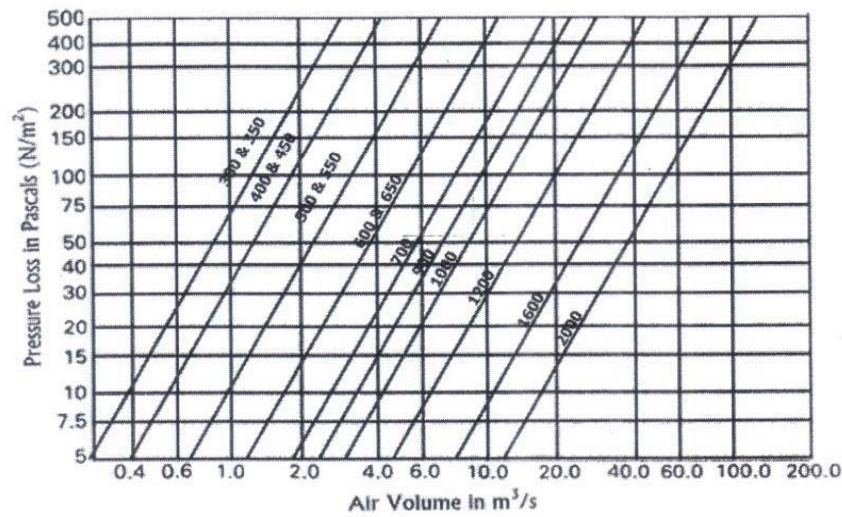
Type RSM with concentric pod

Inner Diam (mm)	Outer Diam D (mm)	Silencer Model	Silencer Insertion Loss at Active Band (Hz)								K factor	Silencer Length mm	Silencer Weight kg	No. of Holes G	PCD E (mm)	Thread size (mm)
			63	125	250	500	1K	2K	4K	8K						
	465	RSM 31-1D	3	6	8	13	20	20	16	14	0.519	315	14	8	355	M6
315	465	RSM 31-1.5D	5	8	11	17	24	24	21	18	0.600	473	17	8	355	M6
	465	RSM 31-2D	6	9	14	21	28	28	25	22	0.734	630	20	8	355	M6
	500	RSM 35-1D	4	6	8	13	20	20	16	14	0.837	355	16	8	405	M6
355	500	RSM 35-1.5D	5	8	11	17	24	25	21	18	1.000	533	21	8	405	M6
	500	RSM 35-2D	6	9	14	21	28	30	25	22	1.184	710	25	8	405	M6
	550	RSM 40-1D	4	6	10	14	22	19	16	13	0.573	400	19	8	450	M8
400	550	RSM 40-1.5D	5	8	13	20	28	24	21	18	0.700	600	25	8	450	M8
	550	RSM 40-2D	6	9	16	26	34	28	26	23	0.974	800	30	8	450	M8
	600	RSM 45-1D	4	6	9	15	26	19	16	13	0.917	450	25	12	510	M8
450	600	RSM 45-1.5D	5	8	13	22	32	24	17	14	1.200	675	33	12	510	M8
	600	RSM 45-2D	6	9	16	28	38	29	17	15	1.560	900	39	12	510	M8
	650	RSM 50-1D	4	6	9	16	23	20	15	12	0.582	500	30	12	560	M8
500	650	RSM 50-1.5D	6	8	12	20	28	25	21	17	0.600	750	39	12	560	M8
	650	RSM 50-2D	7	10	14	24	33	29	27	22	0.763	1000	48	12	560	M8
	710	RSM 56-1D	4	6	9	16	22	19	15	12	0.917	560	36	12	620	M8
560	710	RSM 56-1.5D	6	8	12	21	27	24	21	17	1.000	840	48	12	620	M8
	710	RSM 56-2D	7	10	14	25	32	29	27	22	1.201	1120	59	12	620	M8
	780	RSM 63-1D	4	6	10	18	22	19	15	11	0.472	630	42	12	690	M8
630	780	RSM 63-1.5D	6	9	13	23	28	26	22	16	0.500	945	58	12	690	M8
	780	RSM 63-2D	7	11	16	28	33	32	29	20	0.720	1260	73	12	690	M8
	860	RSM 71-1D	5	6	10	18	22	21	17	14	0.405	710	53	16	770	M8
710	860	RSM 71-1.5D	7	9	13	23	29	26	23	17	0.400	1065	72	16	770	M8
	860	RSM 71-2D	8	11	16	28	36	31	28	20	0.575	1420	90	16	770	M8
	1000	RSM 80-1D	5	6	10	18	24	17	15	11	0.442	800	67	16	860	M8
800	1000	RSM 80-1.5D	7	9	13	23	30	24	22	16	0.500	1200	92	16	860	M8
	1000	RSM 80-2D	8	11	16	28	36	31	28	20	0.623	1600	117	16	860	M8
	1100	RSM 90-1D	5	7	11	20	22	17	13	11	0.540	900	85	16	970	M10
900	1100	RSM 90-1.5D	7	9	15	24	29	23	18	15	0.600	1350	119	16	970	M10
	1100	RSM 90-2D	8	11	18	28	36	28	23	19	0.810	1800	151	16	970	M10
	1200	RSM 100-1D	5	7	12	20	23	17	13	10	0.591	1000	102	16	1070	M10
1000	1200	RSM 100-1.5D	7	9	16	24	31	22	18	15	0.700	1500	143	16	1070	M10
	1200	RSM 100-2D	8	11	19	28	38	27	23	19	0.848	2000	183	16	1070	M10
	1320	RSM 112-1D	5	7	12	20	23	16	13	10	0.627	1120	119	16	1175	M10
1120	1320	RSM 112-1.5D	7	9	16	24	31	22	18	15	0.700	1680	183	16	1175	M10
	1320	RSM 112-2D	8	11	19	28	38	28	23	19	0.910	2240	248	16	1175	M10
	1450	RSM 125-1D	5	7	12	20	20	14	13	10	0.596	1250	145	20	1320	M10
1250	1450	RSM 125-1.5D	7	9	16	24	29	21	18	15	0.700	1875	225	20	1320	M10
	1450	RSM 125-2D	8	11	19	27	38	28	23	19	0.816	2500	304	20	1320	M10
	1600	RSM 140-1D	5	7	12	20	23	16	13	10	0.474	1400	200	20	1475	M16
1400	1600	RSM 140-1.5D	7	10	16	24	31	22	18	15	0.500	2100	310	20	1475	M16
	1600	RSM 140-2D	9	12	20	28	38	28	23	19	0.711	2800	430	20	1475	M16
	1730	RSM 153-1D	5	7	12	18	17	12	10	9	0.507	1530	240	24	1610	M16
1530	1730	RSM 153-1.5D	8	11	17	22	23	19	14	12	0.500	2295	375	24	1610	M16
	1730	RSM 153-2D	10	14	21	26	28	26	18	15	0.676	3060	515	24	1610	M16
	1800	RSM 160-1D	5	7	12	20	23	16	13	10	0.304	1600	312	24	1680	M16
1600	1800	RSM 160-1.5D	8	11	17	24	31	22	18	15	0.400	2400	488	24	1680	M16
	1800	RSM 160-2D	10	14	21	28	38	28	23	19	0.506	3200	670	24	1680	M16

Pressure Loss Chart RSM- 1D Silencers



Pressure Loss Chart RSM- 1.5D Silencers



Pressure Loss Chart RSM- 2D Silencers

