

MECHANICAL PLANT NOISE SUPPORTING STATEMENT

Condition 14 - Units 8A and 8B, Deacon Way

Prepared for	RC Planning
Planning application	PL/26/0813
Original permission	PL/24/1354
Site	Units 8A and 8B, Deacon Way, Tilehurst, Reading RG30 6AZ
Applicant	Craftsman Brothers Ltd
Issue date	13 September 2026
Document status	Supporting technical information for planning consideration

Purpose

This consolidated statement brings together the final plant description, manufacturer acoustic data, a conservative calculation using BS 4142:2014+A1:2019 principles, installation controls, relevant local planning context, historical comparator information, correspondence and the receptor-distance plan. It is submitted to assist RC Planning and Reading Borough Council in considering whether the evidence is proportionate and sufficient to discharge Condition 14 without a further full acoustic survey.

Requested planning approach

The applicant respectfully asks that the Local Planning Authority first determine the condition on this consolidated evidence. If Environmental Protection considers that one further item is indispensable, the applicant requests that the precise missing item, receptor, assessment period and required operating scenario be identified so that any additional work can be tightly focused and avoid duplicating the evidence already provided.

Important status note

This document does not represent that a new background sound survey has been undertaken. The numerical exercise is deliberately described as a conservative desktop screening calculation. The final decision on the adequacy of evidence and discharge of the condition remains with the Local Planning Authority.

1. Final plant arrangement

Units 8A and 8B use the same Mitsubishi Heavy Industries multi-split heating and cooling system. Each system comprises one SCM80ZS-W unit serving four independently controlled SRK35ZS-WF wall-mounted indoor units. The difference is the location and mounting of the SCM80ZS-W unit. The Unit 8A plant is located within the building, while the Unit 8B unit is proposed externally on the wall. Refrigerant pipework and condensate drainage connect each SCM80ZS-W to its indoor units.

Area	System arrangement	Location and mounting
Unit 8A	One SCM80ZS-W serving four independently controlled SRK35ZS-WF wall-mounted indoor units. The system is included in the cumulative acoustic assessment.	Located within the building on anti-vibration supports. No externally mounted Unit 8A plant is proposed.
Unit 8B	One SCM80ZS-W serving four independently controlled SRK35ZS-WF wall-mounted indoor units. Proprietary low-noise condensate pumps are provided internally as required.	Proposed on the external wall at the location shown on the submitted drawing, using proprietary anti-vibration wall brackets.

Control and connected-load configuration

The four indoor units are independently controlled and the system will be configured for diversified demand; they are not intended to operate simultaneously at full rated output. Final control settings, connected-load configuration, rating-plate details and commissioning will be verified by the qualified installer in accordance with Mitsubishi Heavy Industries' design and installation requirements. This operational control does not alter the conservative acoustic calculation, which uses the outdoor unit's highest declared sound-power value.

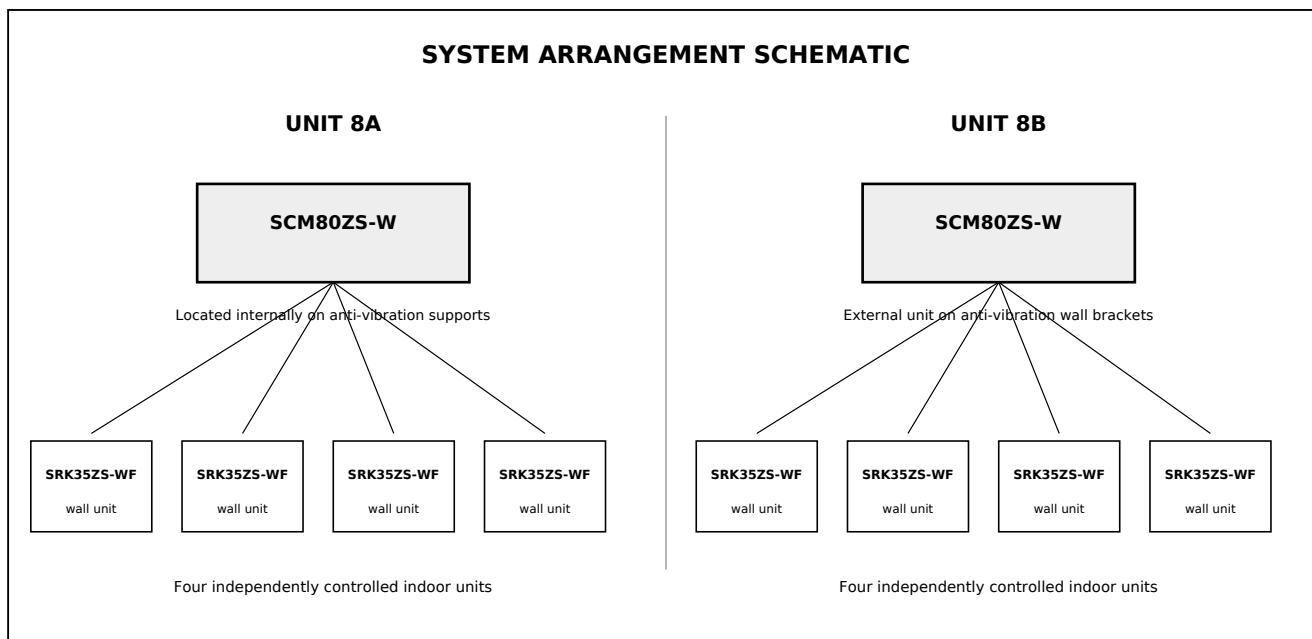
Operating period

Normal operation will be during daytime and evening use. During colder periods, limited intermittent operation may occur overnight or in the early morning for frost protection and maintenance of minimum internal temperatures. Where available, quiet/night mode will be used during these periods.

Ancillary equipment

The conservative cumulative allowance also provides for minor ancillary fixed building-services plant previously submitted separately.

Figure 1. System arrangement



Diagrammatic system summary only; not a wiring, pipe-sizing or installation drawing.

2. Condition 14 and assessment framework

Condition 14 requires an assessment using BS 4142:2014 methodology and sets two project-specific tests at a point 1 metre external to the nearest noise-sensitive residential facade:

Measure	Condition criterion
Specific sound level, LAeq,Tr	At least 10 dB below the pre-existing background sound level, LA90,T, with all plant or any part operating.
Rating level, LAr,Tr	Must not exceed the pre-existing background sound level after any correction for acoustic character.

BS 4142 context

BS 4142:2014+A1:2019 provides methods for rating and assessing industrial and commercial sound outdoors. It requires context and uncertainty to be considered alongside the numerical comparison. This desktop exercise uses the same core concepts - specific level, character correction, rating level, receptor position and contextual evaluation - while clearly identifying the absence of a new site-specific LA90 survey.

Planning context

National Planning Practice Guidance requires noise to be considered in the context of the prevailing acoustic environment and supports good acoustic design and proportionate mitigation. Here, the subject units are within an established commercial estate, with commercial activity and regular vehicle movements on Deacon Way, traffic on Oxford Road, and railway infrastructure approximately 66 m from the property. The nearest identified residential facade is approximately 101 m from the building.

The commercial and transport context does not replace the numerical requirements of Condition 14. It is nevertheless relevant when considering the absolute predicted level, whether the proposed sound is likely to be distinguishable, the daytime/evening operating period, and whether further investigation would be proportionate.

Supporting positions

The adjoining commercial occupier, ZIGUP/Northgate, confirmed that it had no issue with the proposed wall location. Building Control confirmed acceptance of a wall-mounted arrangement subject to the manufacturer's installation requirements and fixing details. The heating and cooling design also formed part of the building energy assessment. These matters support the physical arrangement but are not presented as substitutes for planning approval.

3. Manufacturer acoustic data

The calculation uses the highest declared external sound-power value for the SCM80ZS-W, rather than the lower sound-pressure figure. This is the conservative and technically appropriate starting point for distance propagation.

Parameter	Declared value / assessment treatment
Outdoor unit	Mitsubishi Heavy Industries SCM80ZS-W multi outdoor unit
Nominal capacity	8.0 kW cooling / 9.3 kW heating
Sound power level	66 dB(A) cooling / 67 dB(A) heating; 67 dB(A) used
Sound pressure level	54 dB(A), manufacturer anechoic test condition; not used as calculation source level
Airflow	56.0 m3/min
Dimensions / mass	750 x 880 (+73) x 340 mm / 61 kg
Connectable indoor units	2 to 4; final connected-load configuration subject to qualified-installer verification
Indoor unit	SRK35ZS-WF wall-mounted unit: sound power 54 dB(A) cooling / 56 dB(A) heating; internal only
Indoor sound pressure	Cooling 40/30/26/19 dB(A); heating 41/36/25/19 dB(A), depending on fan setting

Manufacturer notes state that sound figures are measured in an anechoic chamber and operational values may vary with ambient conditions. The desktop calculation therefore includes a separate uncertainty allowance and does not claim that the catalogue sound-pressure value applies directly at the residential receptor.

Internal equipment and pumps

The four SRK35ZS-WF units in each building are internal wall-mounted fan-coil units. Their indoor sound data are included for plant identification, not added directly to the outdoor propagation calculation. The condensate pumps are small internal ancillary items and their exact model numbers should be confirmed in the commissioning record rather than inferred in this planning statement.

4. Conservative desktop acoustic calculation

The following calculation applies simple hemispherical propagation from a wall-associated source, using the highest heating sound-power level. It then adds allowances for facade reflection, modelling uncertainty, cumulative plant and possible acoustic character. No credit is taken for intervening buildings, boundary screening, atmospheric absorption, ground attenuation, directivity away from the receptor, inverter part-load operation or masking by existing traffic and railway sound.

Step	Calculation	Result
SCM80ZS-W source	Highest declared sound power	67.0 dB(A)
Propagation to 101 m	$67.0 - 20 \log_{10}(101) - 8$	18.9 dB(A)
Facade reflection	+3 dB	21.9 dB(A)
Modelling uncertainty	+3 dB	24.9 dB(A)
Cumulative installation allowance	+3 dB (equivalent to a second equal receptor contribution)	27.9 dB(A) specific level
Character correction	+6 dB conservative screening allowance	33.9 dB(A) rating level

Sensitivity against background level

Representative LA90,T	Specific level margin	Rating comparison	Condition screening result
34 dB	6.1 dB below	0.1 dB below	Rating test only; 10 dB specific margin not shown
38 dB	10.1 dB below	4.1 dB below	Both numerical tests shown
40 dB	12.1 dB below	6.1 dB below	Both numerical tests shown
45 dB	17.1 dB below	11.1 dB below	Both numerical tests shown

Interpretation

On the stated conservative inputs, the condition's two numerical tests are met where the representative pre-existing background level is approximately 38 dB LA90,T or higher. The 40 dB background previously used is retained only as a transparent screening assumption; it is not presented as a measurement at this site. Historical local data and the commercial/transport context make that assumption plausible for daytime/evening assessment, but only a site survey could establish the formal LA90,T value for any overnight or early-morning period.

The +3 dB cumulative allowance is deliberately conservative: it is equivalent to assuming another source contributes exactly the same level at the residential receptor as the external Unit 8B condenser. The internally located Unit 8A system and minor ancillary building-services plant would reasonably be expected to contribute materially less after containment by the building envelope.

5. Public and local noise information reviewed

The following public material has been reviewed for context and methodology. Measurements from other sites are not treated as site-specific background data for Deacon Way.

Document / source	Relevant information	Use in this statement
1-3 Tidmarsh Street, Reading RG30 1HX - public Noise Impact Assessment	Reported typical LA90 values of 51 dB daytime and 34 dB night-time at its own survey position near Oxford Road and commercial sources.	Local context only; not used as the Deacon Way LA90.
The Co-operative, 124 Henley Road, Caversham - public Plant Noise Impact Assessment	Receptor selection, measured background, manufacturer data, propagation, uncertainty and mitigation.	Method and report-structure comparator only.
Defra strategic road and rail noise mapping	Long-term modelled transport indicators on a grid; not BS 4142 LA90 measurements.	Supports the description of a transport-influenced setting only.
BS 4142:2014+A1:2019 and GOV.UK Planning Practice Guidance - Noise	Industrial and commercial sound assessment, context, uncertainty and good acoustic design.	Assessment framework and proportionality.

Planning-safe conclusion from historical material

The historical information shows that measured background levels can vary materially by time and location. It therefore supports a transparent sensitivity analysis rather than an unsupported claim that a particular LA90 applies at Deacon Way. The conservative prediction remains low in absolute terms, and the substantial separation and prevailing commercial/transport context reduce the likelihood of the condenser being perceptible at the identified residential facade. Any overnight or early-morning operation would be limited, intermittent and associated with cold-weather temperature protection.

6. Installation controls and conclusion

Control	Committed requirement
Equipment schedule	One SCM80ZS-W system for Unit 8A and one SCM80ZS-W system for Unit 8B. Each serves four independently controlled SRK35ZS-WF wall-mounted indoor units.
Unit 8A isolation	The internally located SCM80ZS-W is supported on anti-vibration mounts. The installation will be maintained in accordance with the manufacturer's requirements.
Unit 8B isolation	The externally positioned SCM80ZS-W will be fixed on proprietary anti-vibration wall brackets selected for the unit mass and operating characteristics.
Fixings and clearances	Supports, fixings and all clearances to follow manufacturer and Building Control requirements.
Orientation	The Unit 8B fan discharge will face away from the nearest residential receptor where reasonably practicable without compromising airflow.
Demand control	Independent room controls and diversified operation; qualified installer to verify final combination and control configuration.
Operating period	Normal daytime and evening use. Limited intermittent overnight or early-morning operation may occur during colder periods for frost protection and maintenance of minimum internal temperatures. Quiet/night mode will be used where available.
Commissioning	Check both systems for tonal, rattling, intermittent or structure-borne noise and correct any abnormal condition.
Maintenance	Maintain both systems, fans, brackets, supports and isolators so acoustic performance does not deteriorate.
Contingency	If an unexpected material characteristic is identified, investigate and apply local screening, attenuation or operating controls as necessary, preserving airflow.

Conclusion

The proposal introduces one external low-noise inverter-controlled condenser at Unit 8B within an established commercial estate. Using the manufacturer's highest 67 dB(A) sound-power value and deliberately conservative cumulative, uncertainty and character allowances, the predicted specific level is 27.9 dB(A) and the screening rating level is 33.9 dB(A) at the identified residential facade approximately 101 m away.

Both Condition 14 numerical criteria are screened as met where representative background is at least approximately 38 dB LA90,T. The existing commercial activity, Deacon Way and Oxford Road traffic, railway line approximately 66 m away, substantial receptor separation, anti-vibration mounting and adjoining occupier's written position together indicate a low likelihood of adverse impact. Cold-weather operation outside normal daytime/evening hours would be limited and intermittent, with quiet/night mode used where available.

The applicant therefore respectfully requests that the submitted specification, calculation, receptor plan, controls and supporting evidence be accepted as proportionate information sufficient to approve the Unit 8B plant arrangement and discharge Condition 14. If the authority nevertheless requires a measured background level, the applicant asks that the request be limited to the precise receptor and representative operating period necessary to close that single outstanding evidential point.

Suggested decision wording

The details submitted in relation to Condition 14 are approved. The mechanical plant shall be installed, commissioned, operated and maintained in accordance with the approved plant specification, location plan, anti-vibration mounting details, operating period and mitigation measures.

Appendix A - Site context and indicative receptor distances

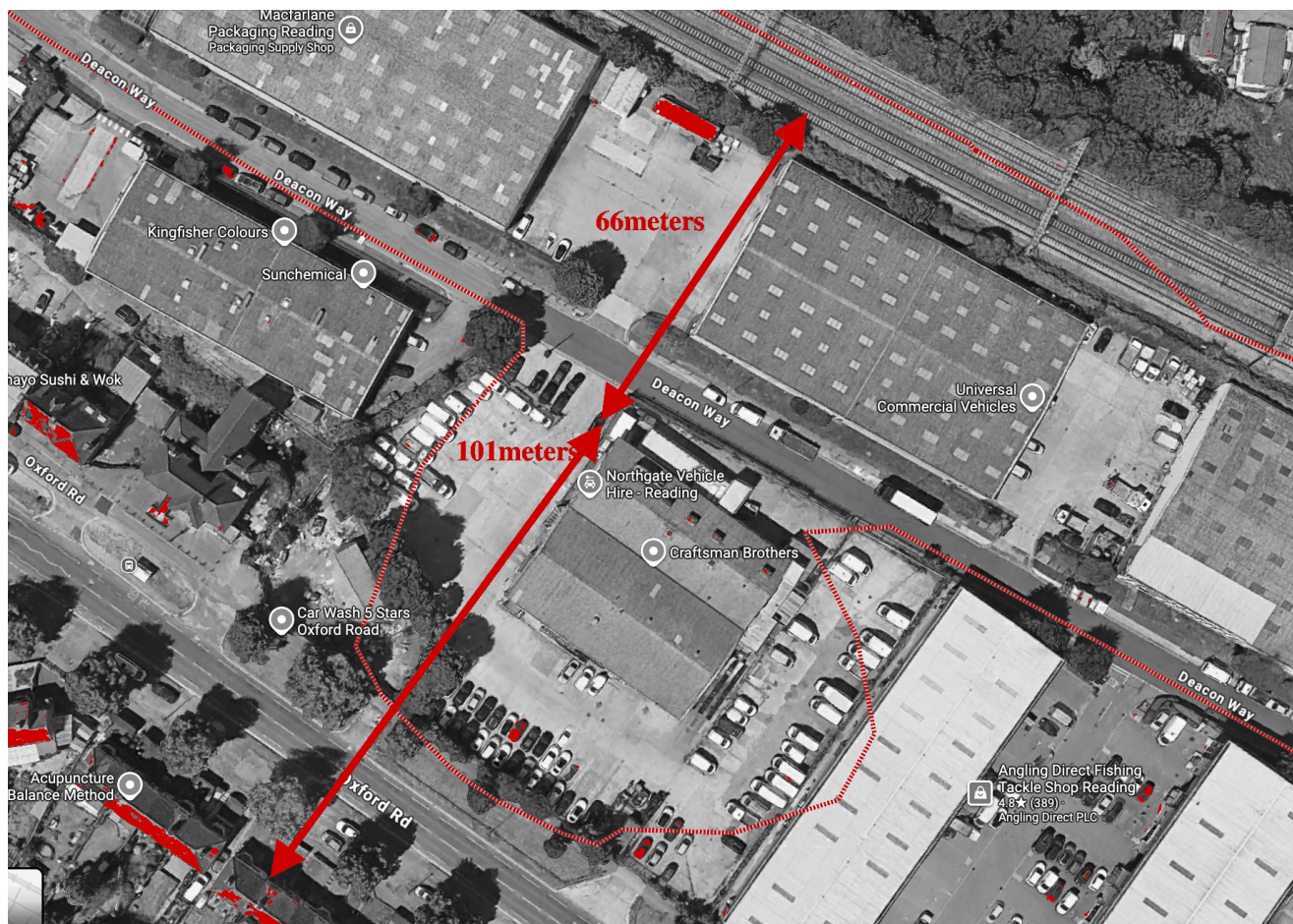


Figure A1. Aerial context supplied by the applicant. The nearest identified residential facade is approximately 101 m from the subject building; the closest railway tracks are approximately 66 m away. Distances are indicative and are used for the desktop screening calculation.

Appendix B - Plant location and adjoining occupier correspondence

Appendix A - location and neighbour correspondence

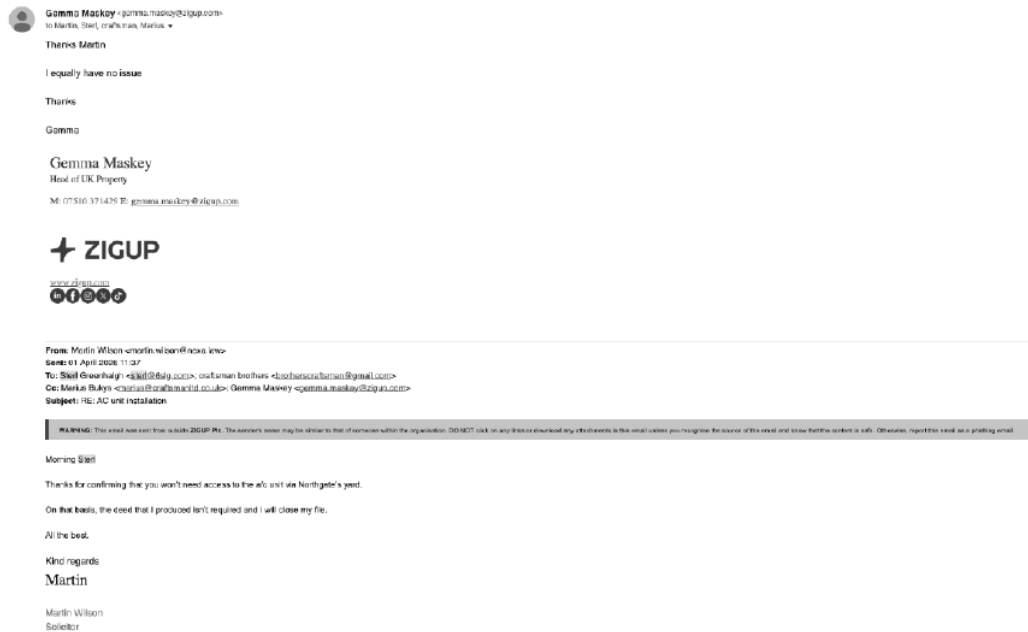


Figure A1. Email chain recording ZIGUP/Northgate's position and confirmation that access through Northgate's yard is not required.

Existing correspondence records the adjoining commercial occupier's position.

Appendix C - Updated AC arrangement

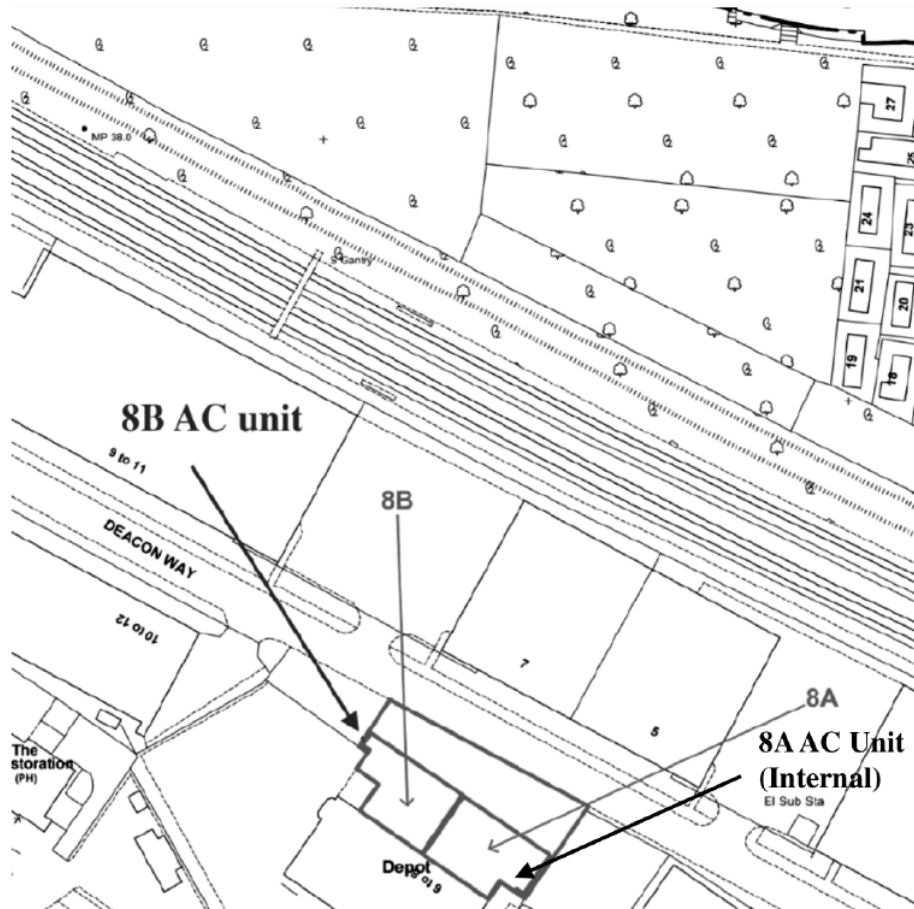


Figure A2. Updated AC arrangement showing Unit 8A internal installation and Unit 8B external condenser position.

Drawing showing the internal Unit 8A location and proposed external Unit 8B condenser position.

Appendix D - Building Control confirmation

Appendix B - Building Control confirmation

From	Siamack Rowaichi
To	Craftsman Brothers
Date	16 April 2026 at 15:07
Subject	Reading Cold Store Deacon Way Tilehurst RG30 6AZ - 24116174MYCRXIASR

Email transcript

Good Afternoon

RE: AC Unit Relocation – Unit 8B & Planning Condition 14

Thank you for your email.

I can confirm that am satisfied with the proposal using wall mounted AC installation. Please note that full manufactures design and installation should be followed when mounting the system on external walls.

Please let me have details of fixing.

Thank you

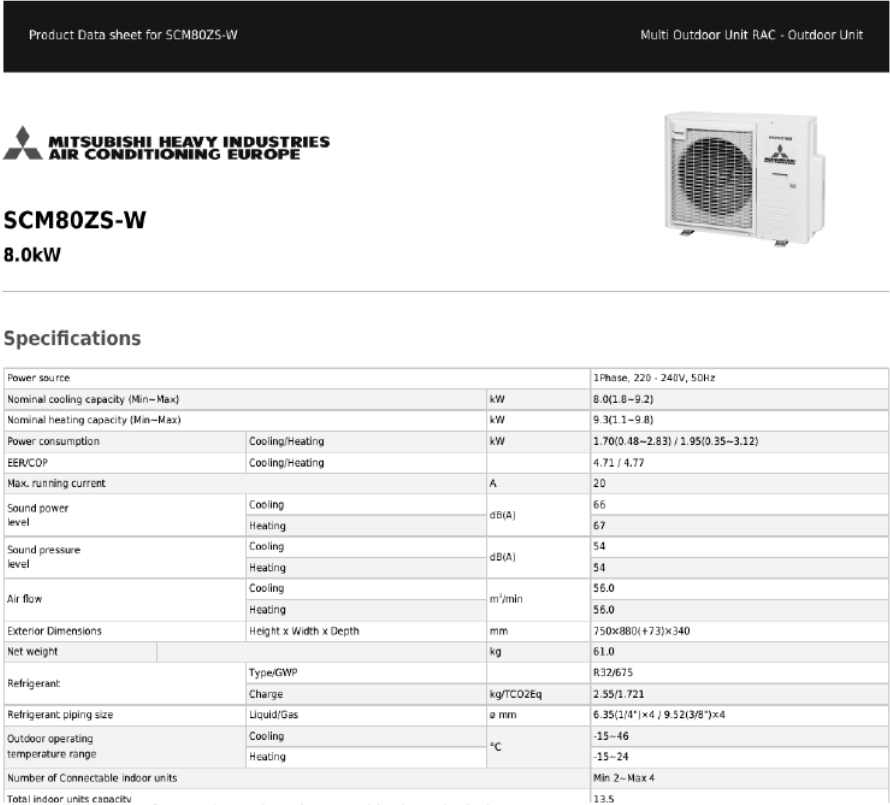
Siamack

This transcript records Building Control's acceptance of the wall-mounted arrangement, subject to the manufacturer's installation requirements and fixing details. It is supporting evidence only; discharge of Condition 14 remains with Reading Borough Council as Local Planning Authority.

Building Control correspondence accepting a wall-mounted arrangement subject to manufacturer requirements and fixing details.

Appendix E - SCM80ZS-W manufacturer extract

Appendix C - manufacturer specification



Key source documents

- 1. Mitsubishi Heavy Industries SCM80ZS-W product data sheet.
- 2. Noise Impact Assessment Report for Condition 14.
- 3. Approved Unit 8B AC wall-location correspondence and drawings dated 1 April 2026.
- 4. London Building Control email dated 16 April 2026.
- 5. GOV.UK Planning Practice Guidance - Noise, updated 22 July 2019.
- 6. Condition 14 decision-notice extract dated 31 January 2024.

Appendix F1 - SRK35ZS-WF manufacturer product data

Product Data sheet for SRK35ZS-WF

Multi Indoor Unit RAC - Indoor Unit
Wall Mounted



SRK35ZS-WF

3.5kW



Specifications

Nominal cooling capacity		kW	3.5
Nominal heating capacity		kW	4.0
Sound power level	Cooling	dB(A)	54
	Heating	dB(A)	56
Sound pressure level	Cooling(Hi/Me/Lo/Ulo)	dB(A)	40 / 30 / 26 / 19
	Heating(Hi/Me/Lo/Ulo)	dB(A)	41 / 36 / 25 / 19
Air flow	Cooling(Hi/Me/Lo/Ulo)	m³/min	11.3 / 8.7 / 7.0 / 5.0
	Heating(Hi/Me/Lo/Ulo)	m³/min	12.3 / 11.0 / 7.0 / 5.6
Exterior dimensions (H×W×D)		mm	290×870×230
Net weight		kg	9.5
Refrigerant piping size	Liquid / Gas	mm ø	6.35(1/4") / 9.52(3/8")
Clean filter		Allergen Clear Filter × 1, Photocatalytic Washable Deodorizing Filter × 1	

• The data is measured under the following conditions(ISO-T1, H1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
• Sound level the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

Because of our policy of continuous improvement, we reserve the right to make changes in all specifications without notice.

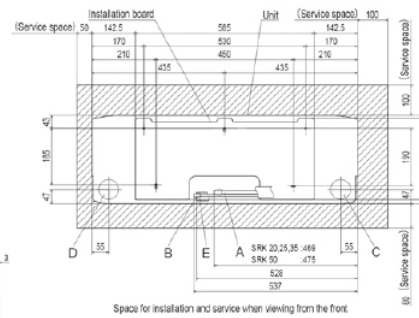
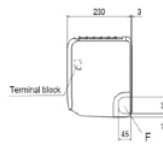
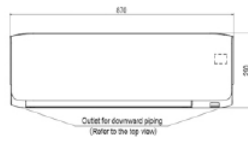
Appendix F2 - SRK35ZS-WF manufacturer product data

Product Data sheet for SRK35ZS-WF

Multi Indoor Unit RAC - Indoor Unit
Wall Mounted

Schematics

SRK20ZS-WF,-WFB,-WFT,-W
SRK25ZS-WF,-WFB,-WFT,-W
SRK35ZS-WF,-WFB,-WFT,-W
SRK50ZS-WF,-WFB,-WFT,-W
SRK20ZS-S,-SB,-ST SRK25ZS-S,-SB,-ST
SRK35ZS-S,-SB,-ST SRK50ZS-S,-SB,-ST



Symbol	Content
A	Gas piping SRA30, 25, 35 $\phi 952$ (1/8") (Flare) SRA50 $\phi 127$ (1/2") (Flare)
B	Liquid piping $\phi 9.53$ (1/8") (Flare)
C	Hole on wall for right rear piping ($\phi 95$)
D	Hole on wall for left rear piping ($\phi 95$)
E	Drain hose VP16
F	Outlet for piping (on both side)

Because of our policy of continuous improvement, we reserve the right to make changes in all specifications without notice.

Appendix G - Condition 14 extract

Appendix D - Condition 14

14. No mechanical plant shall be installed until a noise assessment of the proposed mechanical plant has been submitted and approved by the Local Planning Authority. The assessment shall be carried out for in accordance with BS4142:2014 methodology. The predicted specific sound level (LAeq,TR) (with reference to BS:4142) as measured at a point 1 metre external to the nearest noise-sensitive facade shall be at least 10dB below the pre-existing background sound level, LA90,T when all plant/equipment (or any part of it) is in operation. The predicted rating level, LA_r,Tr (specific sound level plus any adjustment for the characteristic features of the sound) as measured at a point 1 metre external to the nearest noise-sensitive facade (habitable window of a dwelling) shall not exceed the pre-existing background sound level, LA90,T when all plant/equipment (or any part of it) is in operation. The plant shall thereafter only be installed in accordance with the assessment and shall thereafter be maintained so that it operates to the same standard.
REASON: To safeguard the amenities of the adjoining premises and the area generally, in accordance with Policy CC8 and EN17 of the Reading Borough Local Plan 2019.

Date: 31 January 2024



Assistant Director of Planning, Transport and
Public Protection Services

References

1. Mitsubishi Heavy Industries Air-Conditioning Europe, SCM80ZS-W product data sheet.
2. Mitsubishi Heavy Industries Air-Conditioning Europe, SRK35ZS-WF product data sheet.
3. BS 4142:2014+A1:2019, Methods for rating and assessing industrial and commercial sound.
4. GOV.UK, Planning Practice Guidance - Noise.
5. Reading Borough Council planning register documents referenced in Section 5.
6. Defra Strategic Noise Mapping 2022 / Round 4 road and rail datasets.
7. Building Control and adjoining occupier correspondence reproduced in the appendices.

Document control

This consolidated issue supersedes the applicant's earlier draft noise statements for the purpose of RC Planning review. Where an older draft description differs, the equipment description and qualifications in this document are intended to apply.