

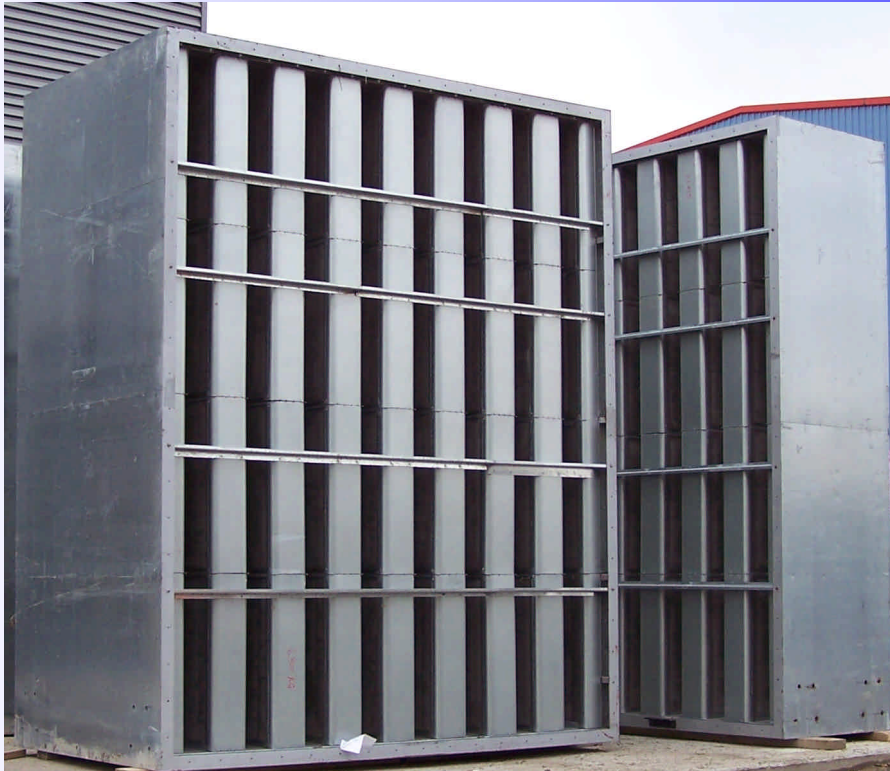
## INTRODUCTION

Type KSD50 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 KSD50 Series attenuators are selected to suit particular criteria, in general these are used to provide a better level of attenuation at low to medium frequencies due to the thicker, 300mm, splitter configuration.

The KSD50 Series attenuators are very efficient at providing Plant Noise Attenuation as well as being suitable for larger 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.

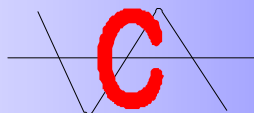


## DESIGN AND MANUFACTURE

The KSD50 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 - KSD50 Series**

# PERFORMANCE DATA

## Type KSD50 - 375mm Module

Length (mm)	Insertion (dB) at Octave Band Centre Frequencies (Hz)								
	<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	10	13	25	34	43	45	31	19	23.28
900	12	18	29	40	50	50	38	24	24.14
1200	13	24	33	44	50	50	46	28	27.58
1500	14	30	37	49	50	50	50	33	30.08
1800	16	33	41	50	50	50	50	36	33.05
2100	20	36	45	50	50	50	50	41	36.02
2400	21	41	50	50	50	50	50	45	36.88

## Type KSD51 - 400mm Module

Length (mm)	Insertion (dB) at Octave Band Centre Frequencies (Hz)								
	<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	9	12	22	31	38	38	27	18	12.60
900	11	16	26	36	45	45	33	22	13.50
1200	12	21	30	41	50	50	40	26	15.50
1500	13	26	34	47	50	50	48	30	17.10
1800	15	29	38	50	50	50	50	33	18.90
2100	18	32	42	50	50	50	50	37	20.70
2400	20	36	46	50	50	50	50	40	21.60

## Type KSD52 - 425mm Module

Length (mm)	Insertion (dB) at Octave Band Centre Frequencies (Hz)								
	<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	9	12	20	28	34	32	23	17	7.44
900	10	15	24	33	40	38	28	21	8.34
1200	12	19	28	39	45	42	34	24	9.65
1500	13	23	32	46	48	44	40	27	10.80
1800	14	26	35	50	50	48	43	30	12.03
2100	17	28	39	50	50	50	46	33	13.26
2400	19	31	43	50	50	50	48	35	14.16

## Type KSD53 - 450mm Module

Length (mm)	Insertion (dB) at Octave Band Centre Frequencies (Hz)								
	<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	8	11	17	25	29	25	19	16	4.50
900	9	13	21	29	34	30	23	19	5.40
1200	11	16	25	36	39	34	28	22	6.30
1500	12	19	29	44	45	38	32	24	7.20
1800	13	22	32	49	50	45	36	27	8.10
2100	15	24	36	50	50	50	41	29	9.00
2400	18	26	39	50	50	50	45	30	9.90

## Type KSD54 - 475mm Module

Length (mm)	Insertion (dB) at Octave Band Centre Frequencies (Hz)								
	<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	8	11	17	22	27	22	18	15	3.20
900	9	13	20	27	31	27	21	18	3.86
1200	10	15	24	33	37	31	25	20	4.46
1500	12	18	28	40	44	36	28	21	5.19
1800	13	20	31	47	50	42	32	24	5.85
2100	15	23	34	50	50	47	36	26	6.51
2400	17	25	38	50	50	50	39	27	7.12

### Type KSD55 - 500mm Module

Length (mm)	Insertion (dB) at Octave Band Centre Frequencies (Hz)								'K' (Face)
	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>	
600	7	10	16	19	24	19	16	14	2.30
900	8	12	18	25	28	23	19	16	2.80
1200	9	14	22	30	35	28	21	17	3.20
1500	11	16	26	36	42	33	24	18	3.80
1800	12	18	29	44	49	38	27	20	4.30
2100	14	21	32	50	50	44	30	22	4.80
2400	15	24	36	50	50	49	33	24	5.20

### Type KSD56 - 525mm Module

Length (mm)	Insertion (dB) at Octave Band Centre Frequencies (Hz)								'K' (Face)
	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>	
600	7	10	14	16	21	18	15	14	1.79
900	8	12	17	23	26	21	18	15	2.12
1200	9	14	21	28	33	25	20	16	2.52
1500	10	16	25	34	39	30	22	17	2.95
1800	11	18	28	41	46	34	25	19	3.34
2100	13	21	31	47	49	39	27	20	3.78
2400	14	23	35	50	50	44	30	22	4.12

### Type KSD57 - 550mm Module

Length (mm)	Insertion (dB) at Octave Band Centre Frequencies (Hz)								'K' (Face)
	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>	
600	6	9	12	16	18	16	14	13	1.40
900	7	11	16	21	24	19	16	14	1.60
1200	8	13	20	26	30	22	18	15	2.00
1500	9	15	24	31	35	26	20	16	2.30
1800	10	17	27	37	42	30	22	17	2.60
2100	11	20	30	43	48	34	24	18	3.00
2400	12	22	33	49	50	38	26	19	3.30

### Type KSD58 - 575mm Module

Length (mm)	Insertion (dB) at Octave Band Centre Frequencies (Hz)								'K' (Face)
	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>	
600	6	8	12	14	16	14	13	12	1.10
900	7	11	15	19	22	17	15	13	1.29
1200	8	13	19	25	28	19	17	14	1.54
1500	9	15	23	29	33	23	18	15	1.80
1800	9	17	26	34	38	26	20	16	2.06
2100	10	19	30	39	42	29	21	17	2.34
2400	11	22	32	45	46	32	23	18	2.57

### Type KSD59 - 600mm Module

Length (mm)	Insertion (dB) at Octave Band Centre Frequencies (Hz)								'K' (Face)
	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>8000</u>	
600	5	7	11	11	13	11	11	11	0.86
900	6	10	14	17	19	14	13	12	1.04
1200	7	12	17	23	25	16	15	13	1.17
1500	8	14	21	27	29	19	16	14	1.40
1800	8	16	25	31	34	21	17	15	1.62
2100	9	18	29	35	36	24	18	15	1.80
2400	9	21	31	40	42	26	19	16	1.98

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 KSD50 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 KSD50 Series can be selected to have a cross sectional size from 375mm 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 KSD50 Series Attenuator.

Manufacturer:	Conabeare Acoustics Limited - 0118 930 3650.
Louvre Type:	KSD50 Series Rectangular Attenuator.
Outer Skin:	Pre-Galvanised Steel Sheet Outer Skin - 1.2mm thick throughout.
Splitters:	45kg/m <sup>3</sup> 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

KSD55 Attenuator at 1.5 metres wide x 1.8 metres high x 1.8 metres long having a duty of 8.4m<sup>3</sup>/s

Step 1 - Module size = 0.5m x number of modules = 3 (1.5/0.5) x height = 1.8m which = (0.5 x 3 x 1.8) = 2.7

Step 2 - (Airflow (m<sup>3</sup>/s) / step 1) squared = (8.4 m<sup>3</sup>/s / 2.7)<sup>2</sup> = 3.11<sup>2</sup> = 9.7

Step 3 - (step 2 x 'K' Factor) x 0.6 = (9.7 x 4.30) x 0.6 = Pressure drop of 25Pa

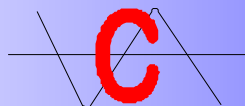
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