Little Paxton

Noise Mitigation

Verification Report & Welcome Pack

BLOOR HOMES®

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1. Introduction

Introduction

This verification report and welcome pack have been prepared to verify the details associated with the noise mitigation scheme for plots 212–216 and 219–220 at the Bloor Homes development off Great North Road, Little Paxton, associated with application reference 22/01594/OUT.
This document has been prepared to address conditions 19 and 20 of the outline planning permission. The condition wording states:

Condition 19:
"The development shall not be occupied until a verification/validation report, prepared by a suitably qualified consultant, demonstrating full compliance with the noise mitigation scheme (and ventilation scheme where required) approved under condition 18, has been submitted to and approved in writing by the local planning authority."

Condition 20:
"Prior to occupation of the first residential dwelling, details of a Welcome Pack to be provided to all new residents, detailing the sound attenuation and mechanical ventilation measures incorporated within the dwellings as agreed under condition 18, including their function, care, and maintenance, shall be submitted to and approved in writing by the Local Planning Authority. The approved Welcome Pack shall be made available to all occupiers prior to the first occupation of each dwelling."

In conjunction with the retained noise consultant Noise.co.uk, the ventilation supplier Vent-Axia, and our selected window supplier for the development, Solex, it is proposed that the strategy outlined below should be deemed suitable to demonstrate compliance with the approved Noise Mitigation Scheme under approved Condition 18.

By way of this verification report, which confirms the installation of the noise mitigation measures supplied by Vent-Axia and Solex, as recommended within the approved Noise Mitigation Scheme, it can be confirmed that the measures have been appropriately installed in accordance with the manufacturer's instructions.

This report also confirms that the identified products, installed within plots 212-216 and 219-220, serve as the Verification and Welcome Information Packs required under Condition 20. These packs will be made available to new residents as part of the New Homes Pack issued upon purchase and will also be explained in detail during the standard Home Demonstration, which includes a walk-through of the installed noise mitigation measures and their operation.

2. Noise Report Extracts

3. Executive Summary

3.1.1. An environmental noise assessment has been carried out for a proposed residential development at Site off Great North Road, Little Paxton, ("Proposed Development").

3.2. Measurement, Assessment and Evaluation

3.2.1. The survey was carried out to BS7445-1:2003[1] and BS7445-2:1991[2] which are covered under our UKAS Accreditation.

3.2.2. The interpretation of the data and the specification of suitable mitigation or treatment are outside the scope of our UKAS accreditation but is covered in our 17025 Quality Management System and reporting procedure.

3.3. Noise Mitigation

3.3.1. The single figure glazing and ventilator sound insulation performance predicted to achieve the internal design criteria are summarised in Table 7. It should be noted that these sound insulation performance specifications are based on laboratory sound insulation measurements of the components involved. The glazing performance has been specified in terms of the road traffic corrected weighted sound reduction index, $R_w + C_{tr}$, and the ventilator performance has been specified in terms of the road traffic corrected element normalised level difference $D_{ne,w} + C_{tr}$.

Living rooms (Daytime)	Bedrooms (Night-time)
32dB $R_w + C_{tr}$ /38dB $D_{ne,w} + C_{tr}$	29dB $R_w + C_{tr}$ /35dB $D_{ne,w} + C_{tr}$

Table 1 – Required facade sound insulation (Glazing/Ventilator)

[1] BS7445-1:2003 "Description and measurement of environmental noise – Part 1: Description of quantities and procedures"
[2] BS7445-2:1991 "Description and measurement of environmental noise – Part 2: Guide to the acquisition of data pertinent to land use"



All information above is taken from the Environmental Noise Assessment Report, produced by Noise.co.uk. Last amended: 12th December 2023.

Report reference: 22141-1-R3

Predicted facade sound insulation specification (Glazing/Ventilator)

Living rooms (Daytime)	Bedrooms (Night-time)
32dB $R_w + C_{Tr}$ /38dB $D_{ne,w} + C_{Tr}$	29dB $R_w + C_{Tr}$ /35dB $D_{ne,w} + C_{Tr}$

Revision.

Job.	LITTLE PAXTON EMPLOYMENT LAND
Title.	NOISE MITIGATION PLAN
Scale. 1:500 @ A2	Drawn. HB
Date. APR 2024	Checked.

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TELEPHONE 01604 6844000 FACSIMILE 01604 684401

Drawing No.	Rev.
SM05413-SL-200	

11. Noise Mitigation

11.1. Methodology

11.1.1. Based on the measured and predicted free-field sound pressure levels at the worst affected facades, the simple calculation method from BS8233:2014 has been used to determine the sound reduction required to meet the internal ambient noise levels detailed in Table 4 in BS8233: 2014. Standard forms of construction are assumed such that the sound insulation provided by the glazing is likely to be the lowest performing facade element.

11.2. Noise Mitigation Specification

11.2.1. The single figure glazing and ventilator sound insulation performance predicted to achieve the internal design criteria are summarised in Table 7. It should be noted that these sound insulation performance specifications are based on laboratory sound insulation measurements of the components involved. The glazing performance has been specified in terms of the road traffic corrected weighted sound reduction index, $R_w + C_{tr}$, and the ventilator performance has been specified in terms of the road traffic corrected element normalised level difference $D_{ne,w} + C_{tr}$.

Living rooms (Daytime)	Bedrooms (Night-time)
32dB $R_w + C_{tr}$ /38dB $D_{ne,w} + C_{tr}$	29dB $R_w + C_{tr}$ /35dB $D_{ne,w} + C_{tr}$

Table 7 – Predicted facade sound insulation specification (Glazing/Ventilator)

11.3. Glazing and Ventilator Sound Insulation Specifications

11.3.1. The glazing and ventilator performance has been specified based on the performance data provided by Saint-Gobain and Greenwood Airvac. These are suggested configurations and any other glazing and vent combination can be used provided it achieves the minimum performance levels given in Table 7. The example glazing configuration is given in Table 8.

Living rooms (Daytime)	Bedrooms (Night-time)
Saint Gobain 4(6)10	Saint Gobain 4(12)6

Table 8 - example glazing configurations that have suitable documented lab test certification.

11.3.2. Should penetrations be required for ventilation purposes our predicted ventilator sound insulation performance is calculated to complement the above example glazing configuration and are summarised in Table 9[8].

Living rooms (Daytime)	Bedrooms (Night-time)
Greenwood 5000EAW.AC2	Greenwood 5000EAW.AC1

Table 9 - example ventilator configurations..

11.3.3. Given the assumptions used the information in this section should be treated as general guidance only. The acoustic performance of third party products cannot be guaranteed by noise.co.uk.

[8] The specification provides an equivalent area of at least 5000mm^2. It should be checked by a suitably qualified person that this ventilator specification meets the requirements of the current Approved Document F.

3. Ventilation Designs (For Each Affected Plots)

LITTLE PAXTON EMPLOYMENT LAND
PURGE VENTILATION ADDENDUM DOCUMENT

THIS ADDENDUM DOCUMENT IS FOR THE PURGE VENTILATION STRATEGY ONLY
PLEASE REFER TO WORKING DRAWING PACK FOR DMEV (STANDARD) VENTILATION DESIGNS REQUIRED FOR THE REST OF THE PLOT.

COMMERCIAL TO ORDER PURGE VENTILATION FROM THIS PACKAGE ONLY. A LINK TO THE STANDARD VENTILATION IS AVAILABLE ON THE WORKING DRAWING PACKAGE.
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DOVER - M496

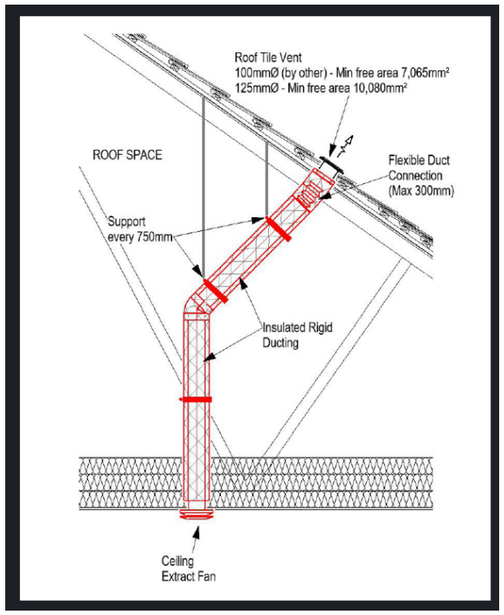
- PLOT 212

01 FIRST FLOOR PLAN

02 TRUSS LAYOUT

03 ELEVATIONS

PURGE VENTILATION RATE TABLE (AS)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	15 L/S	1
2	10 L/S	1
3	35 L/S	2
4	35 L/S	2
5	-	-



PLOT 212

BLOOR HOMES

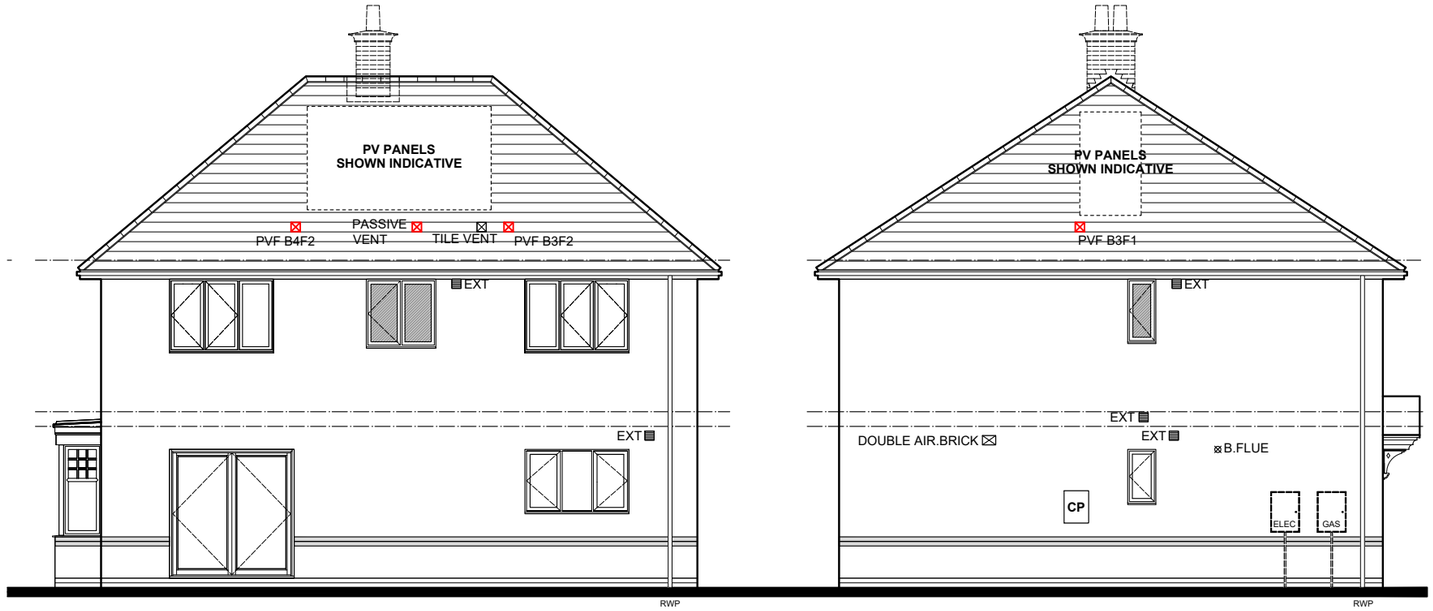
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FRONT ELEVATION

SIDE ELEVATION



REAR ELEVATION

SIDE ELEVATION

PURGE VENTILATION RATE TABLE (AS)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	15 L/S	1
2	10 L/S	1
3	35 L/S	2
4	35 L/S	2
5	-	-

Vent-Axia

PRINT PAGE

PLOT 212

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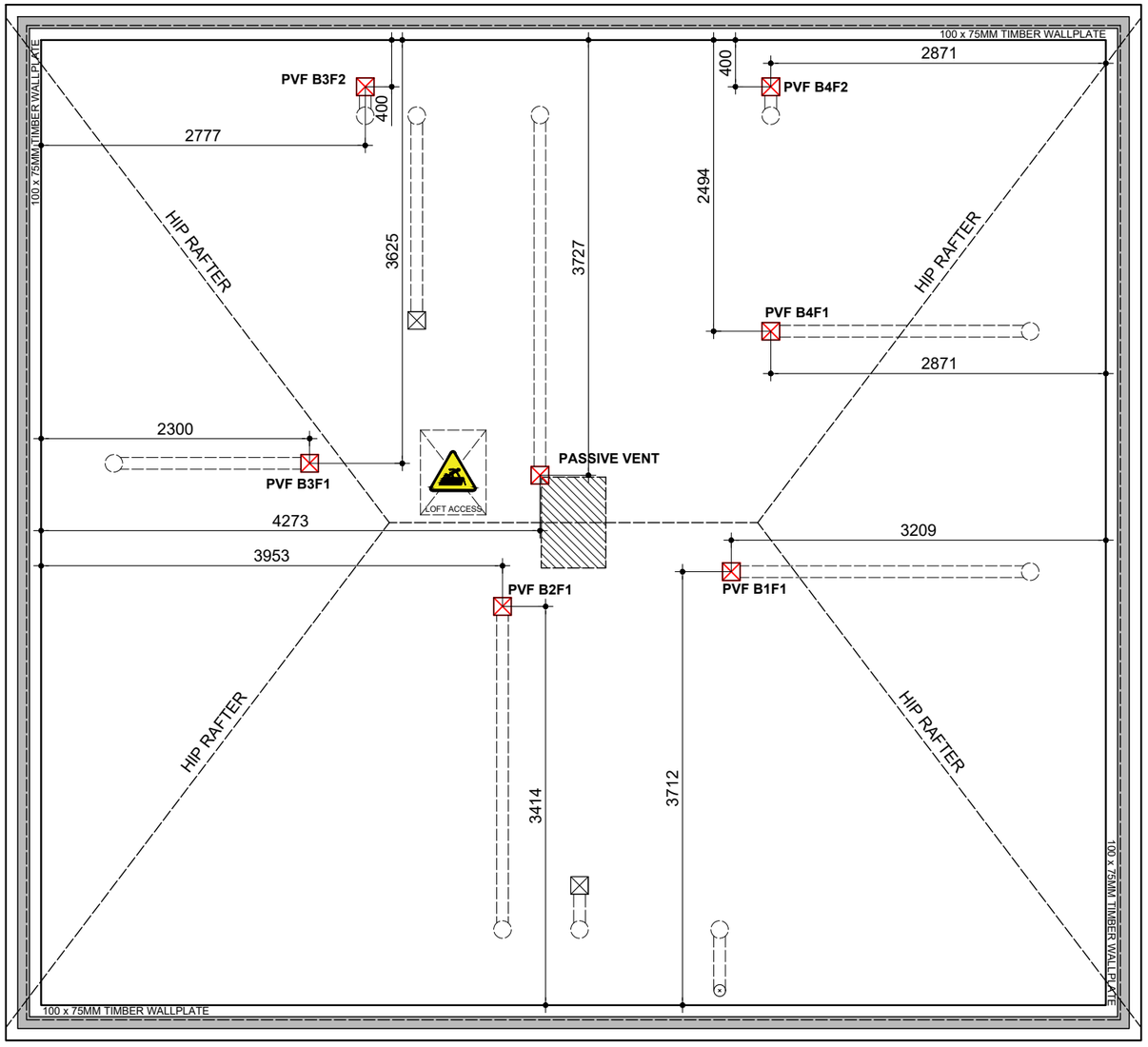
BLOOR HOMES

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DRAWN: TS
CHECKED: JT

NAME: DOVER
DRAWING: ELEVATIONS

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MAIN ROOF 47.5°

TRUSS SETTING OUT

PLOT 212

PURGE VENTILATION RATE TABLE (AS)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	15 L/S	1
2	10 L/S	1
3	35 L/S	2
4	35 L/S	2
5	-	-

Vent-Axia

PRINT PAGE

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BLOOR HOMES

NAME: DOVER

DRAWING: TRUSS LAYOUT

DRG NO.: LITTLE PAXTON E

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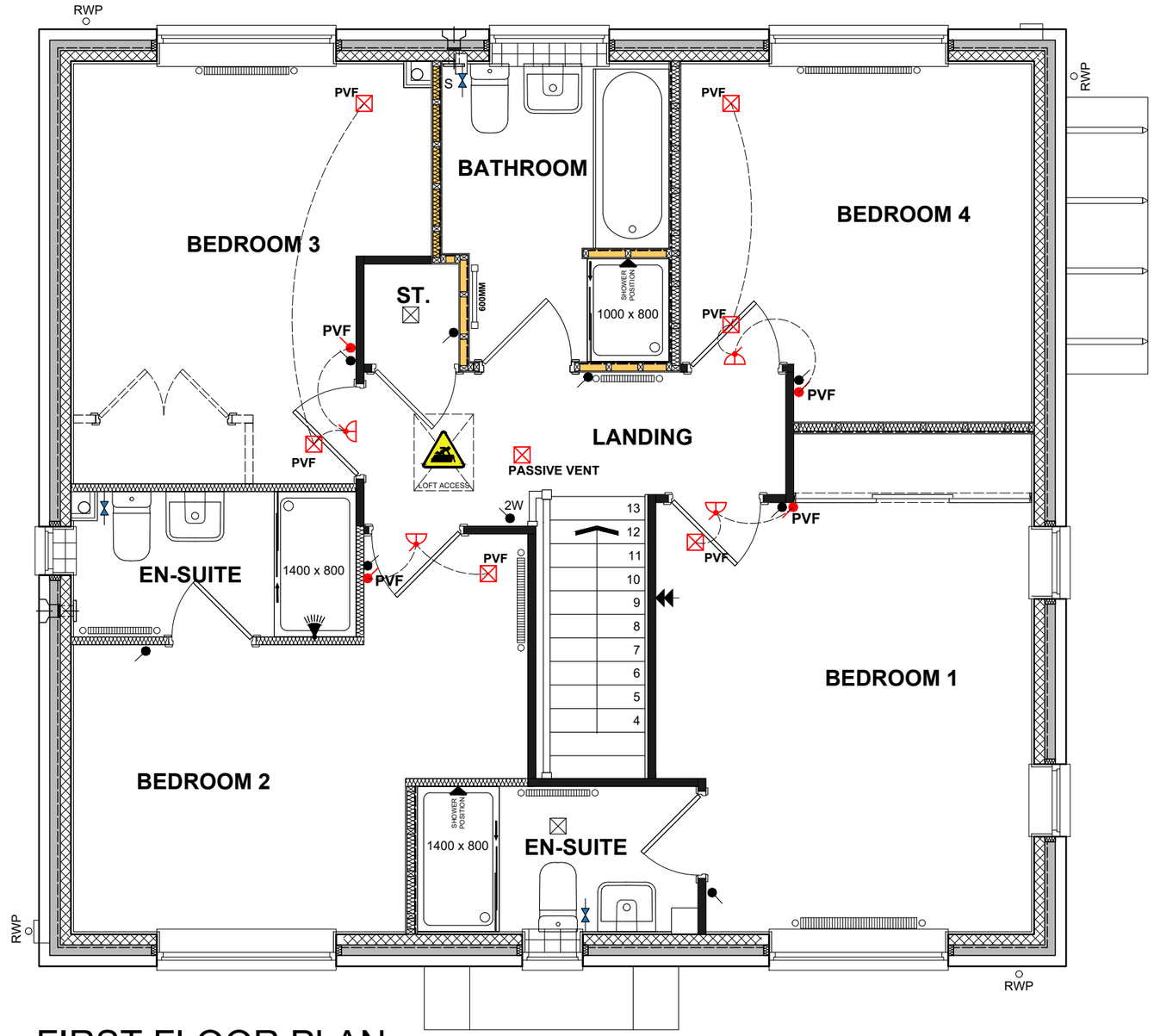
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FIRST FLOOR PLAN

PURGE VENTILATION RATE TABLE (AS)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	15 L/S	1
2	10 L/S	1
3	35 L/S	2
4	35 L/S	2
5	-	-

Vent-Axia

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PLOT 212

REV: 7 JUN 2024

PURGE ADDED TO BED 1, 2 AND 3

BLOOR HOMES

NAME: DOVER

DRAWING: FIRST FLOOR LAYOUT

DRG NO.: LITTLE PAXTON EMPLOYMENT LAND

SCALE: 1:50 @ A3

DATE: JUN 2024

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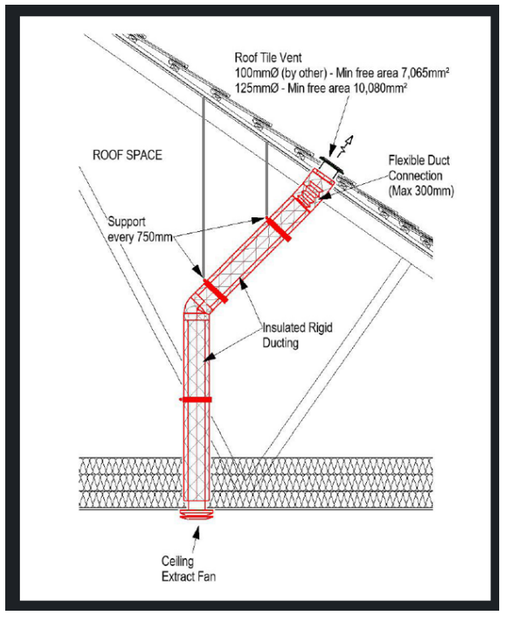
KESWICK - M386/M386-1

- PLOT 210 - 211

01 FIRST FLOOR PLAN
02 TRUSS LAYOUT
03 ELEVATIONS

PURGE VENTILATION RATE TABLE (AS)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	10 L/S	1
2	30 L/S	2
3	15 L/S	1
4	-	-
5	-	-

PURGE VENTILATION RATE TABLE (OPP)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	10 L/S	1
2	30 L/S	2
3	20 L/S	1
4	-	-
5	-	-

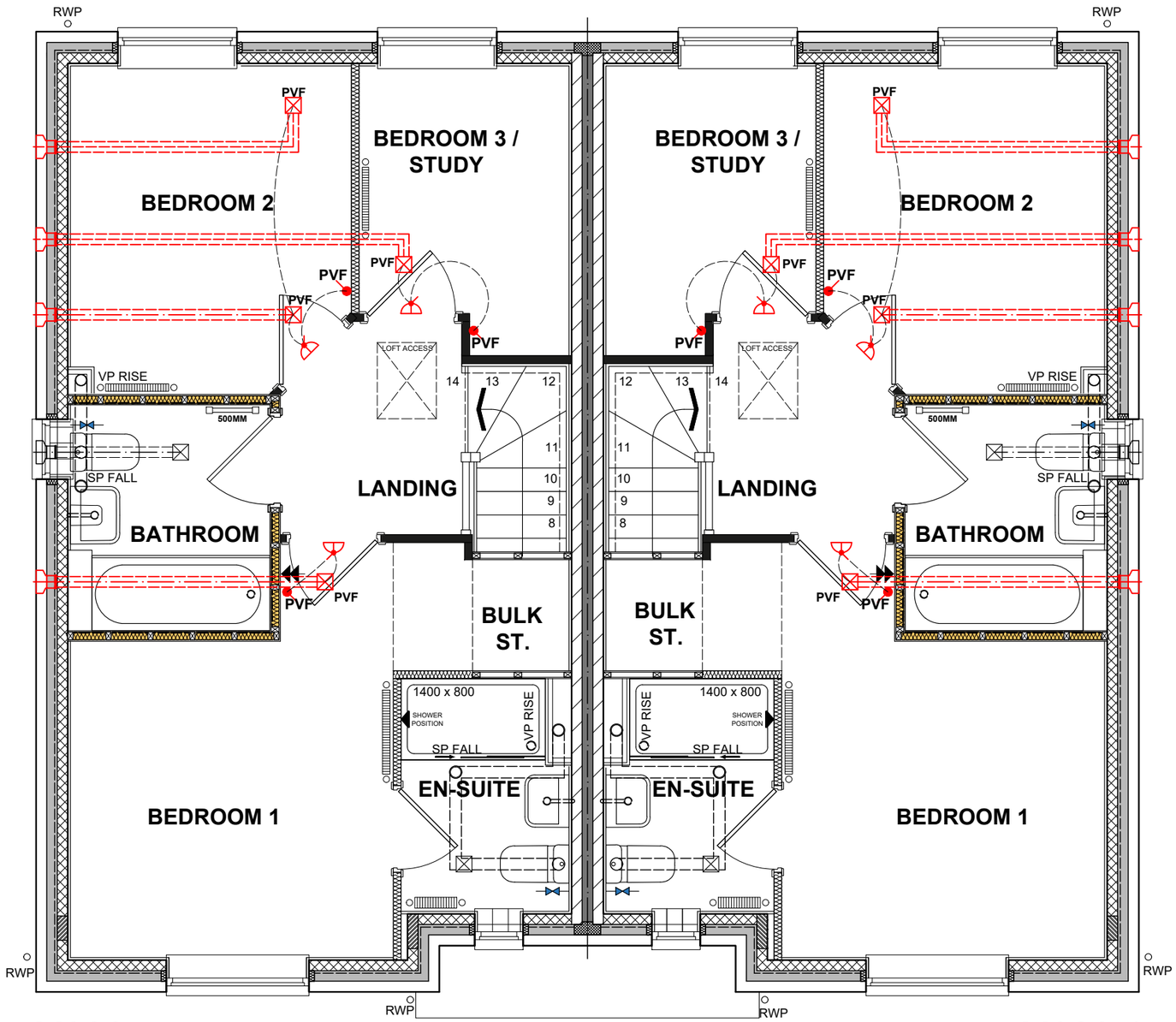


PLOT 210 - 211

BLOOR HOMES

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M386
FIRST FLOOR PLAN

M386-1

PLOT 210 - 211

PURGE VENTILATION RATE TABLE (AS)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	10 L/S	1
2	30 L/S	2
3	15 L/S	1
4	-	-
5	-	-

PURGE VENTILATION RATE TABLE (OPP)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	10 L/S	1
2	30 L/S	2
3	20 L/S	1
4	-	-
5	-	-

Vent-Axia

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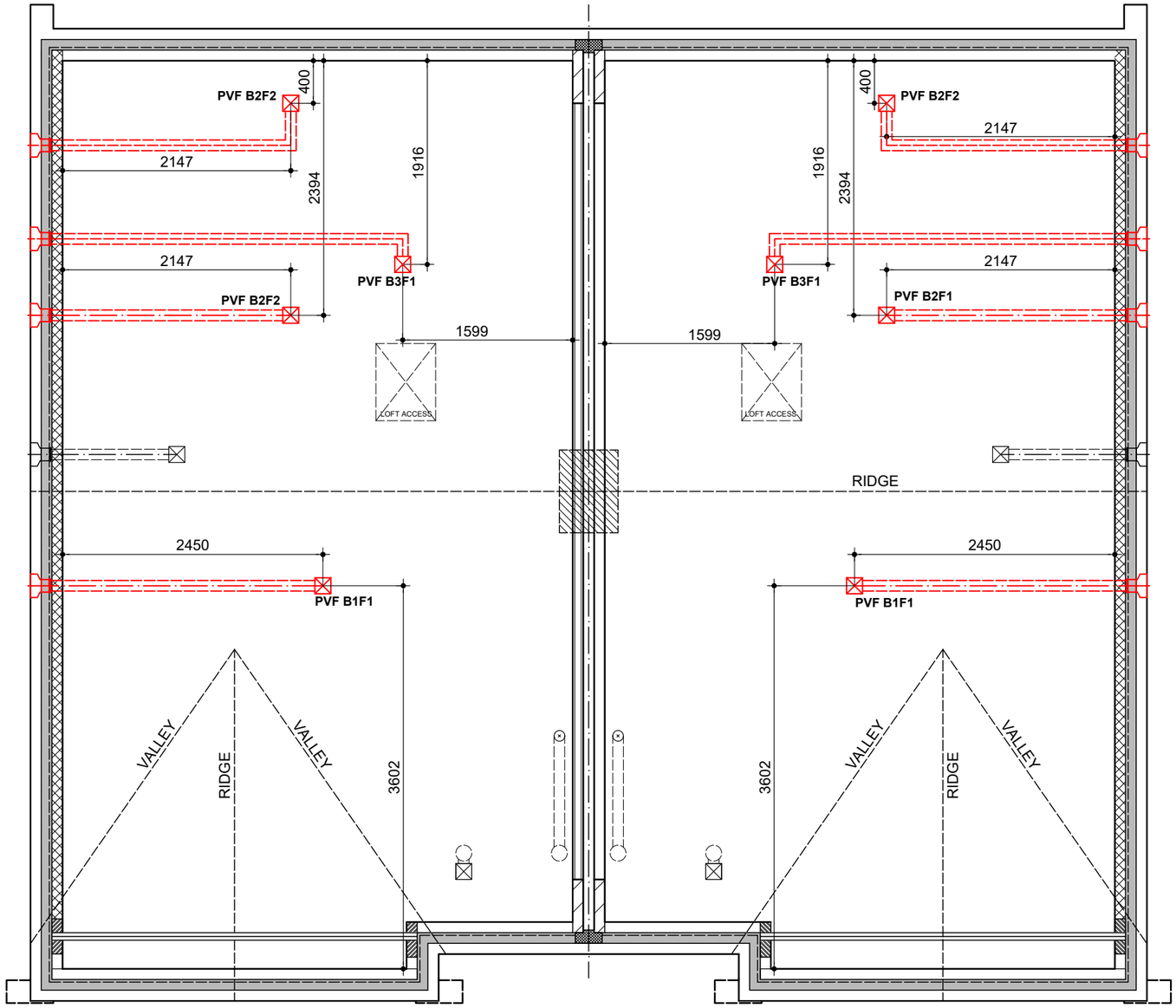
BLOOR HOMES

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DRAWN: TS
CHECKED: JT

NAME: KESWICK
DRAWING: FIRST FLOOR LAYOUT

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M386
TRUSS SETTING OUT

M386-1

PLOT 210 - 211

PURGE VENTILATION RATE TABLE (AS)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	10 L/S	1
2	30 L/S	2
3	15 L/S	1
4	-	-
5	-	-

PURGE VENTILATION RATE TABLE (OPP)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	10 L/S	1
2	30 L/S	2
3	20 L/S	1
4	-	-
5	-	-

Vent-Axia

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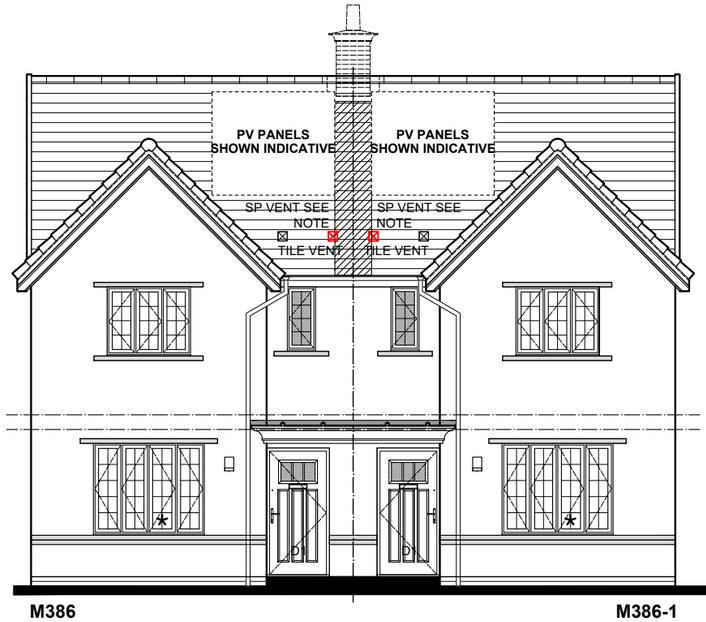
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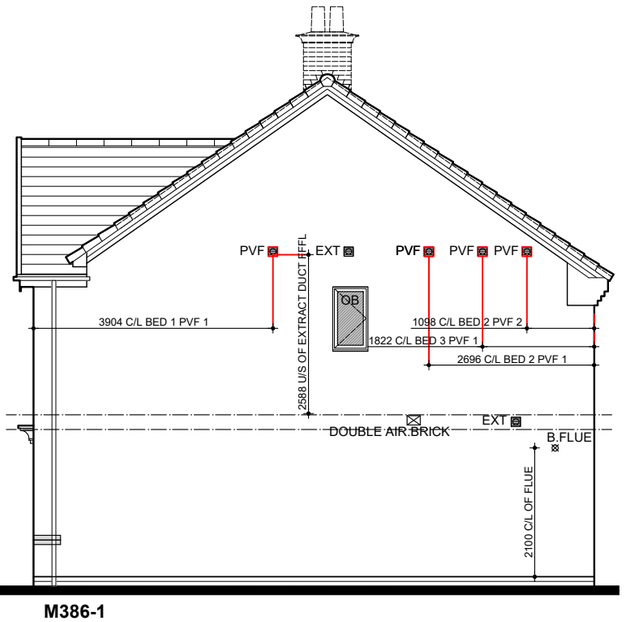
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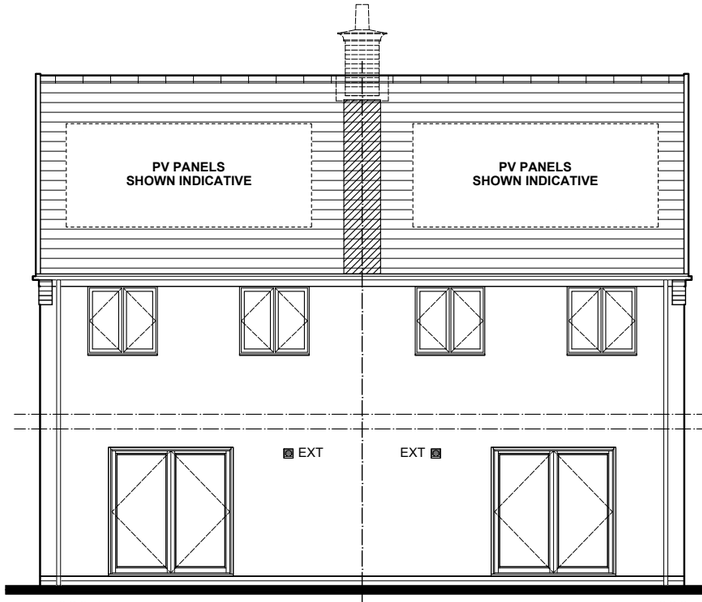
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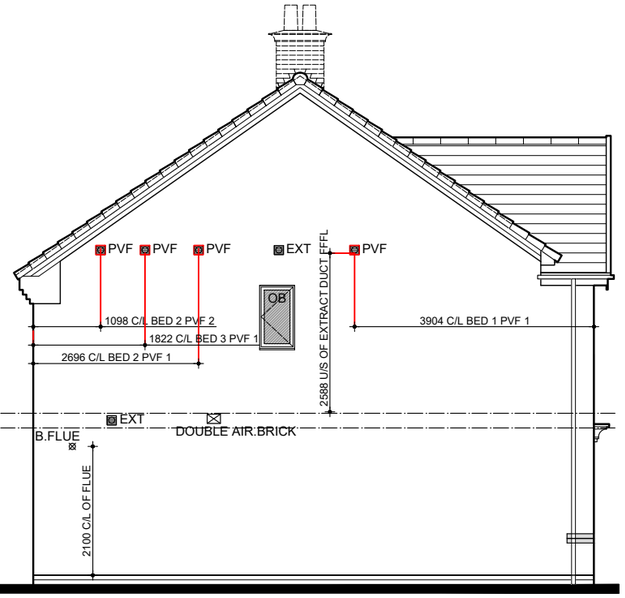
M386
FRONT ELEVATION



M386-1
SIDE ELEVATION



M386-1
REAR ELEVATION



M386
SIDE ELEVATION

PLOT 210 - 211

PURGE VENTILATION RATE TABLE (AS)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	10 L/S	1
2	30 L/S	2
3	15 L/S	1
4	-	-
5	-	-

PURGE VENTILATION RATE TABLE (OPP)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	10 L/S	1
2	30 L/S	2
3	20 L/S	1
4	-	-
5	-	-

Vent-Axia

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REV: 7 JUN 2024
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BLOOR HOMES

NAME: KESWICK
DRAWING: ELEVATIONS

DRG NO.: LITTLE PAXTON EMPLOYMENT LAND
SCALE: 1:50 @ A3
DATE: JUN 2024
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LUTTERWORTH - M301-1

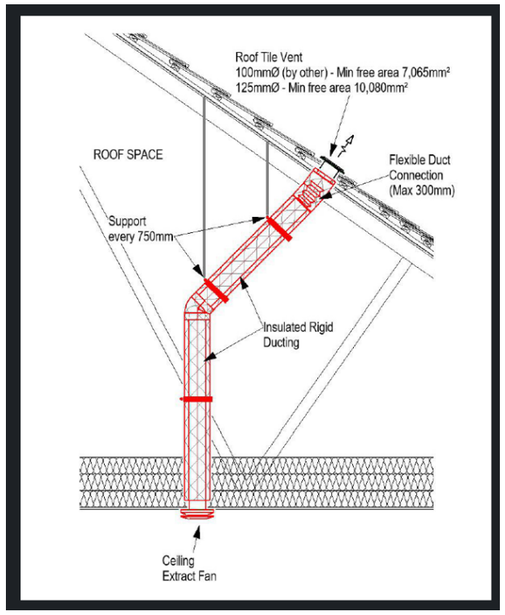
- PLOT 217

01 FIRST FLOOR PLAN

02 TRUSS LAYOUT

03 ELEVATIONS

PURGE VENTILATION RATE TABLE (OPP)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	-	-
2	-	-
3	10 L/S	1
4	-	-
5	-	-

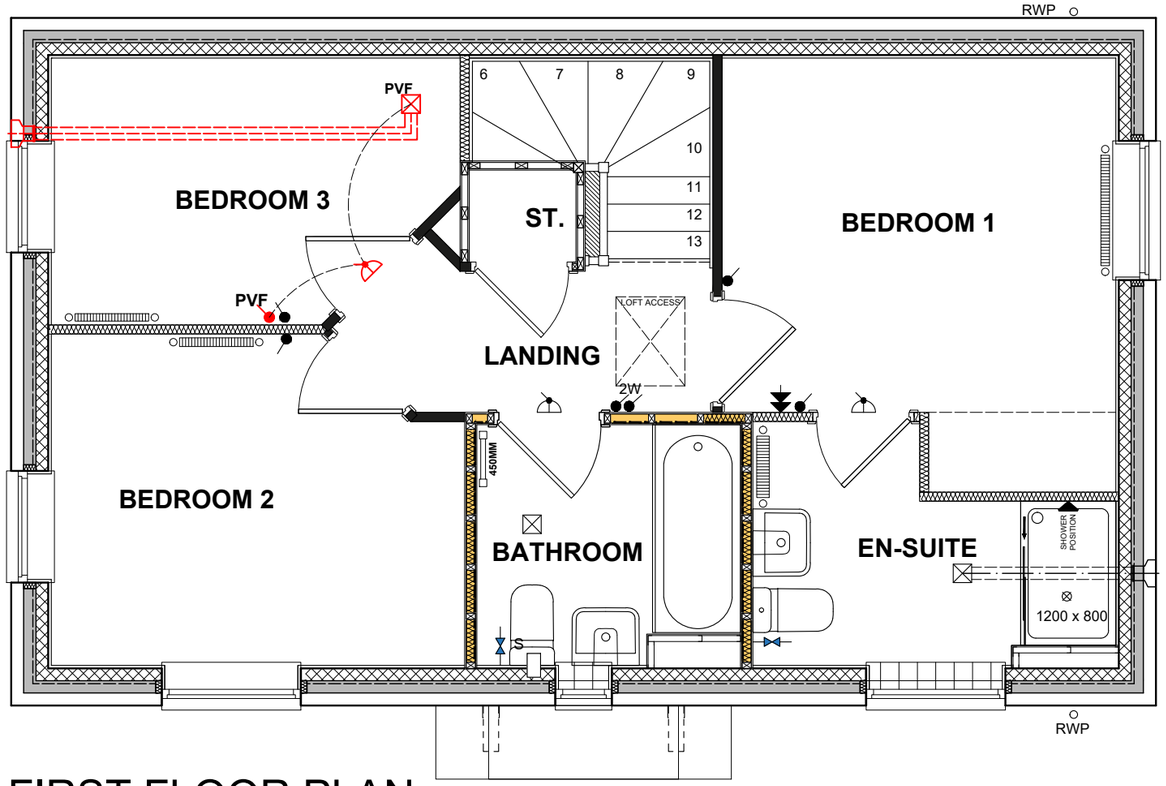


PLOT 217

BLOOR HOMES

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FIRST FLOOR PLAN

PURGE VENTILATION RATE TABLE (OPP)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	-	-
2	-	-
3	10 L/S	1
4	-	-
5	-	-

Vent-Axia

PRINT PAGE

PLOT 217

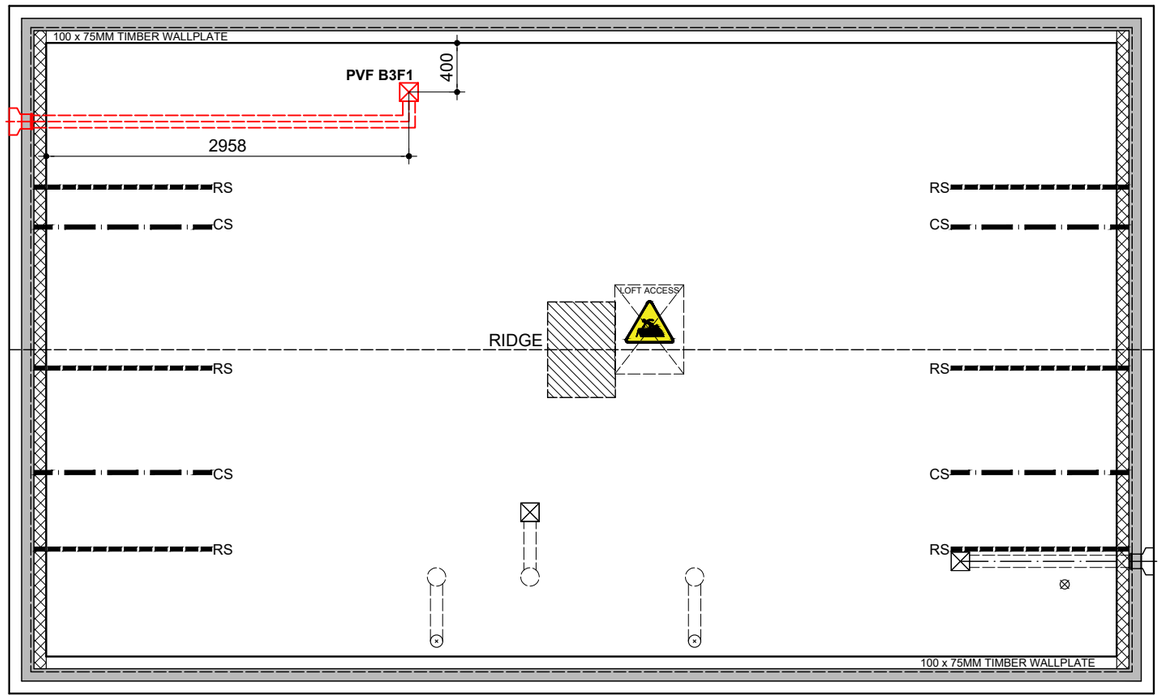
REV: 7.1 JAN 2025
AMENDED HANDING AS PER UPDATED SITE LAYOUT

BLOOR HOMES

NAME: LUTTERWORTH
DRAWING: FIRST FLOOR LAYOUT
DRG NO.: LITTLE PAXTON EMPLOYMENT LAND
SCALE: 1:50 @ A3
DATE: JUN 2024
DRAWN: TS
CHECKED: JT

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MAIN ROOF 47.5°

TRUSS SETTING OUT

PLOT 217

PURGE VENTILATION RATE TABLE (OPP)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	-	-
2	-	-
3	10 L/S	1
4	-	-
5	-	-

Vent-Axia

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REV: 7.1 JAN 2025
AMENDED HANDING AS PER UPDATED SITE LAYOUT

BLOOR HOMES

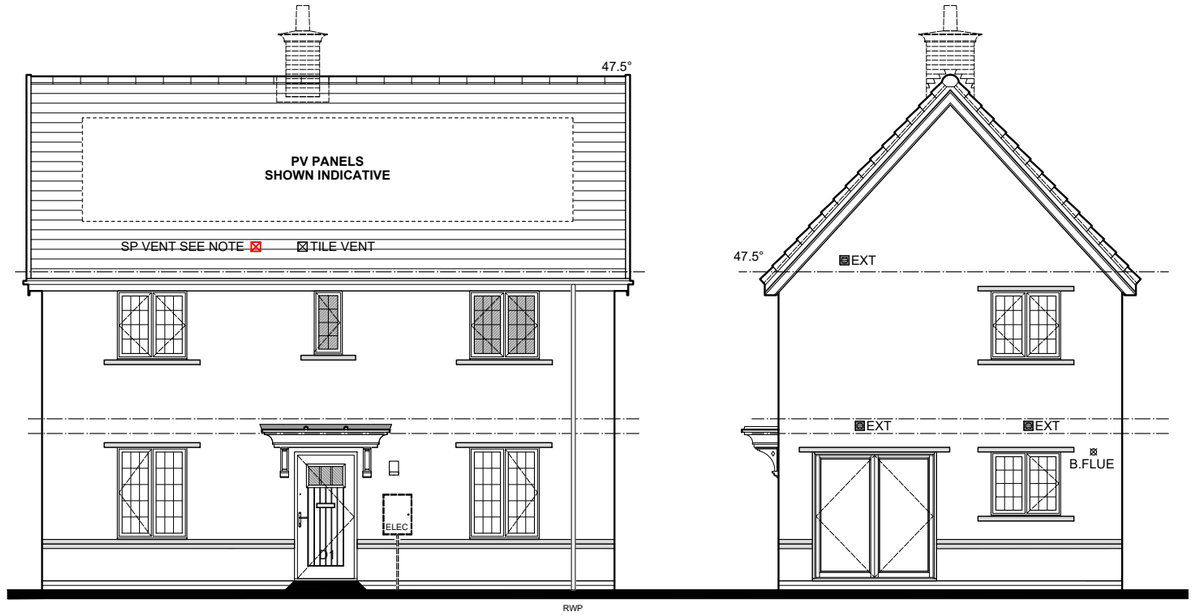
NAME: LUTTERWORTH

DRAWING: TRUSS LAYOUT

DRG NO.: LITTLE PAXTON EMPLOYMENT LAND
SCALE: 1:50 @ A3
DATE: JUN 2024
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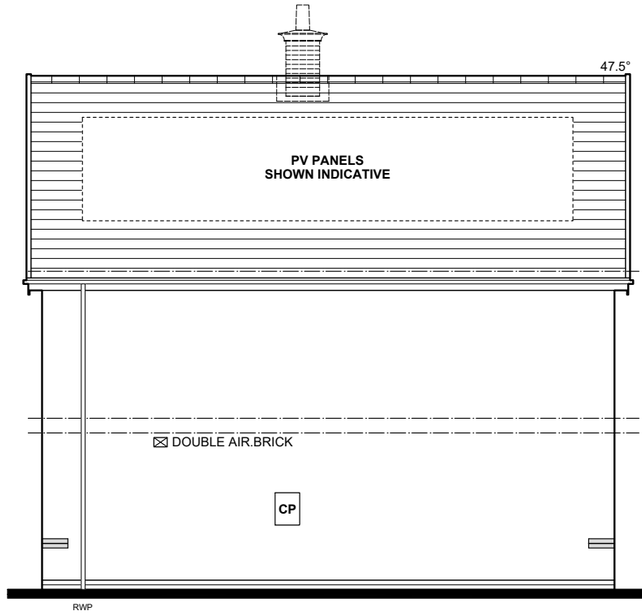
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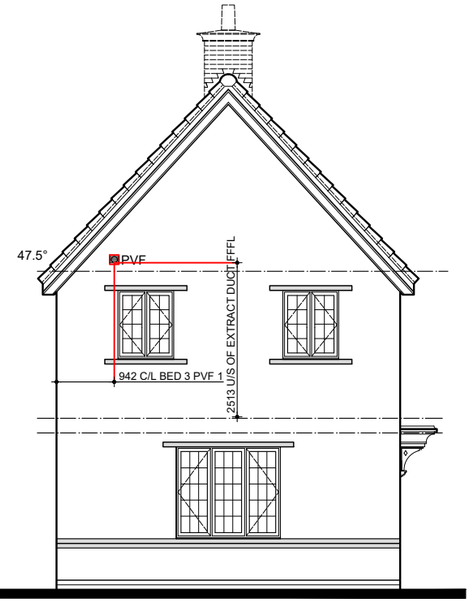


FRONT ELEVATION

SIDE ELEVATION



REAR ELEVATION



SIDE ELEVATION

PLOT 217

PURGE VENTILATION RATE TABLE (OPP)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	-	-
2	-	-
3	10 L/S	1
4	-	-
5	-	-

Vent-Axia

PRINT PAGE

REV.: 7.1 JAN 2025
AMENDED HANDING AS PER UPDATED SITE LAYOUT

BLOOR HOMES

NAME: LUTTERWORTH
DRG NO.: LITTLE PAXTON EMPLOYMENT LAND
SCALE: 1:50 @ A3
DATE: JUN 2024
DRAWN: TS
CHECKED: JT
DRAWING: ELEVATIONS

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LITTLE PAXTON EMPLOYMENT LAND
PURGE VENTILATION ADDENDUM DOCUMENT

THIS ADDENDUM DOCUMENT IS FOR THE PURGE VENTILATION STRATEGY ONLY
PLEASE REFER TO WORKING DRAWING PACK FOR DMEV (STANDARD) VENTILATION DESIGNS REQUIRED FOR THE REST OF THE PLOT.

COMMERCIAL TO ORDER PURGE VENTILATION FROM THIS PACKAGE ONLY. A LINK TO THE STANDARD VENTILATION IS AVAILABLE ON THE WORKING DRAWING PACKAGE.
TRADES AND SITE TO USE THIS IN CONJUNCTION WITH THE WORKING DRAWING PACKAGE.

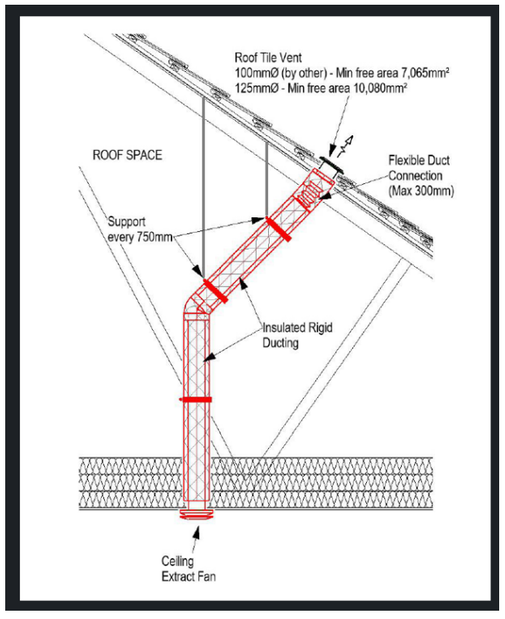
SOUTHEY - M3B5P/M3B5P-1

- PLOT 221 - 222

01 FIRST FLOOR PLAN
02 TRUSS LAYOUT
03 ELEVATIONS

PURGE VENTILATION RATE TABLE (AS)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	-	-
2	30 L/S	2
3	20 L/S	1
4	-	-
5	-	-

PURGE VENTILATION RATE TABLE (OPP)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	-	-
2	30 L/S	2
3	20 L/S	1
4	-	-
5	-	-

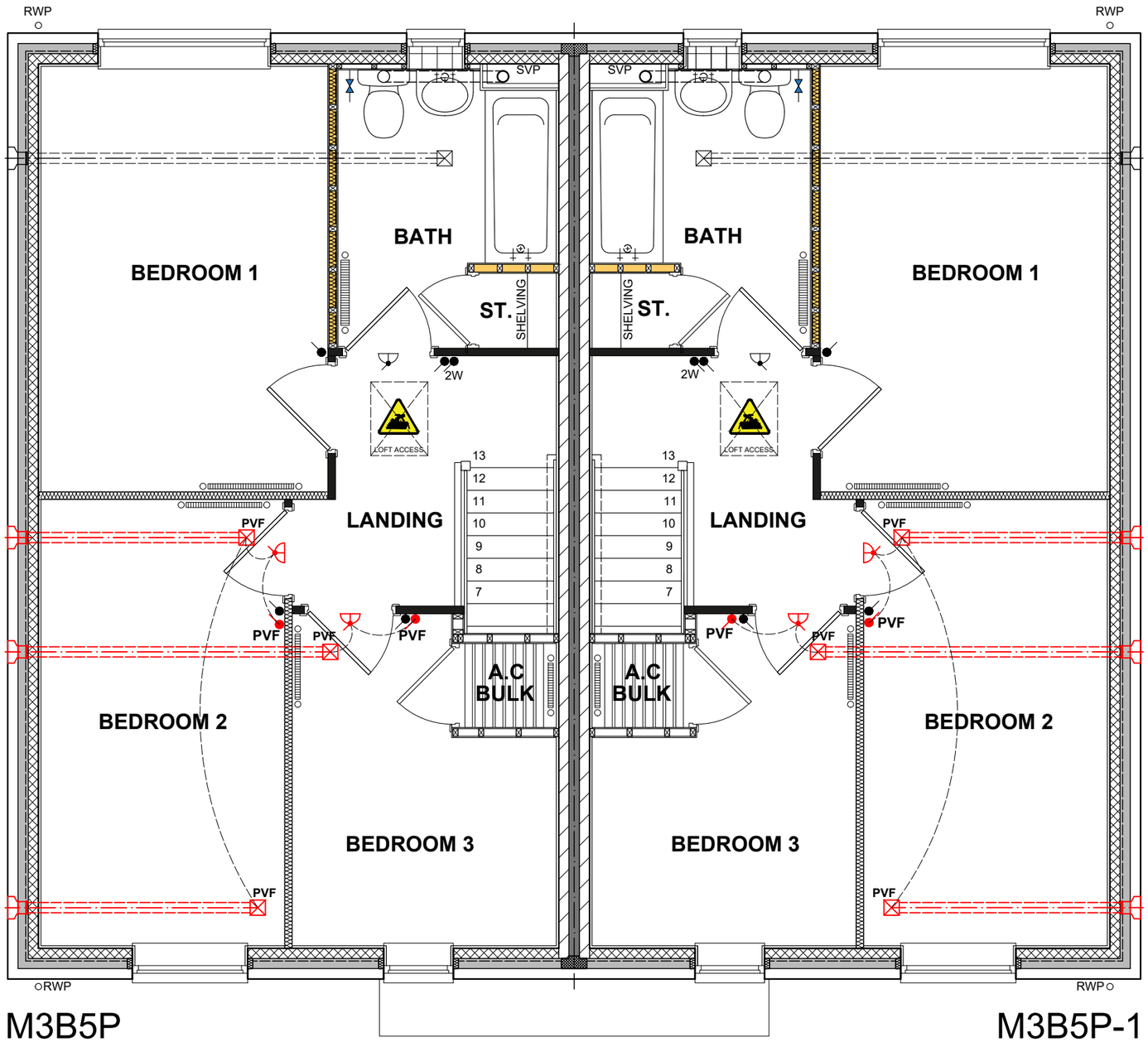


PLOT 221 - 222

BLOOR HOMES

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M3B5P
FIRST FLOOR PLAN

M3B5P-1

PLOT 221 - 222

PURGE VENTILATION RATE TABLE (AS)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	-	-
2	30 L/S	2
3	20 L/S	1
4	-	-
5	-	-

PURGE VENTILATION RATE TABLE (OPP)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	-	-
2	30 L/S	2
3	20 L/S	1
4	-	-
5	-	-

Vent-Axia

PRINT PAGE

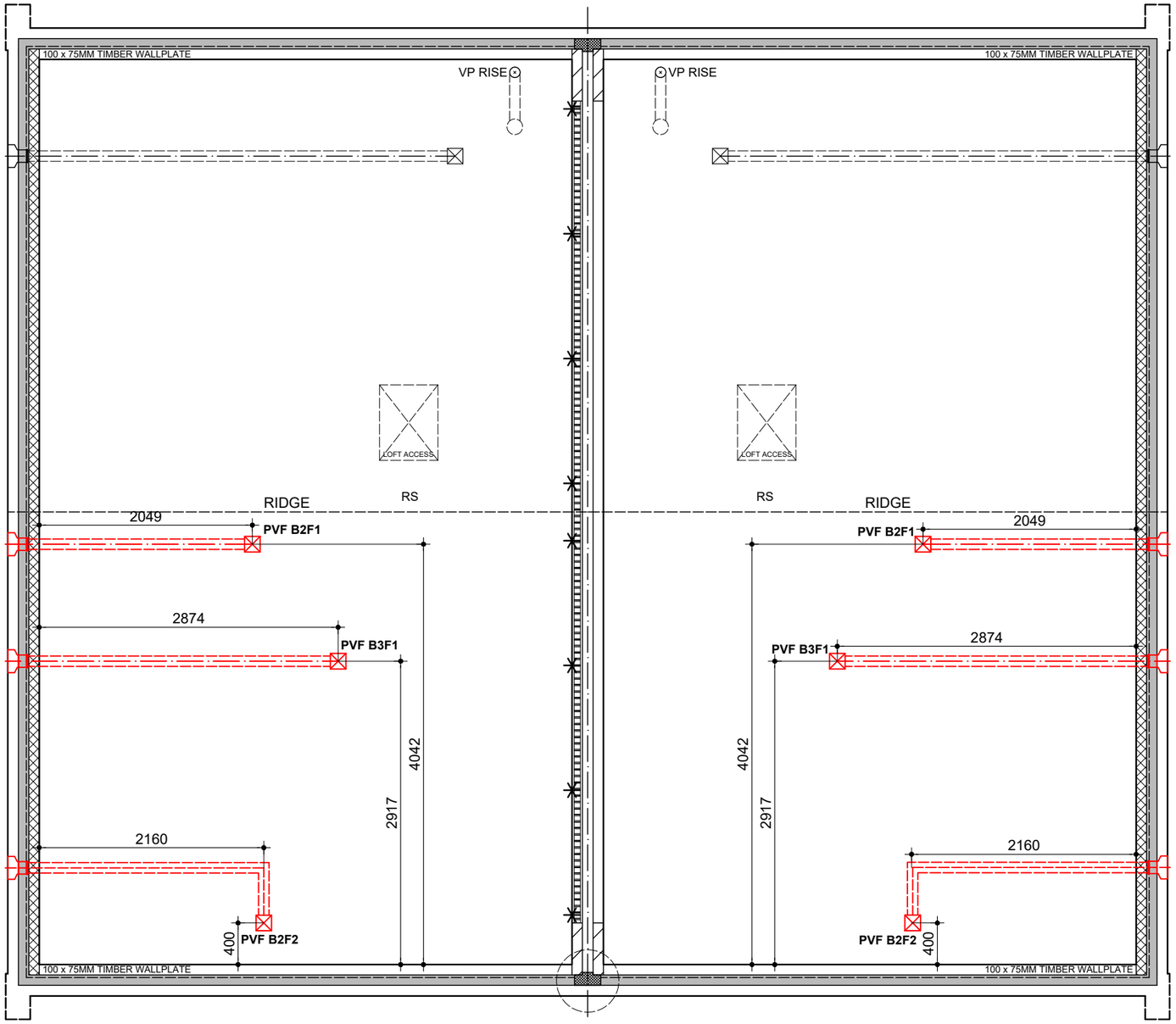
REV: 7 JUN 2024
PURGE ADDED TO BED 1, 2 AND 3

BLOOR HOMES

NAME: SOUTHEY
DRAWING: FIRST FLOOR LAYOUT
DRG NO.: LITTLE PAXTON EMPLOYMENT LAND
SCALE: 1:50 @ A3
DATE: JUN 2024
DRAWN: TS
CHECKED: JT

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M3B5P
TRUSS SETTING OUT

M3B5P-1

PLOT 221 - 222

PURGE VENTILATION RATE TABLE (AS)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	-	-
2	30 L/S	2
3	20 L/S	1
4	-	-
5	-	-

PURGE VENTILATION RATE TABLE (OPP)		
BEDROOM	TOTAL RATE (L/S)	No. FANS
1	-	-
2	30 L/S	2
3	20 L/S	1
4	-	-
5	-	-

Vent-Axia

PRINT PAGE

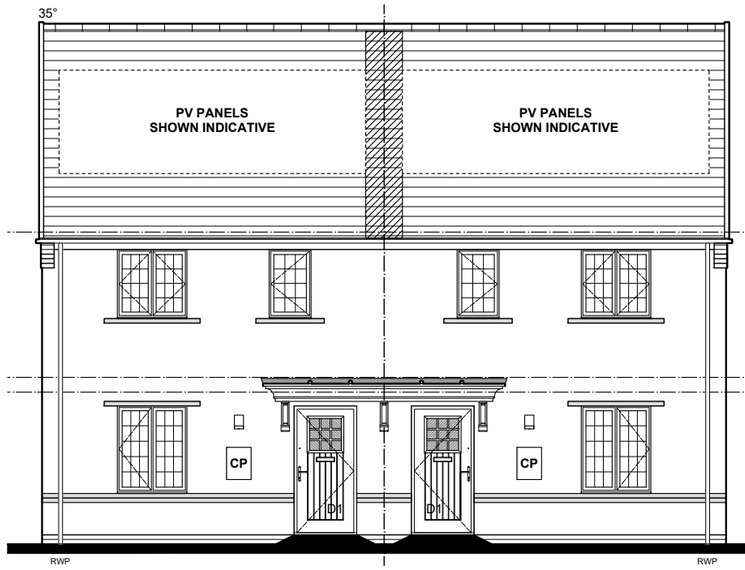
REV: 7 JUN 2024
PURGE ADDED TO BED 1, 2 AND 3

BLOOR HOMES

NAME: SOUTHEY
DRAWING: TRUSS LAYOUT
DRG NO.: LITTLE PAXTON EMPLOYMENT LAND
SCALE: 1:50 @ A3
DATE: JUN 2024
DRAWN: TS
CHECKED: JT

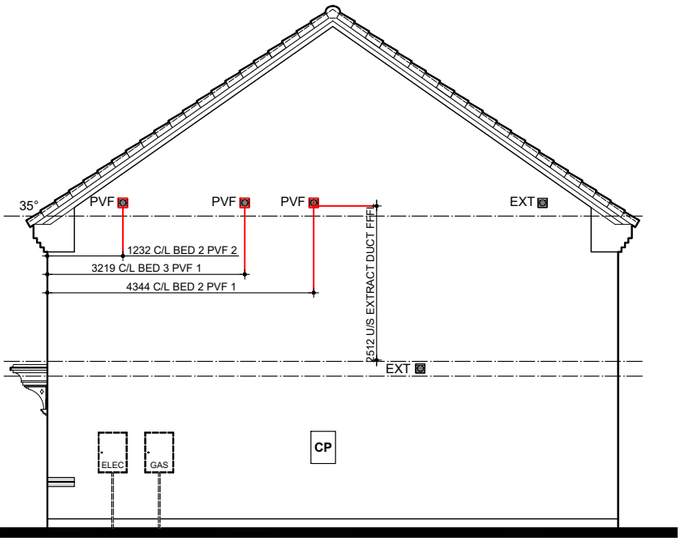
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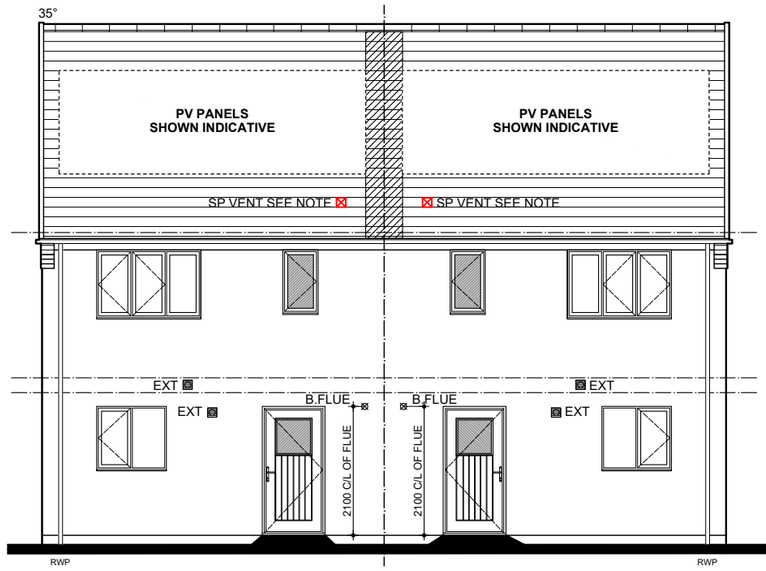


M3B5P
FRONT ELEVATION

M3B5P-1

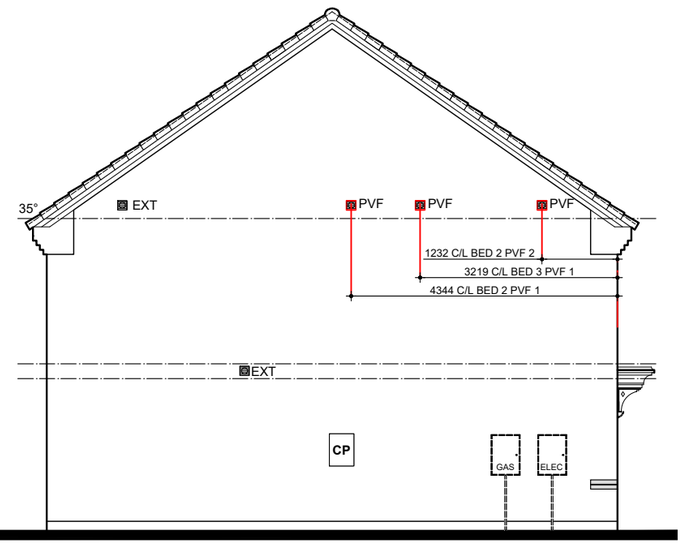


M3B5P-1
SIDE ELEVATION



M3B5P-1
REAR ELEVATION

M3B5P



M3B5P
SIDE ELEVATION

PLOT 221 - 222

PURGE VENTILATION RATE TABLE (AS)

BEDROOM	TOTAL RATE (L/S)	No. FANS
1	-	-
2	30 L/S	2
3	20 L/S	1
4	-	-
5	-	-

PURGE VENTILATION RATE TABLE (OPP)

BEDROOM	TOTAL RATE (L/S)	No. FANS
1	-	-
2	30 L/S	2
3	20 L/S	1
4	-	-
5	-	-

Vent-Axia

PRINT PAGE

REV: 7 JUN 2024
PURGE ADDED TO BED 1, 2 AND 3

BLOOR HOMES

NAME: SOUTHEY
DRAWING: ELEVATIONS
DRG NO.: LITTLE PAXTON EMPLOYMENT LAND
SCALE: 1:50 @ A3
DATE: JUN 2024
DRAWN: TS
CHECKED: JT

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4. User Manual

Lo-Carbon dMEV Fan



Home Owners Ventilation System Guide

Condensation and Mould

In Britain, condensation in houses is a problem particularly where warm moist air is generated in areas like kitchens and bathrooms or by drying clothes over radiators. The moisture in the air gets left on surfaces in colder parts of the house resulting in water running down the windows leading to black mould on walls, ceilings and in cupboards.



The 'average' family produces approximately 27 pints of moisture per day.

How can we reduce humidity levels:

- Adequate Heating – Air is like a sponge, the warmer it is the more moisture it will hold
- Adequate Insulation – Prevents cold surfaces for moisture to condense
- Adequate Ventilation – Removes the excess moisture held in the warm air and provides fresh air resulting in better indoor air quality



Walls, ceiling, floors & soft furnishings quickly show signs of black mould growth.

Provide adequate ventilation

Traditional intermittent extract fans provide peaks of airflow, this means we are warming indoor air and then extracting it to outside, which is not energy efficient.

Instead, continuous running extract fans in bathrooms, kitchens and utility rooms work with the natural air flow in the house meaning you have a constant supply of fresh air which prevents mould and contaminants multiplying and spreading, giving you a healthy home, but without the heat loss associated with intermittent fans.



Costs as little as 3p per week to run!



DO NOT switch off

Vent-Axia

www.vent-axia.com

0844 856 0590

Lo-Carbon dMEV Fan



What is it and why is it there?

The Vent-Axia Lo-Carbon dMEV has been designed to meet the requirements of the Building Regulations for bathrooms, kitchens, utility rooms and toilets. This fan is designed to run all of the time 24/7, keeping your home fresh, healthy and free from condensation.

What does it do?

The fan is designed to run continuously at a very low trickle rate and boost automatically when required. The fan is constantly monitoring the air it extracts and will boost itself to a higher setting when the humidity levels within the property reach a certain level. The low running rate means it has extremely low noise levels - as low as 19dB(A) (100mm) or 12 dB(A) (125mm). That's quieter than normal breathing! The fan is designed to operate at a lower flow rate than normal. You will notice it may not clear steam / condensation as quickly as you may be accustomed, but will clear condensation 100% over a longer period of time.

How will it help?

This fan will help prevent the build up of moisture in your home by removing steam and odours created whilst cooking and bathing. This will help reduce the risk of black mould forming on your walls and behind cupboards.

How do I control it?

You have a manual switch in the kitchen/ utility room to switch the fan from trickle to boost, you also have a switch adjacent to the light switch for the WC, bathroom, and en-suite.

Excessive humidity and smells

In extreme circumstances, where there is excessive moisture in the air, or strong smells are present, there may be a requirement for additional purge ventilation. The fan will not detect strong smells in the air.

Does the unit require any maintenance?

Maintenance is minimal as the fan is designed to reduce the amount of dirt build-up. However, to clean the unit the fan's power supply must be turned OFF first, then carefully pull the front panel off of the grille upwards away from the base part of the grille and wipe the inlets and front face with a damp cloth until clean. Be careful not to push dirt into the airflow sensor.

DO NOT switch off the product

The fan is set to run continuously 24 hours a day, 7 days a week.

What are the running costs?

Even though the fan will be running continuously, you won't receive a large electricity bill because the Lo-Carbon dMEV costs less than 3p a week to run. That's less than a low energy light bulb!

100mm Model

	Hours a day	Motor consumption watts	kW/h per year	Price per kW/h	Total cost per year
Kitchen	23	1.09	9.15	0.14	£1.28
	1	1.55	0.57	0.14	£0.08
Bathroom	23	1.09	9.15	0.14	£1.28
	1	1.55	0.57	0.14	£0.08
				CONTINUOUS TOTAL	£2.73

*Fan running for 23 hours on trickle and 1 hour on boost.
Example for illustration purposes only. Individual households may vary.

125mm Model

	Hours a day	Motor consumption watts	kW/h per year	Price per kW/h	Total cost per year
Kitchen	23	1.43	12.00	0.14	£1.68
	1	1.62	0.59	0.14	£0.08
Bathroom	23	1.43	12.00	0.14	£1.68
	1	1.62	0.59	0.14	£0.08
				CONTINUOUS TOTAL	£3.52

*Fan running for 23 hours on trickle and 1 hour on boost.
Example for illustration purposes only. Individual households may vary.

NBR DMEV

100mm & 125mm
CONTINUOUS EXTRACT FAN RANGE

Installation and Wiring Instructions



Stock Ref. N°

475142A - NBR DMEV 100
473809A - NBR DMEV 100 HT

494147 - NBR DMEV 125
494148 - NBR DMEV 125 HT

220-240V~50Hz

Vent-Axia®

PLEASE READ INSTRUCTIONS IN CONJUNCTION WITH ILLUSTRATIONS.
PLEASE SAVE THESE INSTRUCTIONS.

IPX5

Installation and Wiring Instructions for the NBR DMEV Range of Extractor Fans.



IMPORTANT:
READ THESE INSTRUCTIONS BEFORE COMMENCING THE INSTALLATION

DO NOT install this product in areas where the following may be present or occur:

- Excessive oil or a grease laden atmosphere.
- Corrosive or flammable gases, liquids or vapours.
- Ambient temperatures higher than 40°C or less than –5°C.
- Possible obstructions which would hinder the access or removal of the Fan.

SAFETY AND GUIDANCE NOTES

A. All wiring to be in accordance with the current I.E.E. Regulations, or the appropriate standards of your country and **MUST** be installed by a suitably qualified person.

B. The Fan is suitable for installation within Zones 1 & 2.

C. The Fan should be provided with a local isolator switch capable of disconnecting all poles, having a contact separation of at least 3mm.

D. Ensure that the mains supply (Voltage, Frequency, and Phase) complies with the rating label.

E. The Fan should only be used in conjunction with the appropriate Vent-Axia products.

F. The fan should only be used in conjunction with fixed wiring.

G. When the Fan is used to remove air from a room containing a fuel-burning appliance, ensure that the air replacement is adequate for both the fan and the fuel-burning appliance.

H. The Fan should not be used where it is liable to be subject to direct water spray for prolonged periods of time.

I. Where ducted Fans are used to handle moisture-laden air, a condensation trap should be fitted. Horizontal ducts should be arranged to slope slightly downwards away from the Fan.

J. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

K. Young children should be supervised to ensure that they do not play with the appliance.

DESCRIPTION

The NBR DMEV fan is a continuously running extract fan for kitchens, utility rooms, bathrooms and toilets.

The product incorporates an airflow detection system that detects the installation duct resistance and maintains the correct fan speed to achieve the preset extract flow rate.

The incorporated LED display allows the installer to configure the fan to suit its installation.

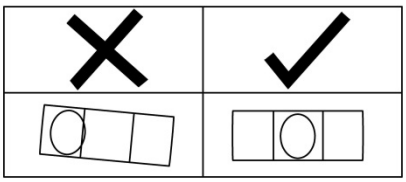
The fan can be wall, window (100mm only) or panel/ceiling mounted.

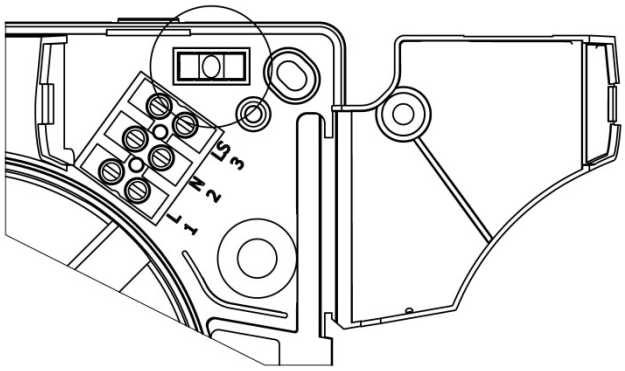
ACCESSORIES (not supplied)

- **WALL FITTING KIT** - A range of white (stock ref. 254102), brown (stock ref. 254100) 100mm wall kits & White (Stock ref. 455226) 125mm wall kits are available for installing into most walls using telescopic liners supplied.
- **WINDOW KIT** stock ref. 407927 (100mm only)
- **CEILING KIT** stock ref. 407928 (100mm only)
- **150mm CONVERSION KIT** stock ref. 408680 (100mm only)
- **Decoration Frame** stock ref. 474041 (100mm only)

A. INSTALLATION

PANEL/CEILING/ INTERIOR WALL MOUNTING





Open up the internal cover to access
The spirit level bubble

1. Cut a 107mm diameter hole (100mm fans) or a 130mm hole for (125mm fans).
2. Remove the front panel by carefully pulling it away from the fan. Loosen the two self-retaining screws and remove the inner grille by carefully pulling it away from the housing.
3. Using the built in spirit level bubble as an aid. Mark the screw centres through the holes in the fan back plate. Drill, plug and screw into position. Attach ducting as required for the installation.
4. Wire the fan as described in Section B-Wiring. Adjust any settings as required (see Section C-Setup).
5. After installation, ensure impeller rotates freely.
6. Replace the inner grille and tighten the retaining screws.
7. Replace the front panel.

EXTERIOR WALL MOUNTING

1. For wall mounting cut a 117mm diameter hole (100mm fans) or a 140mm hole (125mm fans) through the wall and insert the wall sleeve. Slope the sleeve slightly downwards away from the fan. Where necessary cut to length and cement both ends into position flush with the wall faces.
2. Fix exterior grille into position with the louvres positioned downwards.
3. Remove the front panel by carefully pulling it away from the fan. Loosen the two self-retaining screws and remove the inner grille by carefully pulling it away from the housing.
4. Using the built in spirit level bubble as an aid. Mark the screw centres through the holes in the fan back plate. Drill, plug and screw into position.
5. Wire the fan as described in Section B-Wiring. Adjust any settings as required (see Section C-Setup).
6. After installation, ensure impeller rotates freely.
7. Replace the inner grille and tighten the retaining screws.
8. Replace the front Panel.

WINDOW MOUNTING (100MM ONLY)

For window mounting refer to the instructions provided with the kit.

B. WIRING.

WARNING: THE FAN AND ANCILLARY CONTROL EQUIPMENT MUST BE ISOLATED FROM THE POWER SUPPLY DURING INSTALLATION OR MAINTENANCE.

IMPORTANT

- The cross - sectional area of supply cord used should be ranged from 0.75 -1.5mm^2.
- The extraction fan is suitable for connection to 220-240V 50Hz supply.
- The fan is a class ll double insulated product and **MUST NOT** be earthed.

1. Select and follow the appropriate wiring diagram. **(Fig. 1, 2, 3)**
2. Check all connections have been made correctly and ensure all terminal connections and supply wires are securely fastened. **(Fig. 4)**
3. Ensure the impeller rotates and is free from obstructions.

C. SETUP

Accessing the commissioning menu

To configure the fan first remove the grille. With the grille removed the control buttons are visible (Fig.4). Do NOT isolate the fan from the power supply as configuration requires power to the fan.

IMPORTANT

Do NOT attempt to remove the circuit board cover (Fig.4). This covers the high voltage power supply, preventing the risk of an electric shock.

Display modes
When first powered on, the display will run through an initialisation sequence and then activate prism mode (cover on).
When a button is pressed, the display will go into the menu system and display as viewed without the prism.
The display will return to prism mode after 30 seconds of inactivity (i.e. no button presses).
When activating the menu, the initial button push will not change any settings.

Prism Mode
When the controller is in 'prism mode' the display will be mirrored such that the characters are shown correctly when viewed through the prism fitted in the fan cover.
When activated, prism mode will run for 15 minutes, then cycle between displaying:

- Airflow rate
- Estimated duct pressure (if CV / F-2 mode enabled)
- Current RH% (HT models only)

Calibration process will run after the first 15 minutes (if CV / F-2 mode enabled); see Advanced settings for further details.

Menu
If the buttons are pressed the display goes from prism mode to direct view mode and menu activated. If the buttons are not pressed for 30 seconds the display reverts to prism mode.

The ⌃ (Up) button is used to increase the value of a setting, the ⌄ (Down) button is used to reduce the value of a setting and the ⊗ (Mode/Set) button is used to advance to the next menu item.



The fan has the following 'menu' modes:

- Standard (press any button from normal runtime - ⌃ ⌄ ⊗)
- Advanced/Engineer (hold ⌄ + ⊗ for 5 seconds from the standard menu)

Standard settings:

Display text	Configuration Option	Selections			Default
r-n	Rotate display	r-Y = display rotated	r-n = display normal		r-n
tr1	Trickle speed adjustment	100mm: 0*, 5 to 30 l/s (Max limited by Boost Selection)			6l/s
		125mm: 0*, 9 to 30 l/s (Max limited by Boost Selection)			9l/s
bSt	Boost speed adjustment	100mm: 6 to 35 l/s (Min limited by Trickle Selection)			13 l/s
		125mm: 10 to 35 l/s (Min limited by Trickle Selection)			15 l/s
b15	Boost Overrun time	b0 to b30 – 0 to 30 minutes (0 disables overrun)			15
h70	Humidity level trigger	h40 to h90 - 40% to 90% relative humidity			70% RH
F-0	Fan Control Mode	F-0 = CV disabled, wall / window installation	F-1 = CV disabled, ducted installation	F-2 = CV Constant Volume enabled	F-0
c-n	Comfort mode	c-n = normal LS overrun	c-Y = comfort mode		c-n

***If "0" is selected, the fan switches to Intermittent mode.**

Advanced settings:

Display text	Configuration Option	Selections		Default
A-Y	RH Ambient Response	A-Y Ambient Response enabled	A-n Ambient Response disabled	Enabled
P-Y	RH Rapid Response enable	p-Y = Rapid Response enabled	p-n = Rapid Response disabled	Y

Settings

Speed selection

Set trickle and boost speeds in l/s by using the ⌃ and ⌄ buttons.

To convert m3/h to l/s, divide the m3/h by 3.6 (e.g. 54m3/h / 3.6 = 15 l/s).

The Trickle Speed cannot be higher than the Boost selection. Therefore it might be necessary to modify the Boost selection before increasing the Trickle setting.

If "0" is selected for the trickle speed, the fan will be off until a boost signal is activated (for example via LS/humidity).

Boost time
The boost setting allows the boost timer to be adjusted from 1-30 minutes, the default is 15 minutes. This option may also be disabled, thus removing the option from the menu and setting the overrun to 0.

Inbuilt Ambient Response Humidistat with Rapid Rise Detection
The humidity threshold setting defines at what relative humidity the fan will trigger, adjustable from 40% to 90% rH. The fan increases in speed slowly between the trickle and boost speeds between the trigger %rH and +10%. The trigger point will automatically adjust if the temperature drops below 18C to prevent nuisance triggering.
The fan also incorporates a rapid rise function to detect rapid rises in humidity when the ambient %rH is under the threshold setting. If a rapid rise is detected the fan will increase in speed proportionally between the trickle and boost settings until the humidity lowers again.

Comfort mode

- With comfort mode disabled, the fan will go into boost as soon as an LS (Light Switch) input is detected and over-run for the set period after LS is disconnected.
- With comfort mode enabled, the fan will remain off / in trickle up to a maximum of 20 minutes. Once LS is deactivated, fan will run at boost mode for the length of time LS was present up to a maximum of 20 minutes plus the set over-run time.
  If the LS was activated for < 3 minutes, no boost will occur to prevent nuisance activations.

Fan Control Mode
There are 3 modes for fan speed control. Wall, ducted and constant airflow/ volume (CV) mode. In wall or ducted mode, the fan speeds are pre-determined at the factory and does not use the airflow sensor.
In CV mode (Constant Airflow/Volume), the fan will automatically adjust the fan speed to maintain the desired airflow. After the first 15 minutes of operation the fan enters calibration mode to determine the most efficient mode of operation.

Calibration Reset

In some circumstances it may be necessary to reset the calibration settings (if the fan was covered to prevent dust/damage/or poor weather outside).

Reset the calibration by configuring the fan for wall or duct mode (F-0 or F-1), turn the product off and on and re-configure back to CV mode (F-2). The fan will calibrate after 15 minutes.

Calibration

The airflow sensor is calibrated at the factory using UKAS accredited equipment. Details of the equipment and certification can be found on the inside of the fan.

D. SERVICING AND MAINTENANCE

WARNING: THE FAN AND ANCILLARY CONTROL EQUIPMENT MUST BE ISOLATED FROM THE POWER SUPPLY DURING MAINTENANCE.

1. At intervals appropriate to the installation, the fan should be inspected and cleaned to ensure there is no build-up of dirt or other deposits.
2. Wipe the inlets and front face with a damp cloth until clean.
   Be careful not to push dirt into the airflow sensor.

The fan has sealed for life bearings, which do not require lubrication.

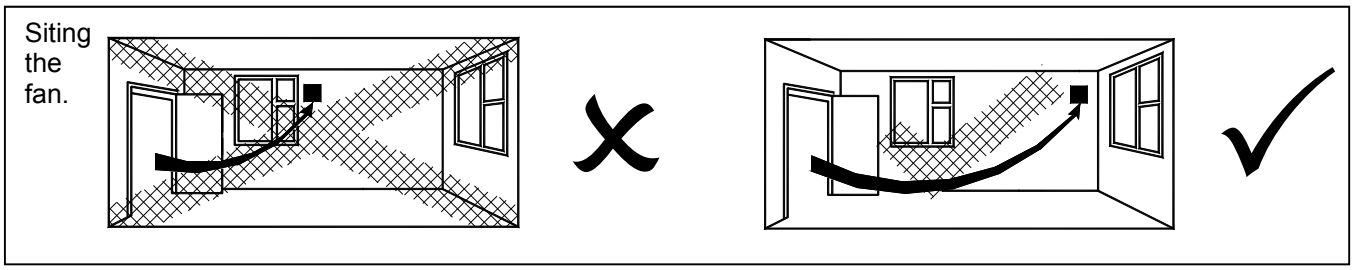


Fig.1 Continuous trickle. (The fan is internally fused)

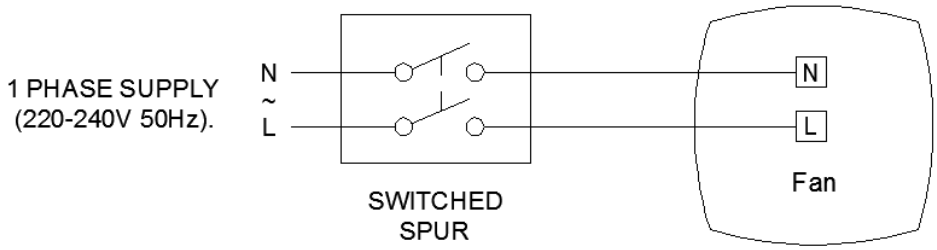


Fig.2 Continuous boost 1 with no trickle facility. (The fan is internally fused)

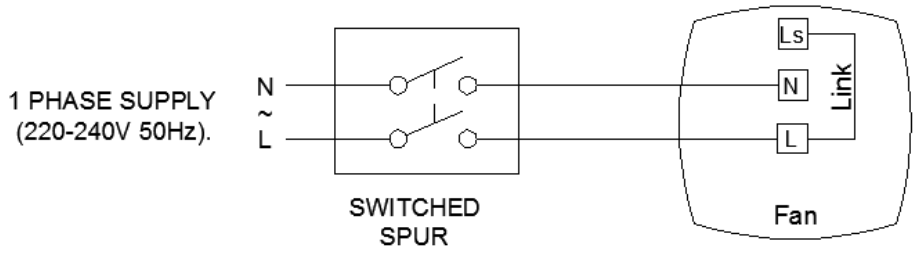


Fig.3. Continuous trickle with boost facility. (The fan is internally fused)

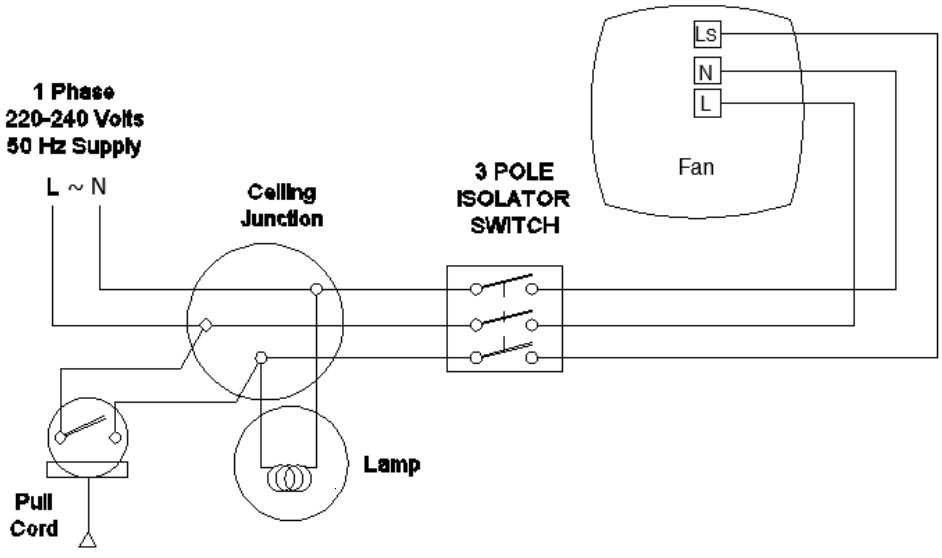
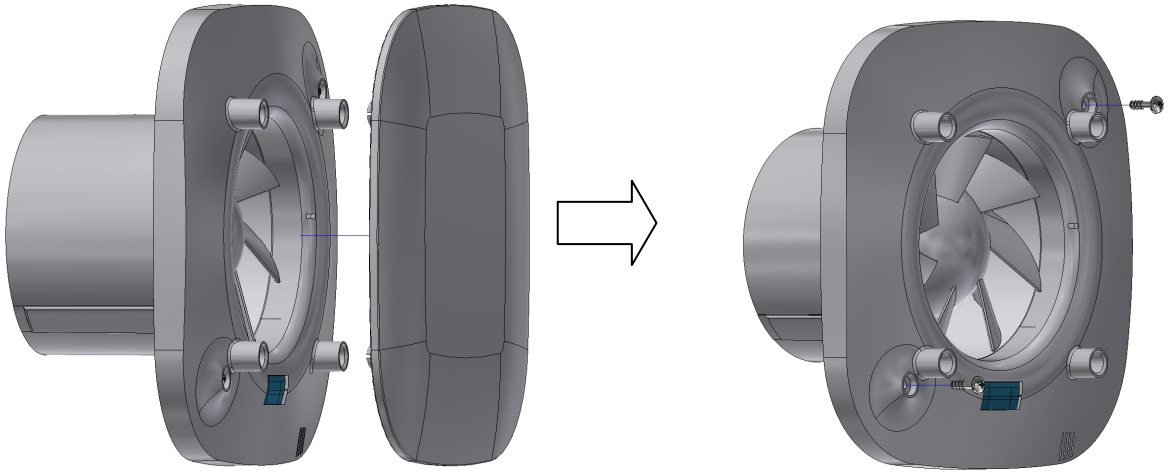
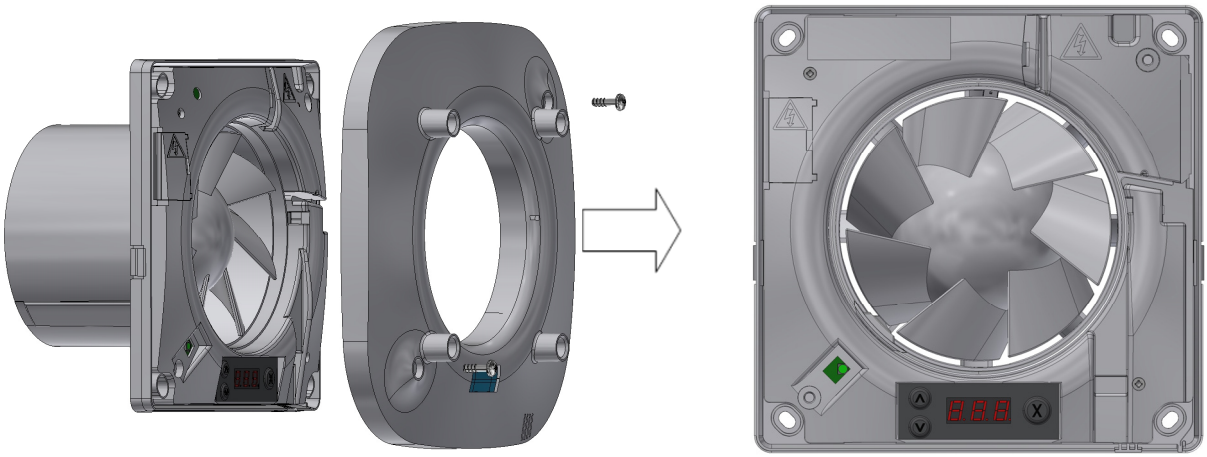


Fig.4 Removing the grille for wiring and setting the controls

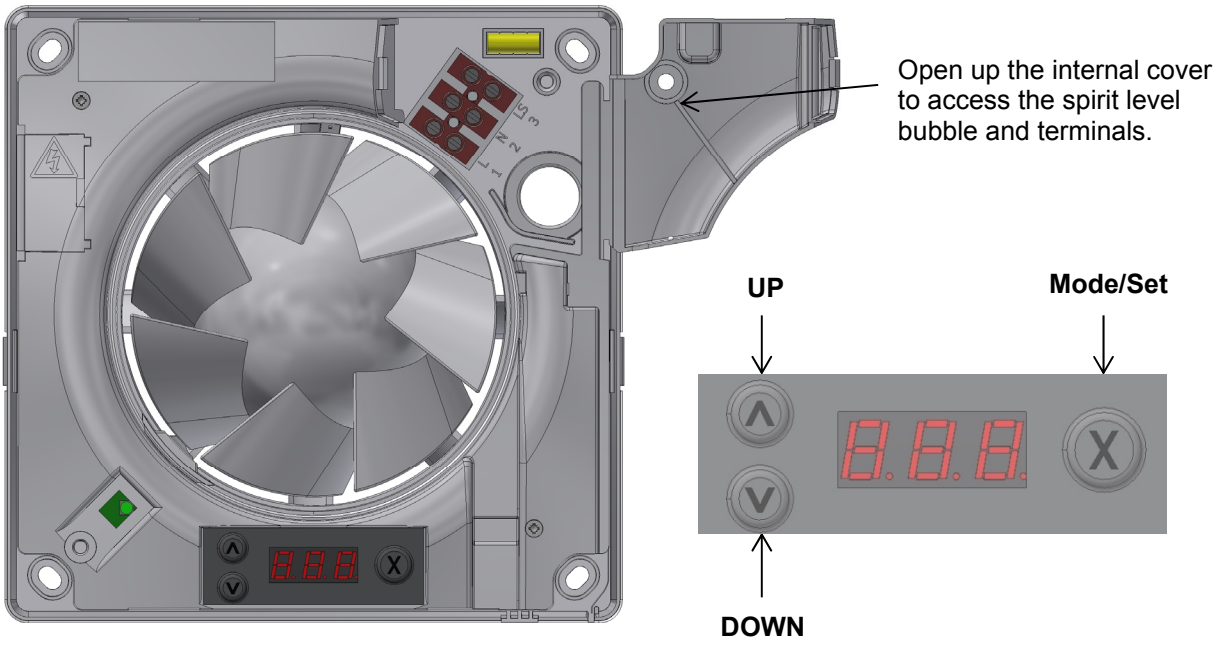


Pull front panel as shown.

Loosen screws – DO NOT REMOVE FROM GRILLE
(the screws are self-retaining)



Pull inner grille away from housing as shown.



Troubleshooting guide

Problem	Explanation	Solution
Fan speeding up and down	This might be due to external wind conditions	This is normal. If it is a very windy day for example, the fan will be speeding up and down continuously to ensure the correct airflow is maintained.
		If this is a continuous nuisance, change the fan setting from F-2 to F-1 or F-0 dependant on the installation.
Fan moving too much or too little air	Fan set to incorrect speed rate for installation?	Update the speeds to achieve desired airflow.
	This might be due to very windy conditions when the fan was first powered on. Positive or negative pressure on the external wall will influence the initial installation calibration the fan performs.	Reset the fan by updating the F-2 to F-0, power cycle, then back to F-2.
	The fan will react to any equipment used to check the airflow.	Please take into account the product will react to additional pressure from a vane anemometer/other (device that measures airflow), and may run much faster to overcome the resistance. The fan should revert back to the original speed after a few minutes.
Fan displays ERR during calibration	This might be due to very windy conditions when the fan was first powered on. Positive or negative pressure on the external wall will influence the initial installation calibration the fan performs. The fan will still function normally and will try and match the target flow rate as best as possible.	Power cycle the fan when the external wind conditions are better and the fan will retry.

PRODUCT FICHE

For Residential Ventilation Units (Complying Commission Delegated Regulation (EU) No 1254/2014)

Name:	Vent-Axia	Vent-Axia	Vent-Axia	Vent-Axia
Model ID (Stock Ref.) :	NBR DMEV 100HT 473809A	NBR DMEV 100 475142A	NBR DMEV 125HT 494148	NBR DMEV 125 494147
SEC Class	C	E	C	E
SEC Value ('Average')	-25.81	-14.83	-25.81	-14.83
SEC Value ('Warm')	-11.45	-6.22	-11.45	-6.22
SEC Value ('Cold')	-50.90	-29.86	-50.90	-29.86
Label Required? (Yes/No=Out of scope)	No	No	No	No
Declared as: RVU or NRVU/UVU or BVU	RVU-UVU	RVU-UVU	RVU-UVU	RVU-UVU
Speed Drive	Variable Speed	Variable Speed	Variable Speed	Variable Speed
Type HRS (Recuperative, Regenerative, None)	None	None	None	None
Thermal Eff: [(%), NA(if none)]	N/A	N/A	N/A	N/A
Max. Flow Rate (m3/h)	50.04	50.04	135	135
Max. Power Input (W): (@Max.Flow Rate)	1.50	1.50	10	10
LWA: Sound Power Level (dB)	39.52	39.52	54.5	54.5
Ref. Flow Rate (m3/s)	0.01	0.01	0.026	0.026
Ref. Pressure Diff. (Pa)	N/A	N/A	N/A	N/A
SPI [W/(m3/h)]	0.03	0.03	0.03	0.03
Control Factor & Control Typology: (CTRL/ Typology)				
Control Factor; CTRL	0.65	0.95	0.65	0.95
Control Typology	Local Demand Control	Clock Control	Local Demand Control	Clock Control
Declared: -Max Internal & External Leakage Rates(%) for BVUs or carry over (for regenerative heat exchangers only), -&Ext. Leakage Rates (%) for Ducted UVUs;	N/A	N/A	N/A	N/A
Mixing Rate of Non-Ducted BVUs not intended to be equipped with one duct connection on either supply or extract air side;	N/A	N/A	N/A	N/A
Position and description of visual filter warning for RVUs intended for use with filters, including text pointing out the importance of regular filter changes for performance and energy efficiency of the unit	N/A	N/A	N/A	N/A
For UVUs (Instructions Install Regulated Supply/Extract Grilles Façade)	In F&W	In F&W	In F&W	In F&W
Internet Address (for Disassembly Instructions)	www.vent-axia.com	www.vent-axia.com	www.vent-axia.com	www.vent-axia.com
Sensitivity p. Variation@+20/-20 Pa: (for Non-Ducted Vus)	N/A	N/A	N/A	N/A
Air Tightness-ID/OD-(m3/h) (for Non-Ducted Vus)	N/A	N/A	N/A	N/A
Annual Electricity Consumption: AEC (kWh/a)	0.17	0.36	0.17	0.36
Annual Heating Saved: AHS (kWh/a)				
AHS: Average	26.23	15.72	26.23	15.72
AHS: Warm	11.86	7.11	11.86	7.11
AHS: Cold	51.31	30.75	51.31	30.75

5. Window Frame and Glazing Details

SF Xtra Sound Attenuator Vent

Surface mounted noise reducing ventilator



SF Xtra Sound Attenuator internal



SF Sound Attenuator Canopy external

Suitable for:

PVCu ✓ ALUMINIUM ✓ TIMBER ✓

The SF Xtra Sound Attenuator ventilator is a slot ventilator which provides high levels of sound attenuation compared to similar 'acoustic' products, in a compact size.

The SF Xtra Sound Attenuator can be purchased in a number of combinations based on different sizes of inner (ventilator) and outer (canopy). Combinations can be chosen depending on the sound attenuation requirement and can achieve up to $D_{n,e,w}$ (C;Ctr) = 44 (-2;-3)dB when the vent is open.

The product is a cost effective method of reducing incoming noise in situations where conventional slot ventilators are unable to assist with acoustic issues.

The SF Xtra Sound Attenuator comes fitted with a Titon SF Xtra Ventilator and/or SF Canopy (HF Canopy for 5000EA version) and fits the 2500mm² EA version over the standard SF, Trimvent Select or Select Xtra slot size.



SF Canopy version

Features and Benefits

- **Cost effective sound attenuating ventilator**
- **Independently tested by Sound Research Laboratories in accordance with BSEN20140-10:1992, ISO140-10:1991**
- **2500mm² EA and 5000mm² EA versions available**
- **Vent sizes available: V25, V50, V75 and canopy sizes: C25, C50 and C75**
- **Can provide up to 44 $D_{n,e,w}$ attenuation, depending on combination**
- **Suitable for use in domestic or non-domestic installations**
- **Ideal for retrofit applications, over an existing slot**
- **Available in a range of combinations to suit different acoustic specifications**
- **Fits over a standard SF, Trimvent Select or Trimvent Select Xtra slot size**
- **Supplied with SF Xtra Ventilator and/or SF Canopy fitted (HF Canopy for 5000EA version)**
- **High performance gasket combined with compression closing action improves sealing in adverse conditions**
- **Can be mounted to deflect air upwards or downwards**
- **For use over a 13mm slot**
- **Special paint finishes available**

Details

Product	Product Code	(L) Length	(W) Width	(P) Projection Closed-Open	Free Area (mm²)	Slot Detail
SF Xtra 2500EA Vent only	TA5220	425	28	10-24	4207	
SF 418 Canopy only	TA5005	418	23	27	5114	
SF Xtra Sound Attenuator 2500EA Vent 25mm	TA5221	464	35	37-51	3470	
SF Sound Attenuator 2500EA Canopy 25mm	TA5202	464	35	54	3470	173.5 20 173.5 13
SF Xtra Sound Attenuator 2500EA Vent 50mm	TA5223	464	35	62-76	3470	
SF Sound Attenuator 2500EA Canopy 50mm	TA5204	464	35	79	3470	
SF Xtra Sound Attenuator 2500EA Vent 75mm	TA5225	464	35	87-101	3470	
SF Sound Attenuator 2500EA Canopy 75mm	TA5206	464	35	104	3470	
SF Xtra Sound Attenuator 5000EA Vent 75mm	TA5235	523	35	87-101	5517	215 8 215 13
HF Sound Attenuator 5000EA Canopy 75mm	TA5236	523	35	113.5	5517	

Acoustic Ratings

Product	Open	Closed	EA (mm²)
V75 + C75 (2500EA)	$D_{n,e,w}$ (C;Ctr) = 44 (-2;-3)dB	$D_{n,e,w}$ (C;Ctr) = 55 (-1;-5)dB	2500
V75 + C50 (2500EA)	$D_{n,e,w}$ (C;Ctr) = 42 (-1;-2)dB	$D_{n,e,w}$ (C;Ctr) = 55 (-2;-5)dB	2500
V75 + Standard Canopy (2500EA)	$D_{n,e,w}$ (C;Ctr) = 40 (-1;-2)dB	$D_{n,e,w}$ (C;Ctr) = 53 (-1;-4)dB	2500
V50 + C25 (2500EA)	$D_{n,e,w}$ (C;Ctr) = 39 (-1;-2)dB	$D_{n,e,w}$ (C;Ctr) = 55 (-2;-5)dB	2500
V50 + Standard Canopy (2500EA)	$D_{n,e,w}$ (C;Ctr) = 38 (-1;-2)dB	$D_{n,e,w}$ (C;Ctr) = 55 (-2;-5)dB	2500
V25 + C25 (2500EA)	$D_{n,e,w}$ (C;Ctr) = 36 (0;-2)dB	$D_{n,e,w}$ (C;Ctr) = 55 (-1;-5)dB	2500
V25 + Standard Canopy (2500EA)	$D_{n,e,w}$ (C;Ctr) = 35 (0;-1)dB	$D_{n,e,w}$ (C;Ctr) = 54 (-1;-4)dB	2500
Standard Vent + C25 (2500EA)	$D_{n,e,w}$ (C;Ctr) = 35 (0;-1)dB	$D_{n,e,w}$ (C;Ctr) = 55 (1;-5)dB	2500
Standard Vent + Standard SF Canopy (2500EA)	$D_{n,e,w}$ (C;Ctr) = 32 (1;0)dB	$D_{n,e,w}$ (C;Ctr) = 52 (-2;-4)dB	2500
V75 + C75 (Hi Spec Foam) (5000EA)	$D_{n,e,w}$ (C;Ctr) = 40 (-2;-3)dB	$D_{n,e,w}$ (C;Ctr) = 51 (-1;-4)dB	5000

Manufactured from

Aluminium 6063A T6, component parts POM

Recommended screws

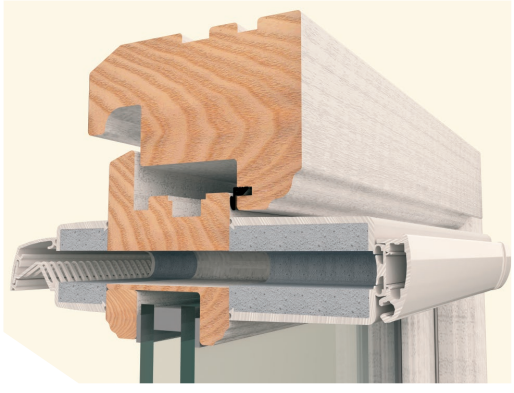
4mm (No.8) Round Head or equivalent
When fitting to PVCu screw must go through two walls or into reinforcement

Standards

Tested in accordance with BS EN 13141-1:2004 (airflow air leakage and weather tightness)

Finishes

Suffix product code with -20 (white)
Other colour options available. Please contact sales for details.



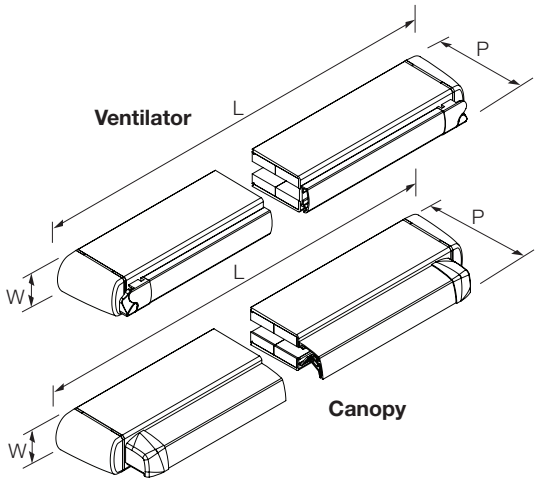
Through sash

Performance

(Full details available on request)
Equivalent Area – See above
Free Area – See above
Air Leakage – 0.11m³/hr @ 50Pa (Vent and Canopy only)
Water Resistance (Pa) – 750Pa
Acoustic $D_{n,e,w}$ – see above
NB: For optimum performance the ventilator should be installed on a flat surface free from defects, and sealant should be used along all edges to achieve the desired acoustic result.

More information

enquiries@titon.co.uk / 01206 713801



Acoustic Performance

Glazing Configuration

6.76mm (33.2) LamiGlass (PVB)

18mm Cavity

4mm Float Glass

.

Sound Reduction Indices

Frequency, Hz / dB						Rw	C	Ctr	OITC	STC
125	250	500	1000	2000	4000	37	-2	-5	30	36
23	28	34	39	42	44					

Disclaimer: The acoustic performance data provided in the reports is based on a test protocol or an estimation and may be used if user actual glazing is identical to input data described herein. Acoustic performance data herein is only applicable for glazing dimensions 1,23 m x 1,48 m (as per testing standard). Estimation of acoustic performance is based on component-similarity assumptions which are derived from measured data and interpolation to expand the database of values from test protocols. Actual performance may vary according to the glazing dimensions, frame system, noise sources and many other parameters. The acoustic performance data herein should not be used as a substitute for tests of actual glazing. For more information please consult Assumptions and Terminology section in Guardian Acoustic Assistant.

07 June 2019 | Acoustic database 20190508 | ASSUMPTION

Acoustic Performance

Glazing Configuration

4mm Float Glass

18mm Cavity

6mm Float Glass

.

Sound Reduction Indices

Frequency, Hz / dB						Rw	C	Ctr	OITC	STC
125	250	500	1000	2000	4000	35	-1	-4	29	34
26	25	29	40	38	29					

Disclaimer: The acoustic performance data provided in the reports is based on a test protocol or an estimation and may be used if user actual glazing is identical to input data described herein. Acoustic performance data herein is only applicable for glazing dimensions 1,23 m x 1,48 m (as per testing standard). Estimation of acoustic performance is based on component-similarity assumptions which are derived from measured data and interpolation to expand the database of values from test protocols. Actual performance may vary according to the glazing dimensions, frame system, noise sources and many other parameters. The acoustic performance data herein should not be used as a substitute for tests of actual glazing. For more information please consult Assumptions and Terminology section in Guardian Acoustic Assistant.

14 May 2019 | Acoustic database 20190508

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