

**Whitley Wood
Property Ltd**

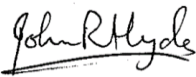
**142-144 Whitely
Wood Lane, Reading**

**Noise Assessment
Report – Planning
Condition 25**

February 2025

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1. INTRODUCTION

At the request of Focus 360 Energy a noise impact assessment has been carried out at 142-144 Whitley Wood Lane, Reading, in connection with the installation of air conditioning units in the proposed commercial units, as required by Planning Condition 25.

The exact AC units are not known at this stage thus the assessment has been carried out based on the noise emission of a unit recently installed in similar sized premises. The report will be updated when the make and model of the proposed units are known. A survey of background noise levels has been carried out and the potential impact of noise from the assumed AC units has been assessed.

The measurements and assessment have been carried out by John Hyde, a Chartered Physicist and Member of the Institute of Acoustics who has over 35 years' experience as a noise and acoustics consultant.

2. ASSESSMENT METHODOLOGY

The assessment has been carried out according to the planning condition requirement which is stated as follows:

Condition 25. *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 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, LAr,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.*

The noise emission has been based on the Mitsubishi MUZ-AP outdoor units, as used on a recent project for a similar sized premises. The noise emission levels depend on the power ratings of the recommended models.

3 BACKGROUND NOISE MEASUREMENTS

Background noise levels were measured from 17th to 19th February 2025 at the rear of the proposed commercial units, as shown in Figure 1.

The microphone was protected by an outdoor weatherproof system. Weather conditions were cold with light north to northwest winds and no precipitation. The

conditions were within the parameters recommended in BS7445-1:1991 'Description and measurement of environmental noise'.

Figure 1: Location of background noise measurement position X



The noise measurements were carried out using the following equipment:

SVAN 977 Sound Level Meter

S/N 36438

NOR-1251 Calibrator

S/N 29151

The above equipment fulfils IEC 61672 Class 1 and is traceable to calibration under BS7580: Part 1:1997. The meter was calibrated before and after the measurements and no significant drifting of the calibration signal was observed.

Measurements were undertaken for a 2-day period at 15-minute intervals. The following parameters were recorded:

L_{Aeq} The equivalent continuous noise level

L_{Amax} The maximum noise level during each period

L_{A90} The level exceeded for 90% of the time, the background level

Based on limited observation, the main source was from local traffic on Whitley Wood Road, with occasional overhead aircraft movements.

The results of the measurements are summarised in Table 1 and the detailed results are shown in Appendix 1. The LA90 values have been derived from the lowest commonly occurring level within the relevant time period.

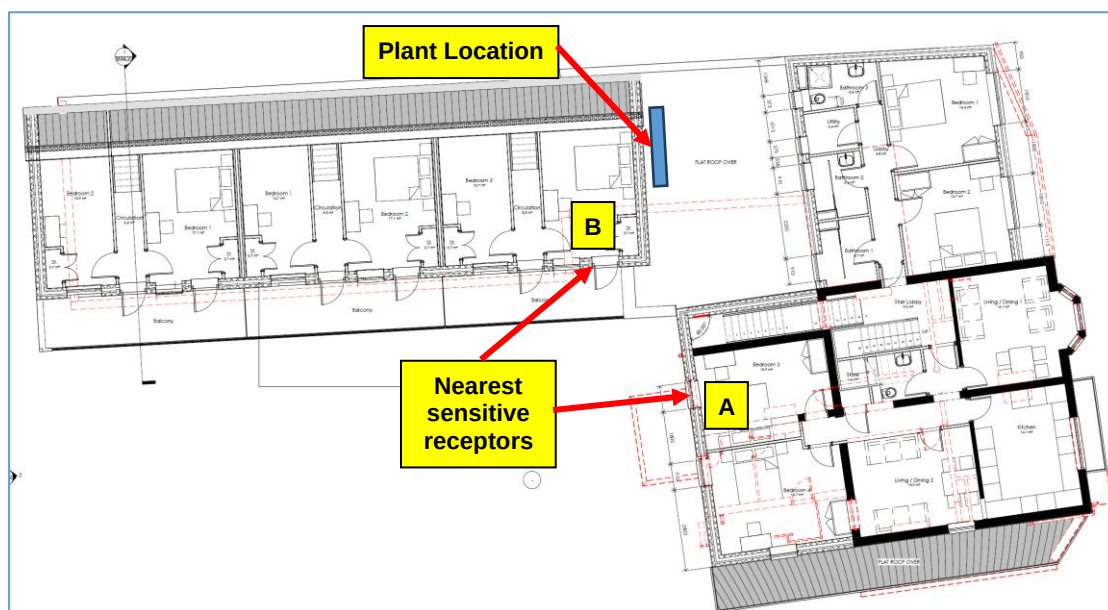
Table 1: Summary of background noise measurements

Date	Period	
		[dB]
05/02/2025	11:30-23:00 LAeq,T	55.8
	23:00-07:00 LAeq,T	47.7
	Lowest LA90 (night)	35
06/02/2025	07:00-23:00 LAeq,T	56.2
	Lowest LA90 (Day)	50
	Lowest LA90 (Evening)	45
	23:00-07:00 LAeq,T	45.2
	Lowest LA90 (night)	37
07/02/2025	07:00-10:15 LAeq,T	54.1

4 PLANT NOISE

It is assumed that the plant would be located at the position shown in Figure 2. There would be no sensitive residential windows, apart from bathrooms, directly facing the plant if located on the roof of Unit 1.

Figure 2: Proposed plant location, first floor roof of commercial unit 1



Noise levels have been estimated at the nearest receptor positions also shown in Figure 1. It is not known at this stage of the development what type of mechanical plant is likely to be needed for the proposed commercial units, however, it has been

assumed that each unit would require air conditioning. The systems selected would need to be recommended by a building services engineer but this information is not currently available. In order to assess the potential noise impact, the power required for each commercial unit condenser has been estimated based on the respective floor areas and a methodology described on the Engineering Toolbox website.

The heating power required is defined as the power coefficient of the building times the floor area, for a space of up to a height of 3 metres. The power coefficient is shown as 60-80 watts/m² for a commercial building of standard construction. Assuming a worst case of 80w/m², the following results are obtained.

Unit 1, 83m² Power rating 7kW, requiring Mitsubishi MUZ-AP71VG

Unit 2, 41m² Power rating 4kW, requiring Mitsubishi MUZ-AP42VG

Unit 3, 68m² Power rating 6kW, requiring Mitsubishi MUZ-AP60VG

The noise emission levels from the condenser units are shown Appendix 2 and summarised in Table 2.

Table 2: Condenser noise emission levels

Plant	SPL at 1m	
MUZ-AP71VG	55	dB(A)
MUZ-AP42VG	51	dB(A)
MUZ-AP60VG	57	dB(A)
Combined emission level	60	dB(A)

5 ASSESSMENT

The calculations at the sensitive receptor position A and B are shown in Tables 3 and 4. Account is of standard distance attenuation and a comparison is made with the background LA90 values for day and evening periods

Table 4: Plant noise levels calculated at sensitive receptors, daytime

SPL 1m	60	dB(A)
Receptor A Distance	8.7	m
Character correction	0	
LAeq at Receptor	41	dB(A)
Daytime LA90	50	dB
Difference from background	-9	

SPL 1m	60	dB(A)
Receptor B Distance	12.9	m
Character correction	0	

L _{Aeq} at Receptor	38	dB(A)
Daytime LA90	50	dB
Difference from background	-12	

SPL 1m	60	dB(A)
Receptor A Distance	8.7	m
Character correction	6	
L _{ArTr} at Receptor	47	dB(A)
Daytime LA90	50	dB
Difference from background	-3	

SPL 1m	60	dB(A)
Receptor B Distance	12.9	m
Character correction	6	
L _{ArTr} at Receptor	44	dB(A)
Daytime LA90	50	dB
Difference from background	-6	

The specific noise level L_{Aeq} should be 10dB below the background level. This would be met at Receptor B and marginally exceeded at Receptor A. However, the noise rating level $L_{Ar,Tr}$ would meet the planning condition requirement of not exceeding the background noise level. The calculations were repeated for the evening period 19:00 to 23:00 as it is not clear what type of business is likely to use the premises. This is shown in Table 4.

Table 4: **Plant noise levels calculated at sensitive receptors, evening**

SPL 1m	60	dB(A)
Receptor A Distance	8.7	m
Character correction	0	
L _{Aeq} at Receptor	41	dB(A)
Evening LA90	45	dB
Difference from background	-4	

SPL 1m	60	dB(A)
Receptor B Distance	12.9	m
Character correction	0	
L _{Aeq} at Receptor	38	dB(A)
Evening LA90	45	dB
Difference from background	-7	

SPL 1m	60	dB(A)
Receptor A Distance	8.7	m
Character correction	6	
L _{ArTr} at Receptor	47	dB(A)
Evening LA90	45	dB

Difference from background	2	
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SPL 1m	60	dB(A)
Receptor B Distance	12.9	m
Character correction	6	
LArTr at Receptor	44	dB(A)
Evening LA90	45	dB
Difference from background	-1	

The results indicate that the planning condition requirements are not likely to be met during an evening period. This means that attenuation measures would be needed in the form of enclosures or acoustic screening giving a reduction of at least 10dB.

The assessment demonstrated that the planning condition is achievable on the basis of the assumed AC units although acoustic mitigation measures might also be needed.

It should be emphasised that we are not qualified to specify particular units as the selection depends on many factors relating to the building construction and heating/cooling requirements which would be more accurately taken into account by a building services engineer. When this has been carried out, the report will be updated with the recommended plant details and the need for mitigation measures more clearly defined in order to meet the planning condition.

APPENDIX 1 – Noise Measurement Results

Date & time	LAFmax [dB]	LAeq [dB]	LA90 [dB]
17/02/2025 11:30	74.9	54.2	49.5
17/02/2025 11:45	74.9	53.5	49.8
17/02/2025 12:00	67.8	54.1	49.6
17/02/2025 12:15	66.6	53.8	49.9
17/02/2025 12:30	72.0	56.7	51.2
17/02/2025 12:45	73.0	55.0	51.0
17/02/2025 13:00	90.9	63.8	50.0
17/02/2025 13:15	63.7	54.1	50.3
17/02/2025 13:30	63.1	53.1	49.0
17/02/2025 13:45	64.4	54.2	49.4
17/02/2025 14:00	63.6	54.4	50.0
17/02/2025 14:15	60.6	53.4	49.8
17/02/2025 14:30	62.0	53.3	48.6
17/02/2025 14:45	86.7	59.5	49.9
17/02/2025 15:00	61.7	53.9	49.5
17/02/2025 15:15	73.5	54.6	49.6
17/02/2025 15:30	67.7	54.0	49.5
17/02/2025 15:45	62.0	53.9	49.7
17/02/2025 16:00	75.0	53.9	49.5
17/02/2025 16:15	62.9	54.2	50.1
17/02/2025 16:30	79.8	56.7	50.7
17/02/2025 16:45	73.6	55.6	51.3
17/02/2025 17:00	71.5	55.4	50.8
17/02/2025 17:15	68.0	55.7	51.3
17/02/2025 17:30	69.4	54.5	51.2
17/02/2025 17:45	65.0	54.4	50.7
17/02/2025 18:00	68.8	54.8	51.6
17/02/2025 18:15	72.8	55.2	50.7
17/02/2025 18:30	65.3	54.2	50.3
17/02/2025 18:45	61.8	54.2	49.9
17/02/2025 19:00	83.0	56.2	49.7
17/02/2025 19:15	67.0	54.4	50.1
17/02/2025 19:30	63.1	53.8	49.7
17/02/2025 19:45	60.8	52.6	49.1
17/02/2025 20:00	66.3	53.4	49.1
17/02/2025 20:15	63.4	53.1	48.6
17/02/2025 20:30	62.8	52.8	48.8
17/02/2025 20:45	66.2	52.7	47.8
17/02/2025 21:00	60.6	51.9	47.2
17/02/2025 21:15	71.4	52.4	46.9
17/02/2025 21:30	68.0	50.9	46.1
17/02/2025 21:45	63.4	50.4	45.5
17/02/2025 22:00	61.5	50.2	44.8
17/02/2025 22:15	62.0	49.6	44.2
17/02/2025 22:30	64.0	48.6	43.1
17/02/2025 22:45	62.3	48.5	42.3

Date & time	LAFmax [dB]	LAeq [dB]	LA90 [dB]
17/02/2025 23:00	60.1	48.4	42.3
17/02/2025 23:15	63.2	47.7	41.5
17/02/2025 23:30	62.4	48.1	42.7
17/02/2025 23:45	60.4	46.6	40.9
18/02/2025 00:00	62.7	44.3	38.4
18/02/2025 00:15	64.4	43.8	36.9
18/02/2025 00:30	56.8	42.3	35.3
18/02/2025 00:45	58.1	43.1	35.0
18/02/2025 01:00	59.7	42.6	35.2
18/02/2025 01:15	65.0	43.3	36.3
18/02/2025 01:30	54.2	43.0	38.3
18/02/2025 01:45	54.1	42.1	36.7
18/02/2025 02:00	58.1	42.4	35.6
18/02/2025 02:15	56.6	42.4	36.7
18/02/2025 02:30	60.8	42.3	34.6
18/02/2025 02:45	60.8	44.6	35.8
18/02/2025 03:00	53.2	41.0	34.8
18/02/2025 03:15	56.6	42.2	34.7
18/02/2025 03:30	56.8	41.7	32.5
18/02/2025 03:45	63.3	44.1	35.5
18/02/2025 04:00	60.8	43.4	34.5
18/02/2025 04:15	57.6	42.5	37.2
18/02/2025 04:30	55.6	44.6	37.3
18/02/2025 04:45	62.0	45.5	40.5
18/02/2025 05:00	62.5	47.1	40.6
18/02/2025 05:15	62.2	47.3	40.9
18/02/2025 05:30	63.4	48.2	42.5
18/02/2025 05:45	59.4	49.6	44.8
18/02/2025 06:00	65.3	51.7	46.6
18/02/2025 06:15	67.4	53.9	48.8
18/02/2025 06:30	66.5	54.0	49.6
18/02/2025 06:45	63.3	53.0	48.2
18/02/2025 07:00	63.2	53.0	49.3
18/02/2025 07:15	64.7	54.9	50.9
18/02/2025 07:30	63.6	55.1	51.8
18/02/2025 07:45	69.9	55.4	51.5
18/02/2025 08:00	63.0	55.0	51.5
18/02/2025 08:15	64.3	55.4	52.1
18/02/2025 08:30	62.7	54.5	51.3
18/02/2025 08:45	64.1	55.1	51.2
18/02/2025 09:00	65.9	54.3	50.9
18/02/2025 09:15	64.2	54.0	50.0
18/02/2025 09:30	63.9	52.9	49.8
18/02/2025 09:45	65.8	54.2	49.5
18/02/2025 10:00	68.8	54.4	49.9
18/02/2025 10:15	63.6	53.7	50.3

Date & time	LAFmax [dB]	LAeq [dB]	LA90 [dB]
18/02/2025 10:30	73.3	54.7	49.5
18/02/2025 10:45	95.9	67.8	52.1
18/02/2025 11:00	81.4	56.2	50.1
18/02/2025 11:15	66.3	54.6	50.3
18/02/2025 11:30	64.7	53.7	49.9
18/02/2025 11:45	63.4	53.7	49.1
18/02/2025 12:00	69.4	54.7	50.9
18/02/2025 12:15	67.9	54.5	51.5
18/02/2025 12:30	83.6	58.0	52.1
18/02/2025 12:45	63.5	54.5	50.9
18/02/2025 13:00	66.9	54.8	50.8
18/02/2025 13:15	66.1	53.7	50.0
18/02/2025 13:30	69.0	54.4	50.0
18/02/2025 13:45	74.0	54.1	49.6
18/02/2025 14:00	63.7	53.2	49.8
18/02/2025 14:15	66.6	53.4	49.7
18/02/2025 14:30	66.6	54.1	50.8
18/02/2025 14:45	64.1	54.2	50.5
18/02/2025 15:00	72.4	55.3	49.7
18/02/2025 15:15	70.2	53.8	50.0
18/02/2025 15:30	68.0	54.4	50.6
18/02/2025 15:45	63.1	54.8	51.1
18/02/2025 16:00	68.5	55.5	51.6
18/02/2025 16:15	66.6	54.5	51.2
18/02/2025 16:30	79.9	56.7	51.7
18/02/2025 16:45	73.6	55.4	51.5
18/02/2025 17:00	66.1	54.5	51.1
18/02/2025 17:15	67.1	54.5	50.9
18/02/2025 17:30	64.3	55.0	51.4
18/02/2025 17:45	73.3	54.8	51.1
18/02/2025 18:00	64.7	54.1	50.5
18/02/2025 18:15	67.9	53.6	50.0
18/02/2025 18:30	64.5	53.7	50.2
18/02/2025 18:45	88.3	64.3	50.7
18/02/2025 19:00	70.7	54.1	50.3
18/02/2025 19:15	67.8	54.0	50.1
18/02/2025 19:30	70.2	53.4	49.4
18/02/2025 19:45	66.2	52.5	48.7
18/02/2025 20:00	65.4	52.6	48.1
18/02/2025 20:15	83.4	58.8	48.0
18/02/2025 20:30	83.5	56.0	47.8
18/02/2025 20:45	66.0	52.5	47.3
18/02/2025 21:00	63.4	51.2	46.2
18/02/2025 21:15	71.9	52.7	47.2
18/02/2025 21:30	65.6	50.8	45.8
18/02/2025 21:45	63.1	50.5	45.1
18/02/2025 22:00	88.2	60.8	44.8
18/02/2025 22:15	62.9	50.3	45.5
18/02/2025 22:30	63.6	49.5	43.9

Date & time	LAFmax [dB]	LAeq [dB]	LA90 [dB]
18/02/2025 22:45	58.4	47.7	43.7
18/02/2025 23:00	79.7	55.3	43.4
18/02/2025 23:15	71.7	50.4	42.1
18/02/2025 23:30	57.2	46.4	41.2
18/02/2025 23:45	57.7	46.2	40.4
19/02/2025 00:00	58.2	45.6	39.2
19/02/2025 00:15	58.3	44.5	39.3
19/02/2025 00:30	56.3	44.2	38.8
19/02/2025 00:45	58.0	44.6	38.7
19/02/2025 01:00	53.1	43.1	37.4
19/02/2025 01:15	54.6	42.0	37.3
19/02/2025 01:30	55.0	42.5	36.5
19/02/2025 01:45	63.5	42.2	36.3
19/02/2025 02:00	59.0	42.9	36.3
19/02/2025 02:15	62.0	42.3	36.8
19/02/2025 02:30	53.9	42.9	37.4
19/02/2025 02:45	58.6	43.5	37.9
19/02/2025 03:00	50.6	41.6	36.8
19/02/2025 03:15	57.5	42.6	36.3
19/02/2025 03:30	57.4	44.4	38.2
19/02/2025 03:45	62.8	45.2	38.8
19/02/2025 04:00	60.4	43.6	38.9
19/02/2025 04:15	57.1	44.1	39.1
19/02/2025 04:30	54.9	45.8	41.1
19/02/2025 04:45	60.0	48.0	42.7
19/02/2025 05:00	60.6	47.7	42.7
19/02/2025 05:15	62.3	50.1	45.1
19/02/2025 05:30	63.8	50.0	46.5
19/02/2025 05:45	62.0	51.6	48.0
19/02/2025 06:00	61.5	52.5	49.8
19/02/2025 06:15	64.3	54.4	51.1
19/02/2025 06:30	71.8	55.2	52.0
19/02/2025 06:45	62.5	54.6	52.0
19/02/2025 07:00	69.6	57.4	48.4
19/02/2025 07:15	67.2	54.2	51.1
19/02/2025 07:30	65.0	55.8	53.3
19/02/2025 07:45	71.4	56.7	53.7
19/02/2025 08:00	73.8	56.0	52.8
19/02/2025 08:15	61.9	54.8	52.1
19/02/2025 08:30	63.7	53.8	50.0
19/02/2025 08:45	66.9	54.3	49.5
19/02/2025 09:00	72.4	53.3	49.6
19/02/2025 09:15	71.9	54.9	50.8
19/02/2025 09:30	64.1	54.1	51.6
19/02/2025 09:45	65.6	54.1	50.7
19/02/2025 10:00	66.6	53.9	49.6
19/02/2025 10:15	61.1	53.5	49.4

APPENDIX 1 – Manufacturers' Data

Air Conditioning Product Information

MSZ-AP R32 Elegance Wall Mounted System Inverter Heat Pump

R32



MSZ-AP INDOOR UNITS		MSZ-AP15VGK	MSZ-AP20VGK	MSZ-AP25VGK	MSZ-AP35VGK	MSZ-AP42VGK	MSZ-AP50VGK	MSZ-AP60VGK	MSZ-AP71VGK
CAPACITY (kW)	Heating (nominal)	1.7 (1.2-3.0)	2.5 (0.5-3.5)	3.2 (1.0-4.1)	4.0 (1.6-4.3)	5.4 (1.3-6.0)	5.8 (1.4-7.3)	6.8 (2.0-8.6)	8.0 (2.2-10.3)
	Cooling (nominal)	1.5 (0.9-2.7)	2.0 (0.6-2.7)	2.5 (0.9-3.4)	3.5 (1.1-3.8)	4.2 (0.9-4.5)	5.0 (1.4-5.4)	6.1 (1.4-7.3)	7.1 (2.0-8.7)
	Heating (UK)	-	2.06 (0.4-2.9)	2.64 (0.8-3.4)	3.3 (1.1-3.8)	4.45 (1.1-4.9)	4.78 (1.2-6.0)	5.6 (1.6-7.1)	6.68 (1.8-8.6)
	Cooling (UK)	-	1.98 (0.6-2.7)	2.48 (0.9-3.4)	3.47 (1.1-3.8)	4.17 (0.9-4.5)	4.95 (1.4-5.3)	6.05 (1.4-7.2)	7.04 (2.0-8.6)
SHF (nominal)		-	0.80	0.92	0.88	0.77	0.74	0.83	0.77
COP / EER (nominal)		-	4.17 / 4.35	4.10 / 4.17	3.88 / 3.54	3.62 / 3.23	3.63 / 3.23	4.07 / 3.84	3.82 / 3.53
SCOP / SEER (BS EN14825)		-	4.10 / 8.60	4.80 / 8.60	4.70 / 8.60	4.70 / 7.80	4.70 / 7.40	4.60 / 7.40	4.40 / 7.20
ErP ENERGY EFFICIENCY CLASS	Heating/Cooling	-	A+ / A+++	A++ / A+++	A++ / A+++	A++ / A+++	A++ / A+++	A++ / A++	A+ / A++
AIRFLOW (l/s)	Heating - SLo-Lo-MH-H-SH	62-73-83-100-113	62-73-83-100-122	82-98-122-148-215	82-98-122-148-215	88-102-128-157-233	93-108-137-167-233	180-223-257-290-338	170-192-220-255-320
	Cooling - SLo-Lo-MH-H-SH	58-65-77-92-107	58-65-77-92-115	82-98-118-145-190	82-98-118-145-190	90-108-128-155-190	100-120-140-167-210	157-183-220-267-315	160-192-220-255-310
PIPE SIZE mm (in)	Gas	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	12.7 (1/2")	12.7 (1/2")
	Liquid	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")
SOUND PRESSURE LEVEL (dBA)	Heating - SLo-Lo-MH-H-SH	21-26-30-35-40	21-26-30-35-42	19-24-34-39-45	19-24-31-38-45	21-29-35-40-45	28-33-38-43-48	30-37-41-45-48	30-37-41-45-51
	Cooling - SLo-Lo-MH-H-SH	21-26-30-35-40	21-26-30-35-42	19-24-30-36-42	19-24-30-36-42	21-29-34-38-42	28-33-36-40-44	30-37-41-45-48	30-37-41-45-49
SOUND POWER LEVEL (dBA)		59	60	57	57	57	58	65	65
DIMENSIONS (mm)	Width x Depth x Height	760 x 178 x 250	760 x 178 x 250	798 x 219 x 299	798 x 219 x 299	798 x 219 x 299	798 x 219 x 299	1100 x 257 x 325	1100 x 257 x 325
WEIGHT (kg)		8.2	8.2	10.5	10.5	10.5	10.5	16	17
ELECTRICAL SUPPLY		Fed by Outdoor Unit	Fed by Outdoor Unit	Fed by Outdoor Unit	Fed by Outdoor Unit	Fed by Outdoor Unit	Fed by Outdoor Unit	Fed by Outdoor Unit	Fed by Outdoor Unit
FUSE RATING (BS88) - HRC (A)		6	6	6	6	6	6	6	6
INTERCONNECTING CABLE No. CORES		4	4	4	4	4	4	4	4

Note: MSZ-AP15VG only available with R32 MUZ Multi-Split outdoor units.

MUZ-AP OUTDOOR UNITS		MULTI-SPLIT ONLY	MUZ-AP20VG	MUZ-AP25VG	MUZ-AP35VG	MUZ-AP42VG	MUZ-AP50VG	MUZ-AP60VG	MUZ-AP71VG
SOUND PRESSURE LEVEL (dBA)	Heating/Cooling	-	48 / 47	48 / 47	50 / 49	51 / 50	52 / 52	57 / 56	55 / 55
	Cooling	-	59	59	61	61	64	65	65
WEIGHT (kg)		-	31	31	31	35	40	40	55
DIMENSIONS (mm)	Width x Depth x Height	-	800 x 285 x 550	800 x 285 x 550	800 x 285 x 550	800 x 285 x 550	800 x 285 x 714	800 x 285 x 714	840 x 330 x 880
ELECTRICAL SUPPLY		-	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz
PHASE		-	Single	Single	Single	Single	Single	Single	Single
SYSTEM POWER INPUT (kW)	Heating/Cooling (nominal)	-	0.60 / 0.46	0.78 / 0.60	1.03 / 0.99	1.49 / 1.30	1.60 / 1.55	1.67 / 1.59	2.12 / 2.01
	Heating/Cooling (UK)	-	0.52 / 0.38	0.70 / 0.50	0.93 / 0.83	1.34 / 1.09	1.44 / 1.29	1.51 / 1.33	1.91 / 1.68
STARTING CURRENT (A)		-	3.2	3.6	4.7	6.6	7.0	7.4	9.3
SYSTEM RUNNING CURRENT (A)	Heating/Cooling (MAX)	-	3.2 / 2.6 [7.0]	3.6 / 2.9 [7.06]	4.7 / 4.5 [8.46]	6.6 / 5.8 [9.6]	7.0 / 6.9 [13.6]	7.4 / 7.1 [14.0]	9.3 / 8.8 [16.4]
FUSE RATING (BS88) - HRC (A)		-	10	10	10	10	16	16	20
MAINS CABLE No. CORES		-	3	3	3	3	3	3	3
MAX PIPE LENGTH (m)		-	20	20	20	20	20	30	30
MAX HEIGHT DIFFERENCE (m)		-	12	12	12	12	12	15	15
CHARGE REFRIGERANT (kg) / CO ₂ EQUIVALENT (l) - R32 (GWP 675) - 7m		-	0.55 / 0.38	0.55 / 0.37	0.55 / 0.37	0.70 / 0.47	1.00 / 0.68	1.05 / 0.71	1.50 / 1.02
MAX ADDITIONAL REFRIGERANT (kg) / CO ₂ EQUIVALENT (l) - R32 (GWP 675)		-	0.26 / 0.18	0.26 / 0.18	0.26 / 0.18	0.26 / 0.18	0.26 / 0.18	0.30 / 0.21	0.30 / 0.21