

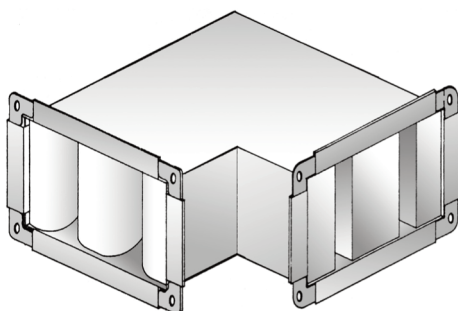


Rectangular//Type R/ Bend//Type A&B/ Circular//Type C

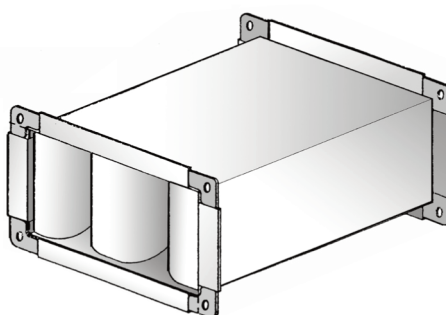
The well established range of Tek Rectangular Attenuators is designed to give the building services industry a practical product for all situations. They have all been researched and designed by a leading independent acoustic consultant and tested to BS 4718 1971.

All Tek products are designed in-house by engineers with many years' experience. This

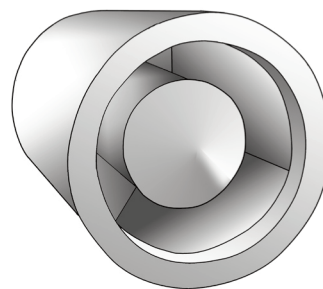
Bend Attenuator//Type A



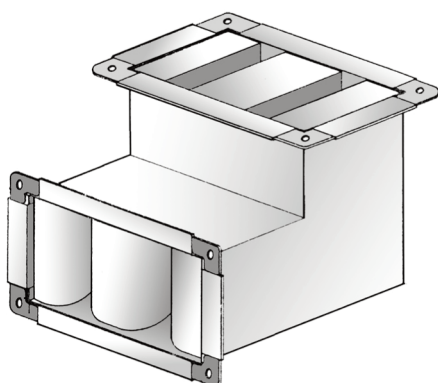
Rectangular Attenuator//Type R



Circular Attenuator//Type C



Bend Attenuator//Type B



means that we are not restricted to standard sizes and attenuators can be tailor-made to meet your requirements.

Our acoustic design service is available to ensure that you receive the best possible advice at the planning stage, thereby avoiding site problems later on.



Product Specification

Rectangular Attenuator:

1. Construction

Casing & Splitters:

The outer casing is constructed from pre-galvanised steel sheet having a minimum thickness of 1.0mm up to a maximum width and height of 1200mm and a minimum thickness of 1.2mm over 1200mm.

Pittsburgh longitudinal joints are used as standard, all in accordance with current HVCA specification.

Splitters comprise an acoustic infill, retained behind perforated or expanded galvanised steel sheet, having a minimum thickness of 0.7mm. The splitters are contained within galvanised 1.0mm sheet steel channels.

Inlet fairings are riveted to the front of each splitter to lower the pressure drop across the attenuators. The splitters are fixed to the attenuator casing with sealed rivets. Half width splitters are fixed to each side wall of the casing to provide sidelinings.

2. Connections

- a) Rolled angle steel red leaded flanges which are fixed to the casing with sealed rivets. Casings are returned 12mm over end flanges.
- b) Slide-on flange connections as detailed in HVCA specification DW142, figure 41, suitable for low or high velocity systems. Gaskets, cleats and matching flanges normally supplied by others.
- c) Plain spigot ends.

Circular Attenuator:

1. Construction

Casing & Pods:

The outer casing is constructed from pre-galvanised steel sheet having a minimum thickness of 1.0mm up to a maximum diameter of 1200mm and a minimum thickness of 1.2mm over 1200mm.

Pittsburgh longitudinal joints are used as standard, all in accordance with current HVCA specification.

The casing is lined with acoustic infill, faced with glass fibre tissue, retained behind perforated or expanded galvanised steel not less than 0.7mm thick.

Where required circular pods can be fitted, comprising acoustic infill retained behind perforated, or expanded galvanised steel having a minimum thickness of 0.7mm.

The pods have a cone inlet and flat end on outlet.

2. Connections

- a) Threaded inserts to match flange drillings of all makes of axial flow fans or specific customer requirements.
- b) Plain spigot ends.

General Specification

1. Infill

The infill is inorganic mineral wool or glass fibre rigid slabs with a glass fibre tissue face to limit fibre erosion. The fibre is inert, vermin, rot, and moisture proof, non-combustible and does not support bacteriological growth, packed to a density of not less than 45 kg/m³. The infill has been tested for fire and has a Class spread of flame (as measured to BS476: Part 7: 1971).

2. Sizes

Attenuators may be supplied in sections for site assembly by others as required, or as advised by Tek Ltd. Nuts, bolts and washers to be supplied by others.

3. Acoustic Performance

The attenuators have been tested in accordance with BS4718 1971 by an independent consultant. The test procedure eliminates effects due to end reflection, directivity, flanking transmission, standing waves and test chamber sound absorption.

4. Aerodynamic Performance

The attenuators have been tested in accordance with BS4718 1971 by an independent consultant.

Static pressure loss data shall not exceed data indicated on pages 4 and 5.

Tek Specification

Rectangular Attenuator:

The notation for a standard rectangular attenuator is type RCP. The prefix R and suffix P are as indicated below. the second letter C indicates a standard splitter.

Prefix R: Standard rectangular attenuators.

Prefix S: Splitters only.

Prefix A: Bend attenuators are available, supplied with short cord turning vanes installed in the airways (having horizontal splitters).

Prefix B: As Prefix A with vertical splitters.

Suffix P: Splitter acoustic infill retained behind perforated sheet steel.

Suffix L: Attenuators may be supplied with low loss fairing on the splitter end to lower pressure drop across the attenuator. Acoustic performance of the attenuator will be degraded.

Circular Attenuator:

Prefix C: Standard circular attenuator.

Prefix P: Pod installed in circular attenuator.

Suffix D: This is preceded by a number (normally 1 or 2) indicating the length of a circular attenuator as a multiple of the attenuator internal diameter.

Alterations to the standard Tek specification:

Where our standard specification does not cover the installation requirements, select the extra features required from the list below. Simply add the suffix to the standard attenuator code e.g. RCPSAT = attenuator for use in saturated atmosphere.

Suffix M: Polyester membrane installed under the perforated metal typically for protection from grease, moisture or oil-laden atmosphere.

Suffix C: Polyester membrane suitable for operating and clean rooms enclosing acoustic infill hermetically, using polyester strip sealant. Acoustic infill retained behind perforated steel sheet or expanded metal hot dipped galvanised after perforation. Attenuators thoroughly cleaned prior to despatch and fitted with sealed end plates.

Suffix PVF: PVF2 anti-corrosion paint may be applied to all internal metal surfaces to offer resistance to corrosive air.

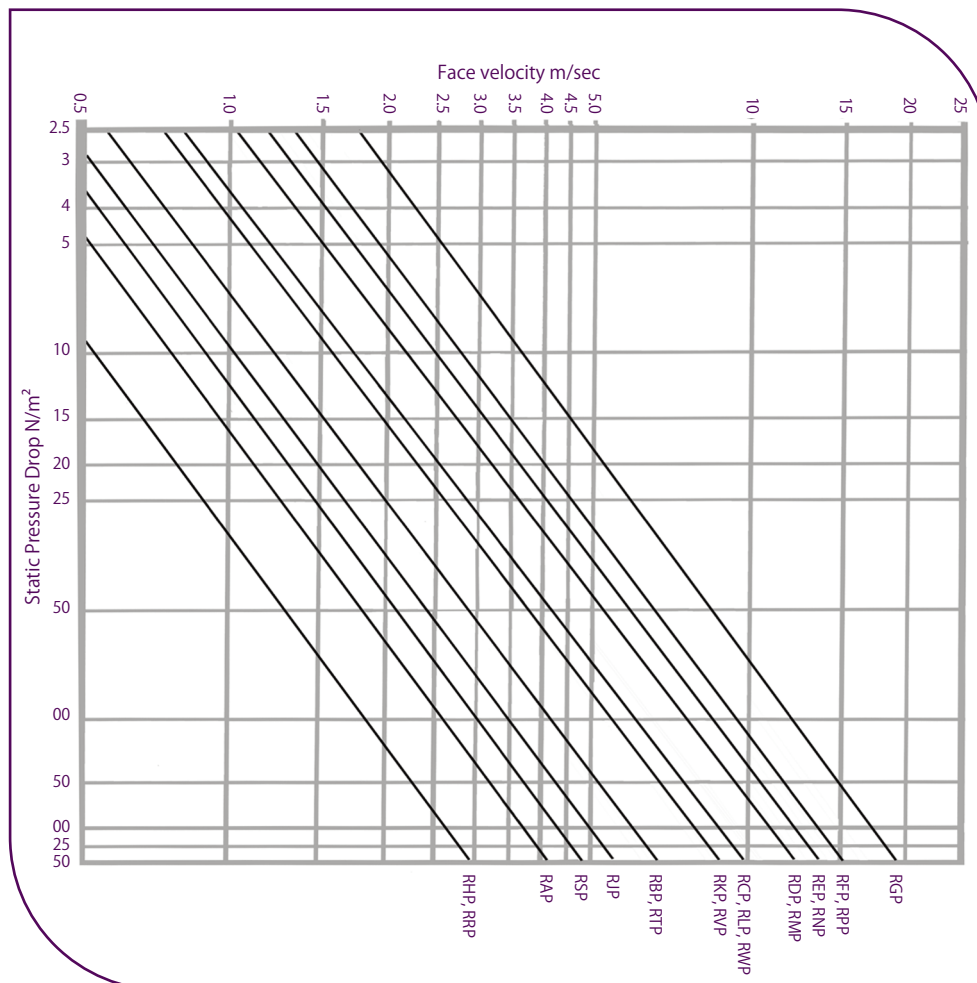
Suffix SAT: Perforated sheet metal or expanded metal retaining the acoustic infill may be supplied hot dipped galvanised after perforation for use in saturated atmosphere. The infill would be encased with a polyester membrane.

Suffix H: High pressure attenuators may be provided constructed in accordance with the recommendations of the HVCA for the construction of rectangular ducts in high velocity air systems.

Suffix S: Crosstalk attenuators may be supplied with spigot connections in lieu of flanges. Attenuator configuration may be selected to customers' requirements.

Suffix PVC: Plastic attenuators may be supplied for installation in a highly corrosive atmosphere. Attenuator casings and perforated sheet would be manufactured from PVC.

Pressure Drop Chart/ Rectangular Type



Free Area

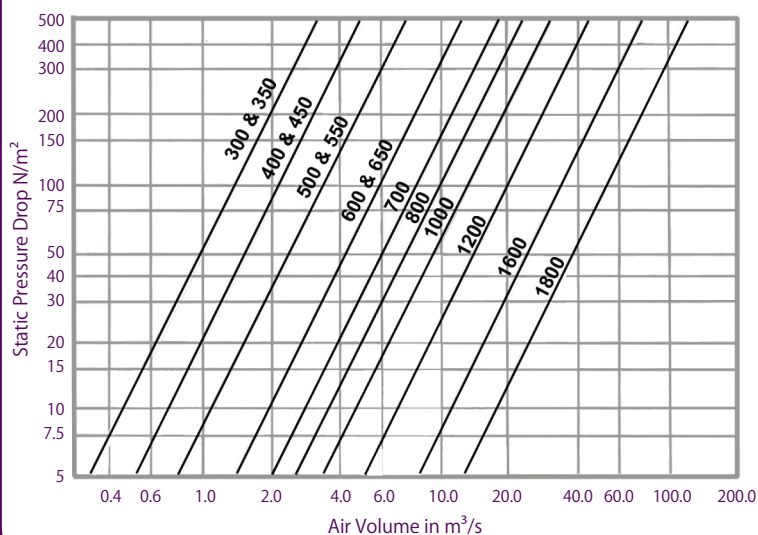
Type	Percentage
RRP	14
RHP	17
RAP	20
RJP, RSP	23
RTP	25
RBP	27
RKP	28
RVP	29
RCP, RLP	33
RDP, RMP	38
RNP	41
REP	43
RPP	44
RFP	47
RGP	50

Please contact an engineer at the Tek office for pressure drops of bend attenuators.

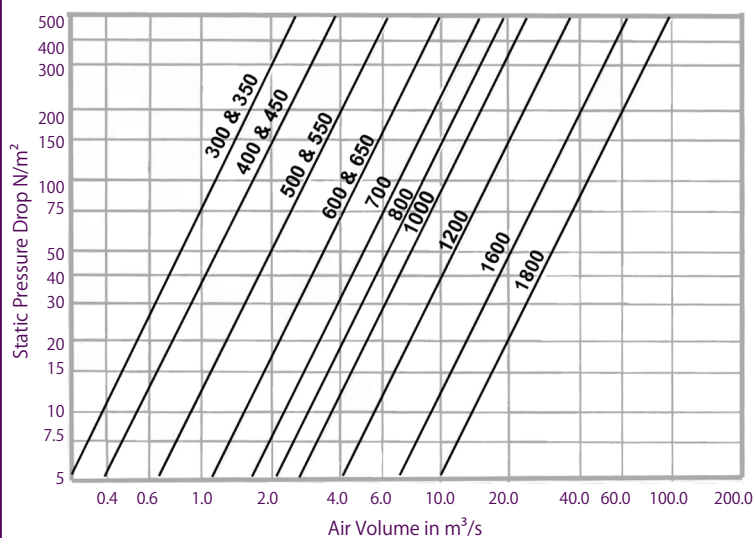
An increase of 50% can be expected for a change from the appropriate rectangular attenuator to a bend attenuator

Pressure Drop Chart/ Circular Type

Pressure Loss Chart//CP-1D



Pressure Loss Chart//CP-2D



The pressure loss data applies to the types CP-1D and CP-2D only.

The type C (without pod) have a negligible pressure loss.

Attenuator Weights/ Rectangular Type

<i>Rectangular//Type RCP</i>								
Width mm	Height mm	Length mm						
		600	900	1200	1500	1800	2100	2400
300	300	21	27	36	42	49	56	63
300	600	34	42	55	65	75	88	98
600	600	50	66	87	703	118	134	150
600	900	60	87	113	134	155	176	197
600	1200	86	114	140	165	191	217	243
600	1500	105	135	166	196	226	256	286
900	600	69	91	119	141	163	185	207
900	900	88	116	152	180	208	236	264
900	1200	116	151	185	220	255	290	325
900	1500	137	178	219	259	300	341	382
900	1800	158	205	252	299	346	393	440
1200	600	94	122	150	178	207	236	265
1200	900	119	155	191	226	262	298	334
1200	1200	144	188	232	275	319	362	405
1200	1500	170	221	272	323	375	426	477
1200	1800	195	254	313	372	431	490	549
1500	900	143	186	229	273	316	361	406
1500	1200	172	223	278	330	383	436	488
1500	1500	202	263	325	387	449	511	573
1500	1800	231	302	377	443	518	593	754
1800	900	166	217	268	319	370	423	476
1800	1200	200	261	322	384	446	508	570
1800	1500	234	306	378	450	523	596	756
1800	1800	268	350	433	516	600	783	866
1800	2100	301	395	488	582	790	883	976
1800	2400	335	439	543	774	878	982	1086
2100	1800	304	399	494	589	798	893	988
2100	2100	342	449	556	791	898	1005	1112
2100	2400	380	498	618	878	996	1116	1236
2400	2400	425	558	850	983	1116	1408	1541

Typical weights in kilogrammes

Attenuator Weights/ Circular Type

<i>Circular Type</i>						
Dimensions mm			C-1D	C-2D	CP-1D	CP-2D
Internal Diameter	Length					
	1D	2D				
300	300	600	10	15	13	19
350	350	700	14	20	18	26
400	400	800	17	26	24	34
450	450	900	22	32	32	42
500	500	1000	27	39	37	50
550	550	1100	32	47	45	64
600	600	1200	37	55	53	78
650	350	1300	42	63	65	89
700	700	1400	47	71	73	102
750	750	1500	52	79	81	
800	800	1600	57	87	89	124
900	900	1800	68	105	105	146
1000	1000	2000	90	145	125	200
1100	1100	2200	115	180	155	230
1200	1200	2400	140	200	190	270
1400	1400	1800	220	460	295	560
1600	1600	3200	270	530	350	680
1800	1800	3600	350	720	450	930

Typical weights in kilogrammes

NOTE: The suffix P indicates a circular attenuator with a Pod.

Attenuator Selection

Typical Sizes for Required Air Volume (m³/s)

Width mm	Height mm	NC25 25	NC30 37	NC35 50	NC40 62	NC45 75	NC50 100Pa
300	300	0.235	0.282	0.323	0.372	0.403	0.470
300	600	0.468	0.572	0.661	0.744	0.807	0.941
600	600	0.940	1.141	1.321	1.489	1.614	1.883
600	900	1.408	1.713	1.982	2.233	2.421	2.824
600	1200	1.876	2.284	2.643	2.976	3.228	3.766
600	1500	2.355	2.854	3.302	3.721	4.035	4.707
900	600	1.408	1.713	1.982	2.233	2.421	2.824
900	900	2.112	2.569	2.973	3.349	3.631	4.236
900	1200	2.815	3.425	3.963	4.465	4.842	5.649
900	1500	3.519	4.282	4.953	5.581	6.052	7.060
900	1800	4.223	5.138	5.944	6.698	7.263	8.473
1200	600	1.876	2.284	2.643	2.976	3.228	3.766
1200	900	2.815	3.425	3.963	4.465	4.842	5.649
1200	1200	3.754	4.566	5.283	5.954	6.455	7.532
1200	1500	4.691	5.710	6.605	7.442	8.069	9.415
1200	1800	5.631	6.850	7.926	8.930	9.683	11.288
1500	900	3.519	4.282	4.953	5.581	6.052	7.060
1500	1200	4.691	5.710	6.605	7.442	8.069	9.415
1500	1500	5.866	7.135	8.256	9.302	10.087	11.768
1500	1800	7.039	8.562	9.908	11.163	12.104	14.212
1800	900	4.223	5.138	5.944	6.698	7.263	8.473
1800	1200	5.631	6.850	7.926	8.930	10.367	11.288
1800	1500	7.039	8.562	9.908	11.163	12.104	14.121
1800	1800	8.446	10.275	11.889	13.395	14.526	16.946
1800	2100	9.850	11.986	13.868	15.267	16.946	19.769
1800	2400	11.257	13.698	15.850	17.859	19.367	22.594
2100	1800	9.850	11.986	13.868	15.627	16.946	19.769
2100	2100	11.492	13.984	16.180	18.231	19.770	23.064
2100	2400	13.134	15.982	18.491	20.835	22.594	26.359
2400	2400	15.010	18.265	21.133	23.812	25.822	30.125

Please adjust the pressure drop using the following chart, if required:

For the purpose of obtaining a budget selection of a rectangular attenuator the following table may be used. The table indicates typical sizes for the required air volume based on a standard type RCP attenuator.

The Noise Criteria (NC) indicated are the approximate regenerated noise levels caused by the passage of air through the attenuator. They are not the resultant noise level expected in the conditioned space following noise reduction of noise source, e.g. a fan, by the attenuator.

Please note that it is possible for us to supply any configuration of attenuator i.e. variation in width, height or length, providing that the attenuator has the desired acoustic performance following selection by one of our engineers.

The pressure drops indicated on the chart have been obtained by carrying out tests to BS4718: 1971.

Maximum pressure drops are in pascals for NC ratings, based on 1500mm long attenuator.

Length mm	Pressure drop %
600	-20
900	-13
1200	-6
1500	0
1800	+6
2100	+13
2400	+20