

Project Ref 51190946
Oppunity No. 216563
Site Name: 2 Vale Road, Northfleet
Developer Offset Architects



DESIGN SCHEDULE

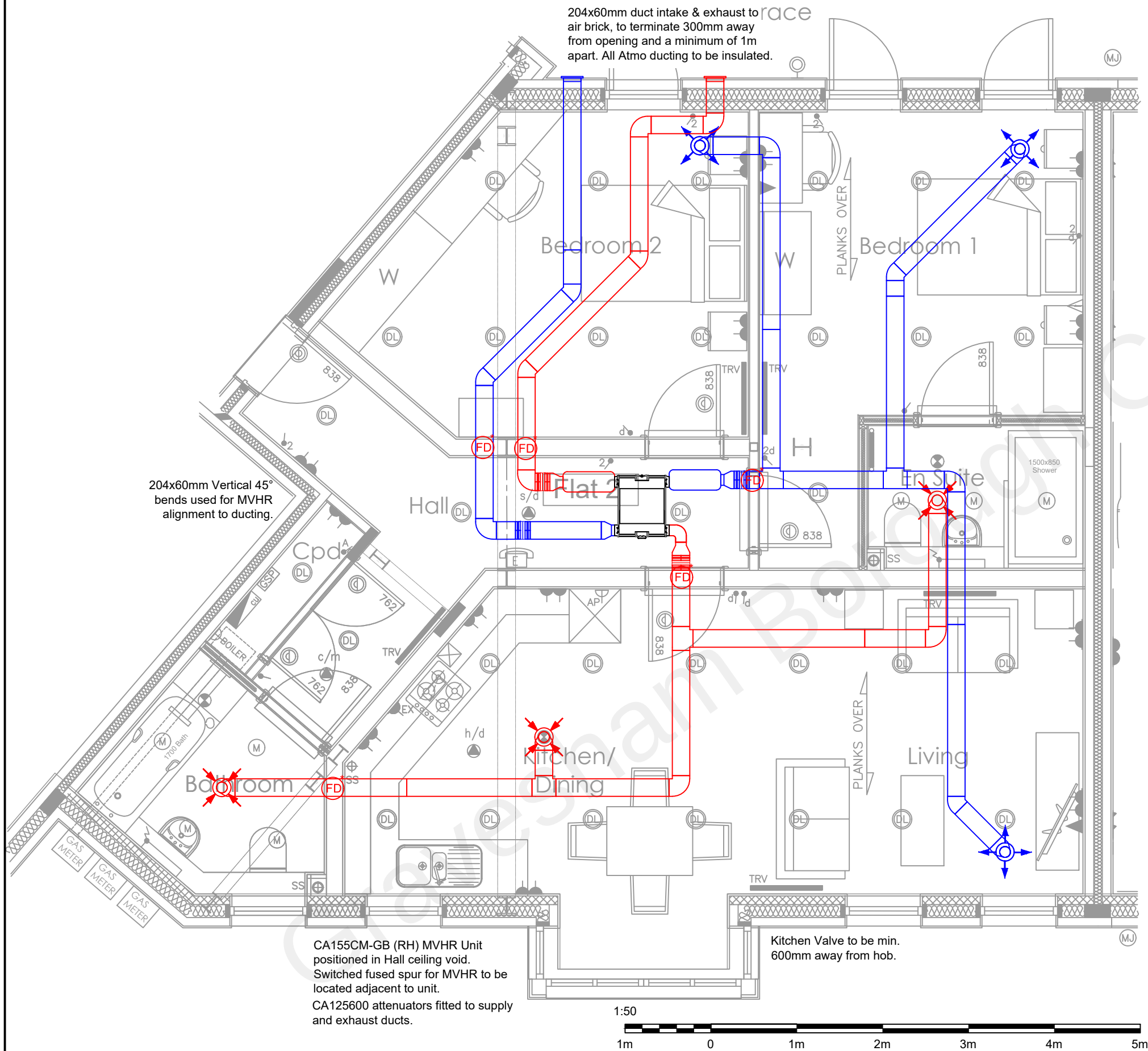
Sent 04/06/2021

Dwg Ref	FT / HT	Type Name	Level	No. Plots	Size	Area m ²	Beds	Add Occup	Extracts K/U/B/E/Wc	Kitchen + Extracts
1	FT	Flat 1	00,	1	2B3P	62.3	2	0	k,b,	1
2	FT	Flat 2	00,	1	2B4P	88.6	2	1	k,b,e,	2
3	FT	Flat 3	01,	1	2B3P	67.5	2	0	k,b,	1
4	FT	Flat 4	01,	1	2B4P	86.7	2	1	k,b,e,	2
5	FT	Flat 5	02,	1	2B4P	93.5	2	0	k,b,	1
6	FT	Flat 6	00,	1	2B3P	69.9	2	0	k,b,	1
7	FT	Flat 7	00,	1	2B4P	70.05	2	1	k,b,	1
8	FT	Flat 8	01,	1	2B4P	75.7	2	1	k,b,	1
9	FT	Flat 9	01,	1	2B3P	70.7	2	1	k,b	1
10	FT	Flat 10	02,	1	2B3P	89.2	2	0	k,b	1

Types Summary
No. flats No. HTs

8	Kitchen + 1 Extract
2	Kitchen + 2 Extract

DATE 23/11/2021



Heat Recovery Legend

The system is designed to operate continuously to provide ventilation rates in line with the requirements of Part F: 2010 - System 4 Continuous Supply and Extract Ventilation with Heat Recovery.

The unit specific Installation Instructions and Homeowner Guide are supplied with each unit and this product must be installed in line with the manufacturers guidance and Domestic Ventilation Compliance Guide (2010). The Homeowner Guide must be left with the unit.

Ducting

The specified unit must be ducted using one of the duct configurations below and in accordance with your ventilation design.

If joist layouts/sections are not supplied we assume the ceiling void is suitable to accommodate the specified duct. Clear paths through the ceiling/floor void for the duct to be installed are also assumed.

- 204mm x 60mm duct - Minimum ceiling void depth required 85mm.
- 125mmØ rigid plastic duct - Minimum ceiling void depth required 150mm.
- Semi-rigid Comfortube - Minimum ceiling void depth required 85mm.
Comfortube Grilles - Minimum ceiling void depth required 135mm.
- Semi-rigid Flat 51 - Minimum ceiling void depth required 65mm.
Flat 51 Grilles - Minimum ceiling void depth required 105mm.

Ducting should be insulated where it passes through unheated areas and voids (e.g. loft spaces) with the equivalent of at least 25mm of a material having a thermal conductivity of $<0.04 \text{ W/(m.K)}$ to reduce the possibility of condensation forming. Where a duct extends above roof level the section above the roof should be insulated or a condensate trap should be fitted just below roof level.

The MVHR unit should incorporate a condensate drain, which should be connected to the nearest waste water network. Where units are sited in a position that makes the connection of piping to allow a fall, impractical, a condensate pump may be incorporated as part of the installation.

Vertical ducting will require a condensate trap in order to prevent back flow of any moisture into the product (These items are to be purchased through others).

The performance of the ventilation system relies on efficient air distribution and it is vital that duct installation is not left until the last moment when the only means of overcoming obstructions is to install flexible duct where rigid had been specified.

For continuously running ventilation systems we recommend a re-circulating cooker hood complete with carbon filter is installed to decrease the air at the source of pollution, preventing a build up of grease from forming within the ducting.

If terminating to a tile vent consideration should be paid to the effective equivalent area of the terminal to ensure that this does not adversely affect the fan performance. Please refer to the product installation instructions for further details.

Background ventilation

No background ventilators are required.

Fire

Fire stopping materials may not have been quoted for. For advice on appropriate fire stopping products a fire officer should be consulted and the Building Regulations 2000: Approved Document B (Fire Safety) - Volume 1: Dwelling houses (2006) prior to any order being placed. Extract valves should not be installed directly above a heat source. We suggest a minimum distance of 600mm from the nearest edge.

Wiring

WARNING: Class II appliances must be earthed. All wiring must conform with BS7671: IEE Wiring Regulations. The installation must be carried out by a qualified electrician in accordance with prevailing regulations.

Please refer to the product installation instruction for further guidance.

Flat 2 (< 5 m³/(h.m²) at 50 Pa				
Dwelling Details				
Floor Area	88.60 m2		Whole building ventilation rate	
Room Height	2.40 m		Default	21l/s
Volume	212.64 m3		0.3l/s per m2	27l/s
Bedrooms	2			
Additional Occupants	1		Minimum ventilation rate	27l/s
<u>Extract Normal Speed</u>		<u>Supply Normal Speed (Positive Pressure)</u>		
Kitchen	13l/s		Living/Dining	12l/s
Bathroom	7l/s		Bedroom 1	9l/s
EnSuite	7l/s		Bedroom 2	9l/s
Total Airflow	27l/s		Total Airflow	30l/s
<u>Extract Boost Speed</u>			<u>Supply Boost Speed (Positive Pressure)</u>	
Kitchen	14l/s		Living/Dining	13l/s
Bathroom	8l/s		Bedroom 1	10l/s
EnSuite	8l/s		Bedroom 2	10l/s
Total Airflow	30l/s		Total Airflow	33l/s



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Flat 2

QUOTE 51190946-216563

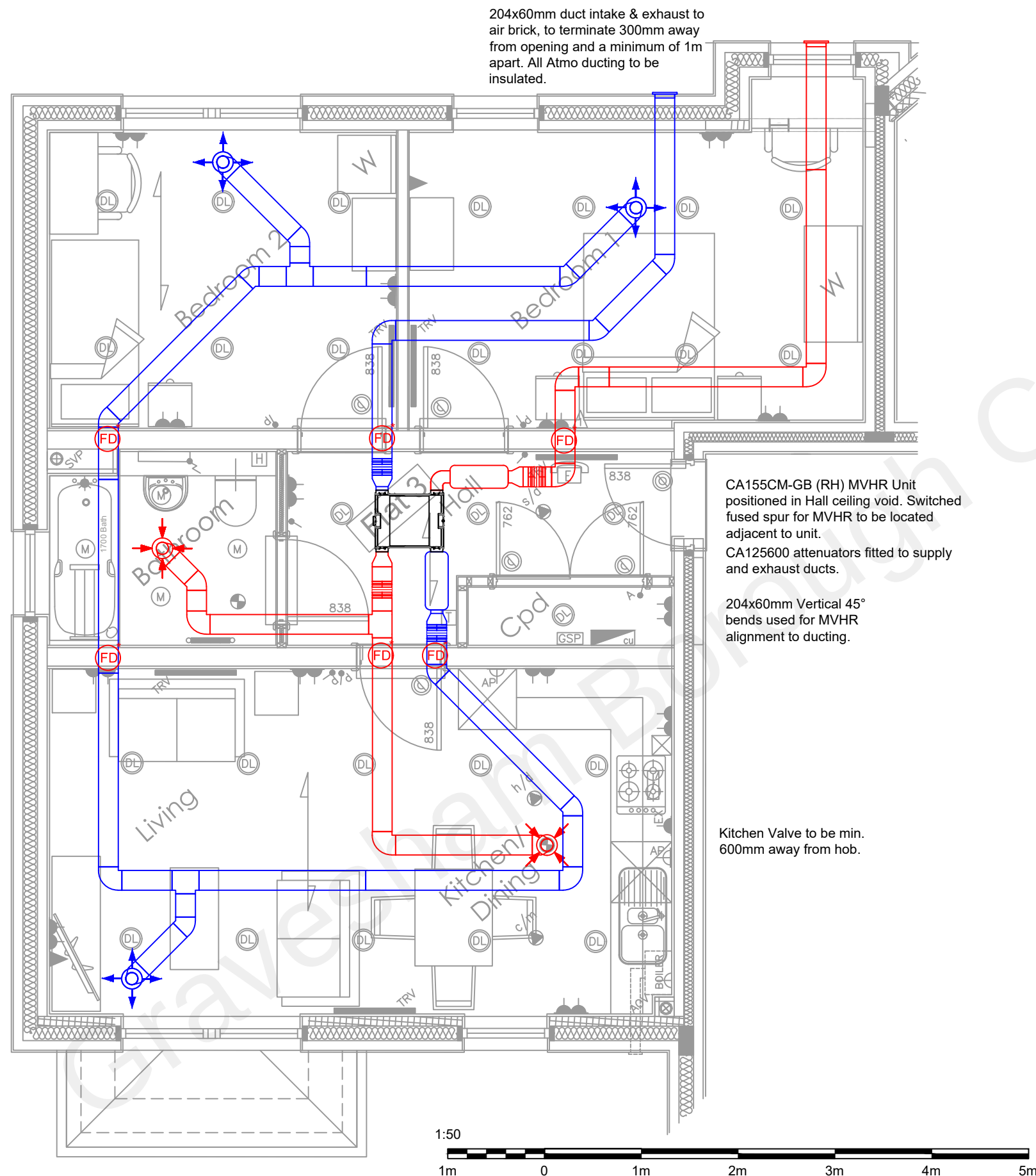
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DRAWN NJC

DWG No 02 B

PAPER SIZE A3L

DATE 23/11/2021



Heat Recovery Legend

The system is designed to operate continuously to provide ventilation rates in line with the requirements of Part F: 2010 - System 4 Continuous Supply and Extract Ventilation with Heat Recovery.

The unit specific Installation Instructions and Homeowner Guide are supplied with each unit and this product must be installed in line with the manufacturers guidance and Domestic Ventilation Compliance Guide (2010). The Homeowner Guide must be left with the unit.

Ducting

The specified unit must be ducted using one of the duct configurations below and in accordance with your ventilation design.

If joist layouts/sections are not supplied we assume the ceiling void is suitable to accommodate the specified duct. Clear paths through the ceiling/floor void for the duct to be installed are also assumed.

- 204mm x 60mm duct - Minimum ceiling void depth required 85mm.
- 125mmØ rigid plastic duct - Minimum ceiling void depth required 150mm.
- Semi-rigid Comfortube - Minimum ceiling void depth required 85mm.
Comfortube Grilles - Minimum ceiling void depth required 135mm.
- Semi-rigid Flat 51 - Minimum ceiling void depth required 65mm.
Flat 51 Grilles - Minimum ceiling void depth required 105mm.

Ducting should be insulated where it passes through unheated areas and voids (e.g. loft spaces) with the equivalent of at least 25mm of a material having a thermal conductivity of $<0.04 \text{ W/(m.K)}$ to reduce the possibility of condensation forming. Where a duct extends above roof level the section above the roof should be insulated or a condensate trap should be fitted just below roof level.

The MVHR unit should incorporate a condensate drain, which should be connected to the nearest waste water network. Where units are sited in a position that makes the connection of piping to allow a fall, impractical, a condensate pump may be incorporated as part of the installation.

Vertical ducting will require a condensate trap in order to prevent back flow of any moisture into the product (These items are to be purchased through others).

The performance of the ventilation system relies on efficient air distribution and it is vital that duct installation is not left until the last moment when the only means of overcoming obstructions is to install flexible duct where rigid had been specified.

For continuously running ventilation systems we recommend a re-circulating cooker hood complete with carbon filter is installed to decrease the air at the source of pollution, preventing a build up of grease from forming within the ducting.

If terminating to a tile vent consideration should be paid to the effective equivalent area of the terminal to ensure that this does not adversely affect the fan performance. Please refer to the product installation instructions for further details.

Background ventilation

No background ventilators are required.

Fire

Fire stopping materials may not have been quoted for. For advice on appropriate fire stopping products a fire officer should be consulted and the Building Regulations 2000: Approved Document B (Fire Safety) - Volume 1: Dwelling houses (2006) prior to any order being placed. Extract valves should not be installed directly above a heat source. We suggest a minimum distance of 600mm from the nearest edge.

Wiring

WARNING: Class II appliances must be earthed. All wiring must conform with BS7671: IEE Wiring Regulations. The installation must be carried out by a qualified electrician in accordance with prevailing regulations.

Please refer to the product Installation Instruction for further guidance.

Flat 3 (< 5 m³/(h.m²) at 50 Pa				
Dwelling Details				
Floor Area	67.50 m2		Whole building ventilation rate	
Room Height	2.40 m		Default	17l/s
Volume	162.00 m3		0.3l/s per m2	20l/s
Bedrooms	2			
Additional Occupants	0	Minimum ventilation rate		20l/s
<u>Extract Normal Speed</u>		<u>Supply Normal Speed (Positive Pressure)</u>		
Kitchen	13l/s	Living/Dining	9l/s	
Bathroom	7l/s	Bedroom 1	8l/s	
		Bedroom 2	5l/s	
Total Airflow	20l/s	Total Airflow	22l/s	
<u>Extract Boost Speed</u>		<u>Supply Boost Speed (Positive Pressure)</u>		
Kitchen	14l/s	Living/Dining	10l/s	
Bathroom	8l/s	Bedroom 1	9l/s	
		Bedroom 2	6l/s	
Total Airflow	22l/s	Total Airflow	25l/s	



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Flat 3

QUOTE 51190946-216563

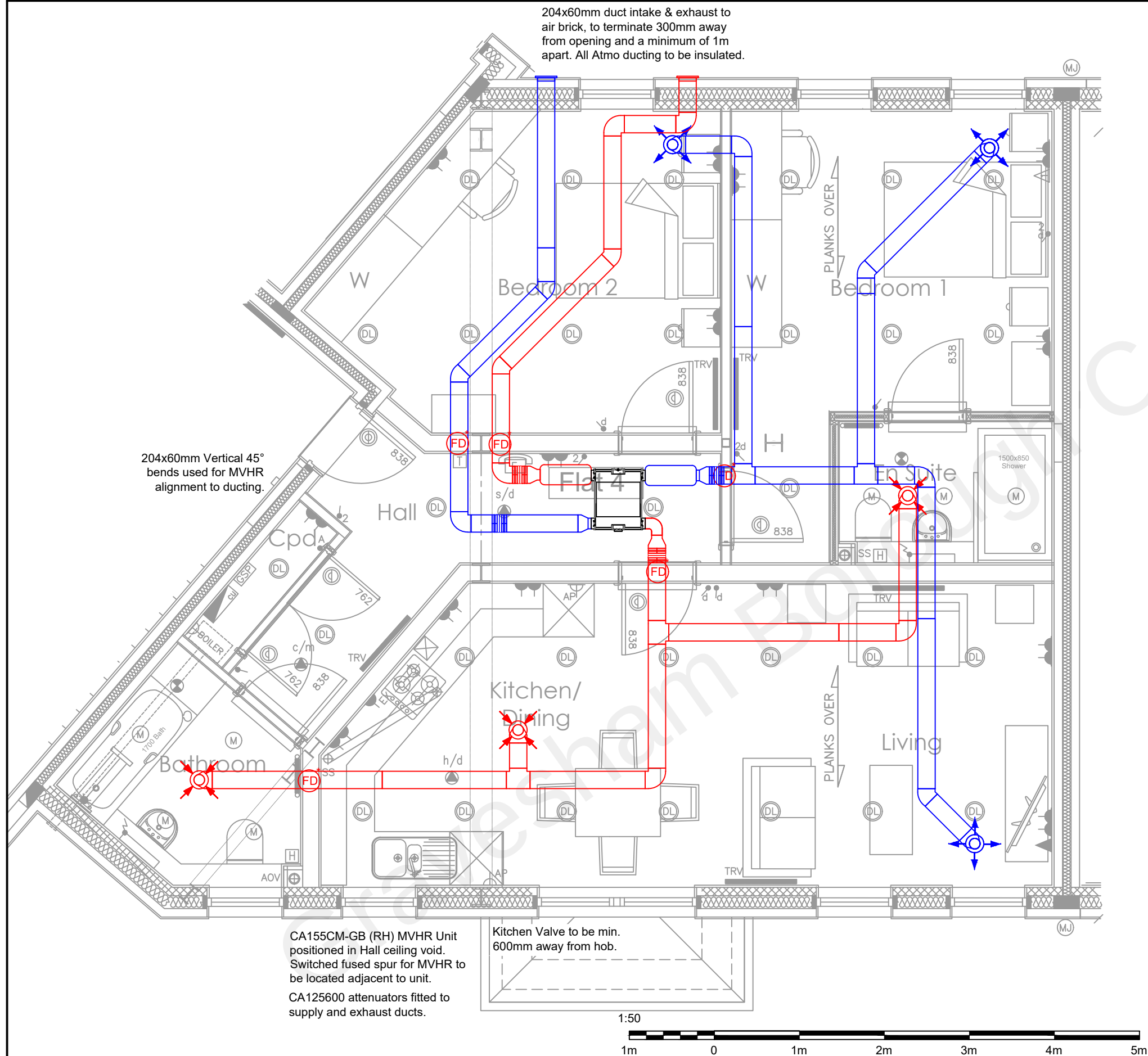
SCALE 1:50

DRAWN NJC

DWG No 03 B

PAPER SIZE A3L

DATE 23/11/2021



Heat Recovery Legend

The system is designed to operate continuously to provide ventilation rates in line with the requirements of Part F: 2010 - System 4 Continuous Supply and Extract Ventilation with Heat Recovery.

The unit specific Installation Instructions and Homeowner Guide are supplied with each unit and this product must be installed in line with the manufacturers guidance and Domestic Ventilation Compliance Guide (2010). The Homeowner Guide must be left with the unit.

Ducting

The specified unit must be ducted using one of the duct configurations below and in accordance with your ventilation design.

If joist layouts/sections are not supplied we assume the ceiling void is suitable to accommodate the specified duct. Clear paths through the ceiling/floor void for the duct to be installed are also assumed.

- 204mm x 60mm duct - Minimum ceiling void depth required 85mm.
- 125mmØ rigid plastic duct - Minimum ceiling void depth required 150mm.
- Semi-rigid Comfortube - Comfortube Grilles - Minimum ceiling void depth required 85mm. Minimum ceiling void depth required 135mm.
- Semi-rigid Flat 51 - Flat 51 Grilles - Minimum ceiling void depth required 65mm. Minimum ceiling void depth required 105mm.

Ducting should be insulated where it passes through unheated areas and voids (e.g. loft spaces) with the equivalent of at least 25mm of a material having a thermal conductivity of <0.04 W/(m.K) to reduce the possibility of condensation forming. Where a duct extends above roof level the section above the roof should be insulated or a condensate trap should be fitted just below roof level.

The MVHR unit should incorporate a condensate drain, which should be connected to the nearest waste water network. Where units are sited in a position that makes the connection of piping to allow a fall, impractical, a condensate pump may be incorporated as part of the installation.

Vertical ducting will require a condensate trap in order to prevent back flow of any moisture into the product (These items are to be purchased through others).

The performance of the ventilation system relies on efficient air distribution and it is vital that duct installation is not left until the last moment when the only means of overcoming obstructions is to install flexible duct where rigid had been specified.

For continuously running ventilation systems we recommend a re-circulating cooker hood complete with carbon filter is installed to decrease the air at the source of pollution, preventing a build up of grease from forming within the ducting.

If terminating to a tile vent consideration should be paid to the effective equivalent area of the terminal to ensure that this does not adversely affect the fan performance. Please refer to the product installation instructions for further details.

Background ventilation

No background ventilators are required.

Fire

Fire stopping materials may not have been quoted for. For advice on appropriate fire stopping products a fire officer should be consulted and the Building Regulations 2000: Approved Document B (Fire Safety) - Volume 1: Dwelling houses (2006) prior to any order being placed. Extract valves should not be installed directly above a heat source. We suggest a minimum distance of 600mm from the nearest edge.

Wiring

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Please refer to the product installation instruction for further guidance.

Flat 4 (< 5 m³/(h.m²) at 50 Pa)					
Dwelling Details					
Floor Area	86.70 m2		Whole building ventilation rate		
Room Height	2.40 m		Default	21l/s	
Volume	208.08 m3		0.3l/s per m2	26l/s	
Bedrooms	2				
Additional Occupants	1		Minimum ventilation rate	26l/s	
<u>Extract Normal Speed</u>		<u>Supply Normal Speed (Positive Pressure)</u>			
Kitchen	12l/s		Living/Dining	11l/s	
Bathroom	7l/s		Bedroom 1	9l/s	
EnSuite	7l/s		Bedroom 2	9l/s	
Total Airflow	26l/s		Total Airflow	29l/s	
<u>Extract Boost Speed</u>		<u>Supply Boost Speed (Positive Pressure)</u>			
Kitchen	13l/s		Living/Dining	13l/s	
Bathroom	8l/s		Bedroom 1	10l/s	
EnSuite	8l/s		Bedroom 2	10l/s	
Total Airflow	29l/s		Total Airflow	33l/s	



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Flat 4

QUOTE 51190946-216563

DRAWN NJC

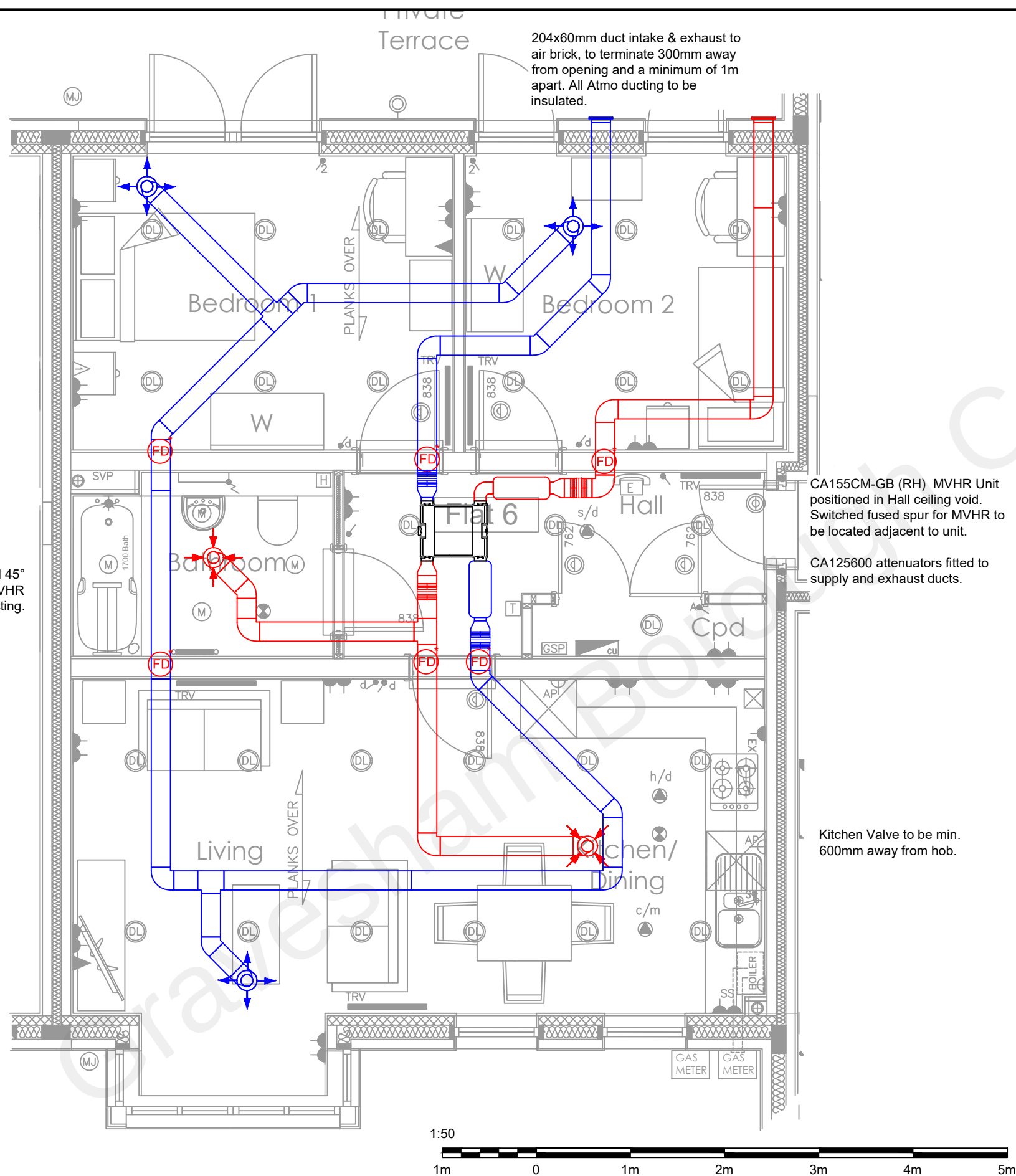
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SCALE 1:50

DWG No 04 B

DATE 23/11/2021

204x60mm Vertical 45° bends used for MVHR alignment to ducting.



Heat Recovery Legend

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Ducting

The specified unit must be ducted using one of the duct configurations below and in accordance with your ventilation design.

If joist layouts/sections are not supplied we assume the ceiling void is suitable to accommodate the specified duct. Clear paths through the ceiling/floor void for the duct to be installed are also assumed.

- 204mm x 60mm duct - Minimum ceiling void depth required 85mm.
- 125mmØ rigid plastic duct - Minimum ceiling void depth required 150mm.
- Semi-rigid Comfortube - Minimum ceiling void depth required 85mm.
Comfortube Grilles - Minimum ceiling void depth required 135mm.
- Semi-rigid Flat 51 - Minimum ceiling void depth required 65mm.
Flat 51 Grilles - Minimum ceiling void depth required 105mm.

Ducting should be insulated where it passes through unheated areas and voids (e.g. loft spaces) with the equivalent of at least 25mm of a material having a thermal conductivity of $<0.04 \text{ W/(m.K)}$ to reduce the possibility of condensation forming. Where a duct extends above roof level the section above the roof should be insulated or a condensate trap should be fitted just below roof level.

The MVHR unit should incorporate a condensate drain, which should be connected to the nearest waste water network. Where units are sited in a position that makes the connection of piping to allow a fall, impractical, a condensate pump may be incorporated as part of the installation.

Vertical ducting will require a condensate trap in order to prevent back flow of any moisture into the product (These items are to be purchased through others).

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For continuously running ventilation systems we recommend a re-circulating cooker hood complete with carbon filter is installed to decrease the air at the source of pollution, preventing a build up of grease from forming within the ducting.

If terminating to a tile vent consideration should be paid to the effective equivalent area of the terminal to ensure that this does not adversely affect the fan performance. Please refer to the product installation instructions for further details.

[Background ventilation](#)
No background ventilators are required.

Fire
Fire stopping materials may not have been quoted for. For advice on appropriate fire stopping products a fire officer should be consulted and the Building Regulations 2000: Approved Document B (Fire Safety) - Volume 1: Dwelling houses (2006) prior to any order being placed. Extract valves should not be installed directly above a heat source. We suggest a minimum distance of 600mm from the nearest edge.

Wiring
WARNING: Class II appliances must be earthed. All wiring must conform with BS7671: IEE Wiring Regulations. The installation must be carried out by a qualified electrician in accordance with prevailing regulations.

Please refer to the product installation instruction for further guidance.

Flat 6 (< 5 m³/(h.m²) at 50 Pa				
Dwelling Details				
Floor Area	69.90 m2		Whole building ventilation rate	
Room Height	2.40 m		Default	17l/s
Volume	167.76 m3		0.3l/s per m2	21l/s
Bedrooms	2			
Additional Occupants	0		Minimum ventilation rate	21l/s
<u>Extract Normal Speed</u>			<u>Supply Normal Speed (Positive Pressure)</u>	
Kitchen	13l/s		Living/Dining	10l/s
Bathroom	8l/s		Bedroom 1	7l/s
			Bedroom 2	6l/s
Total Airflow		21l/s	Total Airflow	23l/s
<u>Extract Boost Speed</u>			<u>Supply Boost Speed (Positive Pressure)</u>	
Kitchen	14l/s		Living/Dining	11l/s
Bathroom	9l/s		Bedroom 1	8l/s
			Bedroom 2	7l/s
Total Airflow		23l/s	Total Airflow	26l/s



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Flat 6

QUOTE 51190946-216563

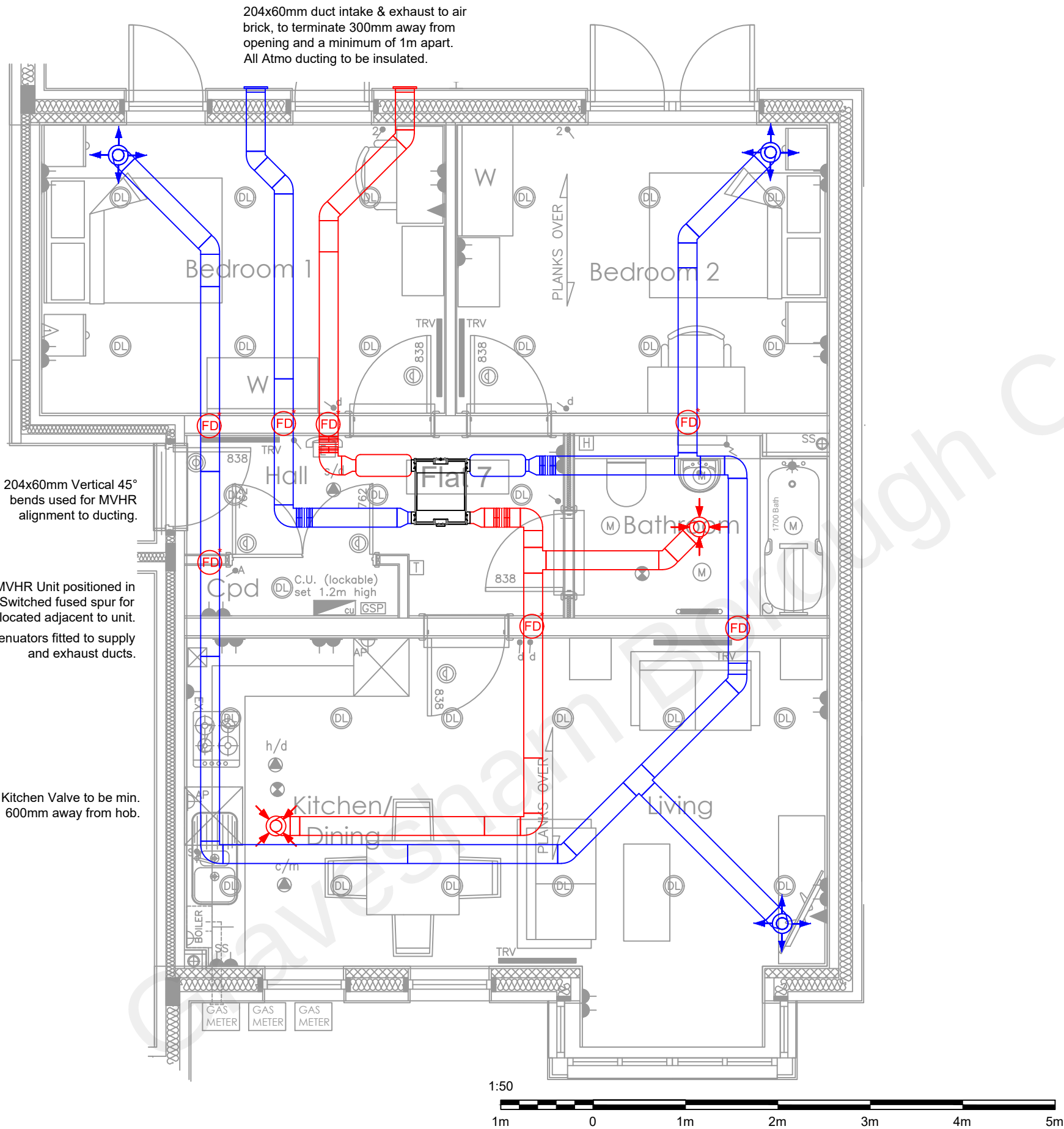
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SCALE 1:50

DWG No 06 B

DATE 23/11/2021



Heat Recovery Legend

The system is designed to operate continuously to provide ventilation rates in line with the requirements of Part F: 2010 - System 4 Continuous Supply and Extract Ventilation with Heat Recovery.

The unit specific Installation Instructions and Homeowner Guide are supplied with each unit and this product must be installed in line with the manufacturers guidance and Domestic Ventilation Compliance Guide (2010). The Homeowner Guide must be left with the unit.

Ducting

The specified unit must be ducted using one of the duct configurations below and in accordance with your ventilation design.

If joist layouts/sections are not supplied we assume the ceiling void is suitable to accommodate the specified duct. Clear paths through the ceiling/floor void for the duct to be installed are also assumed.

- 204mm x 60mm duct - Minimum ceiling void depth required 85mm.
- 125mmØ rigid plastic duct - Minimum ceiling void depth required 150mm.
- Semi-rigid Comfortube - Minimum ceiling void depth required 85mm.
Comfortube Grilles - Minimum ceiling void depth required 135mm.
- Semi-rigid Flat 51 - Minimum ceiling void depth required 65mm.
Flat 51 Grilles - Minimum ceiling void depth required 105mm.

Ducting should be insulated where it passes through unheated areas and voids (e.g. loft spaces) with the equivalent of at least 25mm of a material having a thermal conductivity of $<0.04 \text{ W/(m.K)}$ to reduce the possibility of condensation forming. Where a duct extends above roof level the section above the roof should be insulated or a condensate trap should be fitted just below roof level.

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Vertical ducting will require a condensate trap in order to prevent back flow of any moisture into the product (These items are to be purchased through others).

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If terminating to a tile vent consideration should be paid to the effective equivalent area of the terminal to ensure that this does not adversely affect the fan performance. Please refer to the product installation instructions for further details.

Background ventilation

No background ventilators are required.

Fire

Fire stopping materials may not have been quoted for. For advice on appropriate fire stopping products a fire officer should be consulted and the Building Regulations 2000: Approved Document B (Fire Safety) - Volume 1: Dwelling houses (2006) prior to any order being placed. Extract valves should not be installed directly above a heat source. We suggest a minimum distance of 600mm from the nearest edge.

Wiring

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Please refer to the product installation instruction for further guidance.

Flat 7 (< 5 m²/h.m²) at 50 Pa				
Dwelling Details				
Floor Area	70.05 m²	Whole building ventilation rate		
Room Height	2.40 m		Default	21l/s
Volume	168.12 m³		0.3l/s per m²	21l/s
Bedrooms	2			
Additional Occupants	1	Minimum ventilation rate		21l/s
Extract Normal Speed		Supply Normal Speed (Positive Pressure)		
Kitchen	13l/s	Living/Dining		10l/s
Bathroom	8l/s	Bedroom 1		7l/s
		Bedroom 2		6l/s
Total Airflow		21l/s		23l/s
Extract Boost Speed		Supply Boost Speed (Positive Pressure)		
Kitchen	14l/s	Living/Dining		11l/s
Bathroom	9l/s	Bedroom 1		8l/s
		Bedroom 2		7l/s
Total Airflow		23l/s		26l/s



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Flat 7

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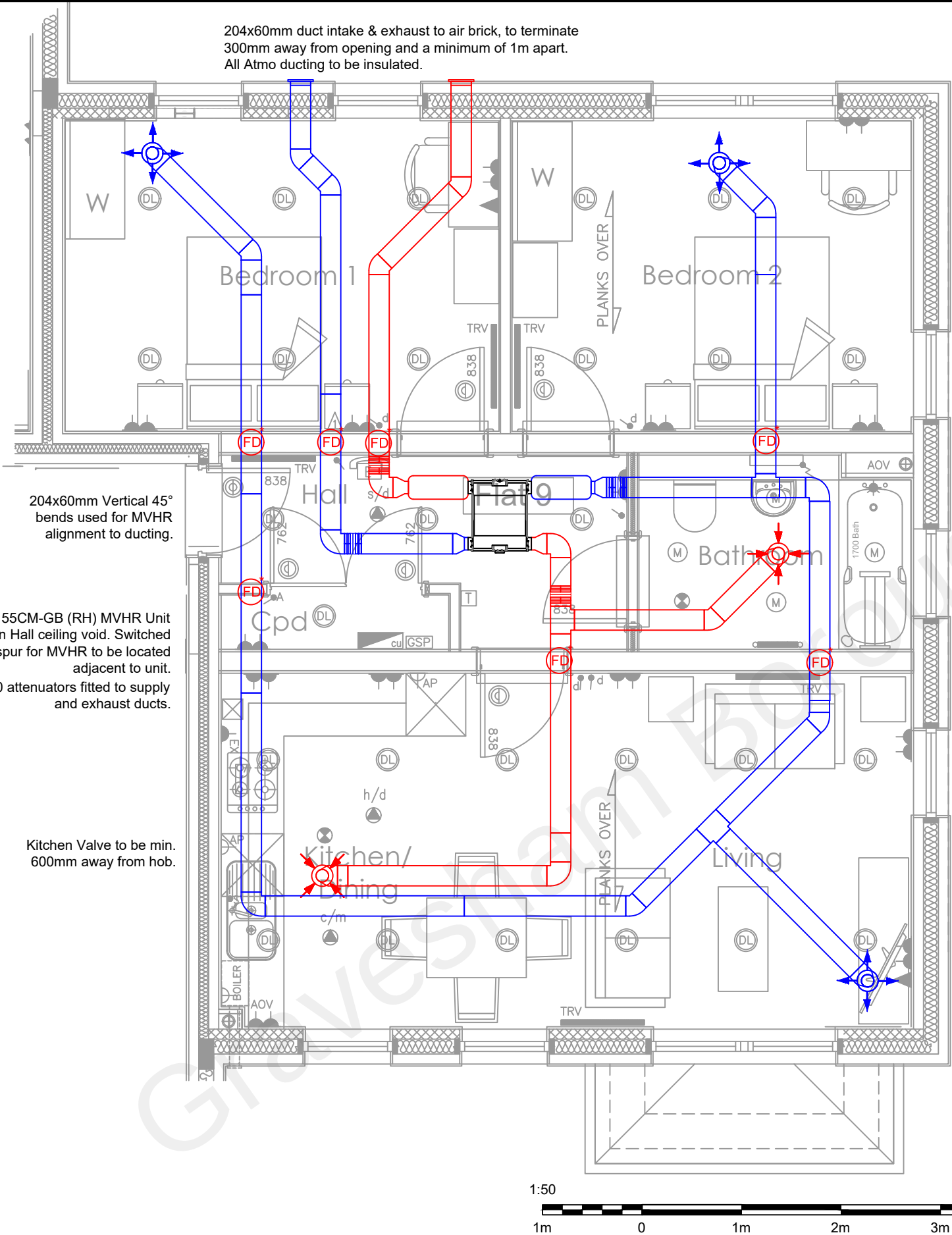
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DWG No 07 B

DATE 23/11/2021



Heat Recovery Legend

The system is designed to operate continuously to provide ventilation rates in line with the requirements of Part F: 2010 - System 4 Continuous Supply and Extract Ventilation with Heat Recovery.

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Ducting

The specified unit must be ducted using one of the duct configurations below and in accordance with your ventilation design.

If joist layouts/sections are not supplied we assume the ceiling void is suitable to accommodate the specified duct. Clear paths through the ceiling/floor void for the duct to be installed are also assumed.

- 1. 204mm x 60mm duct - Minimum ceiling void depth required 85mm.
- 2. 125mmØ rigid plastic duct - Minimum ceiling void depth required 150mm.
- 3. Semi-rigid Comfortube - Minimum ceiling void depth required 85mm. Comfortube Grilles - Minimum ceiling void depth required 135mm.
- 4. Semi-rigid Flat 51 - Minimum ceiling void depth required 65mm. Flat 51 Grilles - Minimum ceiling void depth required 105mm.

Ducting should be insulated where it passes through unheated areas and voids (e.g. loft spaces) with the equivalent of at least 25mm of a material having a thermal conductivity of <0.04 W/(m.K) to reduce the possibility of condensation forming. Where a duct extends above roof level the section above the roof should be insulated or a condensate trap should be fitted just below roof level.

The MVHR unit should incorporate a condensate drain, which should be connected to the nearest waste water network. Where units are sited in a position that makes the connection of piping to allow a fall, impractical, a condensate pump may be incorporated as part of the installation.

Vertical ducting will require a condensate trap in order to prevent back flow of any moisture into the product (These items are to be purchased through others).

The performance of the ventilation system relies on efficient air distribution and it is vital that duct installation is not left until the last moment when the only means of overcoming obstructions is to install flexible duct where rigid had been specified.

For continuously running ventilation systems we recommend a re-circulating cooker hood complete with carbon filter is installed to decrease the air at the source of pollution, preventing a build up of grease from forming within the ducting.

If terminating to a tile vent consideration should be paid to the effective equivalent area of the terminal to ensure that this does not adversely affect the fan performance. Please refer to the product installation instructions for further details.

Background ventilation
No background ventilators are required.

Fire
Fire stopping materials may not have been quoted for. For advice on appropriate fire stopping products a fire officer should be consulted and the Building Regulations 2000: Approved Document B (Fire Safety) - Volume 1: Dwelling houses (2006) prior to any order being placed. Extract valves should not be installed directly above a heat source. We suggest a minimum distance of 600mm from the nearest edge.

Wiring
WARNING: Class II appliances must be earthed. All wiring must conform with BS7671: IEE Wiring Regulations. The installation must be carried out by a qualified electrician in accordance with prevailing regulations.

Please refer to the product installation instruction for further guidance.

Flat 9 (< 5 m³/(h.m²) at 50 Pa				
Dwelling Details				
Floor Area	70.70 m2		Whole building ventilation rate	
Room Height	2.40 m		Default	21l/s
Volume	169.68 m3		0.3l/s per m2	21l/s
Bedrooms	2			
Additional Occupants	1		Minimum ventilation rate	21l/s
<u>Extract Normal Speed</u>		<u>Supply Normal Speed (Positive Pressure)</u>		
Kitchen	13l/s		Living/Dining	10l/s
Bathroom	8l/s		Bedroom 1	7l/s
			Bedroom 2	6l/s
Total Airflow		21l/s	Total Airflow	23l/s
<u>Extract Boost Speed</u>		<u>Supply Boost Speed (Positive Pressure)</u>		
Kitchen	14l/s		Living/Dining	11l/s
Bathroom	9l/s		Bedroom 1	8l/s
			Bedroom 2	7l/s
Total Airflow		23l/s	Total Airflow	26l/s



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To return items, we require as fitted drawings and a brief explanation to support the request for a credit.

Zehnder Group UK Ltd cannot accept returns unless in the unlikely event, an error during the quotation process has occurred where design layout differs from materials list.

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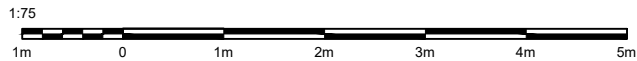
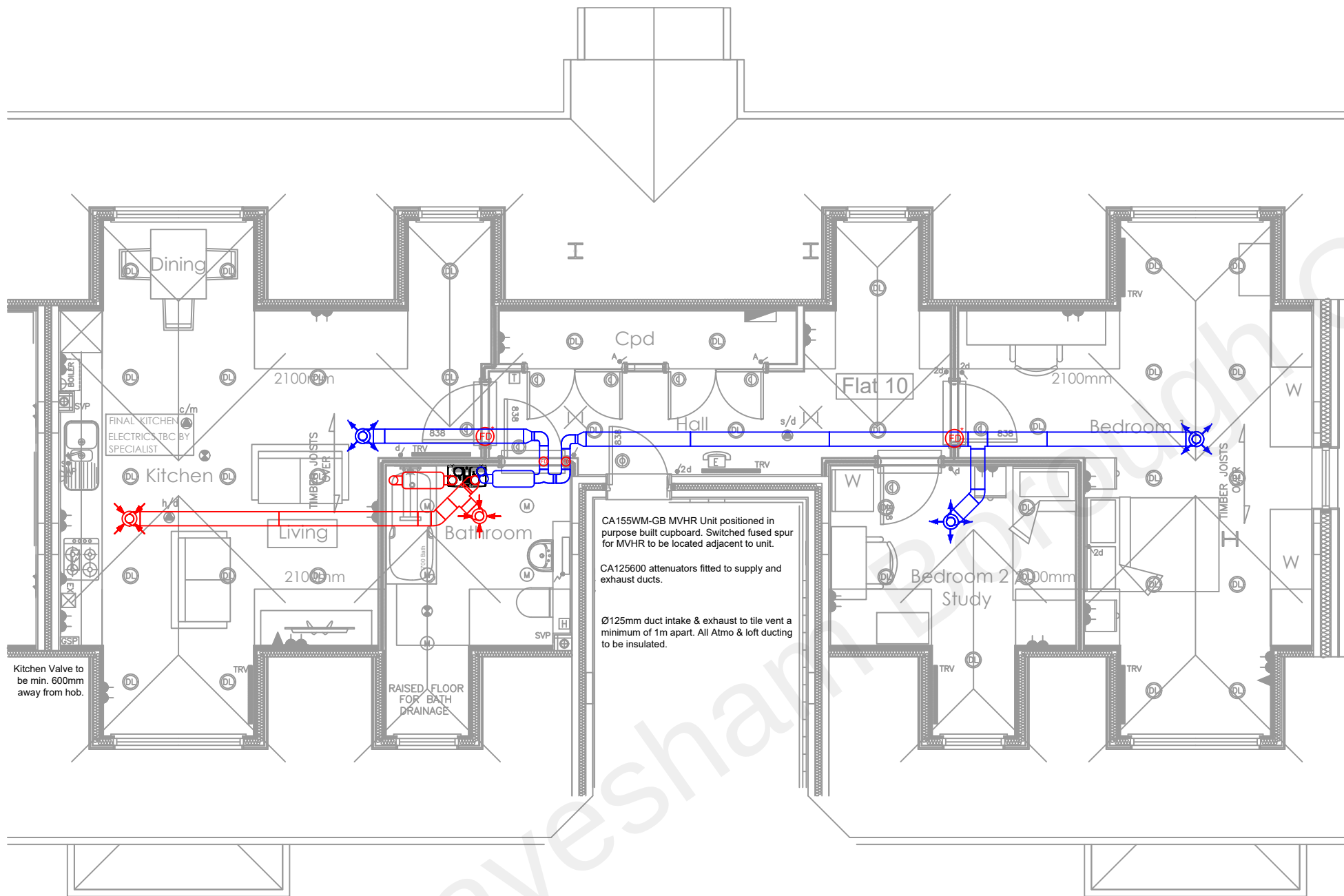
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Flat 9

QUOTE	51190946-216563	SCALE	1:50
DRAWN	NJC	DWG No	09 B
PAPER SIZE	A3L	DATE	23/11/2021



Heat Recovery Legend

The system is designed to operate continuously to provide ventilation rates in line with the requirements of Part F: 2010 - System 4 Continuous Supply and Extract Ventilation with Heat Recovery.

The unit specific Installation Instructions and Homeowner Guide are supplied with each unit and this product must be installed in line with the manufacturers guidance and Domestic Ventilation Compliance Guide (2010). The Homeowner Guide must be left with the unit.

Ducting

The specified unit must be ducted using one of the duct configurations below and in accordance with your ventilation design.

If joist layouts/sections are not supplied we assume the ceiling void is suitable to accommodate the specified duct. Clear paths through the ceiling/floor void for the duct to be installed are also assumed.

- 204mm x 60mm duct - Minimum ceiling void depth required 85mm.
- 125mmØ rigid plastic duct - Minimum ceiling void depth required 150mm.
- Semi-rigid Comfotube - Minimum ceiling void depth required 85mm.
Comfotube Grilles - Minimum ceiling void depth required 135mm.
- Semi-rigid Flat 51 - Minimum ceiling void depth required 65mm.
Flat 51 Grilles - Minimum ceiling void depth required 105mm.

Ducting should be insulated where it passes through unheated areas and voids (e.g. loft spaces) with the equivalent of at least 25mm of a material having a thermal conductivity of $<0.04 \text{ W/(m.K)}$ to reduce the possibility of condensation forming. Where a duct extends above roof level the section above the roof should be insulated or a condensate trap should be fitted just below roof level.

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If terminating to a tile vent consideration should be paid to the effective equivalent area of the terminal to ensure that this does not adversely affect the fan performance. Please refer to the product installation instructions for further details.

Background ventilation

No background ventilators are required.

Fire

Fire stopping materials may not have been quoted for. For advice on appropriate fire stopping products a fire officer should be consulted and the Building Regulations 2000: Approved Document B (Fire Safety) - Volume 1: Dwelling houses (2006) prior to any order being placed. Extract valves should not be installed directly above a heat source. We suggest a minimum distance of 600mm from the nearest edge.

Wiring

WARNING: Class II appliances must be earthed. All wiring must conform with BS7671: IEE Wiring Regulations. The installation must be carried out by a qualified electrician in accordance with prevailing regulations.

Please refer to the product Installation Instruction for further guidance.

Flat 10 (< 5 m ² /(h.m ²) at 50 Pa				
Dwelling Details				
Floor Area	89.20 m ²		Whole building ventilation rate	
Room Height	2.40 m		Default	17l/s
Volume	214.08 m ³		0.3l/s per m ²	27l/s
Bedrooms	2			
Additional Occupants	0		Minimum ventilation rate	27l/s
Extract Normal Speed		Supply Normal Speed (Positive Pressure)		
Kitchen	17l/s		Living/Dining	12l/s
Bathroom	10l/s		Bedroom 1	12l/s
			Bedroom 2	6l/s
Total Airflow			Total Airflow	30l/s
Extract Boost Speed		Supply Boost Speed (Positive Pressure)		
Kitchen	18l/s		Living/Dining	13l/s
Bathroom	11l/s		Bedroom 1	13l/s
			Bedroom 2	7l/s
Total Airflow			Total Airflow	33l/s



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Flat 10

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DATE 23/11/2021