

Rectangular Sound Attenuators



Windsor rectangular sound attenuators provide an efficient method of reducing your factory noise emissions.

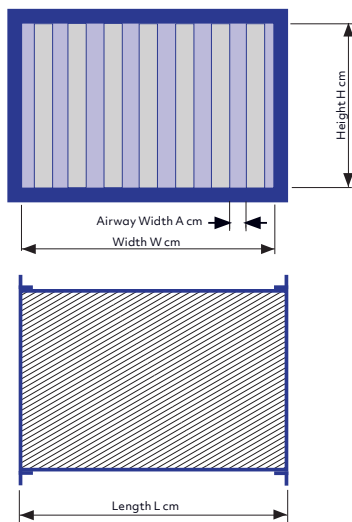
Splitter attenuator selection charts



Table 1 : R1 & RA (Standard facings)								
Code	Frequency (Hz)							
L/A cm	63	125	250	500	1K	2K	4K	8K
60/50	6	12	22	30	36	35	28	23
90/50	8	16	31	41	50	50	46	37
120/50	9	21	42	49	50	50	50	50
150/50	12	25	50	50	50	50	50	50
180/50	14	28	50	50	50	50	50	50
210/50	17	33	50	50	50	50	50	50
240/50	19	37	50	50	50	50	50	50
60/75	5	10	17	24	29	29	22	18
90/75	7	13	25	34	43	42	37	30
120/75	9	17	33	47	50	50	50	42
150/75	10	20	42	50	50	50	50	50
180/75	12	23	50	50	50	50	50	50
210/75	14	27	50	50	50	50	50	50
240/75	30	50	50	50	50	50	50	50
60/100	8	13	18	23	23	23	16	13
90/100	5	10	19	27	35	33	26	21
120/100	6	12	25	38	47	45	35	28
150/100	7	15	32	47	50	50	45	36
180/100	9	18	38	50	50	50	50	43
210/100	10	20	45	50	50	50	50	50
240/100	12	23	50	50	50	50	50	50
60/125	4	7	10	16	23	18	13	10
90/125	5	9	16	24	32	28	20	16
120/125	6	11	22	32	43	37	26	21
150/125	7	13	28	41	50	47	33	26
180/125	8	15	32	49	50	50	40	32
210/125	9	18	38	50	50	50	46	37
240/125	10	20	43	50	50	50	50	42
60/150	3	6	9	15	20	17	9	7
90/150	4	7	14	23	30	25	15	12
120/150	5	9	18	33	39	32	21	17
150/150	5	10	23	40	49	41	26	22
180/150	6	12	27	48	50	48	31	26
210/150	7	14	31	50	50	50	36	30
240/150	8	16	36	50	50	50	42	34
60/175	3	5	8	16	17	15	8	7
90/175	4	6	13	22	26	21	12	10
120/175	4	8	16	29	36	29	17	14
150/175	5	10	21	37	44	35	21	17
180/175	6	11	24	43	50	43	25	20
210/175	7	13	29	50	50	50	29	23
240/175	8	15	32	50	50	50	34	27
60/200	2	3	8	13	16	13	7	6
90/200	3	5	10	20	24	19	10	8
120/200	3	6	14	26	32	26	14	11
150/200	4	8	16	33	40	32	17	14
180/200	5	9	19	40	48	38	21	17
210/200	6	11	23	47	50	45	24	19
240/200	6	12	27	50	50	50	28	22

Table 2 : R1M & RAM (Polyester film facings)								
Code	Frequency (Hz)							
L/A cm	63	125	250	500	1K	2K	4K	8K
60/75	7	8	10	14	17	15	11	13
90/75	9	10	14	20	22	22	15	15
120/75	10	13	18	24	28	28	18	17
150/75	12	15	22	29	33	33	22	20
180/75	13	17	26	34	39	39	25	23
210/75	14	20	29	38	44	44	27	26
240/75	16	22	32	43	50	50	50	28
60/100	7	7	9	13	14	13	9	10
90/100	9	9	13	18	19	18	12	13
120/100	10	11	16	22	23	22	15	14
150/100	10	14	20	27	28	26	18	16
180/100	12	15	23	32	34	30	21	18
210/100	13	17	26	37	39	34	23	20
240/100	14	20	29	41	45	38	26	21
60/125	5	6	8	12	13	12	9	10
90/125	8	8	12	16	17	16	11	11
120/125	9	10	14	21	21	19	13	13
150/125	9	13	18	25	26	23	15	14
180/125	10	14	20	28	30	27	17	15
210/125	12	16	23	32	35	30	19	16
240/125	13	18	26	35	39	34	21	17
60/150	5	6	7	10	11	10	8	8
90/150	7	7	10	14	15	13	9	10
120/150	8	9	13	19	19	16	11	10
150/150	8	11	16	22	22	19	12	11
180/150	9	13	18	25	25	22	14	12
210/150	10	14	20	29	29	24	16	13
240/150	12	16	23	32	29	26	17	13
60/175	4	5	7	9	10	8	7	7
90/175	7	6	9	13	13	11	8	8
120/175	7	8	12	17	17	14	9	9
150/175	8	10	14	20	21	16	10	10
180/175	9	12	16	24	24	19	12	10
210/175	9	14	19	27	28	21	13	11
240/175	10	14	21	30	31	23	14	12
60/200	4	4	5	8	8	6	5	6
90/200	7	6	8	11	11	8	6	7
120/200	7	7	10	15	15	11	7	8
150/200	8	8	12	18	18	13	8	8
180/200	9	10	16	22	22	15	9	9
210/200	9	12	18	25	25	17	10	10
240/200	10	13	20	28	29	19	11	10

Dimensions



Design

Our attenuators are of robust design and built to high quality standards.

Performance is guaranteed.

All of our products are backed by our Nationwide service & maintenance divisions.

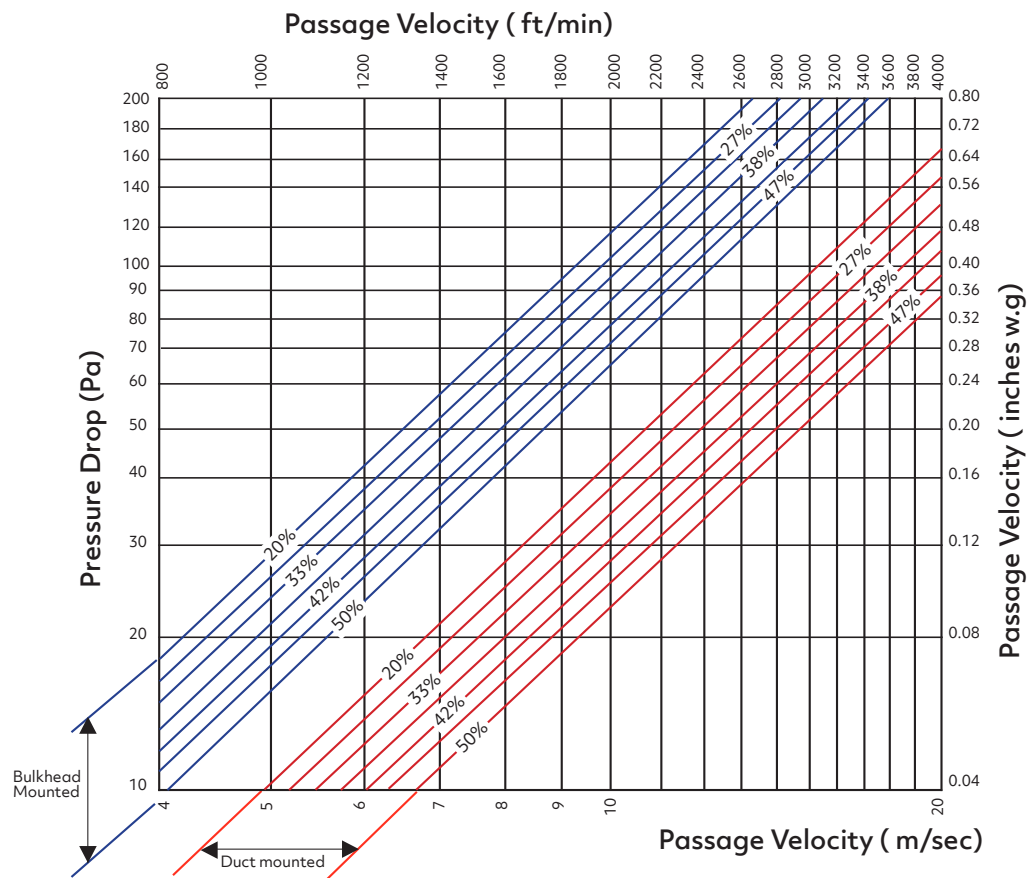
Construction

- Galvanised mild steel sheet casing.
- Rot & vermin proof, fire retardant glass fibre or mineral wool linings.
- Rolled steel (type R1 or Ductmate (type RA) flanges.

Options

- R1 Industrial grade has perforated steel facings fitted to the splitter linings.
- RA HVAC grade with scrim faced linings and Ductmate flanges
- M Polyester film faced linings
- L Splitters fitted with fairings both ends
- S Stainless steel construction
- SA Splitters removable through casing side
- SC Splitters only, for installation into builders work.

Pressure loss related to attenuator % free area and passage velocity



Airway (A)	N° of modules						
	1	2	3	4	5	6	7
50	250	500	750	1000	1250	1500	1750
75	275	550	825	1100	1375	1650	1925
100	300	600	900	1200	1500	1800	2100
125	325	650	975	1300	1625	1950	2275
150	350	700	1050	1400	1750	2100	2450
175	375	750	1125	1500	1875	2250	2625
200	400	800	1200	1600	2000	2400	2800

Airway width mm	Free area %
50	20
75	27
100	33
125	38
150	42
175	47
200	50

Selection method

1. Select grade of attenuator to suit application.
2. Select appropriate performance from Table 1 or 2.
3. Establish total airway cross section by dividing volume flow by maximum velocity related to available pressure drop - Table 4.
4. Establish attenuator face area by dividing total airway cross section by % free area.
5. Establish attenuator cross sectional dimensions* by dividing attenuator face area by suitable modular width - Table 3.
*Attenuator proportions should be selected to optimise the aerodynamic characteristics of the attenuator/ducting system.

Example

1 : Industrial fan discharge - Select grade R1 Duty = 2.4m³/sec

2 : Frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Attenuation Required (dB)	6	14	28	38	44	39	38	36
Code 150/100 insertion loss	7	15	32	47	50	50	45	36

3 : Total airway cross section = 2.4m³/sec = 0.24m² = 10m/sec

4 : Attenuator face area = 0.24m² = 0.727m² = 33%

5 : From Table 3 select 3 module width = 900mm (for 100mm airway)

Therefore attenuator height = 0.727m² = 0.807 = 0.9m approximate to 800mm height

Some of our other sound attenuators



Other products & services

windsor.sales@windsor.co.nz

Windsor Engineering Group provides full-life service and maintenance support to customers throughout New Zealand.

Our dedicated service team provides installation, commissioning, routine maintenance, emergency cover and engineered upgrade work for all industrial applications and works with customers from all industry sectors.

Other products & services offered include:

Air filtration

- Chemical gas & odour filtration
- Filter media
- Frames, housings & accessories
- HEPA filters
- Hospital & clean room equipment
- Panel filters
- Pocket filters
- Servicing & parts

Coils

- Air handling units
- Boiler heat recovery units
- Direct expansion coils
- Finned tube
- Laundry coils
- Special coils
- Stainless steel water coils
- Steam coils
- Thermal fluid coils & tube bundles
- Unit heaters
- Water coils

Cooling towers

- Packaged cooling towers
- Site erected cooling towers
- Servicing & parts

Energy

- Air Heaters
- Biomass conversions
- Boilers
- Servicing & parts

Expanded metals

- Animal cages, benches, bird proofing, building cladding
- Car grilles, ceiling panels, correctional facilities & transport
- Decorative panels, display stands
- Filters, fire screens, flooring, gratings, grilles
- Machinery guarding, non-slip surfaces, plant supports
- Racks, screens for anti-glare, privacy, sun & ventilation
- Shelving, security mesh, street furniture
- Strengthening and reinforcing material for concrete & plastic products, trays, ventilation

Heat exchangers

Industrial fans & blowers

- Blowers
- Clean air fans
- Material handling fans
- MVR fans
- Packaged blowers
- Specialised fans

Material handling equipment

- Pneumatic transfer
- Rotary valves
- Silos

Noise control

- Acoustic enclosures & louvres
- Attenuators
- Specialised attenuation

Please contact our Wellington sales office for these products:

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