

INTRODUCTION

Type **KSD20** Series Rectangular Attenuators are used for ducted systems or smaller items of plant, to provide a low level of attenuation, whilst allowing passage of air to or from the equipment being treated.

Whilst all **KSD20** Series attenuators are selected to suit particular criteria, in general these are used to provide a better level of attenuation at medium to higher frequencies due to the 100mm thick splitter configuration.

The **KSD20** Series attenuators are also very efficient at providing Cross Talk protection as well as being suitable for small and medium duct cross sectional areas.

All attenuators are designed to suit your individual project, and our Team of Sales Engineers can assist with the design of the attenuation package for the optimum product selection.



DESIGN AND MANUFACTURE

The **KSD20** Series Rectangular Attenuators are designed and fabricated to suit particular projects to take into account the specific sound reduction requirements with regard to both Octave and Broad Band noise, regenerated noise and airflow characteristics, such as the effect on other equipment and pressure drop.

The attenuators are fabricated in line with DW144 and can be varied to suit high pressure or industrial grade systems, as well as bespoke applications.

CONABEARE ACOUSTICS

Data Sheet - KSD20 - 21.03

Rectangular Attenuator - KSD20

PERFORMANCE DATA

Type KSD2010 - 150mm Module

Insertion (dB) at Octave Band Centre Frequencies (Hz)

Length (mm)	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>	<u>'K' (Face)</u>
600	3	5	11	26	31	23	18	14	6.93
900	3	6	15	33	45	36	27	21	7.64
1200	4	7	20	40	55	49	36	28	8.34
1500	5	9	25	48	55	55	45	35	9.05
1800	5	10	29	55	55	55	54	43	9.75
2100	6	11	34	55	55	55	55	50	10.46
2400	7	13	39	55	55	55	55	55	11.16

Type KSD2015 - 175mm Module

Insertion (dB) at Octave Band Centre Frequencies (Hz)

Length (mm)	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>	<u>'K' (Face)</u>
600	2	4	8	18	27	21	16	13	3.38
900	2	5	11	26	42	33	24	19	3.68
1200	3	6	15	34	55	45	32	25	3.97
1500	4	7	19	43	55	55	40	31	4.27
1800	4	8	22	51	55	55	48	37	4.57
2100	5	9	26	55	55	55	55	44	4.87
2400	6	11	30	55	55	55	55	50	5.17

Type KSD2020 - 200mm Module

Insertion (dB) at Octave Band Centre Frequencies (Hz)

Length (mm)	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>	<u>'K' (Face)</u>
600	2	3	7	16	25	19	14	11	1.72
900	2	4	10	23	38	29	20	17	1.85
1200	3	5	13	31	51	40	27	23	1.99
1500	3	6	16	39	55	50	34	29	2.12
1800	4	7	19	47	55	55	41	35	2.25
2100	4	8	22	54	55	55	48	41	2.39
2400	5	9	25	55	55	55	54	48	2.52

Type KSD2025 - 225mm Module

Insertion (dB) at Octave Band Centre Frequencies (Hz)

Length (mm)	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>	<u>'K' (Face)</u>
600	2	3	6	14	24	18	11	9	1.04
900	2	3	8	21	36	27	17	13	1.12
1200	2	4	10	28	48	36	23	18	1.20
1500	3	5	13	35	55	45	29	23	1.28
1800	3	5	15	42	55	54	35	28	1.36
2100	3	6	17	49	55	55	41	33	1.44
2400	4	7	20	55	55	55	47	38	1.52

Type **KSD2030** - 250mm Module

Insertion (dB) at Octave Band Centre Frequencies (Hz)

Length (mm)	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>	<u>'K' (Face)</u>
600	2	3	6	13	21	16	9	7	0.75
900	2	3	7	19	32	23	13	11	0.81
1200	2	4	9	25	43	31	18	15	0.88
1500	2	4	11	31	54	39	23	19	0.94
1800	2	5	13	37	55	47	28	23	1.01
2100	2	5	15	44	55	54	33	27	1.07
2400	3	6	17	50	55	55	38	31	1.14

Type **KSD2035** - 275mm Module

Insertion (dB) at Octave Band Centre Frequencies (Hz)

Length (mm)	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>	<u>'K' (Face)</u>
600	1	2	5	11	20	14	7	6	0.54
900	1	2	6	16	30	20	10	9	0.60
1200	1	3	8	22	40	27	14	12	0.65
1500	2	3	10	27	50	33	18	15	0.70
1800	2	4	11	33	55	40	22	18	0.76
2100	2	4	13	38	55	47	26	21	0.81
2400	3	5	15	44	55	53	30	24	0.86

Type **KSD2040** - 300mm Module

Insertion (dB) at Octave Band Centre Frequencies (Hz)

Length (mm)	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>	<u>'K' (Face)</u>
600	1	2	3	10	18	12	5	4	0.38
900	1	2	4	14	26	17	7	5	0.43
1200	1	2	6	19	34	23	9	7	0.47
1500	1	3	8	24	43	29	11	9	0.52
1800	1	3	9	29	51	34	13	11	0.56
2100	1	3	11	34	55	40	15	13	0.61
2400	2	4	13	39	55	46	18	15	0.65

MELINEX

When Melinex linings are used the following allowances should be made to the Insertion Loss Figures

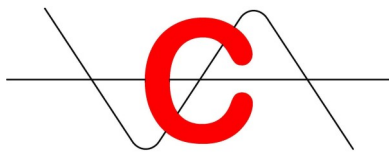
<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>
x 1	x 1	x 0.95	x 0.85	x 0.8	x 0.65	x 0.55	x 0.5

AVAILABLE SIZES

Type **KSD20** Series attenuators can be supplied in a multitude of sizes with the width dependant on the module size and height selected to suit pressure drop requirements.

The **KSD20** Series can be selected to have a cross sectional size from 150mm wide x 200mm high up to cross sectional sizes of 2000mm x 2000mm in one section. Larger sections are available by fixing two or more modules together.

The attenuator length increases in 300mm increments from 600mm long to 2400mm long although other sizes are available.



TYPICAL SPECIFICATION

Type **KSD20** Series Attenuator.

Manufacturer:	Conabeare Acoustics Limited - 0118 930 3650
Attenuator Type:	KSD20 Series Rectangular Attenuator.
Outer Skin:	Pre-Galvanised Steel Sheet Outer Skin throughout.
Splitters:	45kg/m ³ density mineral wool retained behind glass fibre tissue and expanded or perforated metal skin having a minimum 30% free area.
Flanges:	Generally Mez20, Mez30 or Mez40 Flanges although other flange systems/types are available.
Finish:	Mill Finish as Standard.
Description:	Fabricated Steel Attenuator comprising pre-galvanised steel components throughout. Attenuator to be factory assembled using mechanical fixings and supplied in one section for incorporation into the works.

AVAILABLE OPTIONS

- MX - Melinex Lining to Splitters.
- HS - Horizontal Splitters.
- SP - Special Construction such as Double Skinned.
- CRP - Chlorinated Rubber Paint.
- HT - High Temperature.
- XT - Cross Talk Attenuator.
- VB or HB - Bend Attenuator - Contact Our Engineering department for Advice.
- Stainless Steel Fabrication.
- PVC Fabrication.

PRESSURE LOSS

To establish the pressure loss through the attenuator based on air on and off condition being straight length of duct as detailed within BS EN ISO 7535:2003. The following example should be used;

Example

KSD2020 Attenuator at 1.2 metres wide x 0.9 metres high x 1.5 metres long having a duty of 5.94m³/s

Step 1 - Module size = 0.2m x number of modules = 6 (1.2/0.2) x height = 0.9m which = (0.2 x 6 x 0.9) = 1.08

Step 2 - (Airflow (m³/s) / step 1) squared = (5.94 m³/s / 1.08)² = 5.5² = 30.25

Step 3 - (step 2 x 'K' Factor) x 0.6 = (30.25 x 2.12) x 0.6 = Pressure drop of 38Pa

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