

## DESCRIPTION:

Circular silencers provide a practical, engineered solution for controlling duct noise in systems with round ductwork. The round shape eliminates the need for costly transitions and the associated turbulence and system pressure drop. With high quality, leak-free construction and many optional features, the RCA silencer is suitable for most applications..

## CONSTRUCTION:

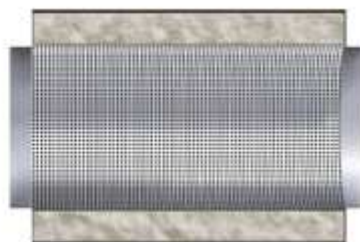
Standard Material Galvanized Sheet Steel. Optional: .304-316 Stainless Steel, Aluminum

## APPLICATION:

For HVAC applications, they are commonly installed on intake and discharge sides of a fan or air handling unit. They can also be used on the receiver side of noise generating equipment (terminal boxes, air valves and dampers) and in areas outside the primary air system where they can reduce transfer noise between spaces

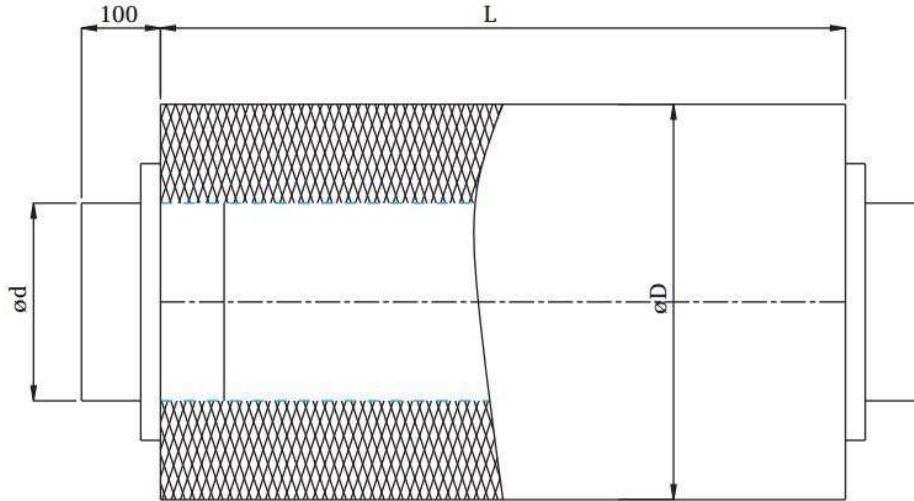
## ACCESSORIES:

- Extended casing
- Fiberglass cloth
- Flanges
- Transitions





**STANDARD DIMENSIONS:**



**Metric System**

AVAILABLE SIZES (mm) - Always width x height											
NOMINAL SIZE - ØD											
Nominal length	100	125	160	200	250	315	400	450	500	560	630
500mm	X	X	X	X	X	X	X	X	X	X	X
1000mm	X	X	X	X	X	X	X	X	X	X	X
1500mm	X	X	X	X	X	X	X	X	X	X	X

**Imperial System**

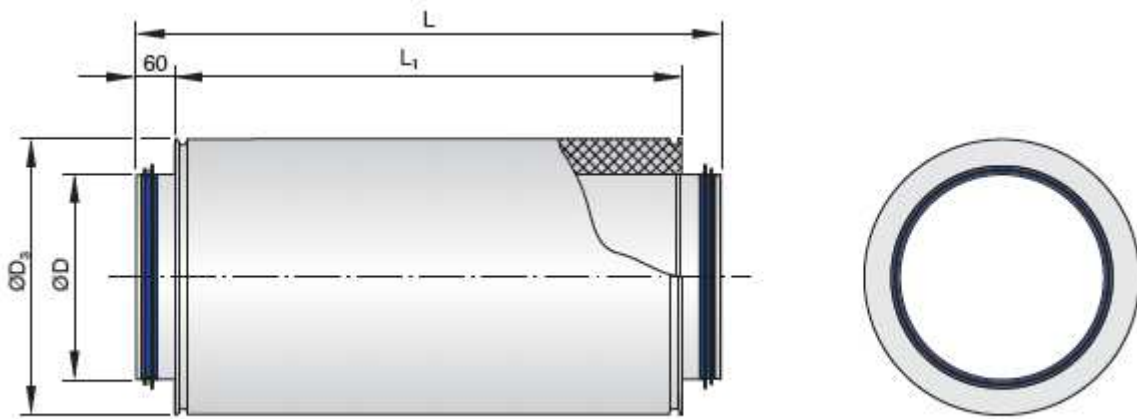
AVAILABLE SIZES (in.) - Always width x height											
NOMINAL SIZE - ØD											
Nominal length	4"	5"	6"	8"	10"	12"	15"	17"	20"	22"	25"
24"	X	X	X	X	X	X	X	X	X	X	X
39"	X	X	X	X	X	X	X	X	X	X	X
59"	X	X	X	X	X	X	X	X	X	X	X

ØD: 50mm-100mm insulation thickness option

Connection Diameter		Length		Minimum Casing Gauge
Min	Max	Min	Max	
6	20	24	79	22
6	44	24	120	18
6	60	24	120	16



RA-Construction with 50-100mm insulated



DIMENSIONS

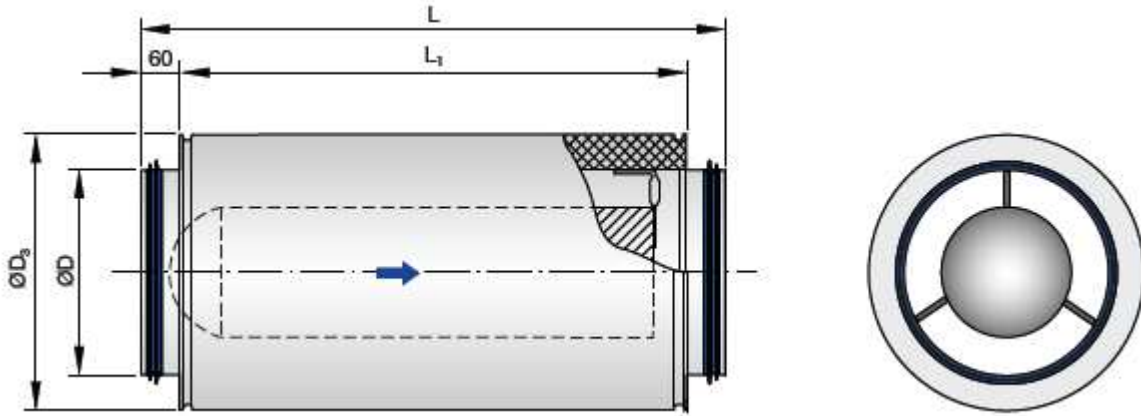
Nominal size	50		100		ØD mm
	ØD <sub>3</sub>				
	mm		mm		
100	199		299		99
125	224		324		124
160	259		359		159
200	299		399		199
250	349		449		249
315	414		514		314
400	499		599		399
450			648		448
500			698		498
560			758		558
630			828		628
710			908		708
800			998		798

LENGTHS

Nominal length	L		L <sub>1</sub>	
	mm		mm	
500	500		380	
1000	1000		880	
1500	1500		1380	



RB-Construction with 50-100mm insulated



DIMENSIONS

Nominal size	50		100		ØD mm
	ØD <sub>3</sub>				
	mm		mm		
250	349		449		249
315	414		514		314
400	499		599		399
450			648		448
500			698		498
560			758		558
630			828		628
710			908		708
800			998		798
900			1098		898
1000			1198		998

LENGTHS

Nominal length	L		L <sub>1</sub>	
	mm		mm	
500	500		380	
1000	1000		880	
1500	1500		1380	



## QUICK SELECTION - Metric System

### RA50 - insulation thickness 50 mm, insertion loss

Nominal size	Nominal length	Centre frequency $f_m$ [Hz]							
		63	125	250	500	1000	2000	4000	8000
	mm	$D_e$ Hz							
100	500	3	5	8	14	23	30	18	13
	1000	4	9	15	27	42	50	43	25
125	500	3	4	7	12	21	23	12	10
	1000	4	7	12	23	38	42	29	20
160	500	2	3	6	10	18	17	8	8
	1000	3	5	9	19	34	30	18	15
200	500	1	2	5	9	16	13	5	6
	1000	2	4	8	16	31	22	12	11
250	500	1	2	4	8	14	10	3	4
	1000	2	3	6	14	28	17	8	9
	1500	2	4	8	19	39	23	13	12
315	500	1	1	3	7	12	7	2	3
	1000	1	2	5	12	25	13	5	6
	1500	2	3	7	17	35	17	9	9
400	500	1	1	3	6	11	6	1	2
	1000	1	2	4	10	22	10	3	5
	1500	1	2	6	14	31	13	6	7

### RA100 - insulation thickness 100 mm, insertion loss

Nominal size	Nominal length	Centre frequency $f_m$ [Hz]							
		63	125	250	500	1000	2000	4000	8000
	mm	$D_e$ Hz							
100	500	4	9	12	18	35	33	26	14
	1000	5	17	24	35	50	50	47	25
125	500	4	7	10	17	31	26	19	11
	1000	5	14	21	32	48	44	33	20
160	500	3	6	9	15	28	20	13	8
	1000	5	11	18	30	42	33	22	15
200	500	3	5	8	15	25	16	9	7
	1000	4	9	16	28	38	26	16	12
250	500	2	4	7	14	21	13	6	5
	1000	3	8	14	26	33	21	11	9
	1500	4	11	21	37	41	27	15	12
315	500	2	3	6	13	18	10	4	4
	1000	3	6	12	24	29	16	8	7
	1500	3	9	18	34	35	21	10	9
400	500	1	3	6	12	17	8	3	3
	1000	2	5	11	23	25	12	5	5
	1500	3	7	16	32	31	16	7	7
450	1000	2	5	10	22	23	11	4	5
	1500	2	6	15	31	29	14	6	6
500	1000	2	4	10	21	22	10	4	4
	1500	2	6	14	30	27	13	5	6
560	1500	2	5	13	29	25	11	4	5
630	1500	2	5	12	28	23	10	4	4



RA-Differential pressure

Nominal size	$\dot{V}$	$\dot{V}$	Nennlänge [mm]		
			500	1000	1500
	l/s	m <sup>3</sup> /h	$\Delta p_{st}$ Pa		
100	30	108	2	2	
	60	216	4	8	
	75	270	6	12	
	90	324	8	18	
125	50	180	2	2	
	95	342	4	6	
	120	432	6	10	
	145	522	6	14	
160	80	288	2	2	
	155	558	2	6	
	195	702	4	8	
	235	846	6	10	
200	125	450	2	2	
	245	882	2	4	
	310	1116	4	6	
	370	1332	4	8	
250	195	702	<2	<2	<2
	385	1386	<2	4	4
	485	1746	2	4	6
	580	2088	4	6	8
315	310	1116	<2	<2	<2
	615	2214	<2	2	4
	770	2772	<2	4	4
	925	3330	2	4	6
400	500	1800	<2	<2	<2
	995	3582	<2	<2	2
	1245	4482	<2	2	4
	1495	5382	<2	4	4



## RB50 - insulation thickness 50 mm, insertion loss

Nominal size	Nominal length	Centre frequency $f_m$ [Hz]							
		63	125	250	500	1000	2000	4000	8000
	mm	$D_e$ Hz							
250	500	1	3	6	11	17	20	23	23
	1000	3	5	9	18	42	48	47	35
	1500	5	7	10	23	50	50	50	44
315	500	1	3	5	10	15	17	18	18
	1000	2	5	8	15	40	42	36	27
	1500	5	6	8	19	50	50	50	34
400	500	1	2	5	8	13	15	14	13
	1000	2	4	6	12	38	35	28	20
	1500	5	5	7	15	50	50	39	25

## RB100 - insulation thickness 100 mm, insertion loss

Nominal size	Nominal length	Centre frequency $f_m$ [Hz]							
		63	125	250	500	1000	2000	4000	8000
	mm	$D_e$ Hz							
250	500	2	5	10	17	24	23	26	24
	1000	5	10	17	30	47	50	50	36
	1500	7	14	22	41	50	50	50	44
315	500	2	5	9	16	21	20	21	18
	1000	4	9	15	27	44	45	39	27
	1500	7	12	20	37	50	50	50	34
400	500	1	4	8	14	18	17	16	14
	1000	3	7	13	25	40	38	29	21
	1500	6	10	17	33	50	50	40	26
450	500	1	4	7	14	16	16	14	12
	1000	3	7	12	24	39	35	26	18
	1500	5	9	16	31	50	50	36	23
500	500	1	3	7	13	16	15	13	11
	1000	2	6	12	23	38	33	24	17
	1500	5	9	16	30	50	50	33	21
560	500	1	3	6	13	15	14	11	10
	1000	2	6	11	22	36	31	21	15
	1500	4	8	15	30	50	48	29	19
630	500	1	3	6	12	15	13	10	9
	1000	2	5	11	21	34	29	19	13
	1500	4	8	14	29	50	44	26	16



RB-Differential pressure and air-regenerated noise

Nominal size	$\dot{V}$	$\dot{V}$	$L_{WA}$	Nennlänge [mm]		
				500	1000	1500
	l/s	m <sup>3</sup> /h	dB(A)	$\Delta p_{at}$ Pa		
250	190	684	34	14	18	25
	385	1386	51	55	75	95
	480	1728	56	85	115	150
	575	2070	60	120	165	210
315	305	1098	35	14	18	25
	610	2196	52	50	95	120
	765	2754	57	80	105	130
	915	3294	61	115	145	180
400	495	1782	36	12	16	20
	990	3564	52	50	60	75
	1240	4464	58	75	95	115
	1485	5346	62	110	135	165
450	630	2268	36	12	16	20
	1255	4518	53	50	60	70
	1570	5652	58	75	90	110
	1885	6786	63	107	130	155
500	775	2790	36	12	14	18
	1550	5580	53	45	55	65
	1940	6984	59	70	85	100
	2330	8388	63	100	125	150
560	975	3510	37	12	14	18
	1950	7020	53	45	55	65
	2435	8766	59	70	85	100
	2925	10530	63	100	120	140
630	1235	4446	37	12	14	16
	2470	8892	54	45	55	65
	3090	11124	59	70	80	95
	3705	13338	64	100	115	135





## QUICK SELECTION - imperial System

### Dynamic Insertion Loss (DIL)

Inside Diameter (in.)	Length (in.)	Weight (lbs)	Face Velocity (FPM)	Pressure Drop (in. w.g.)	Octave Band Dynamic Insertion Loss (dB)								
					63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
12	24	28	+4000	0.16	2	4	11	16	23	17	13	12	
			0	0	3	4	13	17	24	17	13	12	
			-4000	0.16	3	5	14	18	26	17	13	12	
	36	42	42	+4000	0.18	3	5	15	24	29	20	15	14
				0	0	4	6	16	25	31	20	15	14
				-4000	0.18	4	6	18	27	33	20	15	14
24	48	129	+4000	0.16	2	4	10	22	19	11	10	11	
			0	0	2	5	11	24	20	11	10	11	
			-4000	0.16	3	5	13	25	21	11	10	11	
	72	194	194	+4000	0.19	3	5	15	34	24	14	13	15
				0	0	4	6	17	36	25	14	13	15
				-4000	0.19	4	7	19	38	27	14	14	15
36	72	272	+4000	0.15	3	5	13	20	15	10	9	8	
			0	0	3	5	14	22	16	10	9	8	
			-4000	0.15	4	6	16	23	17	10	9	8	
	108	408	408	+4000	0.2	4	6	18	31	22	16	14	11
				0	0	4	7	20	32	23	16	14	11
				-4000	0.2	5	8	22	34	24	16	14	11

### Generated Noise(GN) @ 3 sq. ft. face area

Length (in.)	Face Velocity (fpm)	Octave Band Generated Noise (dB)							
		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
All Lengths	+4000	62	49	49	47	43	43	40	38
	0	30	25	20	15	10	10	10	10
	-4000	66	59	60	57	55	49	50	42

### Generated Noise Correction Factors\*

Face Area (sq. ft.)	1.5	3	6	12	24
dB	-3	0	+3	+6	+9

\* Generated Noise adjustment factors for silencers with face area other than 3 sq.ft. Add or subtract factor to all octave bands.



**ORDER CODE**

RCA	RA	01	50	P	Ø315x1000	
		Case Type			N. Size	
					(mm)	
					Ød x L	
					Nominal Size	
RA					Splitter Surface	
RB					F: Glass Fibre Fabric	
					P: Glass Fibre Fabric and perforated sheet metal	
					Insulation thickness	
						50mm
						100mm
		01: Galvanized Sheet Steel				
		02: Stainless Steel				
		03: Aluminum				