

EQ Number:		Container				Date:			
Client Ref: Greenpark						30/04/21			

Generator Set Details	Volvo		TAD1641GE		3,200	1,300	2,350	LxWxH	3,300	kg	
	Cooling Air		5.50	m³/s	780.00	Pa					
	Combustion		0.63	m³/s						85	dBA @ 1m
	Exhaust		1.53	m³/s	455	°C	1 set running				

Target SPL		85.0		dBA	Distance from enclosure to receiver:		1.0		m
Enclosure dimensions		Length	Width	Height	Noise Source: Volvo TAD1641GE				
Source dimensions		3,200	1,300	2,350	Surface Directivity: 1 Surface				

Receiver In Free Field (Enclosure reverb and direct field contribution)

Reverberant Field Contribution		63	125	250	500	1K	2K	4K	8K
Generator SPL at 1 m, dB		95	100	101	101	101	99	95	94
Generator SWL (point source)		107.3	112.3	113.3	113.3	113.3	111.3	107.3	106.3
Source Sound Power Level 1 set/s		107.3	112.3	113.3	113.3	113.3	111.3	107.3	106.3
S (Floor) m²		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Absorption coeff floor Steel		0.064	0.016	0.005	0.001	0	0	0	0
S (Source surface, steel) m²		25.31	25.31	25.31	25.31	25.31	25.31	25.31	25.31
Absorption coeff Source surface, steel		0.064	0.016	0.005	0.001	0	0	0	0
S (Walls) m²		35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4
Absorption coeff walls		0.10	0.20	0.45	0.65	0.75	0.80	0.80	0.80
S(Ceiling)m²		10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
Absorption coeff ceiling		0.25	0.45	0.75	0.80	0.85	0.85	0.90	0.85
S total m²		76.8	76.8	76.8	76.8	76.8	76.8	76.8	76.8
Average absorption coefficient		0.11	0.16	0.31	0.41	0.46	0.48	0.49	0.48
Room constant		9	14	34	52	65	71	73	71
Sound pressure level inside enclosure(reveberant)		104	107	104	102	101	99	95	94
SRI of enclosure wall		16	19	27	34	41	47	50	50
Area correction of side wall, 10 logA-6		5	5	5	5	5	5	5	5
Enclosure SWL, SPLrev+10logA-6-SRI		92	92	82	73	65	56	49	48
Lw: Resultant single figure dB		95.6							
A weighting correction		-26	-16	-9	-3	0	1	1	-1
Enclosure LwA		66	76	73	70	65	57	50	47
LwA: Resultant single figure dB		79.0							
Dist. Correction, Source ctre to receiver (m) 2.2		-18	-18	-18	-18	-18	-18	-18	-18
Surface directivity 1 Surface		3	3	3	3	3	3	3	3
Enclosure near field correction		-3	-3	-3	-3	-3	-3	-3	-3
Direct SPL at receiver due to rev. field		75	75	64	55	47	39	32	31

Direct Field Contribution

		63	125	250	500	1K	2K	4K	8K
Source Sound Power Level 1 set/s		107.3	112.3	113.3	113.3	113.3	111.3	107.3	106.3
SRI of enclosure wall		16	19	27	34	41	47	50	50
Dist. Correction, Source ctre to receiver (m) 2.2		-18	-18	-18	-18	-18	-18	-18	-18
Surface directivity 1 Surface		3	3	3	3	3	3	3	3
Source near field correction		-3	-3	-3	-3	-3	-3	-3	-3
Direct SPL at receiver due to direct field		74	76	69	62	55	47	40	39
Total SPL at receiver in free field		77	78	70	63	55	47	40	39
Resultant single figure dB		81.17							
A weighting correction		-26	-16	-9	-3	0	1	1	-1
dBA		51	62	61	60	55	48	41	38
Resultant single figure dBA		66.38							

Sound Pressure to Power Conversion

		Measurement Envelope		Length	Width	Height	Surface Area		
				9.15	4.50	4.00	150.38		
		63	125	250	500	1K	2K	4K	8K
SWL dB		99.00	99.97	91.68	84.28	77.13	69.07	62.05	61.07
SWL Single Figure dB		102.94							
SWL dBA		73.00	83.97	82.68	81.28	77.13	70.07	63.05	60.07
SWL Single Figure dBA		88.15							

Inlet Attenuation																																																																																																																																																																																																																																																																																															
Target SPL		85.0	dBA		Distance inlet to reciever:		1.0	m																																																																																																																																																																																																																																																																																							
Inlet Atten Cross-Section (m²)			1.59		Distance correction			18.95																																																																																																																																																																																																																																																																																							
Distance source centre to inlet aperture (m)			2.50		Distance, source centre to receiver			3.50																																																																																																																																																																																																																																																																																							
Louvre/aperture location:			Louvre in free space		Surface directivity:			1 Surface																																																																																																																																																																																																																																																																																							
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SPL at aperture	88	93	94	94	94	92	88	87																																																																																																																																																																																																																																																																																							
Aperture SWL, SPLrev+10logA	90	95	96	96	96	94	90	89																																																																																																																																																																																																																																																																																							
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Aperture directivity correction (deg)	0	3	3	4	4	5	5	5																																																																																																																																																																																																																																																																																							
Surface directivity: 1 Surface	3	3	3	3	3	3	3	3																																																																																																																																																																																																																																																																																							
Near field correction	-1	-1	-1	-1	-1	-1	-1	-1																																																																																																																																																																																																																																																																																							
SPL at receiver	94	98	97	95	96	94	90	89																																																																																																																																																																																																																																																																																							
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	68	82	88	92	96	95	91	88																																																																																																																																																																																																																																																																																							
Resultant single figure SPL	100.41																																																																																																																																																																																																																																																																																														
SPL at receiver- no attenuation	94	98	97	95	96	94	90	89																																																																																																																																																																																																																																																																																							
Attenuator	4	7	11	21	31	29	21	20																																																																																																																																																																																																																																																																																							
Louver	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																																																																							
Bend	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																																																																							
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Sound Pressure to Power Conversion		<table><tr><td rowspan="2">Measurement Envelope</td><td>Length</td><td>Width</td><td>Height</td><td colspan="4">Surface Area</td></tr><tr><td>9.15</td><td>4.50</td><td>4.00</td><td colspan="4">150.38</td></tr><tr><td></td><td>63</td><td>125</td><td>250</td><td>500</td><td>1K</td><td>2K</td><td>4K</td><td>8K</td></tr><tr><td>SWL dB</td><td>112.07</td><td>112.30</td><td>107.38</td><td>96.18</td><td>86.64</td><td>86.43</td><td>90.37</td><td>90.43</td></tr><tr><td>SWL Single Figure dB</td><td colspan="8">115.94</td></tr><tr><td>SWL dBA</td><td>86.07</td><td>96.30</td><td>98.38</td><td>93.18</td><td>86.64</td><td>87.43</td><td>91.37</td><td>89.43</td></tr><tr><td>SWL Single Figure dBA</td><td colspan="8">102.27</td></tr></table>							Measurement Envelope	Length	Width	Height	Surface Area				9.15	4.50	4.00	150.38					63	125	250	500	1K	2K	4K	8K	SWL dB	112.07	112.30	107.38	96.18	86.64	86.43	90.37	90.43	SWL Single Figure dB	115.94								SWL dBA	86.07	96.30	98.38	93.18	86.64	87.43	91.37	89.43	SWL Single Figure dBA	102.27																																																																																																																																																																																																																																		
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SWL dB	112.07	112.30	107.38	96.18	86.64	86.43	90.37	90.43																																																																																																																																																																																																																																																																																							
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Outlet Attenuation								
Target SPL		85.0	dBA	Distance Outlet to reciever:		1.0	m	
Outlet Atten Cross-Section (m²)			1.39	Distance correction			14.03	
Distance source centre to outlet aperture (m)			1.42	Distance, source centre to receiver			2.42	
Louvre/aperture location:			Louvre in free space	Surface directivity:			1 Surface	
Reverberant Field Contribution								
	63	125	250	500	1K	2K	4K	8K
Sound pressure level inside enclosure(reveberant)	104	107	104	102	101	99	95	94
Aperture SWL, SPLrev+10logA-6	99	102	99	98	97	94	90	89
Direct Field Contribution								
Source SWL	107	112	113	113	113	111	107	106
Dist. Correction, Source centre to aperture	-14	-14	-14	-14	-14	-14	-14	-14
SPL at aperture	93	98	99	99	99	97	93	92
Aperture SWL, SPLrev+10logA	95	100	101	101	101	99	95	94
Outlet Fan SWL								
Total Outlet Fan SWL	0	0	0	0	0	0	0	0
Total Outlet Aperture SWL	101	104	103	102	102	100	96	95
Attenuator Insertion Loss	5	8	11	24	31	32	24	20
Outlet SWL	96	96	92	78	71	68	72	75
Lw: Resultant single figure dB	99.8							
A weighting correction	-26	-16	-9	-3	0	1	1	-1
Outlet LwA	70	80	83	75	71	69	73	74
LwA: Resultant single figure dB	86.2							
Distance from aperture to reciever (m)	1.0	-11	-11	-11	-11	-11	-11	-11
Aperture directivity correction (deg)	0	3	3	4	4	5	5	5
Surface directivity: 1 Surface	3	3	3	3	3	3	3	3
Near field correction	-1	-1	-1	-1	-1	-1	-1	-1
SPL at receiver	95	98	98	97	98	96	92	91
A weighting correction	-26	-16	-9	-3	0	1	1	-1
	69	82	89	94	98	97	93	90
Resultant single figure SPL	102.67							
SPL at receiver- no attenuation	95	98	98	97	98	96	92	91
Attenuator	5	8	11	24	31	32	24	20
Louver	0	0	0	0	0	0	0	0
Bend	0	0	0	0	0	0	0	0
Atten 2	0	0	0	0	0	0	0	0
Total Attenuation	5	8	11	24	31	32	24	20
Attenuated SPL at receiver	90	90	87	73	67	64	68	71
A weighting correction	-26	-16	-9	-3	0	1	1	-1
	64	74	78	70	67	65	69	70
Resultant single figure dBA	81.18							
Sound Pressure to Power Conversion								
		Measurement Envelope		Length	Width	Height	Surface Area	
				9.15	4.50	4.00	150.38	
	63	125	250	500	1K	2K	4K	8K
SWL dB	111.33	111.92	108.92	95.23	88.95	85.84	89.81	92.84
SWL Single Figure dB	115.76							
SWL dBA	85.33	95.92	99.92	92.23	88.95	86.84	90.81	91.84
SWL Single Figure dBA	102.95							