Sustainable Acoustics | Certified B Corporation

Portakabin Ltd

Crumpsall Park Youth Centre

Noise Impact Assessment

Report No. 26-0123-0 R01a

♦ PROTECT ♦ ENHANCE ♦ CONNECT

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Report No.:
26-0123-0 R01a

Date:
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1 Introduction

1.1 Context

Sustainable Acoustics Ltd ('SAL') has been instructed by Portakabin to provide a Noise Impact Assessment for a single storey youth centre building at Crumpsall Park, Ash Tree Rd, Crumpsall, Manchester M8 5SA.

The assessment is required to discharge planning Conditions 18a) and 19a) of permission reference 142985/VO/2025.

Condition 18 states:

> *"18) a) The building hereby approved shall be acoustically insulated and treated to limit the break-out of noise with a noise study of the premises and a scheme of acoustic treatment shall be submitted to and approved in writing by the City Council as Local Planning Authority. The scheme shall be implemented in full before the use commences.*
>
> *"b) Upon completion of the development and within 3 months of first occupation, a Verification Report is required to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic consultant's report. The report shall also undertake post completion testing to confirm that acceptable criteria has been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria*.
>
> *"Reason -To secure a reduction in noise from traffic and other sources in order to protect future residents from noise disturbance and to reduce the potential for overheating pursuant to policy DM1 of the Manchester Core Strategy, saved policy DC26 of the Unitary Development Plan for the City of Manchester and policy JP-P1 of the Places for Everyone Joint Development Plan*."

Condition 19 states:

> *"19) a) Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location. Prior to commencement of the use hereby approved the scheme shall be submitted to and approved in writing by the City Council as local planning authority in order to secure a reduction in the level of noise emanating from the site. The scheme shall be implemented in full before the use commences or as otherwise agreed in writing by the City Council as local planning authority.*

"b) Prior to the operation of the scheme a verification report shall be submitted to and approved in writing by the City Council as local planning authority to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic report. The report shall also undertake post completion testing to confirm that the noise criteria have been met. Any instances of non-conformity with the recommendations in the verification report shall be detailed along with any measures required to be undertaken prior to operation of the scheme to ensure compliance with the agreed noise criteria.

"Reason - To minimise the impact of the development and to prevent a general increase in pre-existing background noise levels around the site, pursuant to saved UDP Policy DC26, policy DM1 of the Manchester Core Strategy and policy JP-P1 of the Places for Everyone Joint Development Plan".

1.2 Site Location

The site is located within Crumpsall Park. The proposed building will replace the existing Crumpsall Park Visitor Centre on the west side of the park. The park is situated in a predominantly residential area, with dwellings to the north, southeast, south and west. North Manchester General Hospital is located to the east of the park and Crumpsall Methodist Church is located approximately 30m to the west. The park includes two Multi-Use Games Areas, a basketball and tennis court, and a children's play area. Crumpsall Park Play Group is also located on the park approximately 40m to the south. The location of the site is illustrated in Figure 1.



Figure 1: Site Location

1.3 Noise Sensitive Receptors

Indicative noise sensitive receptors (NSRs) in the vicinity of the proposed building are:

- Residents of 50 Ash Tree Road approximately 13 m to the north of the proposed youth centre;
- Residents of 79 – 83 (odd) Ash Tree Road approximately 24 m to the southwest of the proposed youth centre;

- Users of Crumpsall Methodist Church approximately 28 m to the west of the proposed youth centre; and
- Users and staff of Crumpsall Park Day Care approximately 41 m to the south of the proposed youth centre.

Crumpsall Park Day Care is located approximately 41 m to the south of the proposed youth centre and dwellings and North Manchester General Hospital are located over 150 m to the south and east of the proposed youth centre, however, it is considered that the planning condition criteria will be met at these receptors if it met at the receptors listed above.

1.4 Proposed Development

1.4.1 Overview

The proposed development comprises a single storey modular system that can be largely pre-assembled off site. The building will be naturally ventilated and will be heated using air source heat pumps (ASHPs). No parking spaces are proposed as part of the development, therefore noise from vehicles of users of the site has not been included within the noise assessment.

The Travel Plan for the scheme advises that some 80% of users will travel by sustainable modes (walking, cycling or public transport). Consequently, the proposal is likely to generate relatively low levels of vehicle traffic, and vehicle movements to the site have not been included within the noise assessment as the vehicle are typical of the area and will not increase the road traffic significantly.

The Travel Plan for scheme also advises that there is a predicted typical attendance of 30-40 people for the majority of clubs and sessions, with a maximum capacity for the building of 100 people.

The centre will host a range of youth and community activities, including:

- Weekly youth sessions for under-13s and over-13s.
- Youth clubs and drop-in sessions.
- Holiday play schemes for children aged 8–12.
- Community activities and meetings.
- A Youth Café operated by young people.
- Information and advice services.
- Life-skills programmes covering topics such as cooking, exercise, money management, careers and DIY.

- Education, careers and mental health support programmes.
- Training, skills development and social activities

Entertainment noise is therefore only associated with potential amplified music used as background music or for health and fitness sessions will have a lower noise level.

The proposed hours of use are 10:00 hrs to 21:00 hrs, including weekends.

The layout of the building is illustrated in Figure 2.

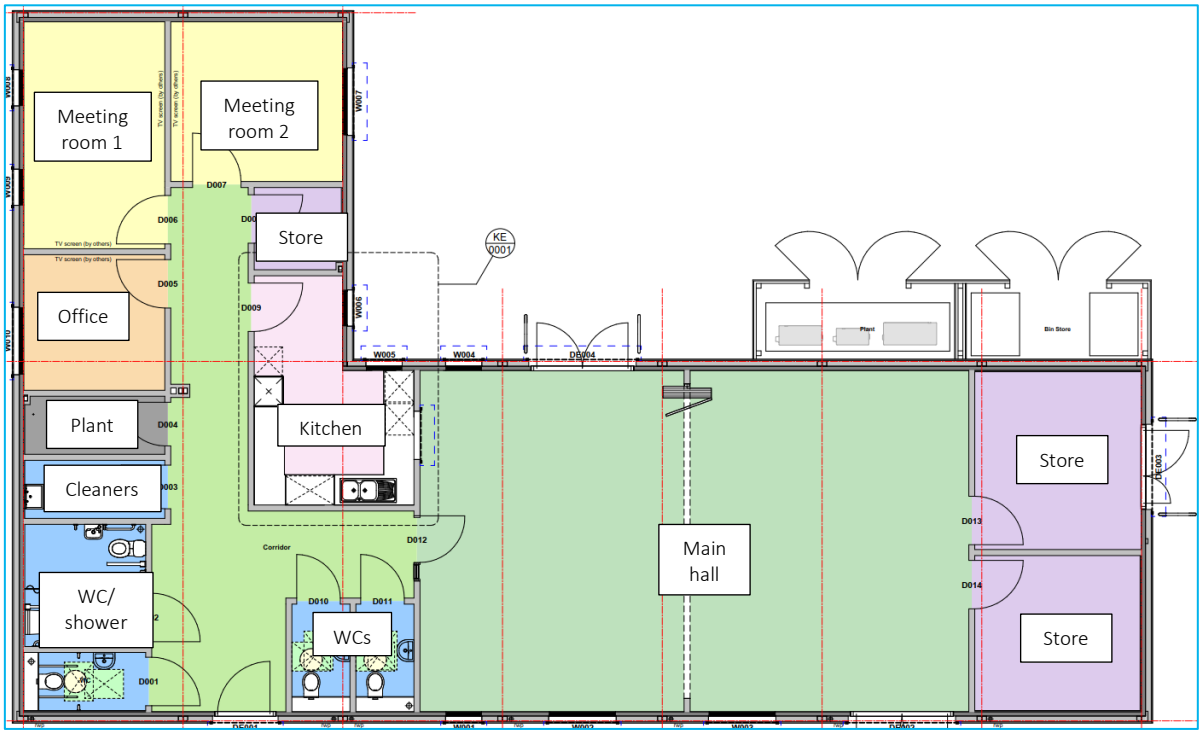


Figure 2: Building Layout

1.4.2 Proposed Plant Items

The proposed external plant items are summarised in Table 1 with more detail provided in Appendix 1.

Item Reference	Item Manufacturer and Model	Octave Frequency Band (Hz) Sound Power Level (dB L_{WZ}) per Unit (Heating)								A-Weighted Sound Power Level per Unit (dB L_{WA})
		63	125	250	500	1000	2000	4000	8000	
CU01, CU02	Daikin RXP50N condenser	64	61	61	59	55	51	45	38	61
CU03, CU04	Daikin RXP20N9 condenser	64	67	62	60	55	50	46	37	61
CU05	Daikin RZAG140NV1 condenser	76	72	72	69	64	60	62	54	71

Table 1: Octave Band Sound Power Level of Proposed Plant Items

The plant items will be located as illustrated in Figure 3.

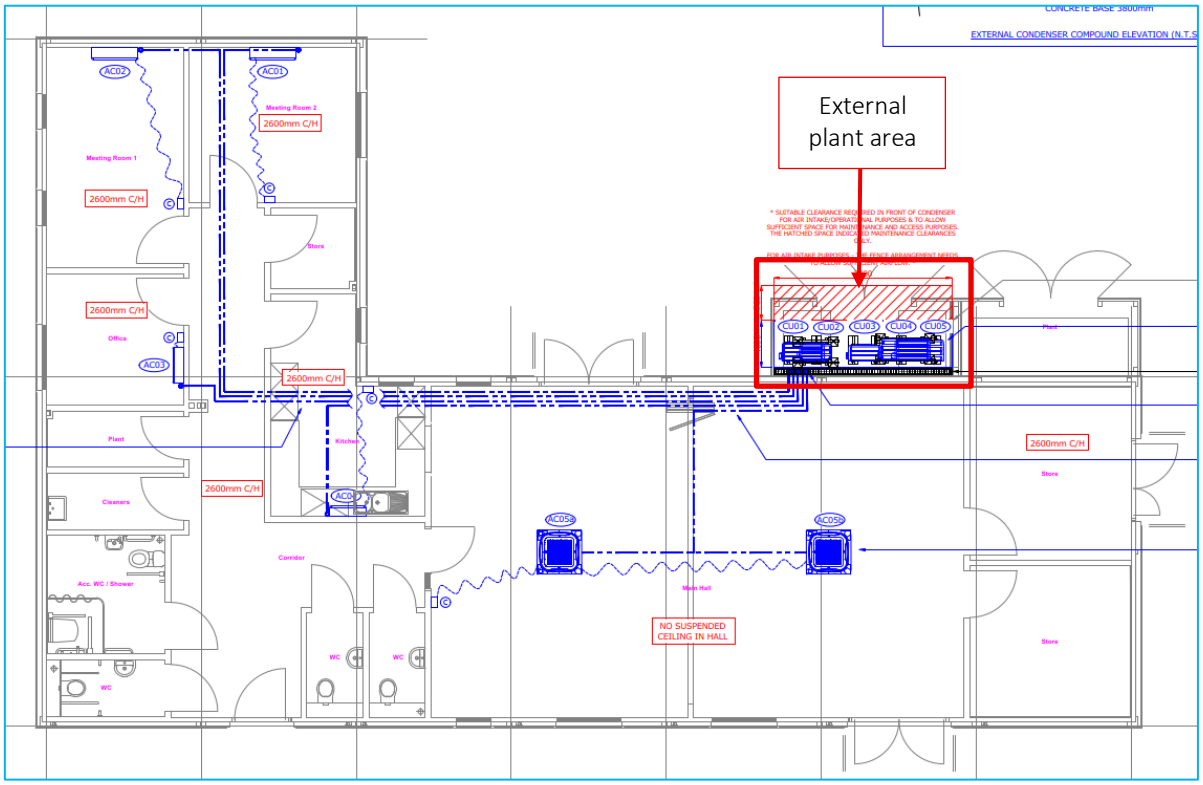


Figure 3: Plant Location

The plant is anticipated to operate when the building is use, i.e. between 10:00 hrs and 21:00 hrs.

2 Planning Policy and Guidance

2.1 Overview

The planning conditions reference various local planning guidance documents. This section summarises the policies reference in the planning conditions. No national or international planning policy or guidance documents are referenced by the planning conditions.

2.2 Manchester Planning Policy

2.2.1 Unitary Development Plan for the City of Manchester

Saved Policy DC26: Development and Noise

This policy states that:

> *"…where a new proposal might generate potentially unacceptable levels of noise, it will in either case require the applicant to provide an assessment of the likely impact and of the measures he proposes to deal satisfactorily with it. Such measures might include the following:*
>
> *a. engineering solutions, including reduction of noise at source, improving sound insulation of sensitive buildings or screening by purpose-built barriers;*
>
> *b. layout solutions, including consideration of the distance between the source of the noise and the buildings or land affected by it; and screening by natural barriers or other buildings or non-critical rooms within a building; and*
>
> *c. administrative steps, including limiting the operating times of the noise source, restricting activities allowed on the site or specifying an acceptable noise limit. Any or all of these factors will be considered appropriate for inclusion in conditions on any planning permission."*

2.2.2 Manchester Core Strategy

Policy SP1: Spatial Principles

The relevant part of this policy states that:

> *"Development in all parts of the City should:-*
>
> - *Make a positive contribution to neighbourhoods of choice including:-*
>   - *creating well designed places that enhance or create character.*
>   - *making a positive contribution to the health, safety and wellbeing of residents…*

- *protect and enhance the built and natural environment.*

- *Minimise emissions…"*

Policy DM1: Development Management

The relevant part of this policy states that:

"All development should have regard to the following specific issues for which more detailed guidance may be given within a supplementary planning document:-

- *Appropriate siting, layout, scale, form, massing, materials and detail…*

- *Effects on amenity, including privacy, light, noise, vibration…"*

2.2.3 Planning and Noise Technical Guidance

The guidance provides comprehensive advice on the measurement, assessment and reporting of sound and noise. Appendix A provides guidance on how to determine a 'typical' background noise level from environmental sound measurements. The required method is:

- Set out the background sound level ($L_{A90,\ 15min}$) measurements in 15-minute periods for each day of measurements;

- Calculate the arithmetic average for each 15-minute period across the days of measurement;

- Using the minimum 15-minute arithmetic average of the daytime and night-time periods.

2.3 Noise Criteria

2.3.1 Breakout Noise

Condition 18a) and the local planning policies referenced in the reason for the condition, do not provide breakout noise limits to nearby residents. Previously, an Environmental Health Officer at MCC has advised that:

"Where entertainment noise is proposed the L_{Aeq} (entertainment noise) shall be controlled to 5dB below the L_{A90} (without entertainment noise) in each octave band at the facade of the nearest noise sensitive location, and internal noise levels at structurally adjoined residential properties in the 63Hz and 125Hz octave frequency bands shall be controlled so as not to exceed (in habitable rooms) 47dB and 41dB ($L_{eq,5min}$), respectively."

There are no structurally adjoined residential properties to the proposed building, therefore entertainment noise should be limited to 5 dB below the background sound level in in each octave band at the facade of the nearest NSRs.

No criteria are provided for noise from people using the building, therefore a criterion of equal to background sound level has been used.

2.3.2 Plant Noise

Condition 19a) requires that the emission of all "*Externally mounted ancillary plant, equipment and servicing*" shall have a rating level of 5 dB ($L_{Aeq, T}$) below the typical background sound level ($L_{A90, T}$). It is assumed that reference to a rating level using $L_{Aeq, T}$ is a typographical error and should read $L_{Ar, Tr}$, as per the terminology in BS 4142:2014, which is typically used to assess noise of an industrial and/or commercial nature.

3 Environmental Sound Survey

3.1 Methodology

An unattended sound measurement was undertaken by James Melville of RBA Acoustics Ltd from 10:24 hrs on Friday 19th June 2026 to 09:10 hrs on Wednesday 24th June 2026. James Melville is a Corporate Member of the Institute of Acoustics who has worked for RBA Acoustics since 2019 and is considered a competent acoustician to undertake environmental sound measurements.

The microphone was positioned approximately 1.4 m above ground height, which is approximately 2.4 m above road height due to the topography of the site.

3.2 Instrumentation

Table 2 summarises the instrumentation used for the sound measurements.

Equipment	Type	Serial Number	Calibration	
			Certificate No.	Valid Until
Norsonic Type 1 Sound Level Meter	Nor140	1406969	UCRT25/2391	1 October 2027
Norsonic Pre Amplifier	1209	21204	UCRT25/2391	1 October 2027
Norsonic ½“ Microphone	1225	285599	UCRT25/2391	1 October 2027
Norsonic Sound Calibrator	1251	34966	UCRT25/2381	1 October 2027

Table 2: Instrumentation used for Sound Measurements

3.3 Weather Conditions

The weather conditions during the sound survey are summarised in Appendix 2.

There were no periods of rain or unsuitably high winds.

3.4 Observations

The sound climate was dominated by road traffic noise from Ash Tree Road and the surrounding road networks. The site was under construction and therefore noise from construction activities may have affected daytime sound levels, however, periods of construction noise activity are not obvious from the measured results (see Figure A 1). Analysis has also been undertaken with measurements during normal MCC permitted construction hours removed; This results in a lower daytime background sound level as this limits the measurement period to Saturday afternoon and Sunday. The background sound levels for the evening period have therefore been assumed for the daytime period for the purposes of this assessment.

No existing plant noise was observed in either sound measurement location.

3.5 Analysis of Ambient and Background Sound Levels

The measured sound levels are provided in Appendix 2 and summarised in Table 3.

Period	Time	Ambient Sound Level (dB $L_{Aeq, T}$)	Maximum Sound Level (dB L_{Amax})[1]	Background Sound Level (dB $L_{A90, 15\ min}$)		
				Mean	Modal	MMC[2]
Daytime[3]	*07:00-19:00*	*63*	*82*	*42*	*50*	*40*
Daytime	07:00-19:00	64	82	43	49	42
Evening	19:00-23:00	64	80	49	51	42
Night	23:00-07:00	58	78	36	33	31

Note 1: Typical maximum noise level taken as the 10th highest of 2 min samples during the period

Note 2: The typical background sound levels assumed have been determined using the methodology within the MCC Planning and Noise Technical Guidance.

Note 3: Analysis with periods of potential construction activity removed (represents Saturday afternoon and Sunday only).

Table 3: Summary Sound Results from Unattended Sound Level Meter

4 Noise Assessment

4.1 Breakout Noise (Condition 18a)

4.1.1 Construction Materials

The construction materials summarised in Table 4 have been assumed for the proposed building.

Construction Element	Octave Band Sound Reduction Level (dB R_W)							
	63	125	250	500	1000	2000	4000	8000
Wall: Portakabin Modular facade	18	21	24	31	30	33	35	38
Window	20	23	23	30	39	36	43	43
Roof: Portakabin Modular Roof Panels plus suspended ceiling	19	32	46	46	56	79	90	90

Table 4: Assumed Construction Materials

It has been assumed that windows remain closed.

4.1.2 People

It is assumed that a typically up to 40 people will use the building during clubs and sessions and it is understood that the building has a maximum capacity of 100 people.

The noise level for a normal and a raised voice from ANSI 3.5 has been used, as summarised in Table 5.

	Octave Band Sound Power Level (dB L_{WZ})								A-Weighted Sound Power Level [i] (dB L_{WA})
	63	125	250	500	1000	2000	4000	8000	
Raised Voice	48	59	70	75	72	64	57	48	76
Normal Voice	45	55	65	69	63	56	50	45	68

Table 5: Sound Power Level Voices

The noise assessment assumes 1 in 5 people are talking with a raised voice and 1 in 5 people are talking with a normal voice at any time.

Table 6 and

[i] https://odeon.dk/pdf/Application_Note_Restaurants.pdf

Receptor	Source	A-Weighted (dB $L_{Aeq, T}$) Predicted Noise Level Typical session	Maximum capacity	Target	Exceedance
50 Ash Tree Road (garden and building)	Main Hall	26	30	31	Yes, meets limit
	Meeting Room 1	27	31	31	Yes, meets limit
	Meeting Room 2	27	31	31	Yes, meets limit
79 – 83 (odd) Ash Tree Road (building)	Main Hall	24	28	31	Yes, meets limit
	Meeting Room 1	23	26	31	Yes, meets limit
	Meeting Room 2	27	31	31	Yes, meets limit
Crumpsall Methodist Church (building)	Main Hall	19	23	31	Yes, meets limit
	Meeting Room 1	21	24	31	Yes, meets limit
	Meeting Room 2	22	25	31	Yes, meets limit
83 Ash Tree Road (building)	Main Hall	22	25	31	Yes, meets limit
	Meeting Room 1	19	22	31	Yes, meets limit
	Meeting Room 2	14	18	31	Yes, meets limit

Table 7 summarise the noise level from people in the Hall at the nearest NSRs during the daytime and evening respectively.

Receptor	Source	A-Weighted (dB $L_{Aeq, T}$) Predicted Noise Level Typical session	Maximum capacity	Target	Exceedance
50 Ash Tree Road (garden and building)	Main Hall	26	30	40	Yes, meets limit
	Meeting Room 1	27	31	40	Yes, meets limit
	Meeting Room 2	27	31	40	Yes, meets limit
79 – 83 (odd) Ash Tree Road (building)	Main Hall	24	28	40	Yes, meets limit
	Meeting Room 1	23	26	40	Yes, meets limit
	Meeting Room 2	27	31	40	Yes, meets limit
Crumpsall Methodist Church (building)	Main Hall	19	23	40	Yes, meets limit
	Meeting Room 1	21	24	40	Yes, meets limit
	Meeting Room 2	22	25	40	Yes, meets limit
83 Ash Tree Road (building)	Main Hall	22	25	40	Yes, meets limit
	Meeting Room 1	19	22	40	Yes, meets limit
	Meeting Room 2	14	18	40	Yes, meets limit

Table 6: Noise from People in the Hall: Windows and Doors Closed: Daytime

Receptor	Source	A-Weighted (dB $L_{Aeq, T}$) Predicted Noise Level Typical session	Maximum capacity	Target	Exceedance
50 Ash Tree Road (garden and building)	Main Hall	26	30	31	Yes, meets limit
	Meeting Room 1	27	31	31	Yes, meets limit
	Meeting Room 2	27	31	31	Yes, meets limit
	Main Hall	24	28	31	Yes, meets limit

Receptor	Source	A-Weighted (dB $L_{Aeq, T}$) Predicted Noise Level Typical session	Maximum capacity	Target	Exceedance
79 – 83 (odd) Ash Tree Road (building)	Meeting Room 1	23	26	31	Yes, meets limit
	Meeting Room 2	27	31	31	Yes, meets limit
Crumpsall Methodist Church (building)	Main Hall	19	23	31	Yes, meets limit
	Meeting Room 1	21	24	31	Yes, meets limit
	Meeting Room 2	22	25	31	Yes, meets limit
83 Ash Tree Road (building)	Main Hall	22	25	31	Yes, meets limit
	Meeting Room 1	19	22	31	Yes, meets limit
	Meeting Room 2	14	18	31	Yes, meets limit

Table 7: Noise from People in the Hall: Windows and Doors Closed: Evening

Table 6 and

Receptor	Source	A-Weighted (dB $L_{Aeq, T}$) Predicted Noise Level Typical session	Maximum capacity	Target	Exceedance
50 Ash Tree Road (garden and building)	Main Hall	26	30	31	Yes, meets limit
	Meeting Room 1	27	31	31	Yes, meets limit
	Meeting Room 2	27	31	31	Yes, meets limit
79 – 83 (odd) Ash Tree Road (building)	Main Hall	24	28	31	Yes, meets limit
	Meeting Room 1	23	26	31	Yes, meets limit
	Meeting Room 2	27	31	31	Yes, meets limit
Crumpsall Methodist Church (building)	Main Hall	19	23	31	Yes, meets limit
	Meeting Room 1	21	24	31	Yes, meets limit
	Meeting Room 2	22	25	31	Yes, meets limit
83 Ash Tree Road (building)	Main Hall	22	25	31	Yes, meets limit
	Meeting Room 1	19	22	31	Yes, meets limit
	Meeting Room 2	14	18	31	Yes, meets limit

Table 7 indicate that the noise level limits for people noise from the building are predicted to be met at all NSRs.

4.1.3 Amplified Music

Entertainment noise is only associated with potential amplified music used as background music or for health and fitness sessions. A typical internal reverberant music noise level for these uses is 86 dB $L_{Aeq, T}$[ii].

[ii] https://www.tandfonline.com/doi/abs/10.1080/19338244.2013.771248#:~:text=ABSTRACT,noise, accessed 09/12/2025

Table 8 provides the summary of the predicted music noise levels from the proposed building uses at nearby NSRs during the daytime (07:00 hrs to 19:00 hrs) and evening (19:00 hrs to close at 21:00 hrs). Table 9 and Table 10 provide a summary of the music noise level exceedances for the daytime and evening respectively, relative to the guidance limit of 5dB below background in each octave band.

Receptor	Source Room	Predicted A-Weighted Noise Level (dB $L_{Aeq, T}$)	Predicted Z-Weighted Noise Level (dB $L_{Aeq, T}$)							
			63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
50 Ash Tree Road (garden and building)	Main Hall	32	47	40	35	26	27	22	17	10
	Meeting Room 1	32	46	40	34	24	26	21	16	9
	Meeting Room 2	29	43	37	32	22	24	19	14	7
79 – 83 (odd) Ash Tree Road (building)	Main Hall	31	46	38	33	24	25	20	15	8
	Meeting Room 1	27	41	35	29	20	21	16	11	4
	Meeting Room 2	29	43	37	32	22	24	19	14	7
Crumpsall Methodist Church (building)	Main Hall	26	40	33	28	19	20	15	10	3
	Meeting Room 1	25	40	33	28	18	19	14	9	2
	Meeting Room 2	23	37	31	26	16	17	12	7	0
83 Ash Tree Road (building)	Main Hall	28	44	36	31	21	23	18	13	6
	Meeting Room 1	23	37	30	26	16	17	12	7	0
	Meeting Room 2	26	39	33	29	19	20	15	10	3

Table 8: Music Noise Level from the Building: Windows and Doors Closed

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Receptor	Source Room	Predicted A-Weighted Noise Level Exceedance (dB $L_{Aeq, T}$)	Predicted Z-Weighted Noise Level Exceedance (dB $L_{Aeq, T}$)							
			63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
50 Ash Tree Road (garden and building)	Main Hall	0	4	5	4	0	0	0	0	0
	Meeting Room 1	0	3	5	4	0	0	0	0	0
	Meeting Room 2	0	0	3	2	0	0	0	0	0
79 – 83 (odd) Ash Tree Road (building)	Main Hall	0	3	3	2	0	0	0	0	0
	Meeting Room 1	0	0	0	0	0	0	0	0	0
	Meeting Room 2	0	0	3	2	0	0	0	0	0
Crumpsall Methodist Church (building)	Main Hall	0	0	0	0	0	0	0	0	0
	Meeting Room 1	0	0	0	0	0	0	0	0	0
	Meeting Room 2	0	0	0	0	0	0	0	0	0
83 Ash Tree Road (building)	Main Hall	0	1	2	0	0	0	0	0	0
	Meeting Room 1	0	0	0	0	0	0	0	0	0
	Meeting Room 2	0	0	0	0	0	0	0	0	0

Table 9: Exceedance of Music Noise Level Limit: Daytime: Windows and Doors Closed

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Receptor	Source Room	Predicted A-Weighted Noise Level Exceedance (dB $L_{Aeq, T}$)	Predicted Z-Weighted Noise Level Exceedance (dB $L_{Aeq, T}$)							
			63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
50 Ash Tree Road (garden and building)	Main Hall	6	10	9	9	3	6	9	9	2
	Meeting Room 1	6	8	9	8	2	6	8	9	2
	Meeting Room 2	3	6	7	6	0	3	6	6	0
79 – 83 (odd) Ash Tree Road (building)	Main Hall	4	8	8	7	1	4	7	7	0
	Meeting Room 1	1	4	4	3	0	1	3	4	0
	Meeting Room 2	3	6	7	6	0	3	6	6	0
Crumpsall Methodist Church (building)	Main Hall	0	3	2	2	0	0	2	2	0
	Meeting Room 1	0	2	2	2	0	0	1	2	0
	Meeting Room 2	0	0	0	0	0	0	0	0	0
83 Ash Tree Road (building)	Main Hall	6	10	9	9	3	6	9	9	2
	Meeting Room 1	0	0	0	0	0	0	0	0	0
	Meeting Room 2	0	2	3	2	0	0	2	3	0

Table 10: Exceedance of Music Noise Level Limit: Evening: Windows and Doors Closed

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Table 9 and Table 10 indicate that the target noise levels from entertainment noise in the building are predicted to be exceeded at some NSRs. To achieve the target noise levels, the music must be limited to the levels summarised in Table 11. Windows and doors should remain closed, except for access in the case of doors, which will form part of the operations management of the building.

Proposed Room	Noise Level Limit of Music in Proposed Room (dB $L_{Aeq, T}$)	Noise Level Limit of Music in Proposed Room (dB $L_{Zeq, T}$)							
		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
Main Hall	80	77	76	74	77	75	70	67	70
Meeting Room 1	80	79	76	75	78	75	71	67	70
Meeting Room 2	83	82	78	77	80	78	73	70	73

Table 11: Music Noise Level Limits: One Room with Music: Windows and Doors Closed

The internal noise limits provided in Table 11 assume one room has music on at a time. If all rooms have music simultaneously then the noise level in each room should be limited to the noise levels provided in Table 12.

Proposed Room	Noise Level Limit of Music in Proposed Room (dB $L_{Aeq, T}$)	Noise Level Limit of Music in Proposed Room (dB $L_{Zeq, T}$)							
		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
Main Hall	75	73	71	69	72	70	65	62	65
Meeting Room 1	76	74	71	70	74	70	66	62	66
Meeting Room 2	78	77	73	72	76	73	68	65	68

Table 12: Music Noise Level Limits: Three Rooms with Music: Windows and Doors Closed

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4.2 Plant Noise (Condition 19a)

4.2.1 Noise Modelling

IMMI noise modelling software has been used to calculate the external noise levels from proposed plant items. IMMI is a three-dimensional noise model that uses the methodology ISO 9613-2:2024 to predict propagation of noise from industrial sources. The noise model also includes the sound absorption properties of the ground and buildings and attenuation due to buildings.

4.2.2 Noise Limit

Planning Condition 19 requires a plant rating level 5 dB below the typical background sound level at the nearest noise sensitive location. The typical background sound levels are reported in Table 3, and the plant noise limits are summarised in Table 13.

Period	Time	Typical Background Sound Level (dB $L_{A90,\ 15\ min}$)	Plant Rating Limit (dB $L_{Ar,\ Tr}$)[1]
Daytime	07:00-19:00	40	35
Evening	19:00-23:00	42	37
Night	23:00-07:00	31	No plant operating

Table 13: Summary Sound Results from Unattended Sound Level Meter

4.2.3 Character Correction

Third-octave frequency band spectrum data were not available for the proposed plant items, therefore it is not possible to undertake an objective assessment of tonality. Sound from the proposed plant items may have slightly tonal characteristics, therefore a correction of 2 dB has been applied for tonality as appropriate in our judgement, using the commentary in Section 9.2 of BS 4142:2014.

The plant items are likely to switch on and off as required, therefore a correction of 3 dB has also been applied for intermittency.

The proposed plant items are not impulsive, therefore no correction has been applied for impulsivity.

The total character correction applied is therefore 5 dB.

4.2.4 Predicted Plant Noise Levels

The total predicted plant noise levels from all plant items are summarised in Table 14 and Table 15 for the daytime and evening respectively, along with a comparison with the plant noise criteria.

Daytime	50 Ash Tree Road (building)	50 Ash Tree Road (garden)	79 – 83 (odd) Ash Tree Road (building)	Crumpsall Methodist Church (building)
Predicted noise level	35	36	25	17
Penalty	5	5	5	5
Rating level	40	41	30	22
Plant noise condition	37	37	37	37
Difference between rating level and condition 19a limit	3	4	-7	-15
Assessment	Does not meet condition 19a	Does not meet condition 19a	Meets condition 19a	Meets condition 19a

Table 14: Assessment of Predicted Plant Noise Levels: Daytime (07:00 hrs to 19:00 hrs)

Evening	50 Ash Tree Road (building)	50 Ash Tree Road (garden)	79 – 83 (odd) Ash Tree Road (building)	Crumpsall Methodist Church (building)
Predicted noise level	35	36	25	17
Penalty	5	5	5	5
Rating level	40	41	30	22
Plant noise condition	37	37	37	37
Difference between rating level and condition 19a limit	3	4	-7	-15
Assessment	Does not meet condition 19a	Does not meet condition 19a	Meets condition 19a	Meets condition 19a

Table 15: Assessment of Predicted Plant Noise Levels: Evening (19:00 hrs to 23:00 hrs)

Table 14 and Table 15 indicate that the target noise levels are predicted to be exceeded at 50 Ash Tree Road.

The efficacy of a noise barrier screen in front of the plant compound has been tested in the location illustrated in Figure 4.

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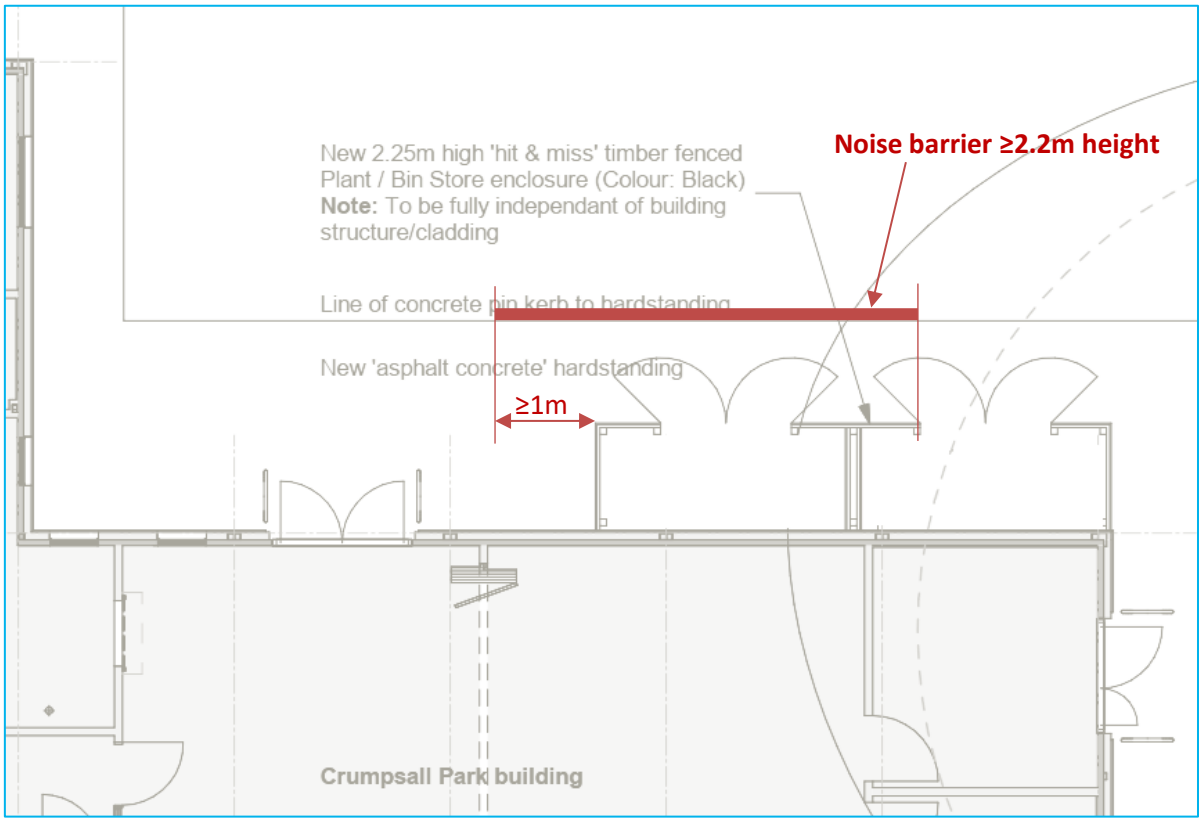


Figure 4: Noise barrier (overlay on Portakabin drawing PTK-A1-00-D-A–1803, revision 4, dated 21/01/2026)

The noise barrier is to have a minimum height of 2.2m above the hardstanding, have a minimum surface weight of 10kg/m^2, and be of a design such that there are no gaps or likelihood of gaps forming.

Table 16 and Table 17 provide a summary of the predicted plant noise levels with the proposed noise barrier.

Daytime	50 Ash Tree Road (building)	50 Ash Tree Road (garden)	79 – 83 (odd) Ash Tree Road (building)	Crumpsall Methodist Church (building)
Predicted noise level	29	28	21	17
Penalty	5	5	5	5
Rating level	34	33	26	22
Plant noise condition	37	37	37	37
Difference between rating level and condition 19a limit	-3	-4	-11	-15
Assessment	Meets condition 19a	Meets condition 19a	Meets condition 19a	Meets condition 19a

Table 16: Assessment of Predicted Plant Noise Levels: Daytime (07:00 hrs to 19:00 hrs): With Louvre Screen

Evening	50 Ash Tree Road (building)	50 Ash Tree Road (garden)	79 – 83 (odd) Ash Tree Road (building)	Crumpsall Methodist Church (building)
Predicted noise level	29	28	21	17
Penalty	5	5	5	5
Rating level	34	33	26	22
Plant noise condition	37	37	37	37
Difference between rating level and condition 19a limit	-3	-4	-11	-15
Assessment	Meets condition 19a	Meets condition 19a	Meets condition 19a	Meets condition 19a

Table 17: Assessment of Predicted Plant Noise Levels: Evening (19:00 hrs to 23:00 hrs): With Louvre Screen

Table 16 and Table 17 indicate that the planning condition 19a is met with a 2.2 m noise barrier as shown in Figure 4.

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5 Conclusion

Sustainable Acoustics Ltd has undertaken a Noise Impact Assessment of the proposed youth centre at Crumpsall Park, Ash Tree Rd, Crumpsall, Manchester M8 5SA.

An environmental sound survey was carried out from 10:24 hrs on Friday 19th June 2026 to 09:10 hrs on Wednesday 24th June 2026 to determine the existing background sound levels at nearby noise sensitive receptors (NSRs) during the daytime and evening.

The proposed noise level limits for breakout of noise from people in the building are predicted to be met at all NSRs. The breakout noise from amplified music during proposed uses of the building is predicted to exceed the noise limits in the planning condition, therefore music noise limits have been proposed. With these limits in place, it is considered that Condition 18a can be discharged.

The noise level from the proposed plant is predicted to meet the criterion in Condition 19a with a 2.2 m noise barrier in front of the plant compound, therefore it is considered that Condition 19a can be discharged.

Appendix 1 Plant Details

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Daikin RXP50N RXP20N9



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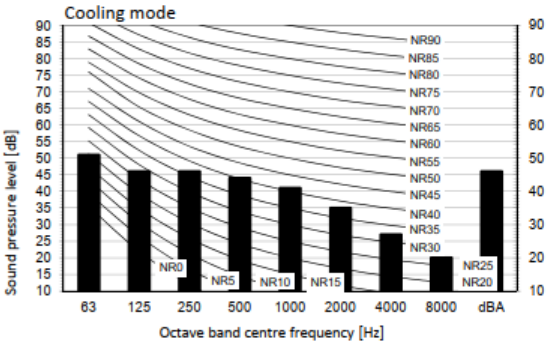
DAIKIN RXP-N9

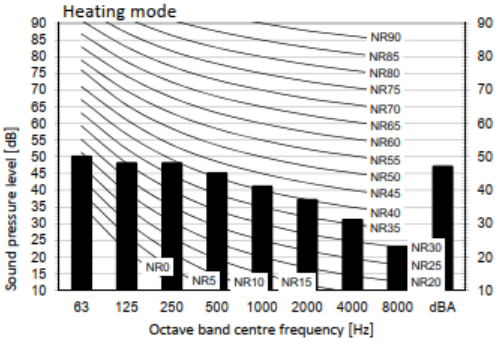
2 Specifications

2 - 1 Specifications

Technical Specifications					RXP20N9	RXP25N9	RXP35N9	RXP50N9	RXP60N9	RXP71N9
Fan motor	Model				DFC03Z1VA			DFC07A1VA		
	Insulation grade				Class "E"			-		
	Output			W	28			55		
	Speed	Cooling	High	rpm	760			740	760	
			Nom.	rpm	-			710	740	
			Low	rpm	640			680	740	
		Heating	High	rpm	790	820	760	710	740	760
			Nom.	rpm	-			710	740	760
			Low	rpm	550			630	660	
Compressor	Model				1Y078BKAX1P#D			2Y147BKBX1P#D		
	Oil Amount			cm^3	400			650		
	Type				Hermetically sealed swing compressor					
	Output			W	700			1,300		
	Oil Type				FW68DA					
Operation range	Cooling	Ambient	Min.	°CDB	-10					
			Max.	°CDB	48					
	Heating	Ambient	Min.	°CWB	-15					
				°CDB	-15					
			Max.	°CWB	18					
				°CDB	24					
Sound power level	Cooling	Nom.		dBA	60.0		62.0	61.0	63.0	66.0
	Heating	Nom.		dBA	61.0		62.0	61.0	63.0	65.0
Sound pressure level	Cooling	High		dBA	46		48		-	
		Nom.		dBA	-			47	49	52
	Heating	High		dBA	47		48		-	
		Nom.		dBA	-			49		52
Refrigerant	Type				R-32					
	Charge			kg	0.55		0.70	0.9	1.15	
	Charge			tCO2Eq	0.37		0.48	0.61	0.78	
	GWP				675.0			675		
Piping connections	Liquid	OD		mm	6.4					
	Gas	OD		mm	9.5			12.7		
	Drain	OD		mm	18			16		
	Piping length	OU - IU	Max.	m	20			30		
	Additional refrigerant charge			kg/m	0.02 (for piping length exceeding 10m)					
	Level difference	IU - OU	Max.	m	12			20		
	Heat insulation				-			Both liquid and gas pipes		
Capacity control	Method				Variable (inverter)					

ARXP20N9
RXP20N9



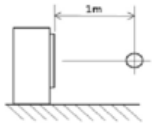


Legend
dBA = A-weighted sound pressure level (A scale according to IEC).
A Scale
B High Fan speed

Cooling	Total dB
A	B
dBA	46

Heating	Total dB
A	B
dBA	47

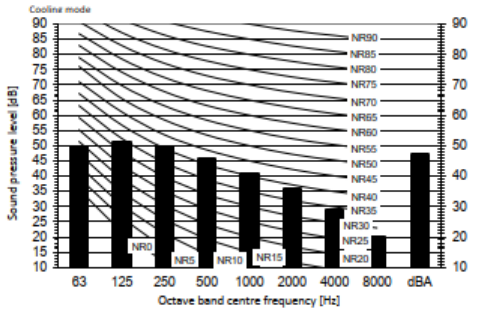
Location of microphone

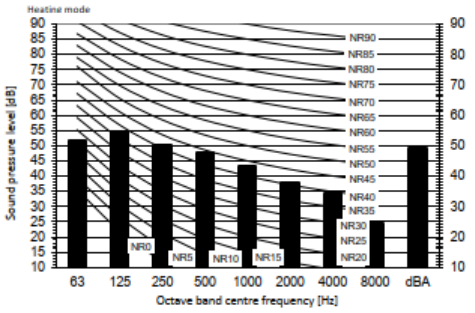


Notes
1. Operating conditions: power source 220-240 V/220 V 50/60 Hz; JIS standard
2. Background noise already taken into account.
3. Operating noise varies depending on operation and ambient conditions.
4. The operation noise measuring method is in accordance with JISC9612.
5. Measuring location: anechoic chamber

3D092072D

RXP50N9





Cooling
Total dB

A	B
dBA	47

Heating
Total dB

A	B
dBA	49

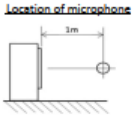
Legend

dBA = A-weighted sound pressure level (A scale according to IEC).

A Scale
B Fan speed: High

Notes
1. Operating conditions: power source -220-240-V -50-Hz; JIS standard
2. Background noise already taken into account.
3. Operating noise varies depending on operation and ambient conditions.
4. The operation noise measuring method is in accordance with JISC9612.
5. Measuring location: anechoic chamber

Location of microphone



3D115238A

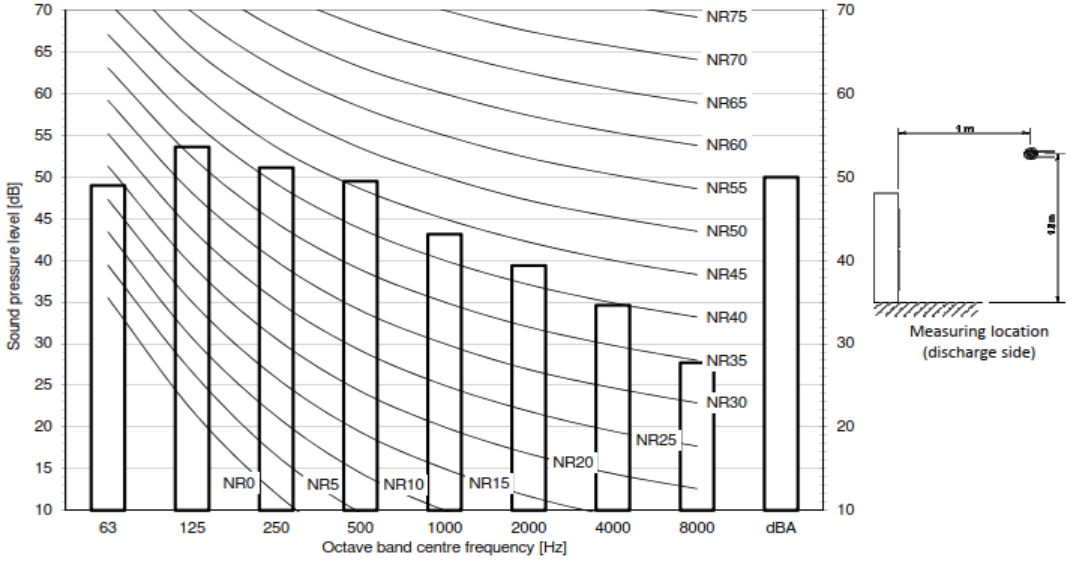
Daikin RZAG140NV1



Pages and 38 respectively.

Cooling

RZAG140NV1
RZAG140NY1

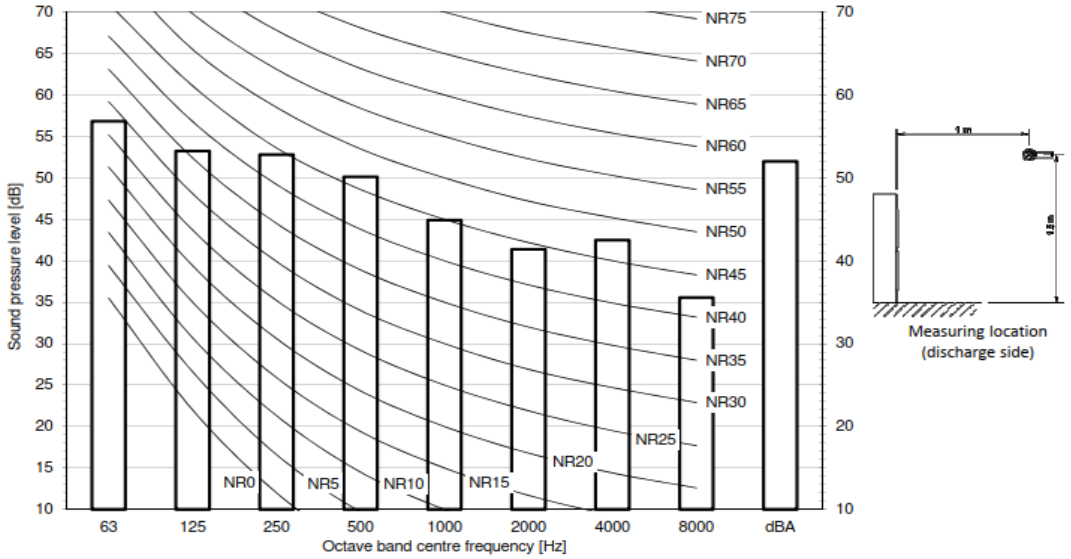


Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

3D125165

Heating

RZAG140NV1
RZAG140NY1



Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa

3D125166

Appendix 2 Measured Sound Levels and Weather Data

Period	A-Weighted Overall Level (dB $L_{A90, 15min}$)	Minimum Value of the Averaged Individual 15-Minute Periods Octave Frequency Band (Hz) Background Sound Level (dB $L_{Z90, 15min}$)							
		63	125	250	500	1000	2000	4000	8000
Day	43	49	42	39	37	38	33	22	16
Day - Sat. pm and Sun. only	40	48	40	36	34	34	31	22	15
Evening	42	49	42	39	37	38	33	22	16
Night	31	43	35	31	28	26	18	13	13

Table A2.2: Background Sound Level Data using MCC Processing Method

Date	Fri 19 Jun				Sat 20 Jun				Sun 21 Jun		
Time	Night	Morning	Afternoon	Evening	Night	Morning	Afternoon	Evening	Night	Morning	Afternoon
Wind dir.	SSW	SSW	SW	SW	SSW	SW	W	WNW	W	NE	ENE
Wind (m/s)	0.8	2.4	3.4	2.4	2.3	2.1	2.1	1.1	0.5	1.5	1.9
Rain (mm)	–	–	–	–	–	–	–	–	–	–	–
Temp (°C)	16.2	19.1	22.2	19.4	17.4	18.1	22.3	17.7	12.1	20.8	25.6

Table A2.2: Weather Data

Date	Sun 21 Jun	Mon 22 Jun				Tue 23 Jun				Wed 24 Jun	
Time	Evening	Night	Morning	Afternoon	Evening	Night	Morning	Afternoon	Evening	Night	Morning
Wind dir.	E	E	ESE	SSE	ESE	N	SSE	WSW	WNW	WSW	SSW
Wind (m/s)	1.8	0.9	1.1	2	1.7	0.7	1.4	2.7	1.1	0.3	0.8
Rain (mm)	–	–	–	–	–	–	–	–	–	–	–
Temp (°C)	21.5	18.2	22.1	27.9	24	18.2	24.3	30	25.3	19	25

Table A2.2: Weather Data (cont)

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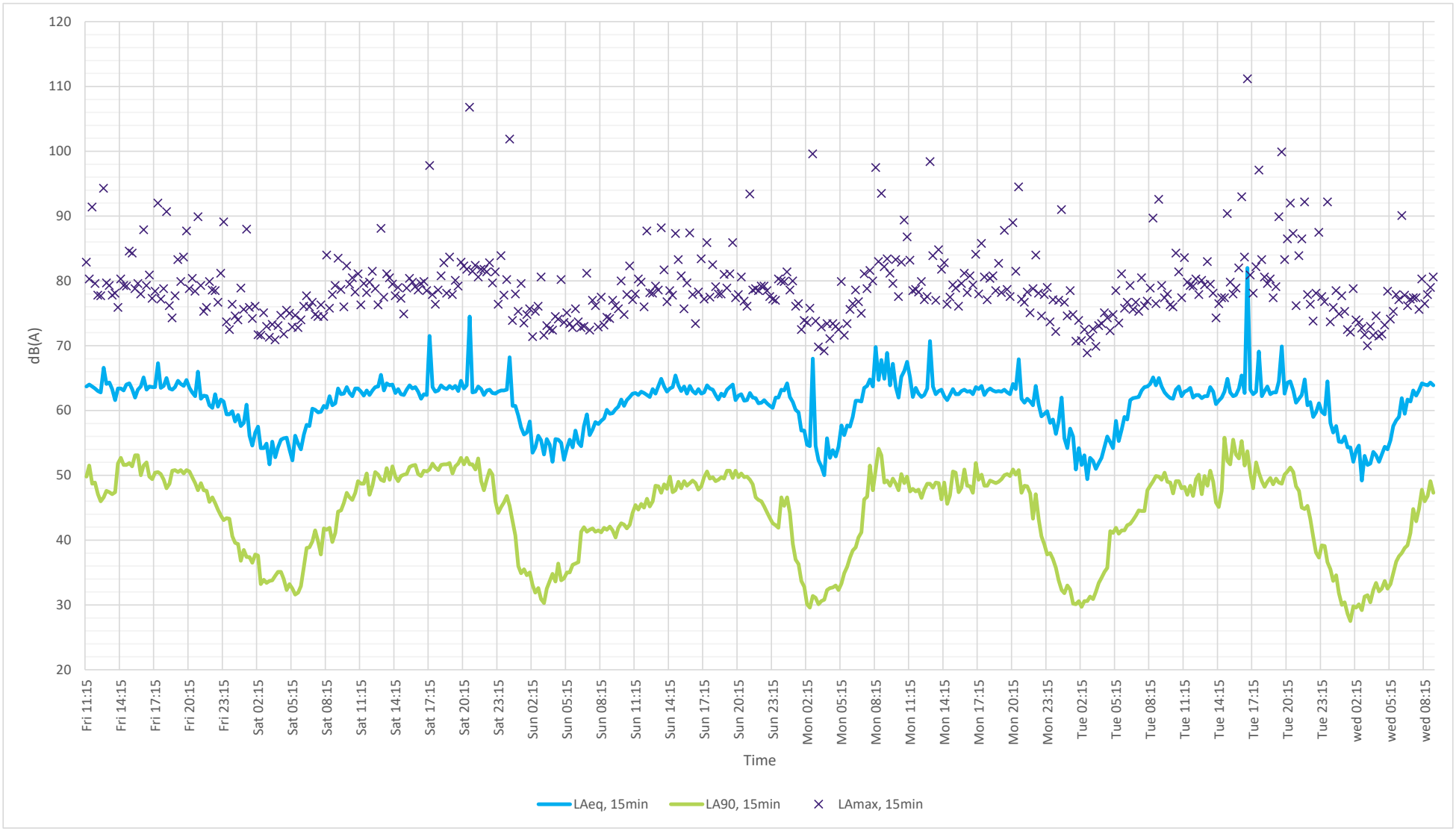


Figure A 1: Measured sound levels

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