



*Cylindrical C series
Spigoted M series*

Circular Attenuators



*stuart***ACOUSTICS**

Cylindrical

C series attenuators

A full range of noise efficient, circular attenuators matched to metric axial fan sizes, fully packaged and ready to install.

C series comprise;

- Metric fan mountable
- 24 standard models
- 2 mounting hole patterns
- 250mm to 1000mm diameters
- 1 and 2 x diameter lengths
- Special versions on request
- Imperial range also available

Cylindrical attenuator

MOUNTING HOLE PATTERNS

2 ALTERNATIVE HOLE PATTERNS ARE AVAILABLE AS STANDARD. SPECIFY A OR B

HOLE PATTERN A

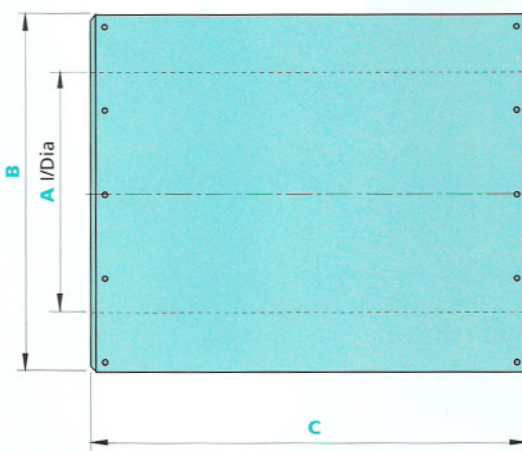
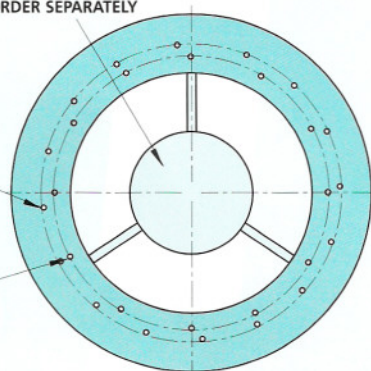
D QUANTITY OF E THREADED INSERTS ON F P.C.D

HOLE PATTERN B

G QUANTITY OF H THREADED INSERTS ON I P.C.D

NB ALTERNATIVE HOLE PATTERNS, ARE AVAILABLE ON REQUEST

POD KIT optional
ORDER SEPARATELY



NOM FAN SIZE Ømm	C SERIES ORDER CODES		DIMENSIONS										WEIGHT	
	C SERIES EXCLUDING POD	POD KIT ONLY	A	B	C	D	E	F	G	H	I	EXCL POD KIT	POD KIT	
250	1100-C*1-0250	1105-PK1-0250	250	411	250	8	M6	286	6	M6	286	7	2	
250	1100-C*2-0250	1105-PK2-0250	250	411	500	8	M6	286	6	M6	286	11	2	
315	1100-C*1-0315	1105-PK1-0315	315	452	315	8	M8	355	8	M8	355	9	2	
315	1100-C*2-0315	1105-PK2-0315	315	452	630	8	M8	355	8	M8	355	15	2	
355	1100-C*1-0355	1105-PK1-0355	355	509	355	8	M8	395	8	M8	395	11	2	
355	1100-C*2-0355	1105-PK2-0355	355	509	710	8	M8	395	8	M8	395	18	3	
400	1100-C*1-0400	1105-PK1-0400	400	553	400	8	M10	450	12	M8	438	13	3	
400	1100-C*2-0400	1105-PK2-0400	400	553	800	8	M10	450	12	M8	438	22	4	
450	1100-C*1-0450	1105-PK1-0450	450	602	450	8	M10	500	12	M8	487	15	3	
450	1100-C*2-0450	1105-PK2-0450	450	602	900	8	M10	500	12	M8	487	27	4	
500	1100-C*1-0500	1105-PK1-0500	500	653	500	12	M10	560	12	M8	541	18	4	
500	1100-C*2-0500	1105-PK2-0500	500	653	1000	12	M10	560	12	M8	541	32	5	
560	1100-C*1-0560	1105-PK1-0560	560	713	560	12	M10	620	16	M10	605	22	4	
560	1100-C*2-0560	1105-PK2-0560	560	713	1120	12	M10	620	16	M10	605	39	7	
630	1100-C*1-0630	1105-PK1-0630	630	785	630	12	M10	690	16	M10	674	26	6	
630	1100-C*2-0630	1105-PK2-0630	630	785	1260	12	M10	690	16	M10	674	48	9	
710	1100-C*1-0710	1105-PK1-0710	710	864	710	16	M10	770	16	M10	751	32	7	
710	1100-C*2-0710	1105-PK2-0710	710	864	1420	16	M10	770	16	M10	751	59	12	
800	1100-C*1-0800	1105-PK1-0800	800	955	800	16	M10	860	24	M10	837	40	9	
800	1100-C*2-0800	1105-PK2-0800	800	955	1600	16	M10	860	24	M10	837	74	16	
900	1100-C*1-0900	1105-PK1-0900	900	1106	900	16	M12	970	24	M10	934	55	12	
900	1100-C*2-0900	1105-PK2-0900	900	1106	1800	16	M12	970	24	M10	934	102	21	
1000	1100-C*1-1000	1105-PK1-1000	1000	1207	1000	16	M12	1070	24	M10	1043	66	16	
1000	1100-C*2-1000	1105-PK2-1000	1000	1207	2000	16	M12	1070	24	M10	1043	124	27	

* Specify A or B to suit mounting hole pattern required – refer to drawing above

C series Cylindrical Attenuators

A comprehensive range of cylindrical attenuators, matched to fit directly to all types of metric axial fan flanges or to ducting via optional matching flanges. Two alternative sets of threaded inserts are incorporated into the end faces of each attenuator to match most fan mounting requirements (see drawing for A and B hole patterns).

Available as standard in lengths of one x diameter (suffix 1) or two x diameter (suffix 2).

Excellent attenuation properties are achieved using sound absorbing acoustic infill, which is glass tissue faced as standard to minimise fibre migration and retained within the attenuator casing by a perforated liner.

- Standard sizes 250mm to 1000mm diameter
- Special sizes on request
- Supplied fully packaged, boxed or palletised
- Maximum temperature 200°C (standard construction)
- Maximum pressure 1500 Pa

Material and finish

Casing; galvanised mild steel (BS2989), seams are sealed lockformed type with spun galvanised steel end rings.

Inner lining; perforated galvanised mild steel (BS2989).

Sound absorbing material; mineral fibre slabs, faced with glass tissue.

Manufactured to HVCA specification DW142 class B and M&E 100 for sheet steel thickness and stiffening.

Pod kits – optional (can be retro-fitted)

Centrally mounted into the C series attenuators, with aerodynamic profile on each end. They substantially improve acoustic performance across the entire sound spectrum - refer to Attenuation Data. Supplied with all required fittings, installation is quick and easy.

Material and finish

Central duct; perforated galvanised mild steel (BS2989).

End cones; spun, galvanised steel.

Melinex lining – optional

Where moist or greasy ambient conditions exist (e.g. kitchen systems) or for critically clean applications (e.g. hospitals) the sound absorbing material may be required to be fully sealed by Melinex lining to prevent any fibre migration. This will however, affect the acoustic performance of the silencer.

Please contact Stuart Acoustics to discuss your requirements.

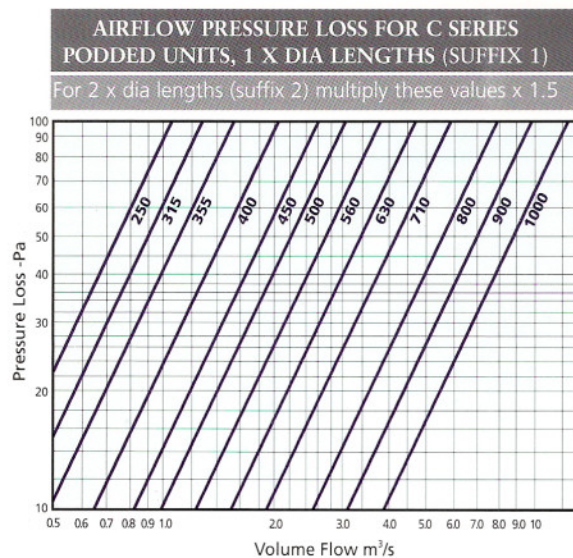
Accessories

An extensive range of matching flanges, mounting feet/plates, flexible connectors, anti-vibration mounts are available to complement the attenuators.

Please contact Stuart Acoustics for further details.

Alternative product specifications

The above specification refers to our standard, stock range. We can also supply custom made C series attenuators with alternative dimensions, flange specification, temperature ratings, construction materials and product finishes. Please contact our Technical Department for further information.



C SERIES STANDARD UNITS, INSERTION LOSS PERFORMANCE DATA

	EXCLUDING POD KIT								INCLUDING FITTED POD KIT								C SERIES EXCLUDING POD
	CENTRE BAND FREQUENCY								CENTRE BAND FREQUENCY								
	63	125	250	500	1000	2000	4000	8000	63	125	250	500	1000	2000	4000	8000	
1	2	2	8	10	8	8	7	2	6	8	13	21	24	22	18	1100-C*1-0250	
1	3	4	13	18	12	12	10	3	12	13	23	29	29	19	20	1100-C*2-0250	
1	2	4	9	11	10	9	7	2	7	8	14	22	25	22	19	1100-C*1-0315	
2	2	5	13	18	12	11	10	3	13	14	23	30	30	20	25	1100-C*2-0315	
2	3	5	11	13	11	10	8	2	6	8	11	22	24	21	16	1100-C*1-0355	
3	4	7	14	18	15	11	10	3	10	15	22	29	30	29	22	1100-C*2-0355	
2	3	5	10	13	11	9	8	2	7	9	15	23	25	21	17	1100-C*1-0400	
3	4	8	14	18	14	11	9	3	10	14	24	30	29	28	21	1100-C*2-0400	
2	3	6	12	13	11	9	7	2	6	8	16	23	23	21	16	1100-C*1-0450	
3	4	8	17	18	15	11	10	3	7	12	22	29	29	25	20	1100-C*2-0450	
2	3	6	14	14	12	10	5	2	7	9	17	24	24	20	16	1100-C*1-0500	
3	7	8	19	20	17	14	11	4	10	16	26	29	29	29	20	1100-C*2-0500	
2	4	7	14	14	9	9	7	3	7	9	18	24	24	20	15	1100-C*1-0560	
3	6	10	19	20	14	12	10	4	9	17	27	29	28	23	23	1100-C*2-0560	
2	5	7	15	13	9	9	8	3	5	9	18	25	22	18	13	1100-C*1-0630	
4	7	13	21	21	14	13	12	5	9	18	28	30	29	24	19	1100-C*2-0630	
3	5	9	15	14	10	9	8	3	5	10	19	25	22	18	14	1100-C*1-0710	
4	9	16	22	23	17	13	9	5	9	17	28	29	30	26	20	1100-C*2-0710	
3	5	9	16	14	10	8	8	4	5	10	15	25	22	19	14	1100-C*1-0800	
4	6	10	21	23	17	12	10	5	8	18	29	30	29	27	19	1100-C*2-0800	
3	5	10	17	15	11	9	8	5	6	11	21	23	22	17	13	1100-C*1-0900	
4	6	13	22	21	14	12	11	5	11	18	29	30	26	19	16	1100-C*2-0900	
4	6	11	17	15	11	9	8	5	6	13	22	25	21	17	14	1100-C*1-1000	
5	10	16	23	23	16	13	11	5	10	19	29	30	27	22	18	1100-C*2-1000	

The figures shown are derived from Stuart Acoustics ongoing test programme in accordance with BS 4718:1971 static test procedures which are considered more reliable than dynamic tests which can be affected by external variables. Please note that 63Hz figures are for guidance only as they are not covered by the BS4718 test procedure.

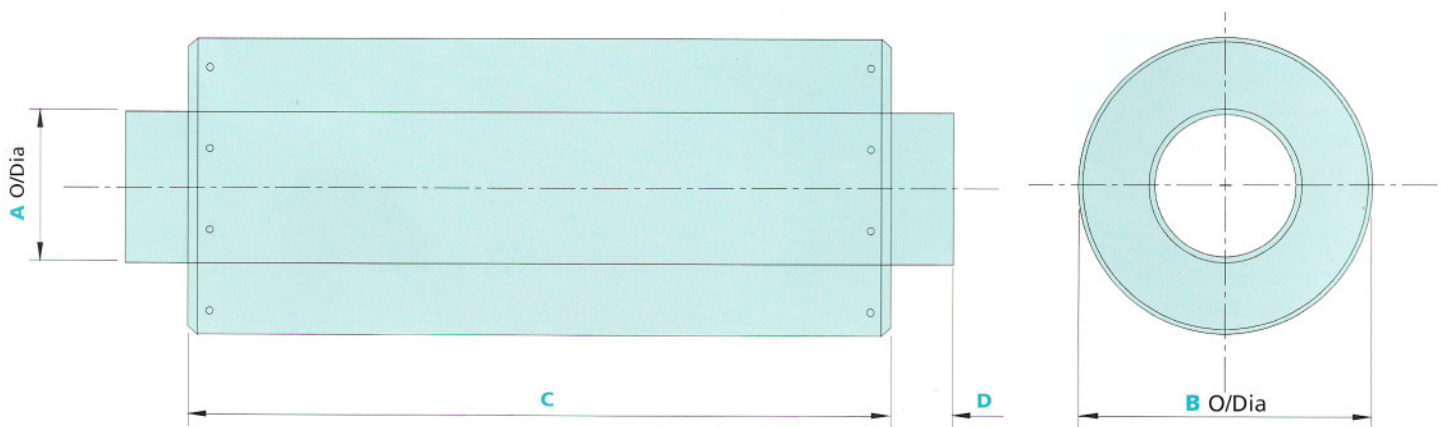
Spigoted *M series attenuators*

A range of spigoted attenuators, with excellent sound absorbing properties that suit metric sized, circular spiral duct work.

M series comprise;

- Spigoted attenuators
- 10 duct sizes
- 4 standard lengths
- Melinex lining – optional extra
- Special versions on request

Spigoted attenuator



M series Spigoted Attenuators

A full range of attenuators with spigoted connections to suit metric sized, circular spiral ductwork systems. Available in four standard lengths they have excellent attenuation properties, achieved with sound absorbing acoustic infill which is glass tissue faced as standard, to minimise fibre migration and retained in the attenuator casing by a perforated liner.

- Standard duct sizes: 100mm to 400mm diameter
- Four standard lengths, 300, 600, 900 and 1200mm
- Special sizes on request
- Supplied boxed
- Maximum temperature 200°C (standard construction)
- Maximum pressure 1500 Pa

Material and finish

Casing; galvanised mild steel (BS2989) with flow formed, one piece, spun end fittings.

Inner lining; perforated galvanised mild steel (BS2989)

Sound absorbing material; mineral fibre slabs, faced with glass tissue.

Manufactured to HVCA specification DW142 class B and M&E 100 for sheet steel thickness and stiffening.

Melinex lining - optional

Where moist or greasy ambient conditions exist (e.g. kitchen systems) or for critically clean applications (e.g. hospitals) the sound absorbing material may be required to be fully sealed by Melinex lining to prevent any fibre migration. This will however, affect the acoustic performance of the silencer. Please contact Stuart Acoustics to discuss your requirements.

Alternative product specifications

The above specification refers to our standard, stock range. We can also supply custom made M series attenuators with alternative dimensions, temperature ratings, construction materials and product finishes. Please contact our Technical Department for further information.

M SERIES ORDER CODE	DIMENSIONS					M SERIES STANDARD UNITS, TYPICAL NOISE REDUCTION (dB)							
	A	B	C	D	WT	CENTRE BAND FREQUENCY							
						63	125	250	500	1000	2000	4000	8000
1000-M10-030	98	204	300	40	2.5	3	4	9	17	23	26	25	14
1000-M10-060	98	204	600	40	4.6	5	8	15	33	39	40	36	20
1000-M10-090	98	204	900	40	6.7	10	13	21	40	45	40	36	24
1000-M10-120	98	204	1200	40	8.7	12	15	23	42	47	42	38	26
1000-M12-030	123	230	300	40	2.9	3	3	8	16	21	24	22	12
1000-M12-060	123	230	600	40	5.4	4	8	13	30	35	35	31	15
1000-M12-090	123	230	900	40	7.8	9	12	18	37	41	38	34	20
1000-M12-120	123	230	1200	40	10.2	11	15	21	40	46	41	36	23
1000-M15-030	148	255	300	40	3.4	3	3	6	14	19	23	22	11
1000-M15-060	148	255	600	40	6.1	4	7	12	23	30	36	31	15
1000-M15-090	148	255	900	40	8.9	8	9	15	31	37	37	34	18
1000-M15-120	148	255	1200	40	11.6	10	14	17	34	41	40	36	20
1000-M16-030	158	265	300	40	3.5	3	3	6	14	19	23	22	11
1000-M16-060	158	265	600	40	6.4	4	7	12	23	29	35	30	15
1000-M16-090	158	265	900	40	9.3	8	9	15	31	37	37	34	18
1000-M16-120	158	265	1200	40	12.2	10	14	18	33	40	39	35	18
1000-M20-030	198	305	300	40	4.2	2	3	6	13	17	20	18	9
1000-M20-060	198	305	600	40	7.6	4	6	10	20	27	32	20	11
1000-M20-090	198	305	900	40	11.0	7	9	14	32	39	36	26	15
1000-M20-120	198	305	1200	40	14.5	10	12	17	35	41	44	28	16
1000-M25-030	248	355	300	40	5.0	2	3	6	12	16	19	17	8
1000-M25-060	248	355	600	40	9.1	3	6	10	19	25	29	18	10
1000-M25-090	248	355	900	40	13.2	5	8	12	24	30	30	22	14
1000-M25-120	248	355	1200	40	17.3	7	10	15	31	37	38	26	15
1000-M30-030	298	405	300	40	5.9	2	3	6	12	15	18	16	8
1000-M30-060	298	405	600	40	10.6	3	5	9	16	22	24	16	14
1000-M30-090	298	405	900	40	15.4	4	7	10	20	31	28	17	14
1000-M30-120	298	405	1200	40	20.2	6	9	14	23	32	32	18	15
1000-M31-030	313	420	300	40	6.1	1	3	6	12	15	18	16	8
1000-M31-060	313	420	600	40	11.1	3	5	8	16	21	22	16	14
1000-M31-090	313	420	900	40	16.1	4	7	10	20	31	28	17	14
1000-M31-120	313	420	1200	40	21.0	6	9	14	23	32	32	18	15
1000-M35-030	353	460	300	40	6.8	1	2	5	11	14	16	15	7
1000-M35-060	353	460	600	40	12.3	3	5	7	15	19	20	15	12
1000-M35-090	353	460	900	40	17.8	3	7	9	19	29	25	16	13
1000-M35-120	353	460	1200	40	23.3	5	9	14	22	31	29	17	14
1000-M40-030	398	505	300	40	7.5	1	2	4	11	15	15	12	8
1000-M40-060	398	505	600	40	13.6	2	4	7	14	17	18	14	11
1000-M40-090	398	505	900	40	19.8	3	6	9	18	26	23	15	12
1000-M40-120	398	505	1200	40	25.9	5	8	13	22	30	27	17	12

Noise levels and values

NR levels

Noise levels to be achieved within building areas are normally specified by reference to their NR rating. Typical suggested levels are given below.

Typical NR Design Targets

<i>Studios and Auditoria</i>	NR Index
Sound Broadcasting	
Recording Studio	20
Concert Hall, Theatre	20-25
Lecture Theatre, Cinema	25-30
<i>Hospitals</i>	
Operating Theatre, Single Bed Ward	30-35
Multi-bed Ward, Waiting Room	35
Wash Room, Toilet, Kitchen	35-45
<i>Hotels</i>	
Individual Room, Suite	20-30
Ballroom, Banquet Room	30-35
Corridor, Lobby	35-40
Kitchen, Laundry	40-45
<i>Restaurants, Shops and Stores</i>	
Restaurant, Department Store (upper floor)	35-40
Night Club, Pub, Cafe	
Retail Store (main floor)	40-45
<i>Offices</i>	
Boardroom, Large Conference Room	25-30
Reception	30-35
Open Plan	35
<i>Public Buildings</i>	
Assembly Hall	25-35
Library, Bank, Museum	30-35
Wash Room, Toilet	35-45
Swimming Pool, Sports Arena	40-50
Garage, Car Park	55
<i>Ecclesiastical and Academic Buildings</i>	
Church	25-30
Classroom, Lecture Theatre	25-35
Laboratory, Workshop	35-40
<i>Industrial</i>	
Warehouse, Garage	45-50
Workshop (heavy engineering)	50-65
<i>Private Dwelling (Urban)</i>	
Bedroom	25
Living Room	30

	NOISE RATING VALUES (dB)							
	BAND FREQUENCY (Hz)							
	63	125	250	500	1000	2000	4000	8000
NR 85	103	96	91	87	85	83	81	80
NR 80	99	91	86	82	80	78	76	74
NR 75	95	87	82	78	75	73	71	69
NR 70	91	83	77	73	70	68	66	64
NR 65	87	78	72	68	65	62	61	59
NR 60	83	74	68	63	60	57	55	54
NR 55	79	70	63	58	55	52	50	49
NR 50	75	65	59	53	50	47	45	43
NR 45	71	61	54	48	45	42	40	38
NR 40	67	57	49	44	40	37	35	33
NR 35	63	52	45	39	35	32	30	28
NR 30	59	48	40	34	30	27	25	23
NR 25	55	44	35	29	25	22	20	18
NR 20	51	39	31	24	20	17	14	13
NR 15	47	35	26	19	15	12	9	7