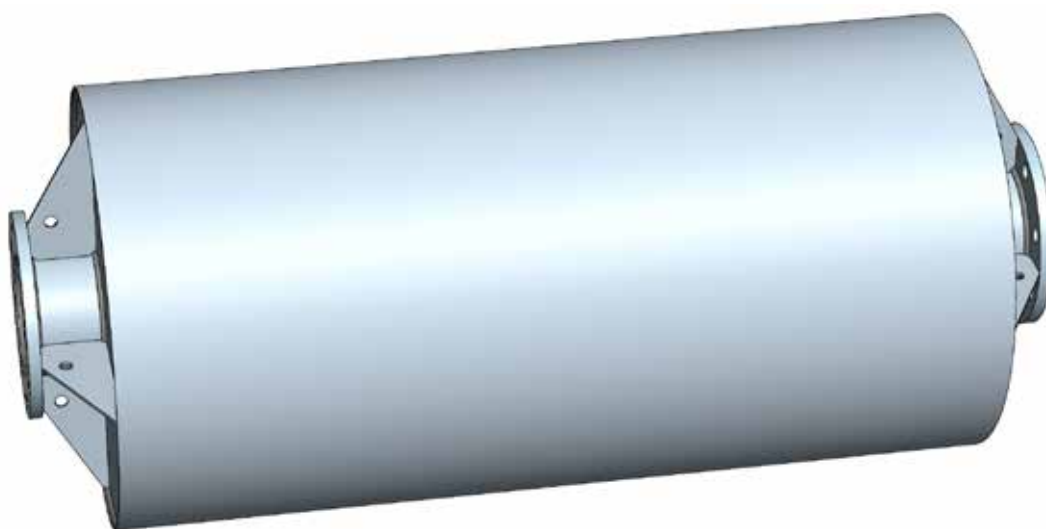




Industrial Mufflers

Absorptive, Reactive, Reactive Lined, Reactive Side Entry, Reactive Side Entry Lined



NCS Acoustics provide a range of Mufflers for industrial applications; Absorptive, Reactive and Lined Reactive. Call us and let our expert acoustic engineers provide you with suitable options.

- Guaranteed to comply with specified performance.
- Durable internal and exterior construction.
- Designed and manufactured to individual requirements, based on a standard design.
- Straight through or side entry.
- Can be supplied with welded cradle or cleat mounts.



ABSORPTIVE MUFFLERS (A)



ACOUSTIC PERFORMANCE

Absorptive Mufflers offer high sound reduction over a broad mid-to-high frequency range. They feature a straight-through design to minimise back pressure. They have a high temperature option for uses such as engine exhausts.

APPLICATIONS

- Diesel, petrol or gas engine exhausts
- High pressure blower intake or discharge
- Dust collection systems

STANDARD CONSTRUCTION

Body, ends, flanges & stiffeners: ex mild steel

Core: ex Stainless Steel 304 Perf

Infill: High density high temperature acoustic infill

Finish: high temperature black paint for interior locations (unless otherwise specified). Other finishes available for exterior locations.

Flanged or pipe stub ends available

INSTALLATION

Flow: Omni directional, may be installed in any orientation, refer diagram page 3.

Mounts: See pages 10-11.

PRESSURE LOSS

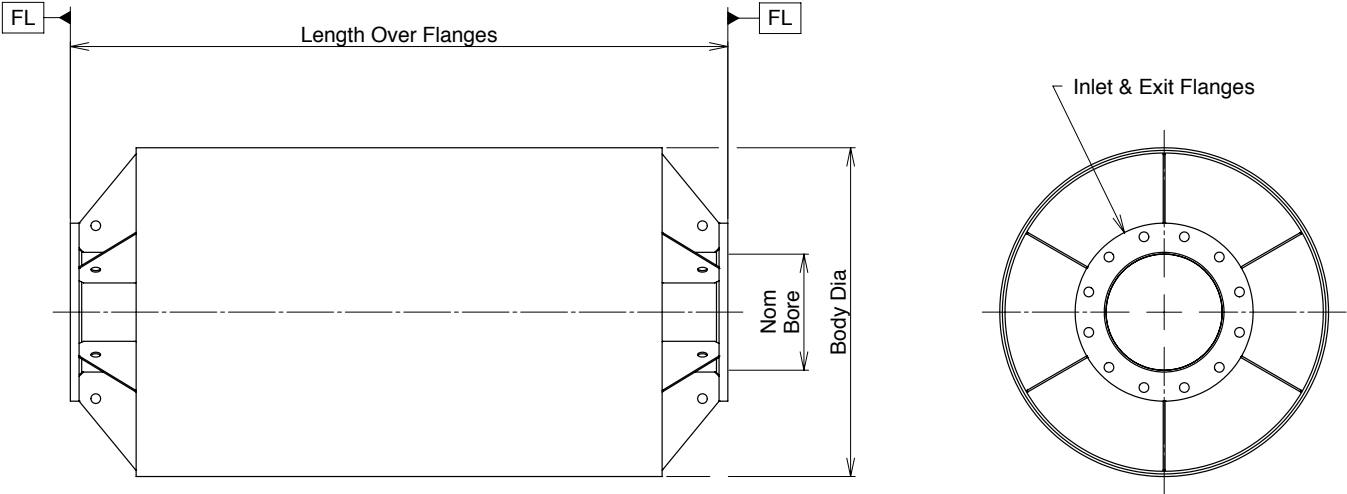
Pressure loss is negligible as airflow is straight through with no restriction.

STATIC INSERTION LOSS (dB)									
Model	Temp (C°)	Frequency (Hz)							
		63	125	250	500	1k	2k	4k	8k
A-050	20	10	18	34	50	50	50	50	46
	500	5	13	24	40	50	50	50	48
A-080	20	16	22	39	50	50	50	50	39
	500	12	18	28	43	50	50	50	46
A-100	20	16	25	40	50	50	50	47	31
	500	10	19	31	44	50	50	49	41
A-125	20	16	25	39	47	50	50	39	28
	500	10	19	30	42	48	50	46	35
A-150	20	16	24	34	42	50	44	31	25
	500	11	19	28	37	45	48	39	29
A-200	20	14	22	29	36	39	26	19	14
	500	9	17	25	32	37	34	23	17
A-250	20	14	26	45	45	42	25	16	13
	500	7	19	33	45	44	36	22	15
A-300	20	17	28	36	38	42	25	12	10
	500	10	21	31	37	40	36	20	11
A-350	20	20	34	40	42	50	31	13	11
	500	11	25	36	41	45	43	24	12
A-400	20	20	34	43	43	42	20	12	9
	500	11	25	37	43	43	34	17	11
A-450	20	20	34	43	39	39	15	10	8
	500	11	25	37	41	39	30	13	9
A-500	20	20	34	39	39	34	13	9	7
	500	11	25	36	39	37	26	11	8

As the speed of sound is temperature dependant, the Insertion Loss performance changes with temperature. We have listed performance at 20°C (ambient) and 500°C as this is a common exhaust temperature for diesel engines. For temperatures < or > 10% of the listed values please contact NCS Acoustics Ltd.

NCS Acoustics can design, manufacture and install to your requirements.

ABSORPTIVE MUFFLERS (A)



DIMENSIONS & MASS

Model	Dimensions (mm)			Mass (kg)
	Nominal Bore	Body Diameter	Length Over Flanges	
A-50	50	200	1050	27
A-80	80	320	1050	47
A-100	100	400	1400	80
A-125	125	500	1400	108
A-150	150	600	1400	142
A-200	200	700	1450	241
A-250	250	750	1500	275
A-300	300	900	1800	428
A-350	350	1050	2100	611
A-400	400	1200	2400	819
A-450	450	1350	2700	1074
A-500	500	1500	3000	1629

NOTES



REACTIVE MUFFLERS (R)



ACOUSTIC PERFORMANCE

Reactive Mufflers use resonance to achieve high attenuation at low-to-mid frequencies. These mufflers are particularly suitable for applications such as food processes where porous infill materials are not permitted.

APPLICATIONS

- Diesel, petrol or gas engine exhausts
- Compressor intake or discharge
- Blowers
- Multi-lobe intake or exhausts
- Vacuum pump discharge

STANDARD CONSTRUCTION

Body, Ends, Flanges & Stiffeners: ex Mild Steel.

Interior Pipework: ex Mild Steel.

Finish: high temperature black paint for interior locations (unless otherwise specified). Other finishes available for exterior locations.

Flanged or pipe stub ends available.

INSTALLATION

Flow: Direction as indicated, may be installed in any orientation, refer diagram page 5.

Mounts: See pages 10-11.

PRESSURE LOSS

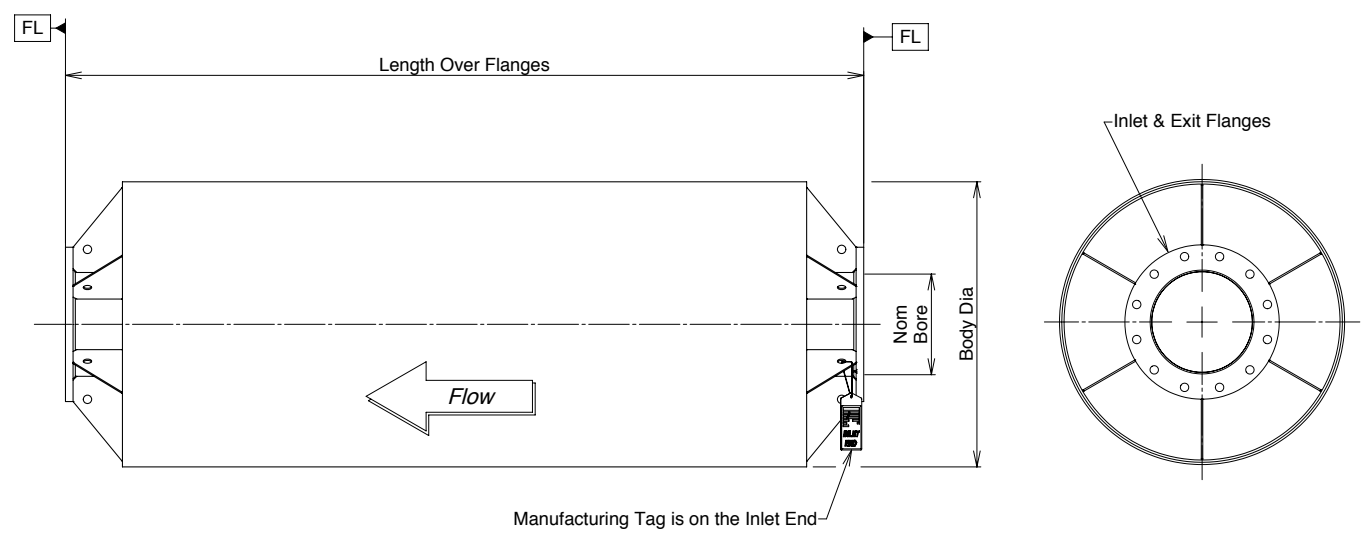
Refer graphs on page 9.

STATIC INSERTION LOSS (dB)									
Model	Temp (C°)	Frequency (Hz)							
		63	125	250	500	1k	2k	4k	8k
R-050	20	5	35	35	30	15	15	15	15
	500	0	16	35	33	24	15	15	15
R-080	20	6	35	35	30	10	15	15	15
	500	0	17	35	33	22	12	15	15
R-100	20	10	35	35	30	15	15	15	15
	500	0	19	35	33	24	15	15	15
R-125	20	15	35	35	30	15	15	15	15
	500	3	23	35	33	24	15	15	15
R-150	20	20	35	35	25	15	15	15	15
	500	11	26	35	31	21	15	15	15
R-200	20	20	30	30	20	15	15	15	15
	500	14	24	30	26	18	15	15	15
R-250	20	20	30	30	20	15	15	15	15
	500	14	24	30	26	18	15	15	15
R-300	20	25	30	30	20	15	15	15	15
	500	22	27	30	26	18	15	15	15
R-350	20	28	29	29	17	16	15	15	15
	500	23	29	29	24	17	15	15	15
R-400	20	31	28	28	15	16	15	15	15
	500	26	31	28	23	16	16	15	15

As the speed of sound is temperature dependant, the Insertion Loss performance changes with temperature. We have listed performance at 20°C (ambient) and 500°C as this is a common exhaust temperature for diesel engines. For temperatures < or > 10% of the listed values please contact NCS Acoustics Ltd.

NCS Acoustics can design, manufacture and install to your requirements.

REACTIVE MUFFLERS (R)



DIMENSIONS & MASS

Model	Dimensions (mm)			Mass (kg)
	Nominal Bore	Body Diameter	Length Over Flanges	
R-050	50	200	1150	33
R-080	80	320	1350	65
R-100	100	400	1550	92
R-125	125	500	1600	128
R-150	150	600	1700	173
R-200	200	700	1750	304
R-250	250	750	2100	405
R-300	300	900	2450	601
R-350	350	1050	2700	800
R-400	400	1200	3000	1017

NOTES



REACTIVE LINED MUFFLERS (RL)



ACOUSTIC PERFORMANCE

Reactive Lined Mufflers are a combination of a reactive muffler and absorptive muffler in one package. These offer high sound reduction over a very broad frequency range.

APPLICATIONS

Specifically designed for blower inlets and outlets.

STANDARD CONSTRUCTION

Reactive Lined Mufflers are Reactive Mufflers with the addition of a high density high temperature acoustic infill.

Body, Ends, Flanges & Stiffeners: ex Mild Steel.

Interior Pipework: ex Mild Steel.

Infill: High density high temperature acoustic infill

Finish: high temperature black paint for interior locations (unless otherwise specified). Other finishes available for exterior locations.

Flanged or pipe stub ends available.

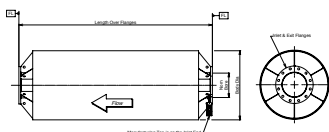
INSTALLATION

Flow: Direction as indicated, may be installed in any orientation, refer Reactive Muffler diagram page 5.

Mounts: See pages 10-11.

PRESSURE LOSS

Refer graphs on page 9.



Refer drawings on page 5.

NCS Acoustics can design, manufacture and install to your requirements.

STATIC INSERTION LOSS (dB)

Model	Temp (C°)	Frequency (Hz)							
		63	125	250	500	1k	2k	4k	8k
RL-080	20	6	35	38	35	20	25	25	25
	500	0	17	36	37	29	22	25	25
RL-100	20	10	35	38	35	25	25	25	25
	500	0	19	36	37	31	25	25	25
RL-125	20	15	35	38	30	25	25	25	25
	500	2	22	36	35	28	25	25	25
RL-150	20	20	35	38	25	25	25	25	25
	500	11	26	36	33	25	25	25	25
RL-200	20	20	30	33	25	25	25	25	25
	500	14	24	31	30	25	25	25	25
RL-250	20	20	30	33	25	25	25	25	25
	500	14	24	31	30	25	25	25	25
RL-300	20	25	30	33	25	25	25	25	25
	500	22	27	31	30	25	25	25	25
RL-350	Mufflers in this size range are specially designed. For initial design purposes use acoustic performance figures for R300L and contact NCS Acoustics.								
RL-400									

As the speed of sound is temperature dependant, the Insertion Loss performance changes with temperature. We have listed performance at 20°C (ambient) and 500°C as this is a common exhaust temperature for diesel engines. For temperatures < or > 10% of the listed values please contact NCS Acoustics Ltd.

DIMENSIONS & MASS

Model	Dimensions (mm)			Mass (kg)
	Nominal Bore	Body Diameter	Length Over Flanges	
RL-080	80	320	1350	84
RL-100	100	400	1550	117
RL-125	125	500	1600	162
RL-150	150	600	1700	219
RL-200	200	700	1750	358
RL-250	250	750	2100	471
RL-300	300	900	2450	696
RL-350	350	1050	2700	923
RL-400	400	1200	3000	1173

REACTIVE MUFFLERS WITH SIDE ENTRY (RS)



ACOUSTIC PERFORMANCE

Reactive Mufflers use resonance to achieve high attenuation at low-to-mid frequencies. These mufflers are particularly suitable for applications such as food processes where porous infill materials are not permitted. Featuring a side entry for applications where an angled entry is necessary.

APPLICATIONS

Refer Reactive Mufflers page 4.

STANDARD CONSTRUCTION

Refer Reactive Mufflers page 4.

Minimum size is 150 due to construction limitations.

INSTALLATION

Flow: Direction as indicated, may be installed in any orientation, refer diagram.

Mounts: See page 12.

PRESSURE LOSS

Refer graphs on page 9, models 150-400 only.

NCS Acoustics can design, manufacture and install to your requirements.

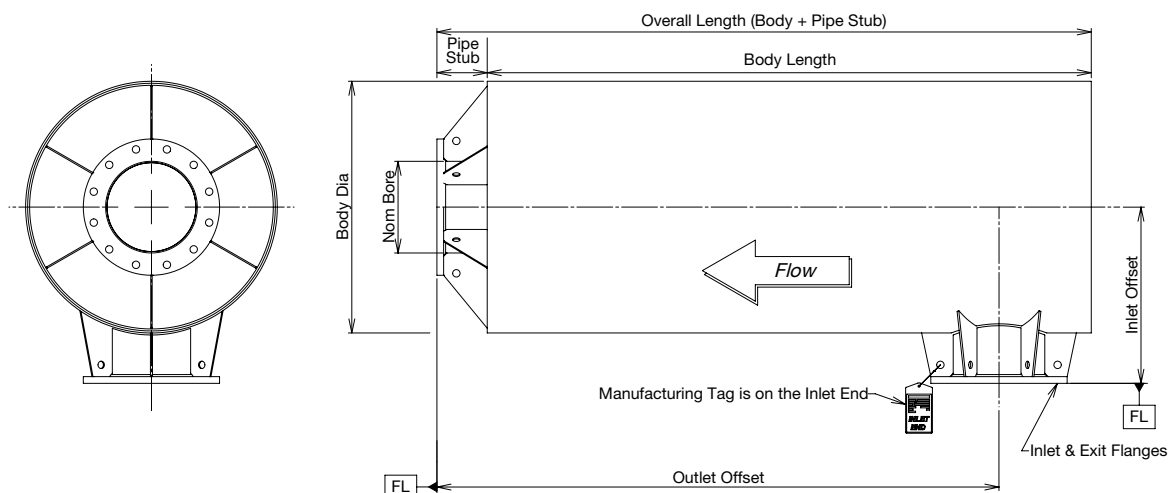
STATIC INSERTION LOSS (dB)

Model	Temp (C°)	Frequency (Hz)							
		63	125	250	500	1k	2k	4k	8k
RS-150	20	20	35	35	25	15	15	15	15
	500	11	26	35	31	21	15	15	15
RS-200	20	20	30	30	20	15	15	15	15
	500	14	24	30	26	18	15	15	15
RS-250	20	20	30	30	20	15	15	15	15
	500	14	24	30	26	18	15	15	15
RS-300	20	25	30	30	20	15	15	15	15
	500	22	27	30	26	18	15	15	15
RS-350	20	28	29	29	17	16	15	15	15
	500	23	29	29	24	17	15	15	15
RS-400	20	31	28	28	15	16	15	15	15
	500	26	31	28	23	16	16	15	15

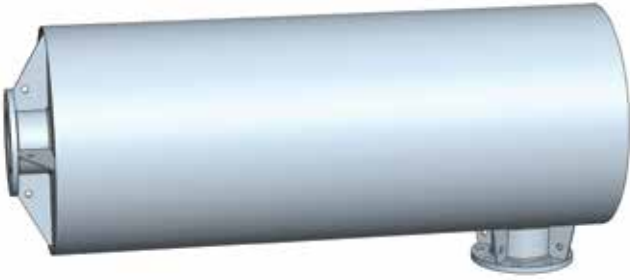
As the speed of sound is temperature dependant, the Insertion Loss performance changes with temperature. We have listed performance at 20°C (ambient) and 500°C as this is a common exhaust temperature for diesel engines. For temperatures < or > 10% of the listed values please contact NCS Acoustics Ltd.

DIMENSIONS & MASS

Model	Dimensions (mm)					Mass (kg)
	Nominal Bore	Body Diameter	Overall Length	Inlet Offset	Outlet Offset	
RS-150	150	600	1600	400	1400	172
RS-200	200	700	1625	475	1400	304
RS-250	250	750	1950	525	1675	404
RS-300	300	900	2300	580	2000	573
RS-350	350	1050	2550	675	2225	762
RS-400	400	1200	2850	750	2500	1249



REACTIVE SIDE ENTRY LINED MUFFLERS (RSL)



ACOUSTIC PERFORMANCE

Reactive Lined Mufflers are a combination of a reactive muffler and absorptive muffler in one package. These offer high sound reduction over a very broad frequency range. Featuring a side entry for applications where an angled entry is necessary.

APPLICATIONS

Specifically designed for blower inlets and outlets.

STANDARD CONSTRUCTION

Refer Reactive Lined Mufflers page 6.

Minimum size is 150 due to construction limitations.

INSTALLATION

Flow: Direction as indicated, may be installed in any orientation, refer diagram.

Mounts: See page 12.

PRESSURE LOSS

Refer graphs on page 9, models 150-300 only.

NCS Acoustics can design, manufacture and install to your requirements.

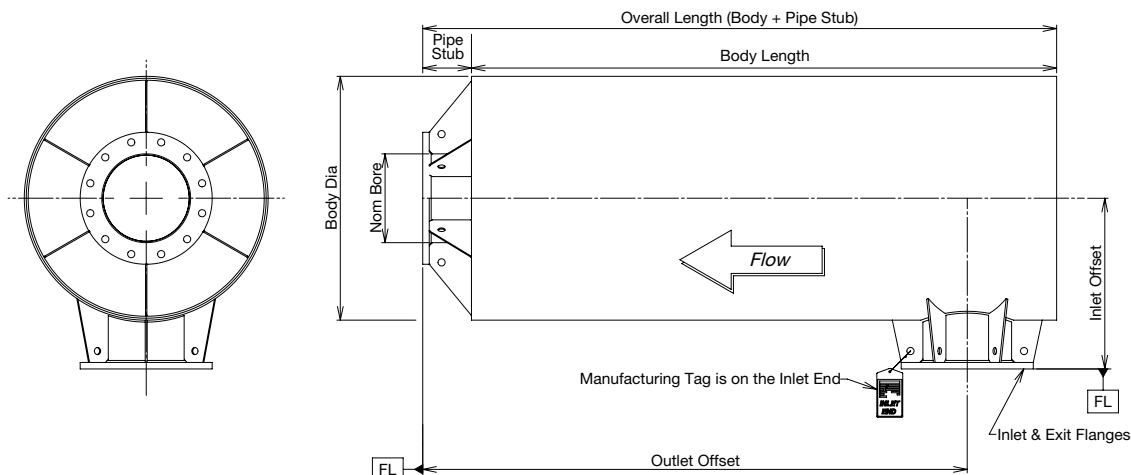
STATIC INSERTION LOSS (dB)

Model	Temp (C°)	Frequency (Hz)							
		63	125	250	500	1k	2k	4k	8k
RSL-150	20	20	35	38	25	25	25	25	25
	500	11	26	36	33	25	25	25	25
RSL-200	20	20	30	33	25	25	25	25	25
	500	14	24	31	30	25	25	25	25
RSL-250	20	20	30	33	25	25	25	25	25
	500	14	24	31	30	25	25	25	25
RSL-300	20	25	30	33	25	25	25	25	25
	500	22	27	31	30	25	25	25	25
RSL-350	Mufflers in this size range are specially designed. For initial design purposes use acoustic performance figures for R300LS and contact NCS Acoustics.								
RSL-400									

As the speed of sound is temperature dependant, the Insertion Loss performance changes with temperature. We have listed performance at 20°C (ambient) and 500°C as this is a common exhaust temperature for diesel engines. For temperatures < or > 10% of the listed values please contact NCS Acoustics Ltd.

DIMENSIONS & MASS

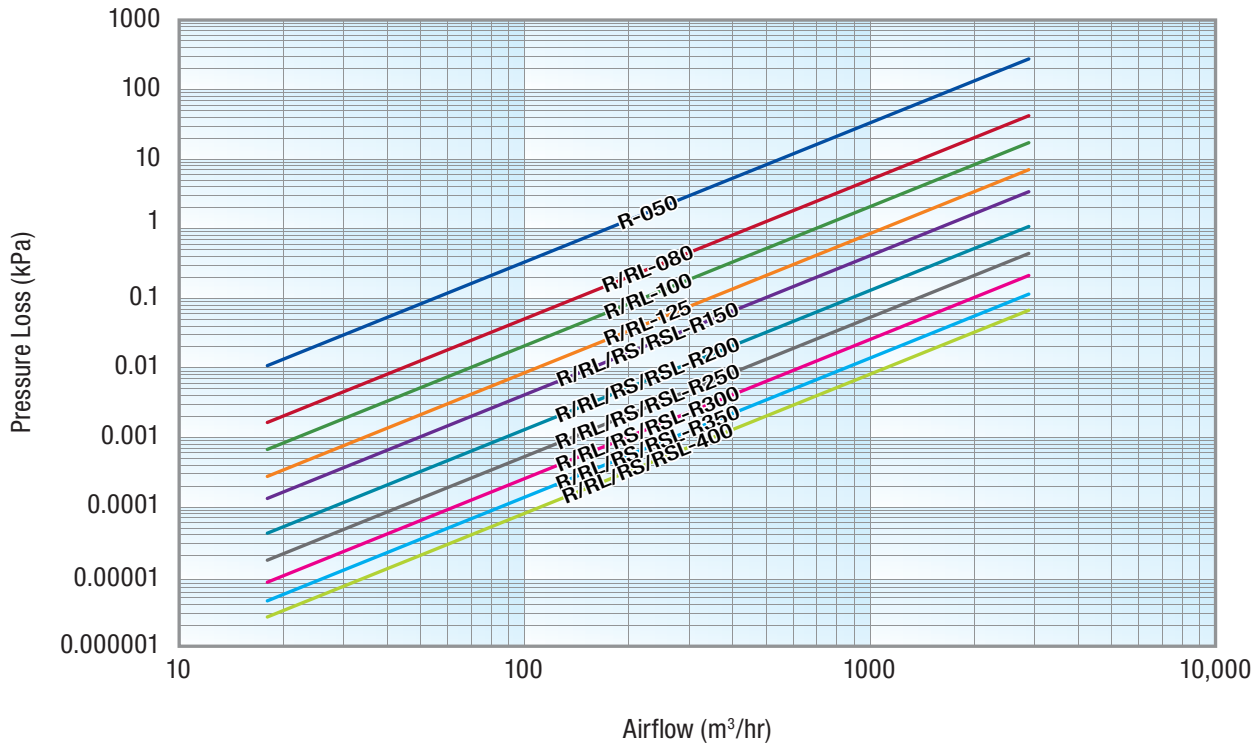
Model	Dimensions (mm)					Mass (kg)
	Nominal Bore	Body Diameter	Overall Length	Inlet Offset	Outlet Offset	
RSL-150	150	600	1600	400	1400	218
RSL-200	200	700	1625	475	1400	357
RSL-250	250	750	1950	525	1675	470
RSL-300	300	900	2300	580	2000	667
RSL-350	350	1050	2550	675	2225	883
RSL-400	400	1200	2850	750	2500	1121



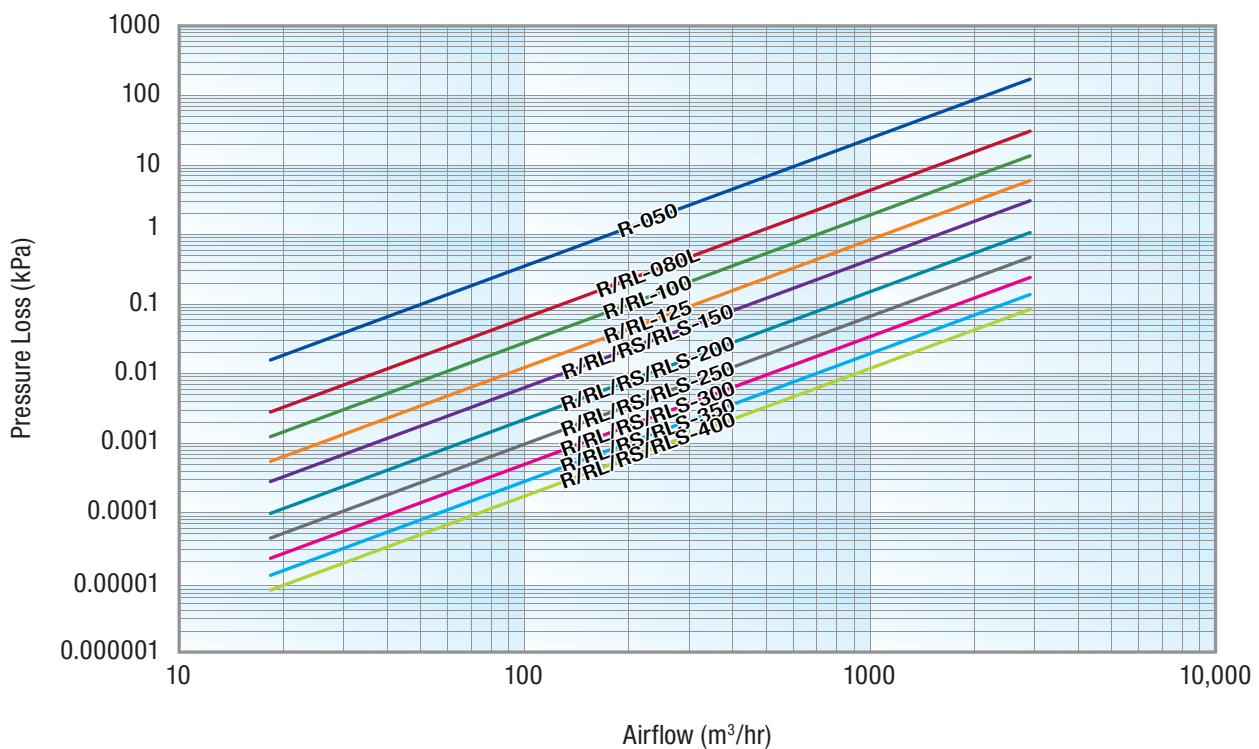
REACTIVE MUFFLERS PRESSURE DROP

Graphs apply to the following mufflers: Reactive, Reactive Lined, Reactive Side Entry and Reactive Side Entry Lined.
At high temperatures pressure loss is reduced compared to ambient temperature (20°C).

REACTIVE MUFFLERS (R, RL RS, & RSL) PRESSURE DROP AT 20°C

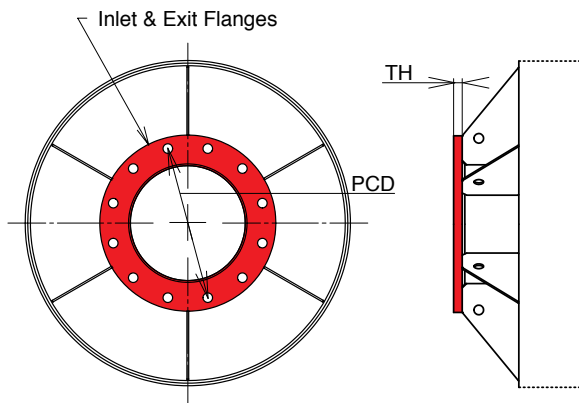


REACTIVE MUFFLERS (R, RL RS, & RLS) PRESSURE DROP AT 500°C



FLANGES

BS10, Table E unless specified by client.



Nom Bore (mm)	Dimensions (mm)				No. of Holes
	Body Dia	TH	PCD	Bolt Hole Dia	
050	152	10	114	18	4
080	184	11	146	18	4
100	216	13	178	18	8
125	254	14	210	18	8
150	279	17	235	22	8
200	337	19	292	22	8
250	406	20	356	22	12
300	457	20	406	25	12
350	527	20	470	25	12
400	578	20	521	25	12
450	641	20*	584	25	16
500	704	20	641	25	16

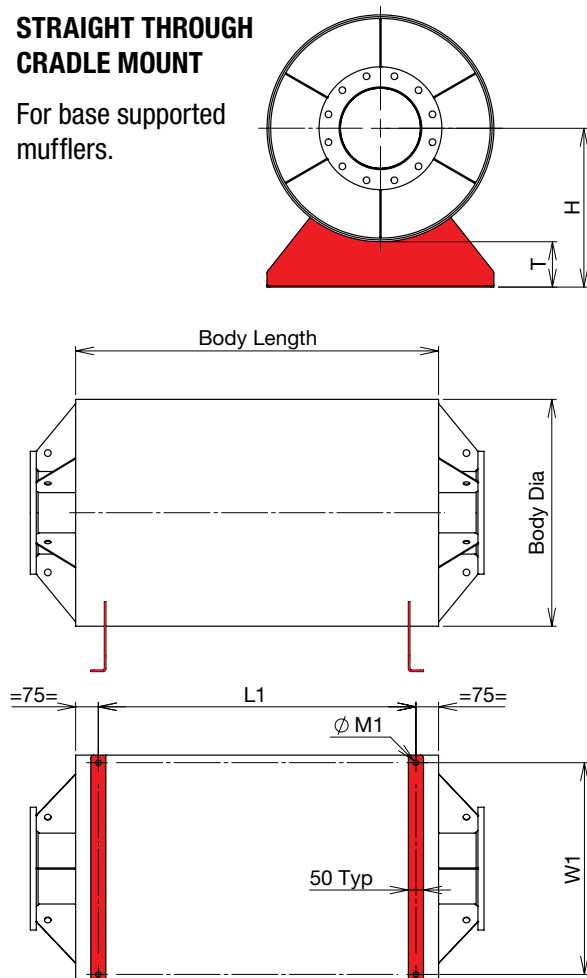
STRAIGHT THROUGH MUFFLERS MOUNT INFORMATION

- Mounts are optional.
- Suitable for straight through or side entry design or can be custom made to specifications.

- Mounts are welded to muffler body.
- Finish is black high temperature paint unless otherwise specified.

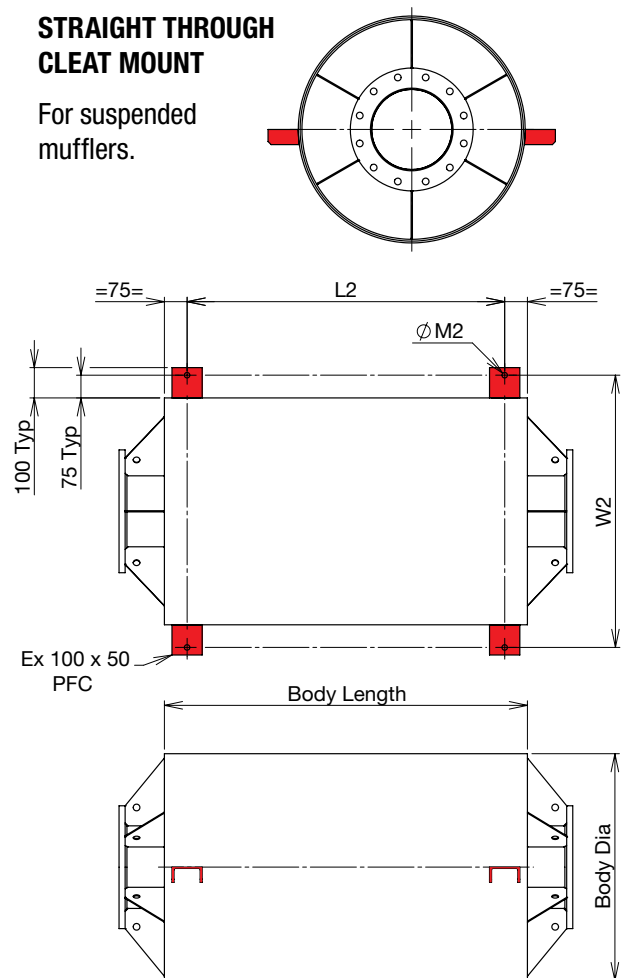
STRAIGHT THROUGH CRADLE MOUNT

For base supported mufflers.



STRAIGHT THROUGH CLEAT MOUNT

For suspended mufflers.



STRAIGHT THROUGH MUFFLERS MOUNT INFORMATION (A, R & RL)

STRAIGHT THROUGH MUFFLERS AND MOUNTS DIMENSIONS & MASS (REFER DRAWINGS ON PAGE 10)

	MUFFLER BODY				MUFFLER ON CRADLE						MUFFLER WITH CLEATS			
	Model	Dimensions (mm)		Mass (kg)	Dimensions (mm)					Mass (kg)	Dimensions (mm)			Mass (kg)
		Body Dia	Body Length		T	H	M1 for Fixing Size	L1	W1		M2 for Fixing Size	L2	W2	
ABSORPTIVE (A)	A-050	200	900	27	100	200	14 for M12	750	150	29	14 for M12	750	350	30
	A-080	320	900	47	100	260	14 for M12	750	270	52	14 for M12	750	470	51
	A-100	400	1200	80	100	300	14 for M12	1050	350	85	14 for M12	1050	550	83
	A-125	500	1200	108	100	350	14 for M12	1050	450	115	14 for M12	1050	650	111
	A-150	600	1200	142	150	450	14 for M12	1050	550	153	14 for M12	1050	750	145
	A-200	700	1200	241	150	500	14 for M12	1050	650	254	14 for M12	1050	850	244
	A-250	750	1200	275	150	525	18 for M16	1050	700	289	18 for M16	1050	900	278
	A-300	900	1500	428	150	600	18 for M16	1350	850	446	18 for M16	1350	1050	431
	A-350	1050	1800	612	200	725	18 for M16	1650	1000	636	18 for M16	1650	1200	615
	A-400	1200	2100	819	200	800	18 for M16	1950	1150	849	18 for M16	1950	1350	822
	A-450	1350	2400	1074	200	875	18 for M16	2250	1300	1108	18 for M16	2250	1500	1077
	A-500	1500	2700	1629	200	950	18 for M16	2550	1450	1662	18 for M16	2550	1650	1632
REACTIVE (R)	R-050	200	1000	33	100	200	14 for M12	850	150	35	14 for M12	850	350	36
	R-080	320	1200	65	100	260	14 for M12	1050	270	69	14 for M12	1050	470	68
	R-100	400	1350	92	100	300	14 for M12	1200	350	97	14 for M12	1200	550	95
	R-125	500	1400	128	100	350	14 for M12	1250	450	135	14 for M12	1250	650	131
	R-150	600	1500	173	150	450	14 for M12	1350	550	184	14 for M12	1350	750	177
	R-200	700	1500	304	150	500	14 for M12	1350	650	318	14 for M12	1350	850	308
	R-250	750	1800	405	150	525	18 for M16	1650	700	421	18 for M16	1650	900	408
	R-300	900	2150	601	150	600	18 for M16	2000	850	619	18 for M16	2000	1050	605
	R-350	1050	2400	800	200	725	18 for M16	2250	1000	825	18 for M16	2250	1200	803
	R-400	1200	2700	1017	200	800	18 for M16	2550	1150	1047	18 for M16	2550	1350	1020
REACTIVE LINED (RL)	RL-080	320	1200	84	100	260	14 for M12	1050	270	88	14 for M12	1050	470	87
	RL-100	400	1350	117	100	300	14 for M12	1200	350	122	14 for M12	1200	550	120
	RL-125	500	1400	162	100	350	14 for M12	1250	450	170	14 for M12	1250	650	166
	RL-150	600	1500	219	150	450	14 for M12	1350	550	230	14 for M12	1350	750	222
	RL-200	700	1500	358	150	500	14 for M12	1350	650	372	14 for M12	1350	850	362
	RL-250	750	1800	471	150	525	18 for M16	1650	700	468	18 for M16	1650	900	475
	RL-300	900	2150	696	150	600	18 for M16	2000	850	714	18 for M16	2000	1050	699
	RL-350	1050	2400	923	200	725	18 for M16	2250	1000	948	18 for M16	2250	1200	926
	RL-400	1200	2700	1173	200	800	18 for M16	2550	1150	1203	18 for M16	2550	1350	1176

ADDITIONAL INFORMATION

Visit our website or contact us for information on installation, testing, monitoring, maintenance services and technical guides.

Data correct at time of publication, please ensure you have the latest version by checking our website. NCS Acoustics Limited accepts no liability for use of data within this brochure. Materials may be updated at any time without notice.



Got a question? Call us to discuss with an experienced engineer:

+64 9 269 0001

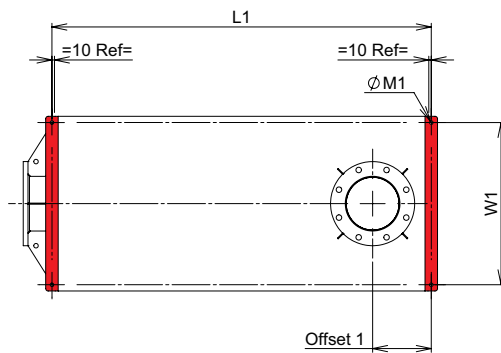
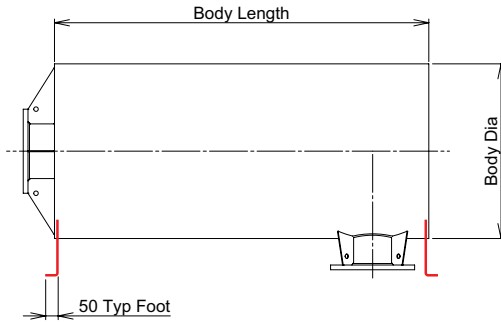
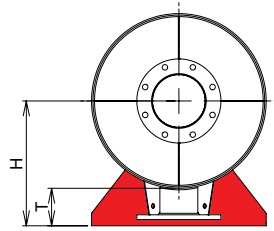
Or visit our website for more information:

www.ncsacoustics.co.nz

SIDE ENTRY MUFFLERS MOUNT INFORMATION (RS & RSL)

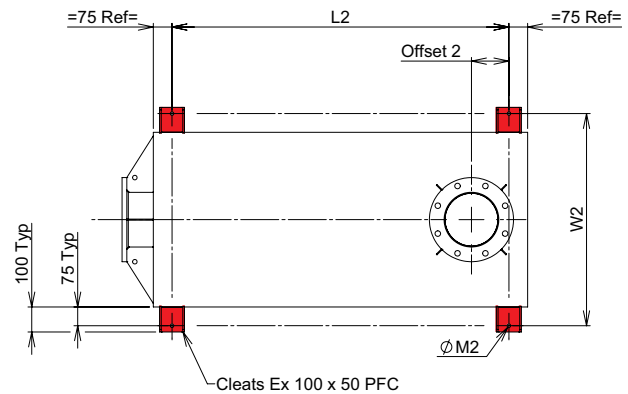
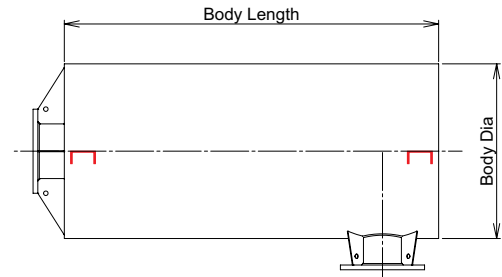
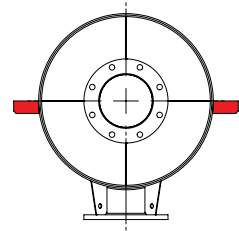
SIDE ENTRY CRADLE MOUNT

For base supported mufflers with side entry.



SIDE ENTRY CLEAT MOUNT

For suspended mufflers with side entry.



SIDE ENTRY MUFFLERS AND MOUNTS DIMENSIONS & MASS (REFER DRAWINGS ABOVE)

	MUFFLER BODY				MUFFLER ON CRADLE							MUFFLER WITH CLEATS					
	Model	Dimensions (mm)		Mass (kg)	Dimensions (mm)						Mass (kg)	Dimensions (mm)				Mass (kg)	
		Body Dia	Body Length		T	H	M1 for Fixing Size	L1	W1	Offset 1		M2 for Fixing Size	L2	W2	Offset 2		
REACTIVE SIDE ENTRY (RS)	RS-150	600	1500	172	150	450	14 for M12	1520	100	210	183	14 for M12	1350	750	125	176	
	RS-200	700	1500	304	150	500	14 for M12	1520	150	235	317	14 for M12	1350	850	150	307	
	RS-250	750	1800	404	150	525	18 for M16	1820	200	285	421	18 for M16	1650	900	200	407	
	RS-300	900	2150	600	150	600	18 for M16	2170	250	310	617	18 for M16	2000	1050	225	603	
	RS-350	1050	2400	798	200	725	18 for M16	2420	300	335	823	18 for M16	2250	1200	250	802	
	RS-400	1200	2700	1015	200	800	18 for M16	2720	350	360	1044	18 for M16	2550	1350	275	1018	
REACTIVE LINED SIDE ENTRY (RSL)	RSL-150	600	1500	218	150	450	14 for M12	1520	100	210	216	14 for M12	1350	750	125	221	
	RSL-200	700	1500	357	150	500	14 for M12	1520	150	235	370	14 for M12	1350	850	150	360	
	RSL-250	750	1800	470	150	525	18 for M16	1820	200	285	487	18 for M16	1650	900	200	473	
	RSL-300	900	2150	693	150	600	18 for M16	2170	250	310	710	18 for M16	2000	1050	225	696	
	RSL-350	1050	2400	920	200	725	18 for M16	2420	300	335	944	18 for M16	2250	1200	250	923	
	RSL-400	1200	2700	1169	200	800	18 for M16	2720	350	360	1198	18 for M16	2550	1350	275	1172	