

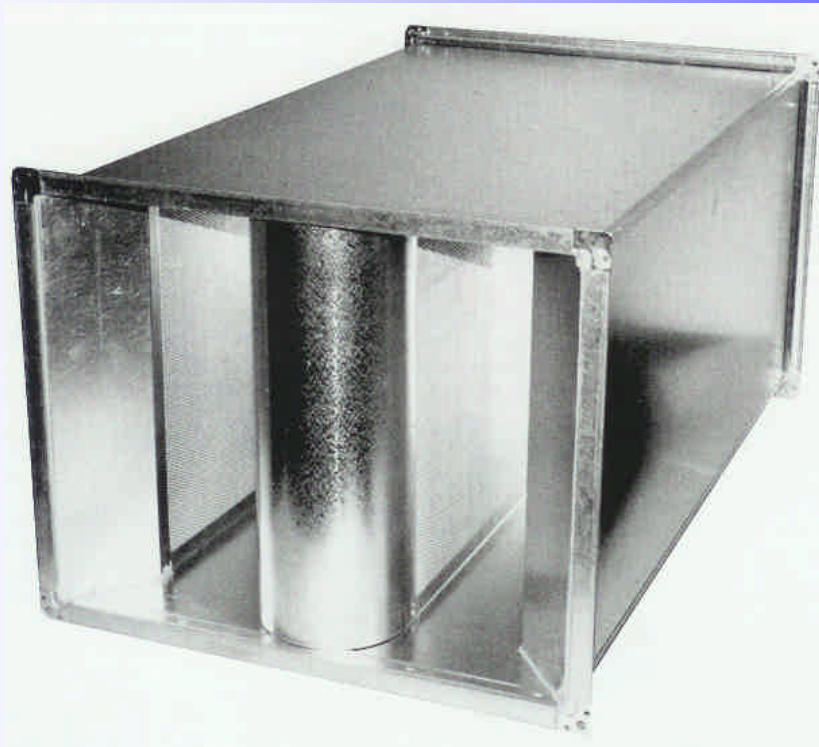
INTRODUCTION

Type KSD40 Series Rectangular Attenuators are used for ducted systems or large items of plant to provide a high level of attenuation whilst allowing passage of air to or from the equipment being treated.

Whilst all KSD40 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 thinner, 200mm, splitter configuration.

The KSD40 Series attenuators are very efficient at providing Cross Talk protection as well as being suitable for smaller 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.

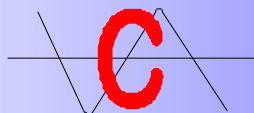


DESIGN AND MANUFACTURE

The KSD40 Series Rectangular Attenuators are designed and fabricated to suit particular projects to take into account the specific sound reduction requirements for both Octave Band and Broad Band noise, regenerated noise and airflow characteristics such as 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 designs.

CONABEARE



ACOUSTICS

Rectangular Attenuators - KSD40 Series

PERFORMANCE DATA

Type KSD40 Series Rectangular Attenuators have the following Acoustic Performance

Type KSD40 - 275mm Module

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

<u>Length (mm)</u>	<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	5	9	16	24	33	30	22	21	8.34
900	7	11	22	33	44	44	29	25	9.01
1200	8	14	28	40	50	50	36	29	9.68
1500	9	17	34	48	50	50	43	34	10.49
1800	10	19	40	50	50	50	49	38	11.29
2100	11	22	45	50	50	50	50	43	11.97
2400	12	24	49	50	50	50	50	47	12.77

Type KSD41 - 300mm Module

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

<u>Length (mm)</u>	<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	5	8	14	22	28	26	18	17	4.59
900	7	10	20	30	37	35	24	21	5.04
1200	8	12	25	37	45	43	30	24	5.40
1500	8	15	30	45	50	50	35	27	5.76
1800	9	17	35	50	50	50	41	30	6.12
2100	10	19	40	50	50	50	46	33	6.48
2400	11	22	44	50	50	50	50	35	6.93

Type KSD42 - 325mm Module

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

<u>Length (mm)</u>	<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	4	7	13	20	25	23	17	16	2.91
900	6	9	18	27	34	31	21	19	3.11
1200	7	11	22	35	42	38	26	21	3.38
1500	7	14	27	42	50	46	30	23	3.52
1800	8	16	31	47	50	50	34	25	3.79
2100	9	18	35	50	50	50	38	27	3.99
2400	10	20	40	50	50	50	42	29	4.26

Type KSD43 - 350mm Module

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

<u>Length (mm)</u>	<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	4	6	11	16	21	19	15	14	1.96
900	5	8	16	24	29	26	18	16	2.07
1200	6	10	20	31	37	32	21	17	2.29
1500	6	12	24	37	43	38	24	19	2.40
1800	7	14	27	42	49	43	28	20	2.56
2100	8	16	31	49	50	47	31	21	2.72
2400	9	18	36	50	50	50	33	22	2.83

Type KSD44 - 375mm 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>	'K' (Face)
600	3	5	10	15	19	16	13	12	1.47
900	5	7	14	22	26	21	15	14	1.61
1200	5	9	18	29	34	27	18	15	1.70
1500	6	11	22	36	42	32	20	16	1.84
1800	7	13	25	43	48	37	23	17	1.93
2100	7	15	29	50	50	42	25	19	2.02
2400	8	16	33	50	50	46	27	20	2.16

Type KSD45 - 400mm 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>	'K' (Face)
600	3	4	8	13	15	12	10	10	1.08
900	5	7	12	19	22	16	12	11	1.20
1200	5	8	16	25	29	21	14	13	1.24
1500	6	9	19	30	36	25	16	14	1.36
1800	7	11	24	36	43	29	18	15	1.48
2100	7	13	27	41	50	33	19	16	1.52
2400	8	14	30	47	50	37	21	17	1.64

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 KSD40 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 KSD40 Series can be selected to have a cross sectional size from 275mm wide x 200mm high up to cross sectional sizes of 4000mm x 4000mm 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.

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.

TYPICAL SPECIFICATION

Type KSD40 Series Attenuator.

Manufacturer:	Conabeare Acoustics Limited - 0118 930 3650.
Louvre Type:	KSD40 Series Rectangular Attenuator.
Outer Skin:	Pre-Galvanised Steel Sheet Outer Skin - 1.2mm thick throughout.
Splitters:	45kg/m ³ density mineral wool retained behind glassfibre tissue facing and expanded metal skin having minimum 30% free area.
Flanges:	Generally Mez20, Mez30 or Mez40 Flanges although other flanges are available.
Finish:	Mill Finish as Standard.
Description:	Fabricated Steel Attenuator comprising pre-galvanised steel components throughout. Splitters to be fitted using mechanical fixings. Attenuator to be factory assembled and supplied in one section for incorporation into the works.

PRESSURE LOSS

To establish the pressure drop through the attenuator the following example should be used;

Example

KSD42 Attenuator at 1.3 metres wide x 0.8 metres high x 1.5 metres long having a duty of 4.4m³/s

Step 1 - Module size = 0.325m x number of modules = 4 (1.3/0.325) x height = 0.8m which = (0.325 x 4 x 0.8) = 1.04

Step 2 - (Airflow (m³/s) / step 1) squared = (4.4 m³/s / 1.04)² = 4.23² = 17.9

Step 3 - (step 2 x 'K' Factor) x 0.6 = (17.9 x 3.52) x 0.6 = Pressure drop of 38Pa

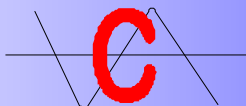
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ACOUSTICS