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**41 London Street
Reading**

Acoustic Report

30 June 2022

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SUMMARY

It is proposed to convert the existing commercial property at 41 London Street in Reading to create new residential properties. For this type of project, Reading Borough Council typically requires an assessment of external noise levels to be undertaken.

A noise survey has been undertaken to determine noise levels affecting the site due to road traffic.

The noise survey results have been assessed in relation to the Reading Borough Council internal noise level standards.

The proposed external façade constructions have been assessed against the requirements and concluded to be acceptable in relation to the Reading Borough Council internal noise level requirements.

The proposed mechanical ventilation heat recovery (MVHR) system has been assessed against the requirements and concluded to be acceptable in relation to the Reading Borough Council internal noise level requirements.

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1.0 Introduction

It is proposed to convert the existing commercial property at 41 London Street in Reading to create new residential properties. For this type of project, Reading Borough Council typically requires an assessment of external noise levels to be undertaken.

The following report presents the methodology and results of an environmental noise survey carried out at the site and the subsequent assessments necessary to assess the potential impact of external noise on the proposed development.

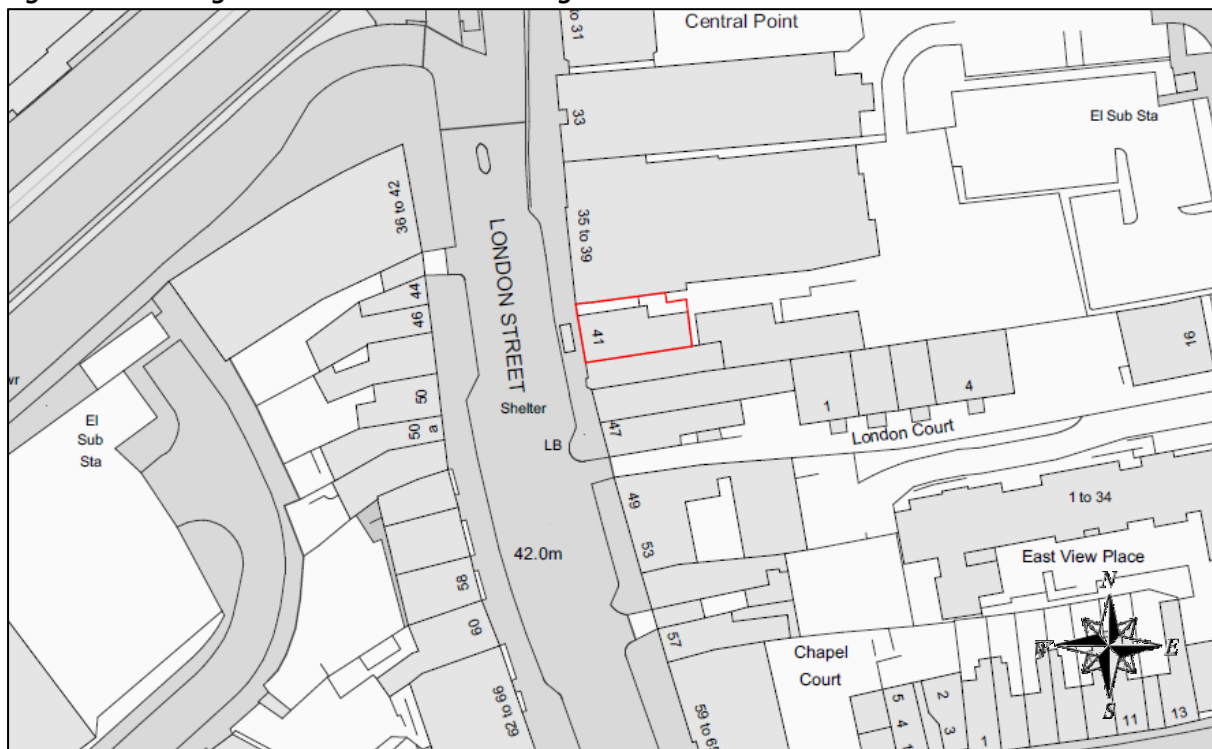
2.0 Description of Site and Proposals

The site is located on the eastern side of London Street in central Reading and is currently occupied by a vacant commercial office building.

The area surrounding the site is a mix of commercial and residential properties.

Figure 2.1 shows the approximate existing site extent in **red** in relation to the surrounding area.

Figure 2.1 Existing Site Extent and Surroundings



It is proposed to convert the building to create one self-contained flat and one 7-bed HMO.

3.0 Reading Borough Council Requirements

Reading Borough Council's typical requirements are as follows:

"No development shall take place until a detailed scheme, informed by an assessment of the current noise environment, for protecting the dwellings from the external noise environment of the area has been submitted to and approved, in writing, by the Local Planning Authority. The scheme itself shall be designed, specified and constructed so that the sound insulation performance of the structure and the layout of the dwellings are such that the indoor ambient noise levels do not exceed the values detailed

in Table 4 of BS 8233: 2014. Where opening windows will lead to an internal noise level increase of 5 dBA or greater above BS 8233: 2014 recommended internal levels, the scheme shall include provision of alternative mechanical ventilation with minimum performance equivalent to a mechanical heat recovery (MVHR) system with cool air bypass as an alternative means of cooling and ventilation. Noise from the system should not result in BS 8233 internal levels being exceeded."

British Standard (BS) 8233: 2014 "Guidance on sound insulation and noise reduction for buildings" is the industry standard for 'desirable' internal noise level standards for dwellings, as shown in Table 3.1.

Table 3.1 BS 8233 Desirable Internal Noise Levels

Activity	Location	07:00 to 23:00 (hours)	23:00 to 07:00 (hours)
Resting	Living room	35 dB $L_{Aeq,16hour}$	-
Dining	Dining room/area	40 dB $L_{Aeq,16hour}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,8hour}$

The standard advises that the limits shown in Table 3.1 could be increased by 5 dB whilst still achieving 'reasonable' conditions.

In relation to individual noise events during night-time periods, the standard advises the following:

"Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{Amax, F}$, depending on the character and number of events per night."

In relation to night-time maximum noise events, we have considered the World Health Organisation (WHO) document "Guidelines for Community Noise" (1999), which advises the following:

"For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45dB L_{Amax} more than 10-15 times per night (Vallet & Vernet 1991)."

We have therefore considered the above standards in our noise survey methodology and noise assessment.

4.0 Noise Survey

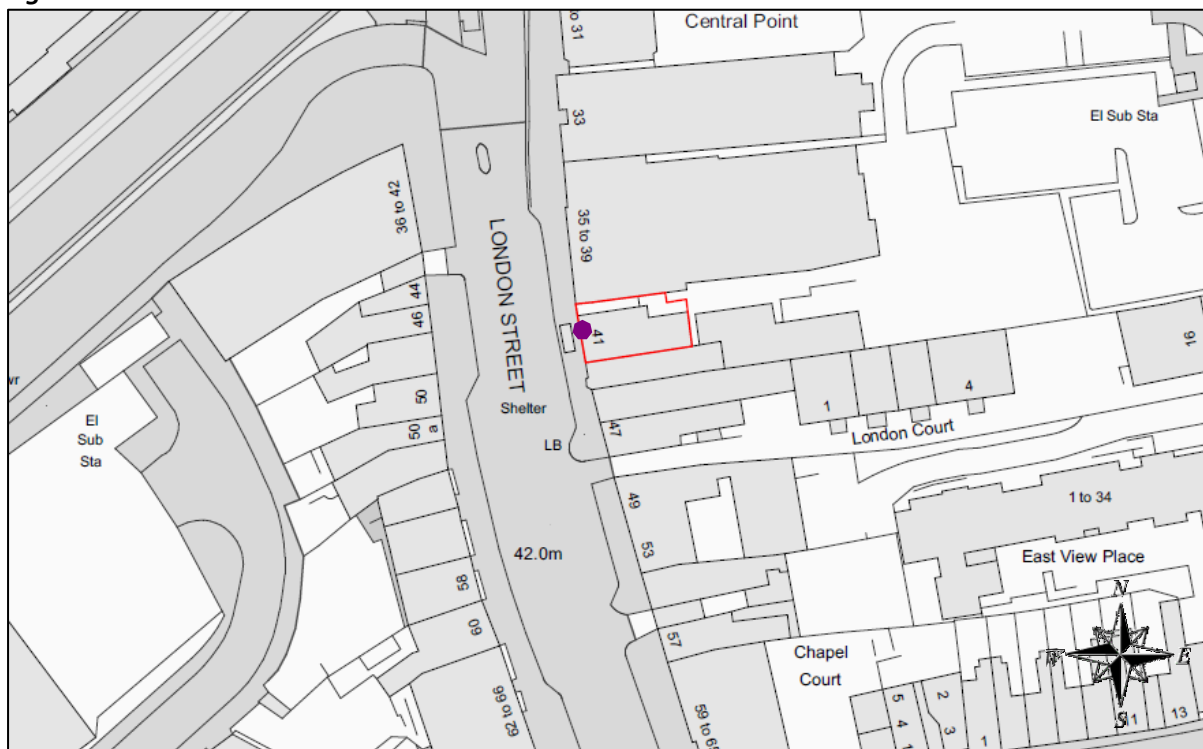
4.1 Noise Survey Methodology

An unmanned environmental noise survey was undertaken over a 4-day period between Friday 1 April 2022 and Tuesday 5 April 2022.

The noise survey period was selected to determine typical noise levels affecting the proposed development site during the daytime and night-time, over weekday and weekend periods, when the flats will be occupied.

The noise survey was undertaken with the measurement microphone protruding from a first-floor level window in the western façade of the building, overlooking London Street. Figure 4.1 indicates the approximate measurement location in **purple**.

Figure 4.1 Noise Measurement Position



The measurement position was selected as being the most secure, accessible location that is representative of noise levels affecting the nearest proposed façade to London Street.

The equipment used for the noise survey is summarised in Table 4.1.

Table 4.1 Description of Equipment used for Noise Survey

Item	Make & Model	Serial Number
Type 1 automated logging sound level meter	SVAN 945A	11906
Type 1 ½" microphone	GRAS 40AN	56012
Calibrator	01dB CAL31	86020

L_{Amax} , L_{Aeq} and L_{A90} sound pressure levels were measured over contiguous 15-minute intervals throughout the noise survey period.

Due to the nature of the noise survey, i.e. unmanned, we are unable to comment on the weather conditions throughout the entire noise survey period. However, at the beginning of the survey period, conditions were dry with a clear sky and light wind. We understand these conditions were representative of the remainder of the survey period and are considered appropriate for undertaking environmental noise measurements.

The noise monitoring equipment was calibrated before and after the noise survey period. No significant change was found. Laboratory equipment calibration certificates can be provided upon request.

4.2 Noise Survey Results

Appendix B presents a time history graph showing the L_{Amax} , L_{Aeq} and L_{A90} sound pressure levels measured throughout the noise survey.

As the measurement microphone was located approximately 1m from an existing façade, a correction of -2 dB has been applied to the measurement results so as to replicate free-field conditions, in accordance with BS 8233: 2014.

We would consider the measured levels to be reasonable, taking into account the location of the measurement position and the dominant nearby noise sources.

4.3 Observations

At the beginning and end of the survey period the daytime noise climate at the measurement position was noted to be dominated by road traffic using London Street to the west of the site.

5.0 External Noise Intrusion

This section presents our assessment of the measured external noise levels in relation to the Reading Borough Council requirements.

5.1 External Noise Levels

Based on the noise survey results, the worst-case external noise levels predicted to affect the proposed residential facades are presented in Table 5.1.

Table 5.1 Predicted Noise Levels affecting Worst-Case Proposed Façades

Daytime L_{Aeq} (16 hour) (dB)	Night-time L_{Aeq} (8 hour) (dB)	Night-time L_{Amax} (15 minute) (dB) (tenth highest)
66	61	78

5.2 External Façade Acoustic Requirements

Our calculations indicate that the Reading Borough Council internal noise requirements should be achievable in the proposed residential dwellings facing London Street through the use of suitable replacement glazing.

The glazing to living rooms and bedrooms facing London Street shall be specified to achieve a laboratory sound insulation performance of at least R_w 38 dB.

The rear/eastern façade is screened from road traffic noise emanating from London Street, therefore glazing in this façade shall be specified to achieve a laboratory sound insulation performance of at least R_w 34 dB.

Appendix C at the rear of this report presents a datasheet for the proposed secondary glazing. It can be seen that this is expected to achieve at least R_w 48 dB, which therefore achieves the above requirements.

Non-glazed façade areas are assumed to achieve at least R_w 52 dB. The external facades consist of brick/block cavity walls, which are expected to achieve this requirement.

5.3 Ventilation

Table 5.2 presents the predicted internal noise levels assuming a standard 13 dB reduction via an open window, in comparison with the Reading Borough Council requirements.

Table 5.2 Predicted Internal Noise Levels with Open Windows

Scenario	Daytime	Night-time
	L _{Aeq} (16 hour) (dB)	L _{Aeq} (8 hour) (dB)
Predicted Internal Noise Level	53	48
BS 8233: 2014 Limit + 5 dB	40	35

It can therefore be seen that the limits are predicted to be exceeded, therefore in accordance with the standard Reading Borough Council requirements, mechanical ventilation will be required.

Internal noise levels associated with the mechanical ventilation system shall be limited so as not to exceed the noise limits specified by BS 8233: 2014 for living rooms and bedrooms.

6.0 Internal Building Services Noise

The proposed apartments are to be served by a mechanical ventilation heat recovery (MVHR) system, supplying fresh air from, and extracting air to, the outside via ducts and grilles in the external façade.

Reading Borough Council requires internal noise levels generated by the MVHR system to be less than the BS 8233: 2014 internal noise standards presented in Section 3 above.

Appendix D at the rear of this report presents a datasheet, noise data and proposed duct layouts for the proposed MVHR system, based on which we have undertaken calculations to predict noise levels within the internal areas.

Tables 6.1 and 6.2 present the worst-case internal noise level calculations, using the highest MVHR noise levels for the proposed ground floor apartment.

Table 6.1 Predicted Internal MVHR Noise Levels – Dining/Kitchen

Element								L _{pA} (dB)
	125	250	500	1k	2k	4k	8k	
Supply In-Duct Sound Power Level	62	66	73	67	63	56	49	
Attenuator Insertion Loss	-14	-26	-39	-49	-47	-45	-38	
Duct split	-3	-3	-3	-3	-3	-3	-3	
Grille End Reflection	-3	-1	0	0	0	0	0	
Direct and Reverberant Correction	-6	-7	-8	-9	-9	-10	-10	
Predicted Room Sound Pressure Level	36	29	23	6	4	0	0	25
Extract In-Duct Sound Power Level	48	50	55	45	44	36	28	
Attenuator Insertion Loss	-6	-10	-14	-20	-19	-14	-13	
Duct split	-3	-3	-3	-3	-3	-3	-3	
Grille End Reflection	-3	-1	0	0	0	0	0	
Direct and Reverberant Correction	-6	-7	-8	-9	-9	-9	-9	
Predicted Room Sound Pressure Level	30	29	30	13	13	10	3	28
TOTAL Predicted Room Sound Pressure Level	37	32	31	14	14	10	4	30
BS 8233: 2014 Internal Noise Level Limit for Living Rooms								35

Table 6.2 Predicted Internal MVHR Noise Levels – Bedroom

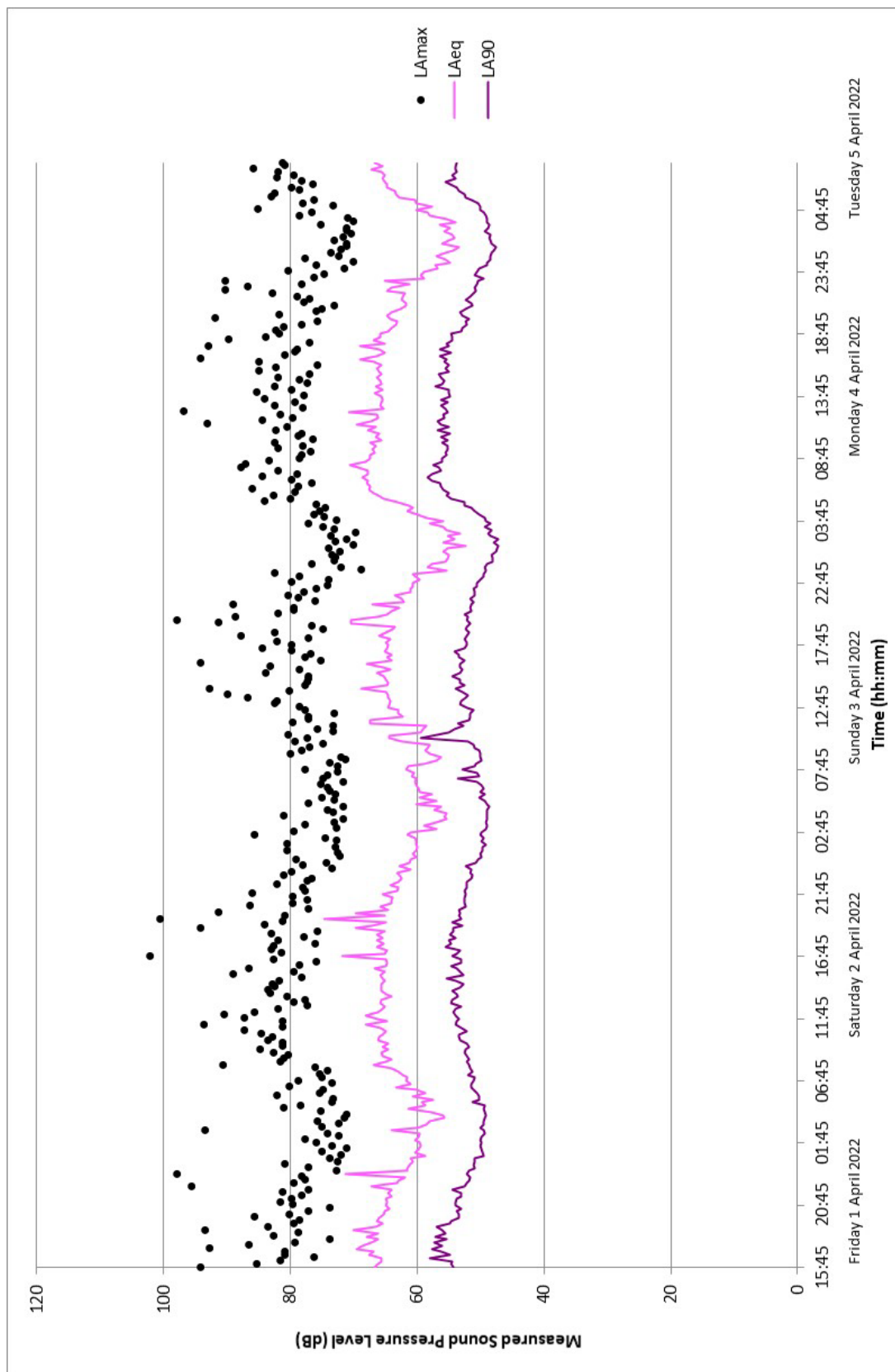
Element								L _{pA} (dB)
	125	250	500	1k	2k	4k	8k	
Supply In-Duct Sound Power Level	62	66	73	67	63	56	49	
Attenuator Insertion Loss	-14	-26	-39	-49	-47	-45	-38	
Duct split	-3	-3	-3	-3	-3	-3	-3	
Grille End Reflection	-3	-1	0	0	0	0	0	
Direct and Reverberant Correction	-3	-4	-5	-6	-6	-6	-6	
Predicted Room Sound Pressure Level	39	32	26	9	7	2	2	28
BS 8233: 2014 Internal Noise Level Limit for Bedrooms								30

It can therefore be seen that the predicted internal noise levels associated with the MVHR unit are not predicted to exceed the BS 8233: 2014 internal noise level limits for living rooms or bedrooms.

Appendix A – Acoustic Terminology

Parameter	Description
Decibel (dB)	A logarithmic scale representing the sound pressure or power level relative to the threshold of hearing (20×10^{-6} Pascals).
Sound Pressure Level (L_p)	The sound pressure level is the sound pressure fluctuation caused by vibrating objects relative to the threshold of hearing.
A-weighting (L_A or dBA)	The sound level in dB with a filter applied to increase certain frequencies and decrease others to correspond with the average human response to sound.
L_{Amax}	The A-weighted maximum noise level measured during the measurement period.
$L_{Aeq,T}$	The A-weighted equivalent continuous noise level over the time period T (typically T = 16 hours for daytime periods, T = 8 hours for night-time periods). This is the sound level that is equivalent to the average energy of noise recorded over a given period.
L_{A90} (15 min)	The noise level exceeded for 90% of the time (also referred to as the background noise level), measured over a 15-minute period
R_w	The weighted (w) sound reduction index (R), a single figure rating of the laboratory airborne sound insulation performance of a construction, usually measured across the frequency range 100-3150Hz. The higher the value, the greater the sound insulation, and the more onerous the requirement.
$D_{n,e,w}$	The weighted (w) element (e) normalised (n) level difference (D), a single figure indicator of the ability of a small building element (such as a trickle ventilator) to reduce sound. The higher the value, the greater the sound reduction, and vice versa.

Appendix B – Time History Graph



Appendix C – Glazing Datasheets

Balanced Vertical Slider

Balanced Vertical Slider Glide

BVS & BVSG

Panel Orientation

- Both Panels Slide – weight supported by spring balances.
- Composition Timber, Aluminium & Glass
- Panels Not Removable
- Button Control Interlocker
- BVS = Panels slide up/down to a fixed point
- BVSG = Panel slide up/down completely past each other.



Closed



Part Open



Interlock Button

Technical Information

Panel Configuration

Both Panels Slide, Panel Sizes can be specified to match the primary window sash sizes.

Standard Format: Lower panel on front track closest to room, slides up in front of top panel which slides down behind the lower panel.

BVS Only This format can be reversed on request –i.e. top panel sliding down in front of lower panel.

BVS – Slide limit: Panels do not slide to the full centre interlock point, there is an approx. 60mm-150mm offset, subject to height width & weight ratio.

BVSG – Panels slide completely past each other. NOTE: not ideal for offset panel sizes, where the top panel is notably smaller than the lower panel, as access to the upper panel can be restricted

Panels removable

No

Unit Build Size

Min 300w x 600h,

Standard Max 6.8mm glass 1500mm x 3000mm

Ultra-Panel glass 8.8mm to 10.8mm glass Max 1400mm x 3000mm (note weight management)

Maximum Panel weight 48kgs

Glass

Standard glass 4mm toughened – Standard frame maximum glass thickness 6.8mm

Ultra-Panel glass thickness: 8.8mm to 10.8mm

Thermal Performance: Variable

Standard 2.7 wm^2K / *Low-E 1.8 wm^2K

Acoustic Performance: Variable

Mid-Range Spec* 48dB / High spec 54dB

Specification

- Aluminium 6063-T6 alloy BS EN 755-9 standard, power coated to BS 6496 to 60 - 80-micron finish
- Stock finish: White – RAL 9003 Satin.
- Finishing Trim included: 20mm White PVC-U single bullnose trim as standard. Painted PEFC timber available with colour units or upon request.
- Button Control Interlocker
- The Sub-Frame Primed high quality 2-coats, FSC Mix credit radiata pine clear grade, FSC mix credit TT-COC-002 157.
- Standard Sub-Frame sizes 43mm x 16mm & 62 mm 16 mm.
- All Frames are factory glazed.
- Standard gasket colour is white
- Lower Panel front track (room side) upper panel back track

In line with our company policy of continues product development and improvement Clearview reserves the right to minor alterations without notice.

Optional Extras

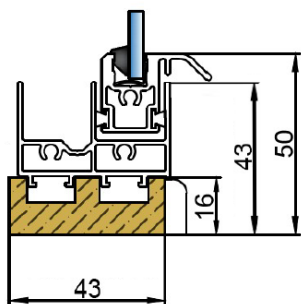
- Black Gasket
- Key Locking Button
- Travel Limit Stop
- Multi-unit coupling section for stacking connecting.
- Reverse panel sliding configuration.
- Trickle vents / acoustic trickle vents
- RAL colour options
- Timber bevelling for splayed reveals and bay formation. – *see options below*
- Wider finishing trim options
- Timber sizes other than standard

Frame Details

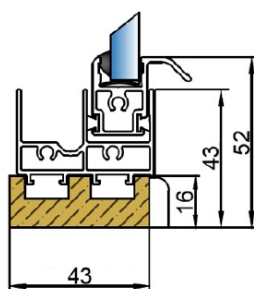
Standard
Sub-Frame
43 x 16mm



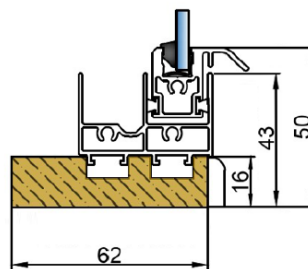
XL
Sub-Frame
62 x 16mm



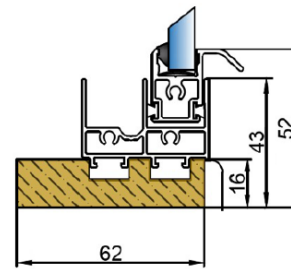
Standard Frame



Standard Frame
Ultra-Panel



XL Frame



XL Frame
Ultra-Panel

Fixing Options

Face Fixing:
Pre-drilled
Front-to-Back



Reveal Fixing:
Track Drilled on
site by installer.



Reveal Fixing:
Pre-drilled
through XL timber



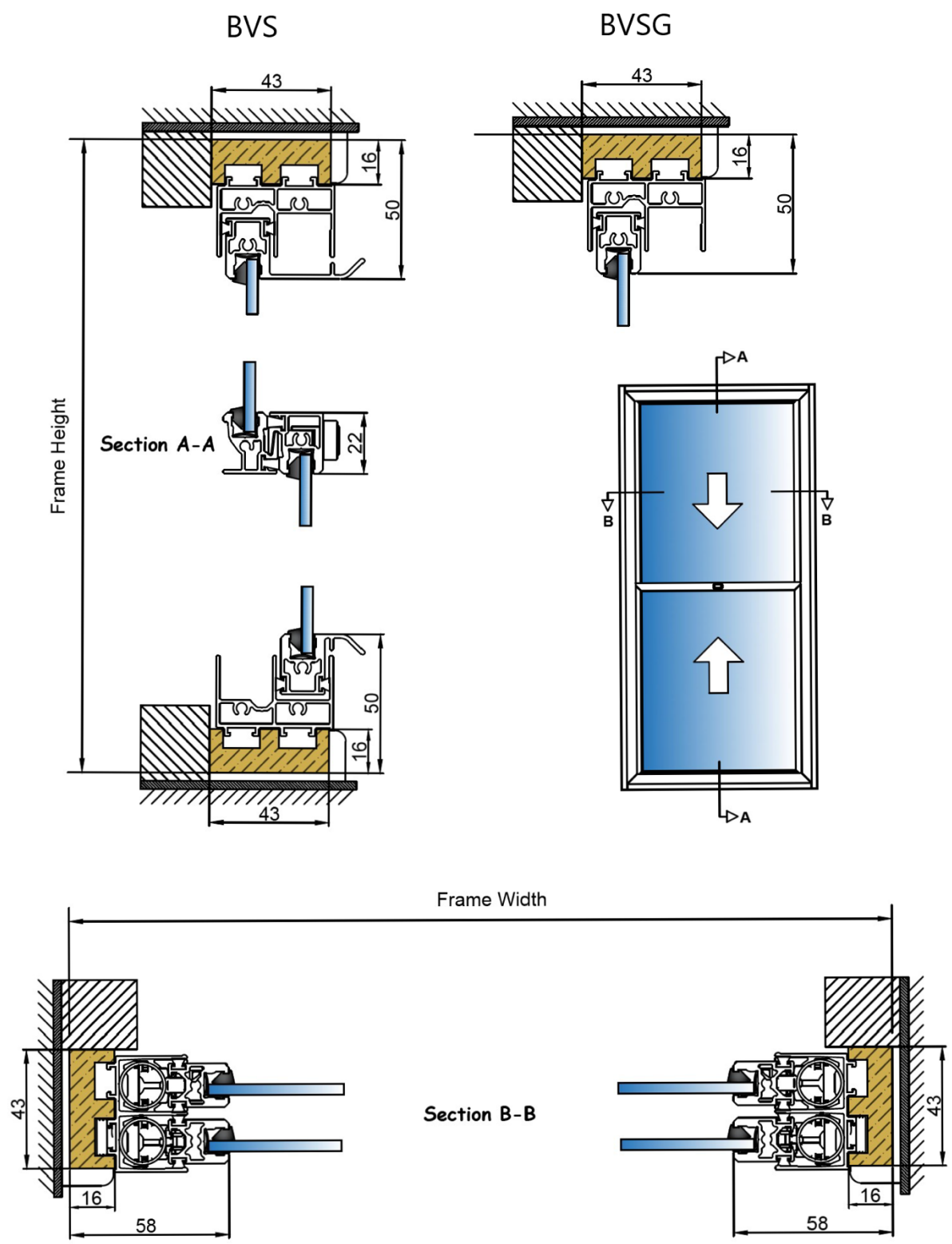
Images are for representation purposes only and may differ from some product options.

Product Range	Glass Options	Max Panel Weights (kgs)	Minimum Panel Dims		Maximum Panel Dims			Panel
			Size (mm)		Size (mm)		Area m²	Aspect Ratios
			Width	Height	Width	Height	Must not Exceed	Max Width to Height Ratio
Classic	4.0mm tough	14.5	175	175	1500	1800	1.45	1.5 : 1
Enhanced	6.0mm tough	45	175	175	1500	1800	3.00	1.5 : 1
Enhanced	6.4mm Laminate	45	175	175	1500	1800	2.81	1.5 : 1
Enhanced	6.8mm Laminate	45	175	175	1500	1800	2.65	1.5 : 1
Enhanced	8.8mm Laminate	45	175	175	1500	1800	2.04	1.5 : 1
Enhanced	10.8mm Laminate	45	175	175	1500	1800	1.66	1.5 : 1

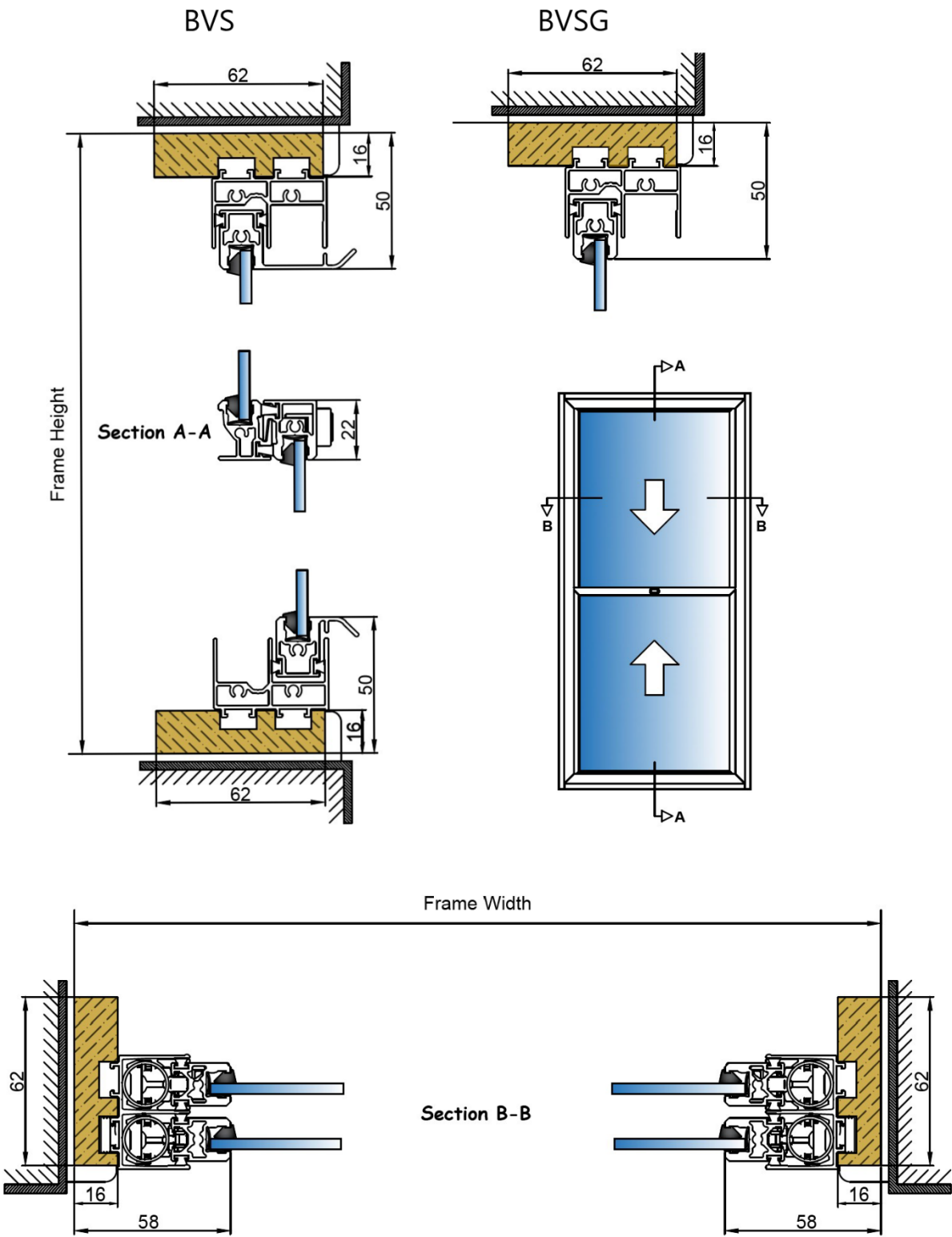
Product Range	Glass Options	Maximum Window Dimensions by Window Type								
		Standard			Reversable - Maximum Sizes			Slide Past - Maximum Sizes		
		Width (mm)	Height (mm)	Area (m²)	Width (mm)	Height (mm)	Area (m²)	Width (mm)	Height (mm)	Area (m²)
Classic	4.0mm tough	1575	3000	2.90	1500	3000	4.50	1500	3000	4.50
Enhanced	6.0mm tough	1575	3300	5.19	1575	3300	5.19	1575	3300	5.19
Enhanced	6.4mm Laminate	1575	3300	5.19	1575	3300	5.19	1575	3300	5.19
Enhanced	6.8mm Laminate	1575	3300	5.19	1575	3300	5.19	1575	3300	5.19
Enhanced	8.8mm Laminate	1575	3300	4.10	1575	3300	4.10	1575	3300	4.10
Enhanced	10.8mm Laminate	1575	3300	3.33	1575	3300	3.33	1575	3300	3.33

Product Range	Glass Options	Installation Options					
		Face Fix	Reveal	Reveal	Optional Deep	Bevels	Specials
		Through Timber	Fix Through Frame	Fix Through Timber	Reveal Fix Through Timber		
Classic	4.0mm tough	TIM-43x16	TIM-43x16	TIM-62x16	TIM-70x16	TIM-62x50	TIM-90x90
Enhanced	6.0mm tough	TIM-43x16	TIM-43x16	TIM-62x16	TIM-70x16	TIM-62x50	TIM-90x90
Enhanced	6.4mm Laminate	TIM-43x16	TIM-43x16	TIM-62x16	TIM-70x16	TIM-62x50	TIM-90x90
Enhanced	6.8mm Laminate	TIM-43x16	TIM-43x16	TIM-62x16	TIM-70x16	TIM-62x50	TIM-90x90
Enhanced	8.8mm Laminate	TIM-43x16	TIM-43x16	TIM-62x16	TIM-70x16	TIM-62x50	TIM-90x90
Enhanced	10.8mm Laminate	TIM-43x16	TIM-43x16	TIM-62x16	TIM-70x16	TIM-62x50	TIM-90x90

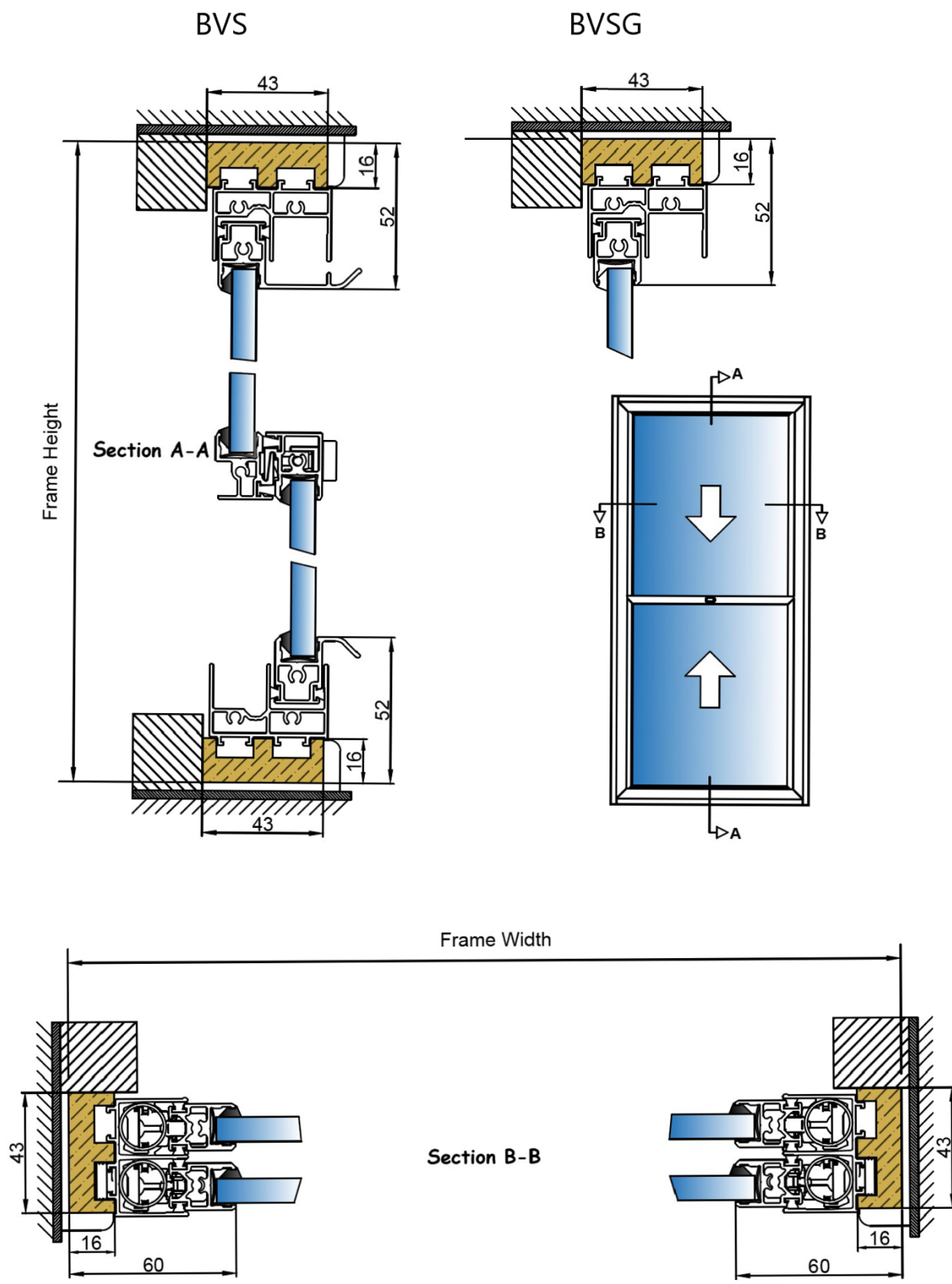
BVS & BVSG Standard Frame Diagram



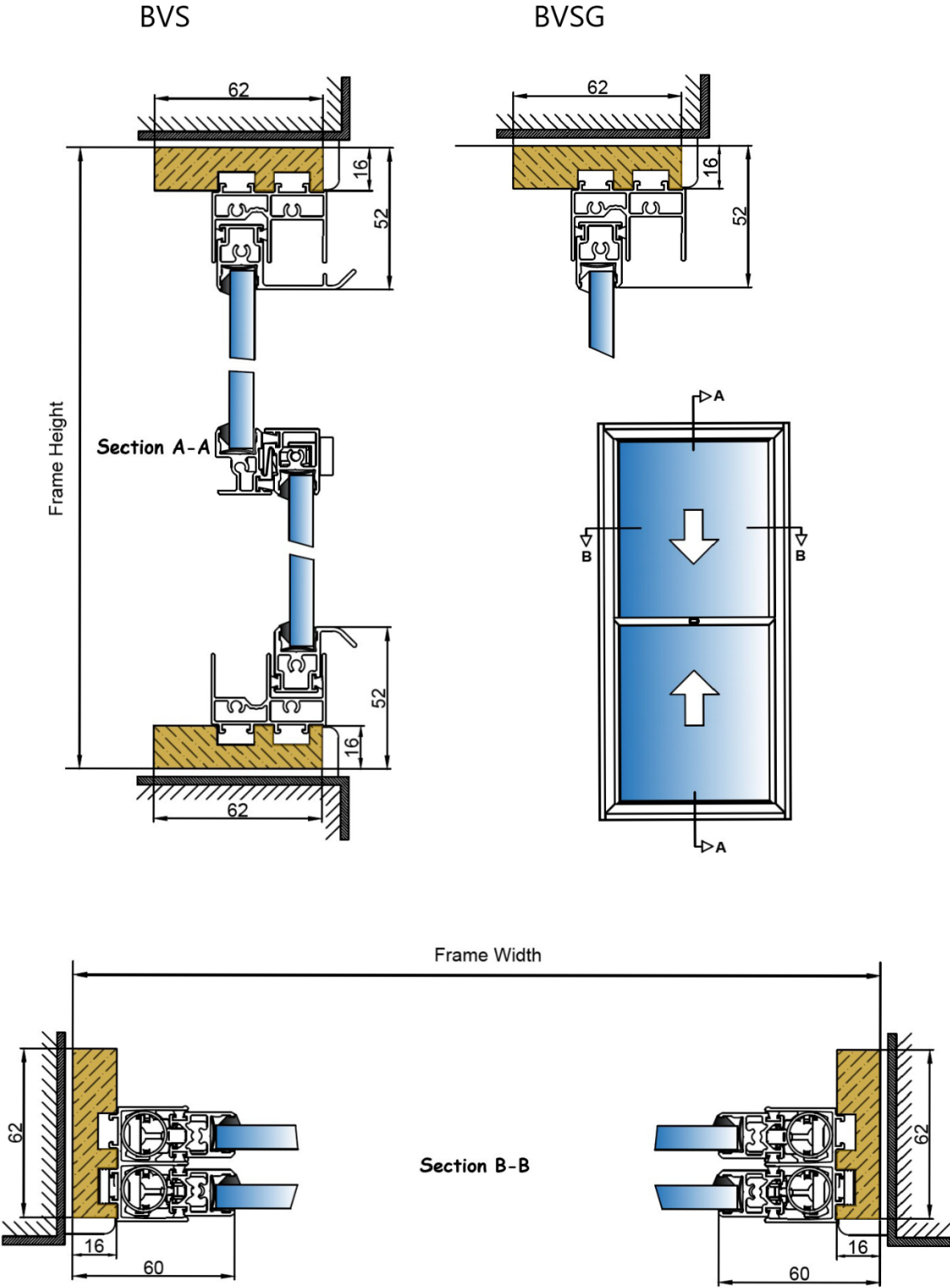
BVS XL & BVSG XL Frame Diagram



BVS Ultra & BVSG Ultra Frame Diagram



BVS Ultra XL & BVSG Ultra XL Frame Diagram



Timber Modification Options



Standard Timber Option



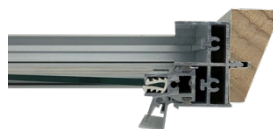
XL Timber Option



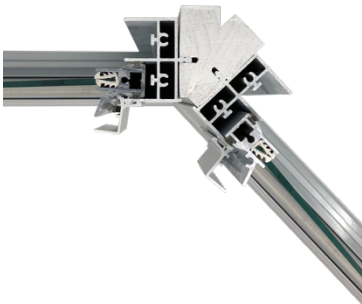
Bevelled Timber for Splayed Reveal



Example of Splayed Reveal



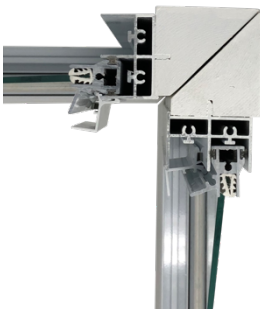
Angled Bay Bevelled Timber



Angled Bay Connected Timbers

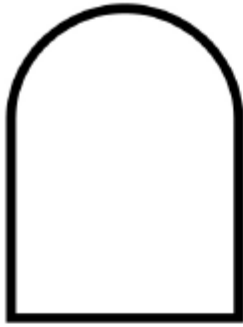


Square Bay Bevelled Timber

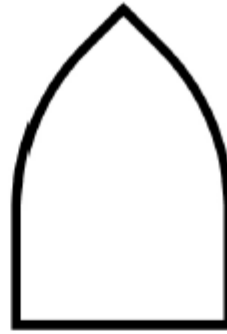


Square Bay Connected Timbers

Frame Shape Options



Standard Arch



Gothic Arch

Templates are required from the customer



Please get in touch with one of our friendly team today for help & advice.



Online Help Centre
[Visit our Online Help Centre >>](#)



Fast Quote
[Get a fast quote online >>](#)

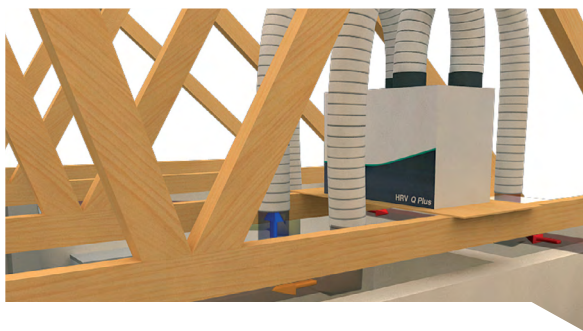


Email
info@clearviewsg.co.uk



Phone
0114 294 5018

Appendix D – MVHR System Information

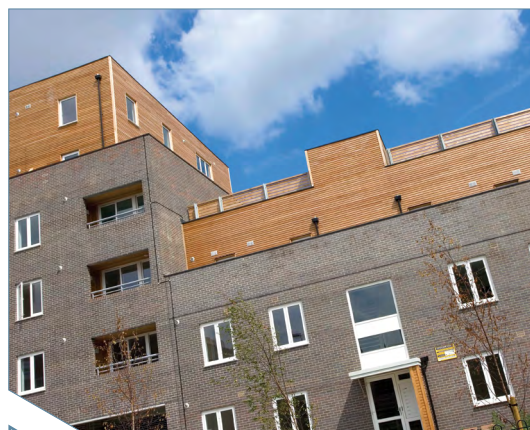
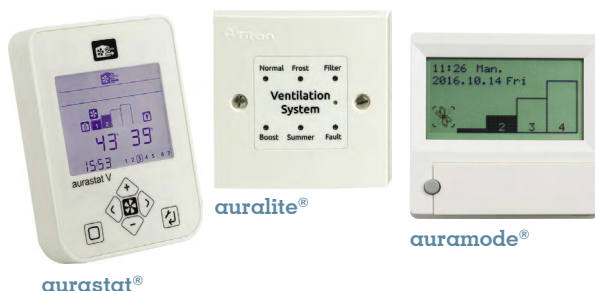


For use in large dwellings

The HRV10 Q *Plus* continuously running whole-house ventilation unit with heat recovery has been specifically designed to give improved performance over older models, in line with new build design requirements.

Combining extremely low power consumption and a highly efficient heat exchanger specifically designed to enhance SAP performance via Appendix Q and can be incorporated into larger apartments or dwellings.

The Eco versions offer a 100% airflow diverting Summer Bypass, recognised and listed in the UK Product Characteristics Database. They also include intelligent humidity options and can be fitted with auralite® status indicator or the auramode® and aurastat® controllers.



Features & Benefits

- Highly efficient heat exchanger; up to 92%
- Lightweight EPP construction giving high levels of thermal insulation
- Accepts 150mm diameter ducting
- Independent fan adjustment
- Intelligent frost protection, stepped reduction of supply air rates prevents HRV unit from freezing
- Setback facility to reduce ventilation where local regulations allow
- Fully adjustable boost overrun timer 0-60 minutes; can be used with nonlatching (momentary) switches to prevent unit from being accidentally left in boost mode
- Intelligent controller, quick and easy to commission
- EPP moulded 150mm low resistance insulated port adaptors included as standard
- Lightweight for easy handling
- Volt free switching control
- Pleated G4 filters as standard. F7 on request (Standard unit only)
- Metal cased version available (HRV10M Q *Plus*)
- Quick fix mounting bracket
- Patented features
- Effective in reducing pollutants in the home and improving Indoor Air Quality (IAQ), therefore reducing the risk of Toxic Home Syndrome

Basic version:

- Summer Mode

Eco versions:

- Intelligent Summer Bypass & humidity controls
- SUMMERboost® facility

Eco HMB Models:

- Compatible with auralite® (TP518) status indicator

Eco B Models:

- Compatible with Eco-Aura range; aurastat®, auramode® and auralite® (TP519) controllers
- Duct heater control (requires independent power supply)
- BMS compatible via RS485

Product Codes

HRV10 Q *Plus* -
TP440A - Energy Rating A

HRV10 Q *Plus* HMB Eco auralite® ready -
TP440HMB - Energy Rating A

HRV10 Q *Plus* B Eco-Aura controls ready -
TP480B - Energy Rating A+

HRV10M Q *Plus* -
TP441A - Energy Rating A

HRV10M Q *Plus* HMB Eco auralite® ready -
TP441HMB - Energy Rating A

HRV10M Q *Plus* B Eco-Aura controls ready -
TP481B - Energy Rating A+

Filters:

XP44022/099 - G4 Filter set fitted as standard

Eco versions:

XP44023/099 - G4 Bypass filter set fitted as standard

XP46223/099 - G4/F7 Filter available on request

Standards

Conforms to requirements of UK statutory Building Regulations and Technical Standards for Ventilation and BRE 398.

SAP Appendix Q tested
(<http://www.ncm-pcdb.org.uk/sap/pcdbsearch.jsp?pid=34>)

Exceeds requirements of Building Regulations Approved Document L (England & Wales).

EU RoHS Directive compliant.

Conforms to requirements of EC council directives relating to Electromagnetic Compatibility and Electrical Safety:

2006/95/EC (LVD), 2004/108/EC (EMC)
EN 60335-1:2002/A2:2006, EN 60335-2- 80:2003/A1:2004. CE Marked.

Specification

Dimensions: HRV10 Q *Plus* - 790mm wide x 665mm high (excluding ports) x 485mm deep (495mm with mounting bracket). HRV10M Q *Plus* 800mm wide x 675mm high (excluding ports) x 495mm deep (505mm with mounting bracket).

Weight: HRV10 Q *Plus* – 17.5kg, HRV10M Q *Plus* – 31kg.

Finish: HRV10 Q *Plus* – Black EPP, HRV10M Q *Plus* – White Paint.

Materials: Expanded polypropylene (EPP), Heat Exchanger – Polystyrene, Internal Insulation – Closed cell foamed, Nitrile rubber, class 'O' fire rating, Standard filters: Grade G4 pleated panel filters. NB: Except HRV10.25M Q *Plus* Housing – Zintec sheet steel, powder coated.

Guarantee period: 3 years (UK only).

Electrical: 230V ~ 50/60Hz, 5A fuse.

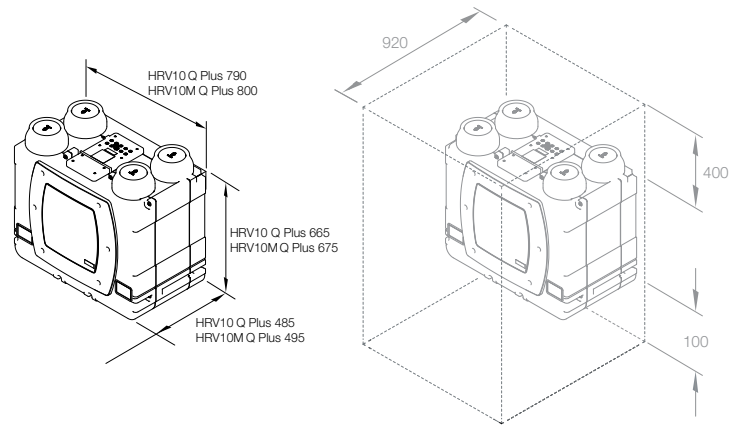
Installation: Install in accordance with regulatory requirements, such as the Domestic Ventilation Compliance Guide (England & Wales) and the Residential Ventilation Association recommendations.

Acoustic Data

Product	% of Max flow	Airflow	dB(A) @ 3m Hemispherical			dB(A) @ 3m Spherical	
			Induct Inlet	Induct Outlet	Casing Breakout	Casing Breakout	
HRV10 Q <i>Plus</i> Eco	41%	44l/s @ 22Pa	27	38	27	24	
	69%	75l/s @ 51Pa	36	48	37	34	
	100%	108l/s @ 100Pa	43	57	51	48	
HRV10M Q <i>Plus</i> Eco	41%	44l/s @ 22Pa	27	38	23	20	
	69%	75l/s @ 51Pa	36	48	33	30	
	100%	108l/s @ 100Pa	43	57	46	43	

For full frequency acoustic data at various speeds please see www.titon.co.uk. All acoustic data is third party tested at Sound Research Laboratories (SRL) Ltd.

Drawing & Dimensions



Performance

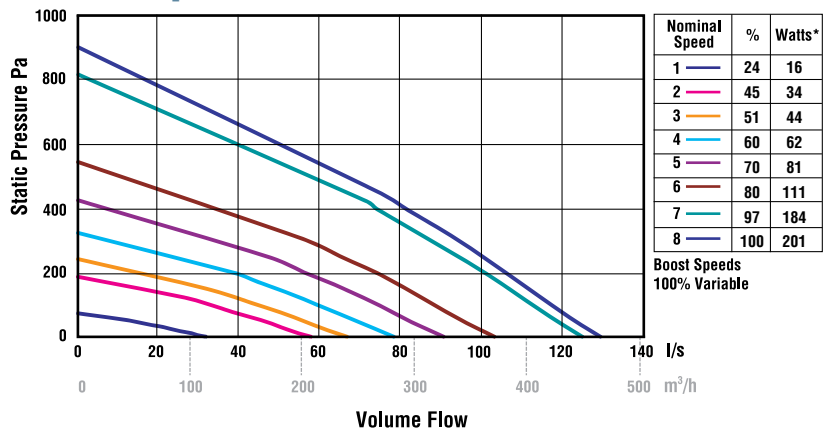
The figures and compliance levels below relate to current SAP requirements. Revised SAP guidance will have an effect on performance and up-to-date figures can be found on the relevant product page at www.titon.co.uk.

Exhaust terminal configuration*	Fan speed setting	Specific fan power (W/l/s)	Heat exchange efficiency (%)
Kitchen + 1 additional wet room	100% variable	0.52	92
Kitchen + 2 additional wet rooms	100% variable	0.48	92
Kitchen + 3 additional wet rooms	100% variable	0.51	92
Kitchen + 4 additional wet rooms	100% variable	0.55	91
Kitchen + 5 additional wet room	100% variable	0.62	91
Kitchen + 6 additional wet room	100% variable	0.74	90
Kitchen + 7 additional wet room	100% variable	0.87	89

Figures taken from the BRE Test Results

*Number of wet rooms is based on SAP Q test criteria and does not correlate directly with regulatory performance requirements.

Nominal fan performance



*@ FID (0 Pa).
All units offer 100% variable speed control.
Performance curves for Eco version.

Acoustic data



Standard: BS EN 13141-7:2010

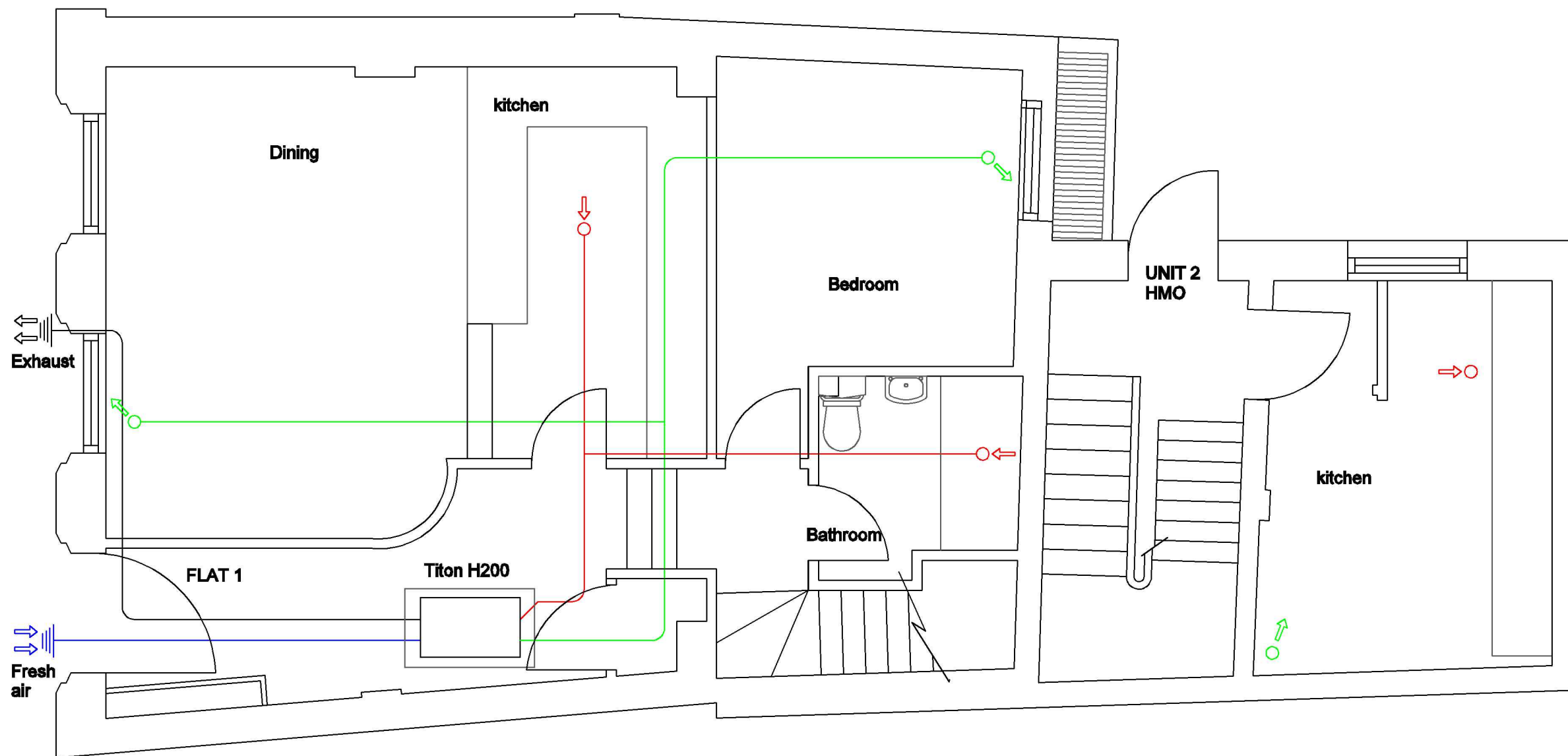
Product **HRV10 Qplus**

		'A' Weighted Sound Power Levels dB re. 1pW							Overall L _W	Overall L _{WA}	Casing Breakout dBA @ 3m
		Frequency Hz									
Speed		125	250	500	1k	2k	4k	8k			
1	Outlet	17	22	26	21	16	18	23	37	30	12
	Inlet	13	18	19	16	16	18	23	32	27	
	Breakout	17	22	25	21	18	18	22	36	30	
3	Outlet	38	46	46	46	41	30	24	59	52	28
	Inlet	28	35	29	27	25	20	23	47	38	
	Breakout	35	42	40	38	34	25	23	55	46	
5	Outlet	41	54	58	58	56	47	38	66	63	39
	Inlet	26	40	39	37	38	28	23	51	45	
	Breakout	37	54	50	48	48	39	28	64	57	
8	Outlet	46	57	70	67	64	57	48	75	73	47
	Inlet	32	41	52	45	45	37	27	57	54	
	Breakout	42	52	63	56	55	48	36	68	65	

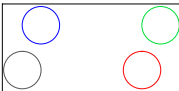
Measurements taken at full speed with a resistance of 50Pa, then at the nominal speed settings of the unit and corresponding pressure.

Inlet and outlet levels are Induct

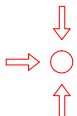
MD0122a-01 20/07/12



Notes/Key



HRV Unit



Extract Vent



Supply Vent



Extract Duct



Supply Duct



Fresh Air Intake

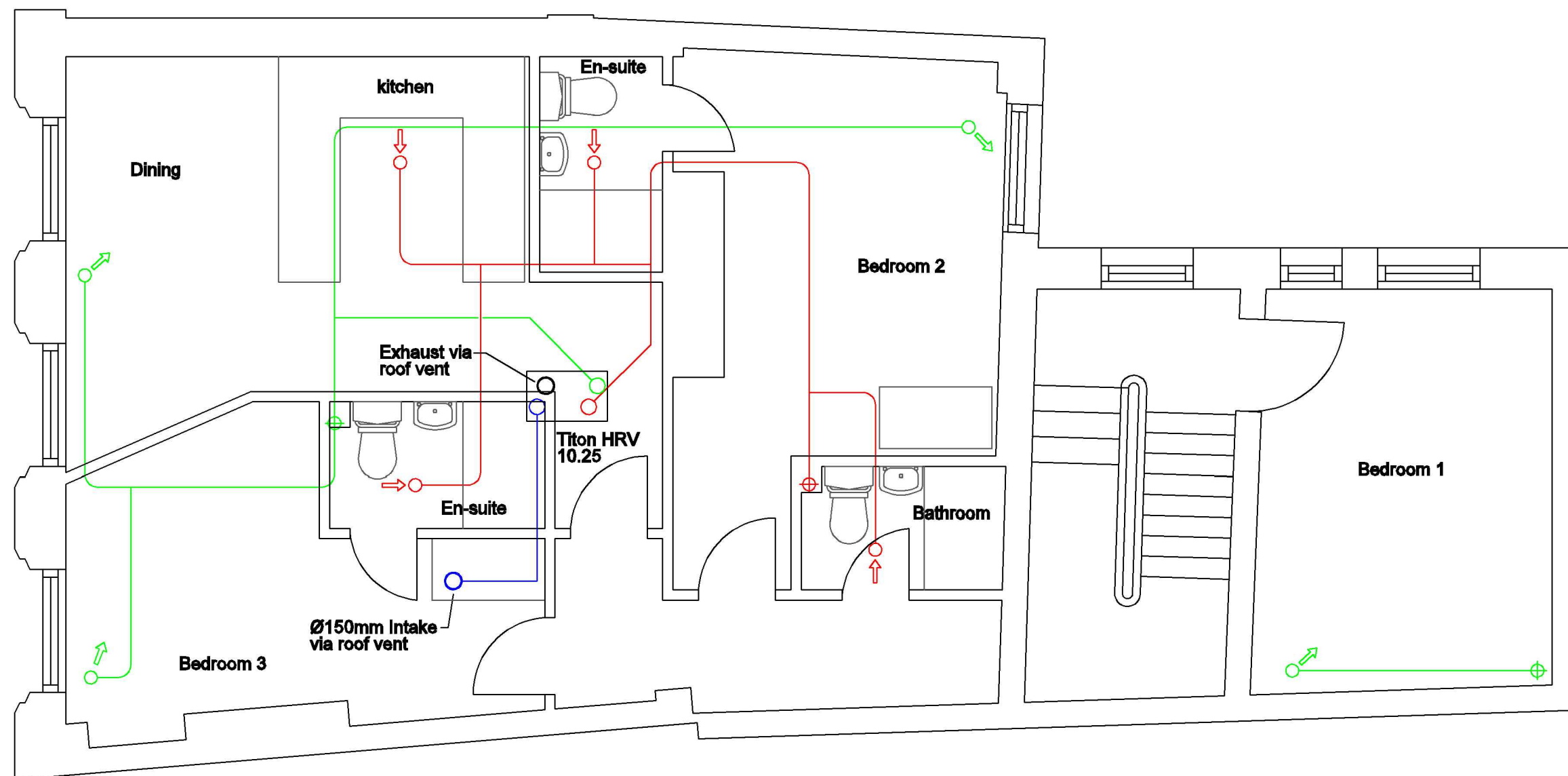


Exhaust Duct

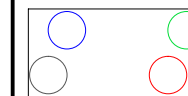


Acoustic Duct

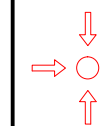
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For Client Comments		11/06/2022	
Quest4Systems Ground Floor, Agriculture House, Beech Business Park, Hereford. HR4 9QJ			
Project Name			
41A London Street, Reading.			
Drawing Name			
Heat Recovery and Ventilation System Ground Floor Layout			
Date	Drawn	Check	Scale
11/06/20	SAC	SF	1:50
Project No.		Sheet	Revision
LSR-01		1 of 1	1



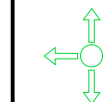
Notes/Key



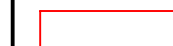
HRV Unit



Extract Vent



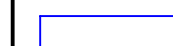
Supply Vent



Extract Duct



Supply Duct



Fresh Air Intake



Exhaust Duct



Acoustic Duct

Drawing Status	Issue Date
For Client Comments	11/06/2022

Quest4Systems
Ground Floor,
Agriculture House,
Beech Business Park,
Hereford. HR4 9QJ

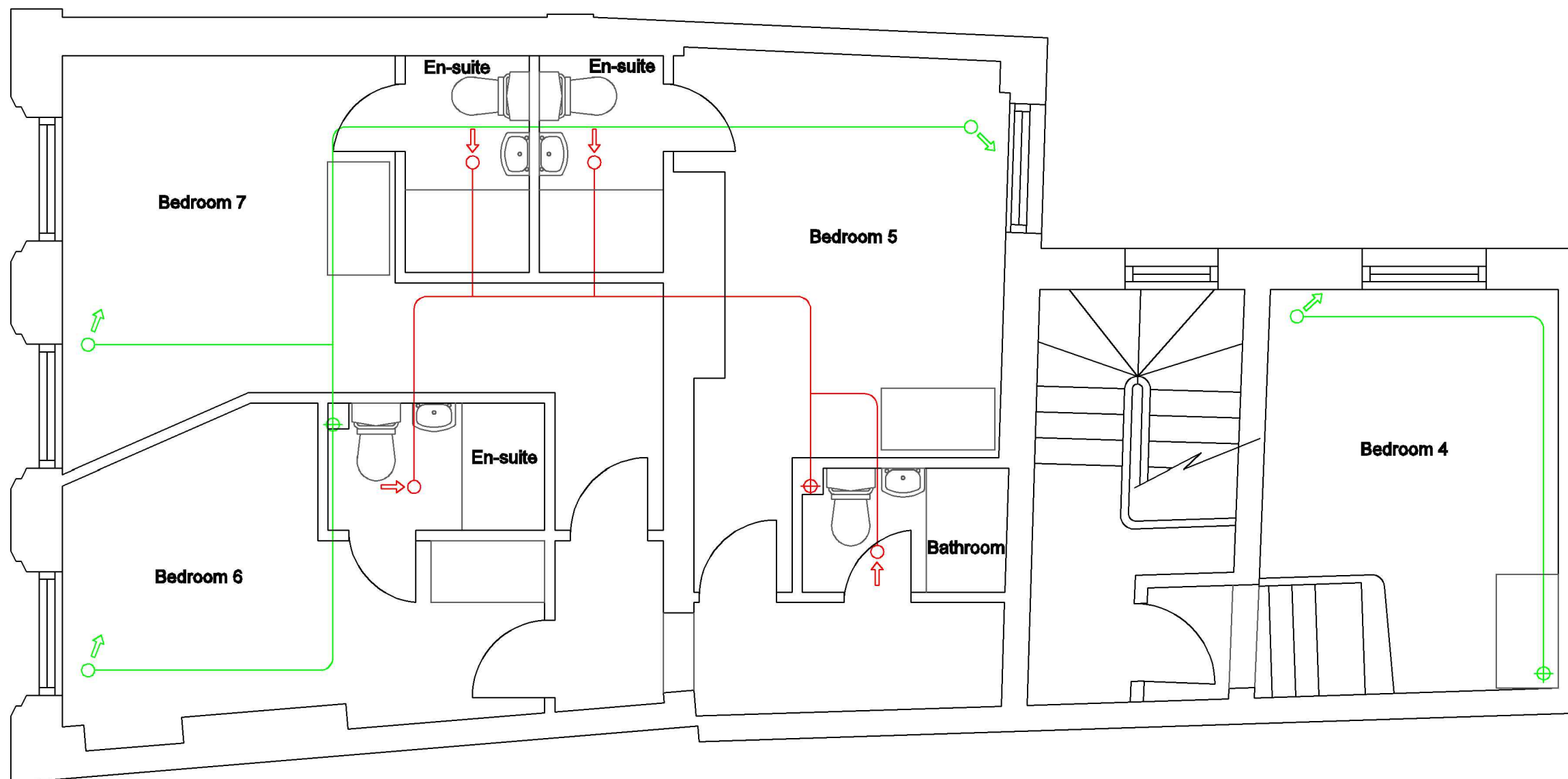
Project Name

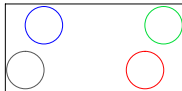
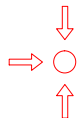
41A London Street,
Reading.

Drawing Name
Heat Recovery and Ventilation System
First Floor Layout

Date	Drawn	Check	Scale
11/06/20	SAC	SF	1:50

Project No.	Sheet	Revision
LSR-02	1 of 1	1



Notes/Key				
				HRV Unit
				Extract Vent
				Supply Vent
				Extract Duct
				Supply Duct
				Fresh Air Intake
				Exhaust Duct
				Acoustic Duct
Drawing Status		Issue Date		
For Client Comments		11/06/2022		
Quest4Systems Ground Floor, Agriculture House, Beech Business Park, Hereford. HR4 9QJ				
Project Name				
41A London Street, Reading.				
Drawing Name				
Heat Recovery and Ventilation System Second Floor Layout				
Date	Drawn	Check	Scale	
11/06/20	SAC	SF	1:50	
Project No.		Sheet	Revision	
LSR-03		1 of 1	1	