TECHNICAL SUBMISSION – MVHR/Ducting

Technical Submission Ref.:	8790-DBS-XX-XX-SP-M-6013	**Revision:**	B
Technical Submission Title:	Apartment MVHR/Ductwork		

Project Number:	JR008790
Project Name:	Gorton Road, Manchester
Completed By:	Paul Knowles
Issued To (Name / Company):	Shaun McDermott / Engie

Manufacturer	**Model / Part Number / Description**	**No. Of**
Nuaire	MRXBOX – ECO2	-
	Air Valves	
Nuaire	204x60 Insulated Flat Ducting (As required)	
Nuaire	204x60 Flat Ducting (As required)	

General Description:

Please find attached information with regards to the MVHR units and Ducting being proposed for the Project.

Design parameters for each apartment type also included confirming Part F Building Regulations compliance.

Equipment Literature	Attached ☒	Not Applicable ☐
Equipment Schedule	Attached ☐	Not Applicable ☐

Specification By:	Crookes Walker
Specification Title:	Pottery Lane, Manchester Mechanical & Electrical Services Performance Specification RIBA Stage 3 Tender Specification Ref: 1761 S001 Rev T3 Date: 21/02/2020

TECHNICAL SUBMISSION – MVHR/Ducting

Equipment Compliant with Specification? Yes ☐ Not Applicable ☒

Reason For Non-Compliance (if required):

Issued Date:	24/09/2021
Approval / Comments Required Date:	
Approval / Comments Received Date:	

Status A - Approved ☐

Status B – Approved With Comments ☐

Status C – Re-Submission Required ☐

Comments:

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Registered in England No.04650598 VAT Registration No. 687 899 630

Sheet Title : Domestic Ventilation Requirements Schedule - Apartment Type A1-A5
Project : Gorton Lane
Date : Jun-21
By : CC
Revision : -
Checked : MW

Block	Floor	Unit	Extract Ventilation Flow Rates					Total Extract Rate (l/s)	Supply Ventilation Flow Rates								Total Habitable Floor Area (m^2)	Total Supply Rate (l/s)	Min. Vent Rate Check 0.3l/s/m^2
			Kitchen (l/s)	Utility Room (l/s)	Bathroom (l/s)	Ensuite (l/s)	WC (l/s)		Bedroom 1 (m^2)	Bedroom 1 (l/s)	Bedroom 2 (m^2)	Bedroom 2 (l/s)	Bedroom 3 (m^2)	Bedroom 3 (l/s)	Living Room (m^2)	Living Room (l/s)			
	All	A1-A5	13	0	8	0	0	21	16	7	9.5	4	0	0	22.5	10	48	21	14

Notes

Calculated 'minimum high rate' in line with AD:F Table 5.1. Note that the system shall operate continously, set back rate will be approx. 30% of the calculated high rate

Ventilation Type & Arrangement

Each property to be complete with 1no. whole house heat recovery unit (HRU) providing both supply and extract ventilation.

Each HRU shall operate continuously; trickle mode for background ventilation at 30%, boost mode for full ventilation at 100%.

All ventilation flow rates shall be taken from Approved Document F Table 5.1 Extract Ventilation Rates, with the following 'minimum high rate' extract ventilation flow rates applied:

Kitchen : 13 l/s
Utility Room : 8 l/s
Bathroom : 8 l/s
Sanitary Accommodation : 6 l/s

The maximum no. of occupants within any dwelling is 3no (based on 2 beds, with 2no in the master and 1 no in each of the other bedrooms)., therefore the maximum whole house ventilation flow rate is 17l/s (*Table 5.1B Whole Dwelling Ventilation Rates*)
The total required extract ventilation flow rate in this instance would be 21l/s (1no. bathroom + 1no. Kitchen).
The total extract flow rate is greater than the calculated maximum whole house ventilation rate, therefore, no adjustments need to be made to the total dwelling extract flow rate.

The supply ventilation flow rate is designed to match the extract ventilation flow rate in each dwelling. This supply ventilation flow rates are supplied to living rooms and bedrooms only. The supply air flow rate is pro-rated based on the associated floor areas of each space.
All doors within each property should be undercut by a minimum of 10mm to allow complete air flow within the property.

ENGIE - Status A - for Construction / Contractual

Sheet Title : Domestic Ventilation Requirements Schedule - Apartment Type A6-A8
Project : Gorton Lane
Date : Jun-21
By : CC
Revision : -
Checked : MW

Block	*Floor*	*Unit*	*Extract Ventilation Flow Rates*					*Total Extract Rate (l/s)*	*Supply Ventilation Flow Rates*								*Total Habitable Floor Area (m^2)*	*Total Supply Rate (l/s)*	*Min. Vent Rate Check 0.3l/s/m^2*
			Kitchen (l/s)	*Utility Room (l/s)*	*Bathroom (l/s)*	*Ensuite (l/s)*	*WC (l/s)*		*Bedroom 1 (m^2)*	*Bedroom 1 (l/s)*	*Bedroom 2 (m^2)*	*Bedroom 2 (l/s)*	*Bedroom 3 (m^2)*	*Bedroom 3 (l/s)*	*Living Room (m^2)*	*Living Room (l/s)*			
	All	A6-A8	13	0	8	0	0	21	15	7	9	4	0	0	22.5	10	46.5	21	14

Notes

Calculated 'minimum high rate' in line with AD:F Table 5.1. Note that the system shall operate continously, set back rate will be approx. 30% of the calculated high rate

Ventilation Type & Arrangement

Each property to be complete with 1no. whole house heat recovery unit (HRU) providing both supply and extract ventilation.

Each HRU shall operate continuously; trickle mode for background ventilation at 30%, boost mode for full ventilation at 100%.

All ventilation flow rates shall be taken from Approved Document F Table 5.1 Extract Ventilation Rates, with the following 'minimum high rate' extract ventilation flow rates applied:

Kitchen : 13 l/s
Utility Room : 8 l/s
Bathroom : 8 l/s
Sanitary Accommodation : 6 l/s

The maximum no. of occupants within any dwelling is 3no (based on 2 beds, with 2no in the master and 1 no in each of the other bedrooms)., therefore the maximum whole house ventilation flow rate is 17l/s (*Table 5.1B Whole Dwelling Ventilation Rates*)
The total required extract ventilation flow rate in this instance would be 21l/s (1no. bathroom + 1no. Kitchen).
The total extract flow rate is greater than the calculated maximum whole house ventilation rate, therefore, no adjustments need to be made to the total dwelling extract flow rate.

The supply ventilation flow rate is designed to match the extract ventilation flow rate in each dwelling. This supply ventilation flow rates are supplied to living rooms and bedrooms only. The supply air flow rate is pro-rated based on the associated floor areas of each space.
All doors within each property should be undercut by a minimum of 10mm to allow complete air flow within the property.

ENGIE - Status A - for Construction / Contractual

Sheet Title : Domestic Ventilation Requirements Schedule - Apartment Type A9-A10
Project : Gorton Lane
Date : Jun-21
By : CC
Revision : -
Checked : MW

Block	*Floor*	*Unit*	*Extract Ventilation Flow Rates*					*Total Extract Rate (l/s)*	*Supply Ventilation Flow Rates*								*Total Habitable Floor Area (m^2)*	*Total Supply Rate (l/s)*	*Min. Vent Rate Check 0.3l/s/m^2*
			Kitchen (l/s)	*Utility Room (l/s)*	*Bathroom (l/s)*	*Ensuite (l/s)*	*WC (l/s)*		*Bedroom 1 (m^2)*	*Bedroom 1 (l/s)*	*Bedroom 2 (m^2)*	*Bedroom 2 (l/s)*	*Bedroom 3 (m^2)*	*Bedroom 3 (l/s)*	*Living Room (m^2)*	*Living Room (l/s)*			
	All	A6-A8	13	0	8	0	0	21	10	5	10.5	5	0	0	26	12	46.5	21	14

Notes

Calculated 'minimum high rate' in line with AD:F Table 5.1. Note that the system shall operate continously, set back rate will be approx. 30% of the calculated high rate

Ventilation Type & Arrangement

Each property to be complete with 1no. whole house heat recovery unit (HRU) providing both supply and extract ventilation.

Each HRU shall operate continuously; trickle mode for background ventilation at 30%, boost mode for full ventilation at 100%.

All ventilation flow rates shall be taken from Approved Document F Table 5.1 Extract Ventilation Rates, with the following 'minimum high rate' extract ventilation flow rates applied:

Kitchen : 13 l/s
Utility Room : 8 l/s
Bathroom : 8 l/s
Sanitary Accommodation : 6 l/s

The maximum no. of occupants within any dwelling is 3no (based on 2 beds, with 2no in the master and 1 no in each of the other bedrooms)., therefore the maximum whole house ventilation flow rate is 17l/s (*Table 5.1B Whole Dwelling Ventilation Rates*)
The total required extract ventilation flow rate in this instance would be 21l/s (1no. bathroom + 1no. Kitchen).
The total extract flow rate is greater than the calculated maximum whole house ventilation rate, therefore, no adjustments need to be made to the total dwelling extract flow rate.

The supply ventilation flow rate is designed to match the extract ventilation flow rate in each dwelling. This supply ventilation flow rates are supplied to living rooms and bedrooms only. The supply air flow rate is pro-rated based on the associated floor areas of each space.
All doors within each property should be undercut by a minimum of 10mm to allow complete air flow within the property.

ENGIE - Status A - for Construction / Contractual

Sheet Title : Domestic Ventilation Requirements Schedule - Apartment Type A11
Project : Gorton Lane
Date : Jun-21
By : CC
Revision : -
Checked : MW

Block	Floor	Unit	Extract Ventilation Flow Rates					Total Extract Rate (l/s)	Supply Ventilation Flow Rates								Total Habitable Floor Area (m^2)	Total Supply Rate (l/s)	Min. Vent Rate Check 0.3l/s/m^2
			Kitchen (l/s)	Utility Room (l/s)	Bathroom (l/s)	Ensuite (l/s)	WC (l/s)		Bedroom 1 (m^2)	Bedroom 1 (l/s)	Bedroom 2 (m^2)	Bedroom 2 (l/s)	Bedroom 3 (m^2)	Bedroom 3 (l/s)	Living Room (m^2)	Living Room (l/s)			
	All	A11	13	0	8	0	0	21	16	7	9	4	0	0	23	10	48	21	14

Calculated 'minimum high rate' in line with AD:F Table 5.1. Note that the system shall operate continously, set back rate will be approx. 30% of the calculated high rate

Notes

Ventilation Type & Arrangement

Each property to be complete with 1no. whole house heat recovery unit (HRU) providing both supply and extract ventilation.

Each HRU shall operate continuously; trickle mode for background ventilation at 30%, boost mode for full ventilation at 100%.

All ventilation flow rates shall be taken from Approved Document F Table 5.1 Extract Ventilation Rates, with the following 'minimum high rate' extract ventilation flow rates applied:

Kitchen : 13 l/s
Utility Room : 8 l/s
Bathroom : 8 l/s
Sanitary Accommodation : 6 l/s

The maximum no. of occupants within any dwelling is 3no (based on 2 beds, with 2no in the master and 1 no in each of the other bedrooms)., therefore the maximum whole house ventilation flow rate is 17l/s (*Table 5.1B Whole Dwelling Ventilation Rates*)
The total required extract ventilation flow rate in this instance would be 21l/s (1no. bathroom + 1no. Kitchen).
The total extract flow rate is greater than the calculated maximum whole house ventilation rate, therefore, no adjustments need to be made to the total dwelling extract flow rate.

The supply ventilation flow rate is designed to match the extract ventilation flow rate in each dwelling. This supply ventilation flow rates are supplied to living rooms and bedrooms only. The supply air flow rate is pro-rated based on the associated floor areas of each space.
All doors within each property should be undercut by a minimum of 10mm to allow complete air flow within the property.

ENGIE - Status A - for Construction / Contractual

Sheet Title : Domestic Ventilation Requirements Schedule - Apartment Type A12
Project : Gorton Lane
Date : Jun-21
By : CC
Revision : -
Checked : MW

Block	Floor	Unit	Extract Ventilation Flow Rates					Total Extract Rate (l/s)	Supply Ventilation Flow Rates								Total Habitable Floor Area (m^2)	Total Supply Rate (l/s)	Min. Vent Rate Check 0.3l/s/m^2
			Kitchen (l/s)	Utility Room (l/s)	Bathroom (l/s)	Ensuite (l/s)	WC (l/s)		Bedroom 1 (m^2)	Bedroom 1 (l/s)	Bedroom 2 (m^2)	Bedroom 2 (l/s)	Bedroom 3 (m^2)	Bedroom 3 (l/s)	Living Room (m^2)	Living Room (l/s)			
	All	A12	13	0	8	0	0	21	16	7	9	4	0	0	24	10	49	21	15

Notes

Calculated 'minimum high rate' in line with AD:F Table 5.1. Note that the system shall operate continously, set back rate will be approx. 30% of the calculated high rate

Ventilation Type & Arrangement

Each property to be complete with 1no. whole house heat recovery unit (HRU) providing both supply and extract ventilation.

Each HRU shall operate continuously; trickle mode for background ventilation at 30%, boost mode for full ventilation at 100%.

All ventilation flow rates shall be taken from Approved Document F Table 5.1 Extract Ventilation Rates, with the following 'minimum high rate' extract ventilation flow rates applied:

Kitchen : 13 l/s
Utility Room : 8 l/s
Bathroom : 8 l/s
Sanitary Accommodation : 6 l/s

The maximum no. of occupants within any dwelling is 3no (based on 2 beds, with 2no in the master and 1 no in each of the other bedrooms)., therefore the maximum whole house ventilation flow rate is 17l/s (*Table 5.1B Whole Dwelling Ventilation Rates*)
The total required extract ventilation flow rate in this instance would be 21l/s (1no. bathroom + 1no. Kitchen).
The total extract flow rate is greater than the calculated maximum whole house ventilation rate, therefore, no adjustments need to be made to the total dwelling extract flow rate.

The supply ventilation flow rate is designed to match the extract ventilation flow rate in each dwelling. This supply ventilation flow rates are supplied to living rooms and bedrooms only. The supply air flow rate is pro-rated based on the associated floor areas of each space.
All doors within each property should be undercut by a minimum of 10mm to allow complete air flow within the property.

ENGIE - Status A - for Construction / Contractual

Sheet Title : Domestic Ventilation Requirements Schedule - Apartment Type B1
Project : Gorton Lane
Date : Jun-21
By : CC
Revision : -
Checked : MW

Block	*Floor*	*Unit*	*Extract Ventilation Flow Rates*					*Total Extract Rate (l/s)*	*Supply Ventilation Flow Rates*								*Total Habitable Floor Area (m^2)*	*Total Supply Rate (l/s)*	*Min. Vent Rate Check 0.3l/s/m^2*
			Kitchen (l/s)	*Utility Room (l/s)*	*Bathroom (l/s)*	*Ensuite (l/s)*	*WC (l/s)*		*Bedroom 1 (m^2)*	*Bedroom 1 (l/s)*	*Bedroom 2 (m^2)*	*Bedroom 2 (l/s)*	*Bedroom 3 (m^2)*	*Bedroom 3 (l/s)*	*Living Room (m^2)*	*Living Room (l/s)*			
	All	B1	13	0	8	0	0	21	12.5	6	10.5	5	0	0	24	11	47	21	14

Notes

Calculated 'minimum high rate' in line with AD:F Table 5.1. Note that the system shall operate continously, set back rate will be approx. 30% of the calculated high rate

Ventilation Type & Arrangement

Each property to be complete with 1no. whole house heat recovery unit (HRU) providing both supply and extract ventilation.

Each HRU shall operate continuously; trickle mode for background ventilation at 30%, boost mode for full ventilation at 100%.

All ventilation flow rates shall be taken from Approved Document F Table 5.1 Extract Ventilation Rates, with the following 'minimum high rate' extract ventilation flow rates applied:

Kitchen : 13 l/s
Utility Room : 8 l/s
Bathroom : 8 l/s
Sanitary Accommodation : 6 l/s

The maximum no. of occupants within any dwelling is 3no (based on 2 beds, with 2no in the master and 1 no in each of the other bedrooms)., therefore the maximum whole house ventilation flow rate is 17l/s (*Table 5.1B Whole Dwelling Ventilation Rates*)
The total required extract ventilation flow rate in this instance would be 21l/s (1no. bathroom + 1no. Kitchen).
The total extract flow rate is greater than the calculated maximum whole house ventilation rate, therefore, no adjustments need to be made to the total dwelling extract flow rate.

The supply ventilation flow rate is designed to match the extract ventilation flow rate in each dwelling. This supply ventilation flow rates are supplied to living rooms and bedrooms only. The supply air flow rate is pro-rated based on the associated floor areas of each space.
All doors within each property should be undercut by a minimum of 10mm to allow complete air flow within the property.

ENGIE - Status A - for Construction / Contractual

Sheet Title : Domestic Ventilation Requirements Schedule - Apartment Type B2
Project : Gorton Lane
Date : Jun-21
By : CC
Revision : -
Checked : MW

Block	*Floor*	*Unit*	*Extract Ventilation Flow Rates*					*Total Extract Rate (l/s)*	*Supply Ventilation Flow Rates*								*Total Habitable Floor Area (m^2)*	*Total Supply Rate (l/s)*	*Min. Vent Rate Check 0.3l/s/m^2*
			Kitchen (l/s)	*Utility Room (l/s)*	*Bathroom (l/s)*	*Ensuite (l/s)*	*WC (l/s)*		*Bedroom 1 (m^2)*	*Bedroom 1 (l/s)*	*Bedroom 2 (m^2)*	*Bedroom 2 (l/s)*	*Bedroom 3 (m^2)*	*Bedroom 3 (l/s)*	*Living Room (m^2)*	*Living Room (l/s)*			
	All	B2	13	0	8	0	0	21	12	7	0	0	0	0	22	14	34	21	10

Calculated 'minimum high rate' in line with AD:F Table 5.1. Note that the system shall operate continously, set back rate will be approx. 30% of the calculated high rate

Notes

Ventilation Type & Arrangement

Each property to be complete with 1no. whole house heat recovery unit (HRU) providing both supply and extract ventilation.

Each HRU shall operate continuously; trickle mode for background ventilation at 30%, boost mode for full ventilation at 100%.

All ventilation flow rates shall be taken from Approved Document F Table 5.1 Extract Ventilation Rates, with the following 'minimum high rate' extract ventilation flow rates applied:

Kitchen : 13 l/s
Utility Room : 8 l/s
Bathroom : 8 l/s
Sanitary Accommodation : 6 l/s

The maximum no. of occupants within any dwelling is 2no (based on 1 bed with 2no in the master)., therefore the maximum whole house ventilation flow rate is 13l/s (*Table 5.1B Whole Dwelling Ventilation Rates*)
The total required extract ventilation flow rate in this instance would be 21l/s (1no. bathroom + 1no. Kitchen).
The total extract flow rate is greater than the calculated maximum whole house ventilation rate, therefore, no adjustments need to be made to the total dwelling extract flow rate.

The supply ventilation flow rate is designed to match the extract ventilation flow rate in each dwelling. This supply ventilation flow rates are supplied to living rooms and bedrooms only. The supply air flow rate is pro-rated based on the associated floor areas of each space.
All doors within each property should be undercut by a minimum of 10mm to allow complete air flow within the property.

ENGIE - Status A - for Construction / Contractual

Sheet Title : Domestic Ventilation Requirements Schedule - Apartment Type C1
Project : Gorton Lane
Date : Jun-21
By : CC
Revision : -
Checked : MW

Block	Floor	Unit	Extract Ventilation Flow Rates					Total Extract Rate (l/s)	Supply Ventilation Flow Rates								Total Habitable Floor Area (m^2)	Total Supply Rate (l/s)	Min. Vent Rate Check 0.3l/s/m^2
			Kitchen (l/s)	Utility Room (l/s)	Bathroom (l/s)	Ensuite (l/s)	WC (l/s)		Bedroom 1 (m^2)	Bedroom 1 (l/s)	Bedroom 2 (m^2)	Bedroom 2 (l/s)	Bedroom 3 (m^2)	Bedroom 3 (l/s)	Living Room (m^2)	Living Room (l/s)			
	All	C1	13	0	8	0	0	21	10	7	0	0	0	0	21	14	31	21	9

Calculated 'minimum high rate' in line with AD:F Table 5.1. Note that the system shall operate continously, set back rate will be approx. 30% of the calculated high rate

Notes

Ventilation Type & Arrangement

Each property to be complete with 1no. whole house heat recovery unit (HRU) providing both supply and extract ventilation.

Each HRU shall operate continuously; trickle mode for background ventilation at 30%, boost mode for full ventilation at 100%.

All ventilation flow rates shall be taken from Approved Document F Table 5.1 Extract Ventilation Rates, with the following 'minimum high rate' extract ventilation flow rates applied:

Kitchen : 13 l/s
Utility Room : 8 l/s
Bathroom : 8 l/s
Sanitary Accommodation : 6 l/s

The maximum no. of occupants within any dwelling is 2no (based on 1 bed with 2no in the master)., therefore the maximum whole house ventilation flow rate is 13l/s (*Table 5.1B Whole Dwelling Ventilation Rates*)
The total required extract ventilation flow rate in this instance would be 21l/s (1no. bathroom + 1no. Kitchen).
The total extract flow rate is greater than the calculated maximum whole house ventilation rate, therefore, no adjustments need to be made to the total dwelling extract flow rate.

The supply ventilation flow rate is designed to match the extract ventilation flow rate in each dwelling. This supply ventilation flow rates are supplied to living rooms and bedrooms only. The supply air flow rate is pro-rated based on the associated floor areas of each space.
All doors within each property should be undercut by a minimum of 10mm to allow complete air flow within the property.

ENGIE - Status A - for Construction / Contractual

Sheet Title : Domestic Ventilation Requirements Schedule - Apartment Type D1
Project : Gorton Lane
Date : Jun-21
By : CC
Revision : -
Checked : MW

Block	*Floor*	*Unit*	*Extract Ventilation Flow Rates*					*Total Extract Rate (l/s)*	*Supply Ventilation Flow Rates*								*Total Habitable Floor Area (m^2)*	*Total Supply Rate (l/s)*	*Min. Vent Rate Check 0.3l/s/m^2*
			Kitchen (l/s)	*Utility Room (l/s)*	*Bathroom (l/s)*	*Ensuite (l/s)*	*WC (l/s)*		*Bedroom 1 (m^2)*	*Bedroom 1 (l/s)*	*Bedroom 2 (m^2)*	*Bedroom 2 (l/s)*	*Bedroom 3 (m^2)*	*Bedroom 3 (l/s)*	*Living Room (m^2)*	*Living Room (l/s)*			
	All	D1	13	0	8	0	0	21	10	7	0	0	0	0	19	14	29	21	9

Notes

Calculated 'minimum high rate' in line with AD:F Table 5.1. Note that the system shall operate continously, set back rate will be approx. 30% of the calculated high rate

Ventilation Type & Arrangement

Each property to be complete with 1no. whole house heat recovery unit (HRU) providing both supply and extract ventilation.

Each HRU shall operate continuously; trickle mode for background ventilation at 30%, boost mode for full ventilation at 100%.

All ventilation flow rates shall be taken from Approved Document F Table 5.1 Extract Ventilation Rates, with the following 'minimum high rate' extract ventilation flow rates applied:

Kitchen : 13 l/s
Utility Room : 8 l/s
Bathroom : 8 l/s
Sanitary Accommodation : 6 l/s

The maximum no. of occupants within any dwelling is 2no (based on 1 bed with 2no in the master)., therefore the maximum whole house ventilation flow rate is 13l/s (*Table 5.1B Whole Dwelling Ventilation Rates*)
The total required extract ventilation flow rate in this instance would be 21l/s (1no. bathroom + 1no. Kitchen).
The total extract flow rate is greater than the calculated maximum whole house ventilation rate, therefore, no adjustments need to be made to the total dwelling extract flow rate.

The supply ventilation flow rate is designed to match the extract ventilation flow rate in each dwelling. This supply ventilation flow rates are supplied to living rooms and bedrooms only. The supply air flow rate is pro-rated based on the associated floor areas of each space.
All doors within each property should be undercut by a minimum of 10mm to allow complete air flow within the property.

ENGIE - Status A - for Construction / Contractual

Sheet Title : Domestic Ventilation Requirements Schedule - Apartment Type E1
Project : Gorton Lane
Date : Jun-21
By : CC
Revision : -
Checked : MW

Block	*Floor*	*Unit*	*Extract Ventilation Flow Rates*					*Total Extract Rate (l/s)*	*Supply Ventilation Flow Rates*								*Total Habitable Floor Area (m^2)*	*Total Supply Rate (l/s)*	*Min. Vent Rate Check 0.3l/s/m^2*
			Kitchen (l/s)	*Utility Room (l/s)*	*Bathroom (l/s)*	*Ensuite (l/s)*	*WC (l/s)*		*Bedroom 1 (m^2)*	*Bedroom 1 (l/s)*	*Bedroom 2 (m^2)*	*Bedroom 2 (l/s)*	*Bedroom 3 (m^2)*	*Bedroom 3 (l/s)*	*Living Room (m^2)*	*Living Room (l/s)*			
	All	E1	13	0	8	0	0	21	10	7	0	0	0	0	19	14	29	21	9

Notes

Calculated 'minimum high rate' in line with AD:F Table 5.1. Note that the system shall operate continously, set back rate will be approx. 30% of the calculated high rate

Ventilation Type & Arrangement

Each property to be complete with 1no. whole house heat recovery unit (HRU) providing both supply and extract ventilation.

Each HRU shall operate continuously; trickle mode for background ventilation at 30%, boost mode for full ventilation at 100%.

All ventilation flow rates shall be taken from Approved Document F Table 5.1 Extract Ventilation Rates, with the following 'minimum high rate' extract ventilation flow rates applied:

Kitchen : 13 l/s
Utility Room : 8 l/s
Bathroom : 8 l/s
Sanitary Accommodation : 6 l/s

The maximum no. of occupants within any dwelling is 2no (based on 1 bed with 2no in the master)., therefore the maximum whole house ventilation flow rate is 13l/s (*Table 5.1B Whole Dwelling Ventilation Rates*)
The total required extract ventilation flow rate in this instance would be 21l/s (1no. bathroom + 1no. Kitchen).
The total extract flow rate is greater than the calculated maximum whole house ventilation rate, therefore, no adjustments need to be made to the total dwelling extract flow rate.

The supply ventilation flow rate is designed to match the extract ventilation flow rate in each dwelling. This supply ventilation flow rates are supplied to living rooms and bedrooms only. The supply air flow rate is pro-rated based on the associated floor areas of each space.
All doors within each property should be undercut by a minimum of 10mm to allow complete air flow within the property.

ENGIE - Status A - for Construction / Contractual

Sheet Title : Domestic Ventilation Requirements Schedule - Apartment Type E2
Project : Gorton Lane
Date : Jun-21
By : CC
Revision : -
Checked : MW

Block	*Floor*	*Unit*	*Extract Ventilation Flow Rates*					*Total Extract Rate (l/s)*	*Supply Ventilation Flow Rates*								*Total Habitable Floor Area (m^2)*	*Total Supply Rate (l/s)*	*Min. Vent Rate Check 0.3l/s/m^2*
			Kitchen (l/s)	*Utility Room (l/s)*	*Bathroom (l/s)*	*Ensuite (l/s)*	*WC (l/s)*		*Bedroom 1 (m^2)*	*Bedroom 1 (l/s)*	*Bedroom 2 (m^2)*	*Bedroom 2 (l/s)*	*Bedroom 3 (m^2)*	*Bedroom 3 (l/s)*	*Living Room (m^2)*	*Living Room (l/s)*			
	All	E2	13	0	8	0	0	21	11	6	0	0	0	0	25	15	36	21	11

Calculated 'minimum high rate' in line with AD:F Table 5.1. Note that the system shall operate continously, set back rate will be approx. 30% of the calculated high rate

Notes

Ventilation Type & Arrangement

Each property to be complete with 1no. whole house heat recovery unit (HRU) providing both supply and extract ventilation.

Each HRU shall operate continuously; trickle mode for background ventilation at 30%, boost mode for full ventilation at 100%.

All ventilation flow rates shall be taken from Approved Document F Table 5.1 Extract Ventilation Rates, with the following 'minimum high rate' extract ventilation flow rates applied:

Kitchen : 13 l/s
Utility Room : 8 l/s
Bathroom : 8 l/s
Sanitary Accommodation : 6 l/s

The maximum no. of occupants within any dwelling is 2no (based on 1 bed with 2no in the master)., therefore the maximum whole house ventilation flow rate is 13l/s (*Table 5.1B Whole Dwelling Ventilation Rates*)
The total required extract ventilation flow rate in this instance would be 21l/s (1no. bathroom + 1no. Kitchen).
The total extract flow rate is greater than the calculated maximum whole house ventilation rate, therefore, no adjustments need to be made to the total dwelling extract flow rate.

The supply ventilation flow rate is designed to match the extract ventilation flow rate in each dwelling. This supply ventilation flow rates are supplied to living rooms and bedrooms only. The supply air flow rate is pro-rated based on the associated floor areas of each space.
All doors within each property should be undercut by a minimum of 10mm to allow complete air flow within the property.

ENGIE - Status A - for Construction / Contractual

MRXBOXAB-ECO2
MRXBOX-ECO2
and Opposite Handed versions

ACHIEVES
100%
DUTY IN BYPASS MODE

The MRXBOXAB-ECO2 has been designed with automatic 100% bypass as listed on the SAP Product Characteristics Database (PCDB).

Due to its intelligent and smart design, there will be no reduction in airflow when operating in bypass mode resulting in enhanced performance.

Both the MRXBOXAB-ECO2 and the MRXBOX-ECO2 are designed to provide optimised balanced (supply and extract) mechanical ventilation with heat recovery and both are listed on the PCDB.

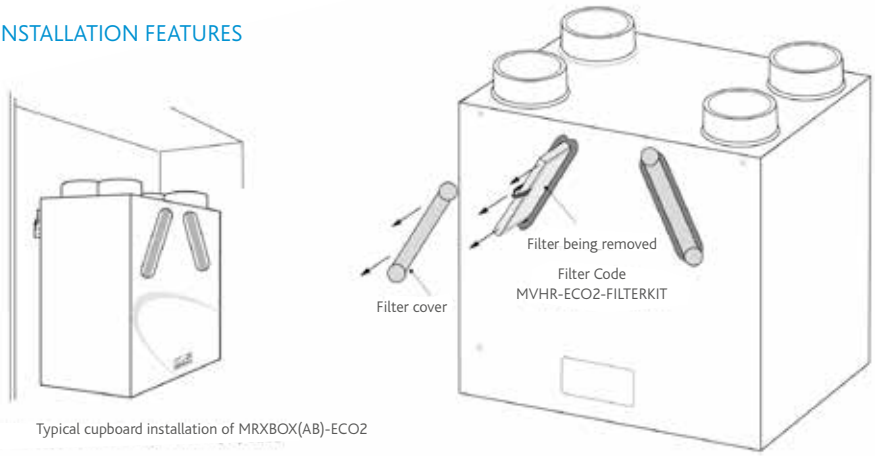
The units operate by continuously extracting moisture-laden air from 'wet' rooms within the property and at the same time drawing in fresh supply air from outside. The heat from the extracted stale air is recovered via a heat exchanger inside the heat recovery unit which becomes tempered then filtered before supplying into the habitable rooms, creating comfortable and well ventilated homes.

The heat exchanger block within these units can recover up to 95% of the normally wasted heat. The two independent fans have full-speed control for background and boost ventilation rates.

The MRXBOXAB-ECO2 has a Summer bypass function. In warmer months this function automatically activates to ensure the property is being well-ventilated and comfort levels are maintained in the home by continuously drawing in fresh filtered air into the habitable rooms.

Typical Installation

INSTALLATION FEATURES



Typical cupboard installation of MRXBOX(AB)-ECO2

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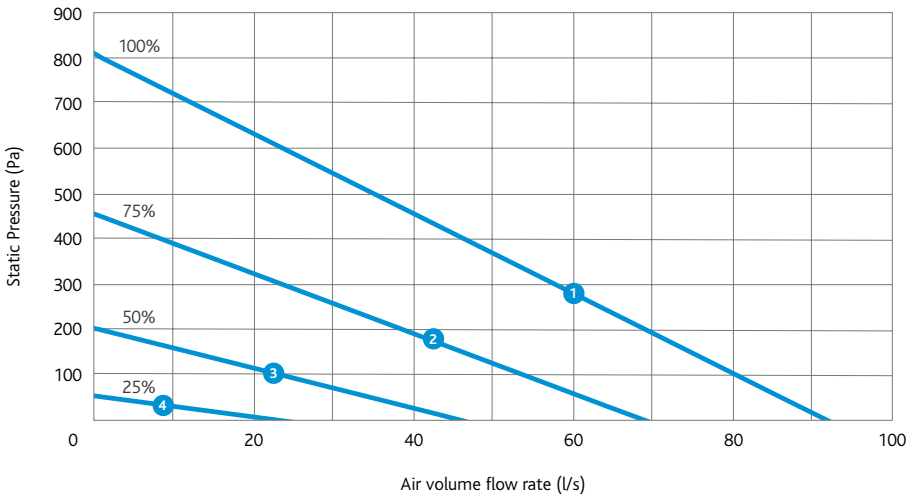
Performance - MRXBOX(AB)-ECO2



CODE DESCRIPTION

MRXBOXAB-ECO2
Wall mounted unit with 100% bypass and integral humidistat.

MRXBOX-ECO2
Wall mounted unit.

MRXBOXAB-ECO2-OH
Opposite handed configuration wall mounted unit with 100% bypass and integral humidistat.

MRXBOX-ECO2-OH
Opposite handed configuration wall mounted unit.

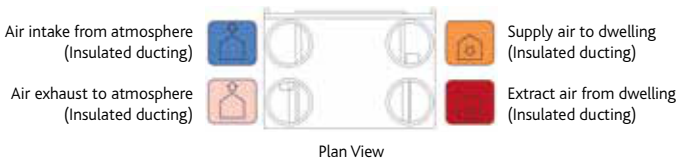
Electrical & Sound

	Maximum power consumption		Sound Power Levels dB re 1pW (Frequency Hz)								dBA @3m
Curve	(Watts)		63	125	250	500	1k	2k	4k	8k	
1	155	Open inlet	48	52	59	55	50	46	35	27	
		Open outlet	60	67	69	69	64	64	54	46	
		Breakout	59	60	58	59	49	46	35	27	40
2	69	Open inlet	44	47	57	50	45	41	30	21	
		Open outlet	55	63	63	65	60	59	49	40	
		Breakout	56	57	53	52	44	40	28	18	34
3	19	Open inlet	39	38	48	40	35	29	16	<16	
		Open outlet	48	54	53	55	49	47	35	24	
		Breakout	43	48	44	42	34	29	<16	<16	24
4	7	Open inlet	38	31	27	23	<16	<16	<16	<16	
		Open outlet	38	34	31	31	22	<16	<16	<16	
		Breakout	37	31	24	20	<16	<16	<16	<16	<16

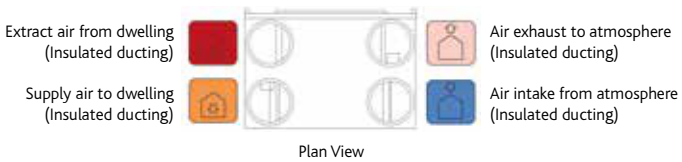
The maximum power consumption shown above (Watts) is consumed on units running continuously, not taking into account any heat recovery saving and based on SAP Product Characteristic Database (PCDB) testing. The breakout case-radiated dBA values are given for Hemispherical free field radiation at 3m - to obtain the Spherical radiated data, subtract 3 dBA.

Please note: Sound data is provided at a particular duty point for 25%, 50%, 75% and 100%. For accurate sound data at a specific speed duty, please use Nuaire's fan selector or call the office on 029 2085 8500.

Standard Handing



Opposite Handing



ENGIE - Status A - for Construction / Contractual

MRXBOXAB-ECO2
& MRXBOX-ECO2

SAP 2009 Test Results

Product Code	MRXBOXAB-ECO2			MRXBOX-ECO2		
Application	Specific Fan Power (W/l/s)	Heat Exchange Efficiency	Energy Saving Trust Best Practice Compliant	Specific Fan Power (W/l/s)	Heat Exchange Efficiency	Energy Saving Trust Best Practice Compliant
Kitchen + 1 Wet Room	0.49	90%	Yes	0.46	90%	Yes
Kitchen + 2 Wet Room	0.50	90%	Yes	0.45	89%	Yes
Kitchen + 3 Wet Room	0.58	89%	Yes	0.50	89%	Yes
Kitchen + 4 Wet Room	0.69	88%	Yes	0.60	88%	Yes
Kitchen + 5 Wet Room	0.81	87%	Yes	0.70	87%	Yes

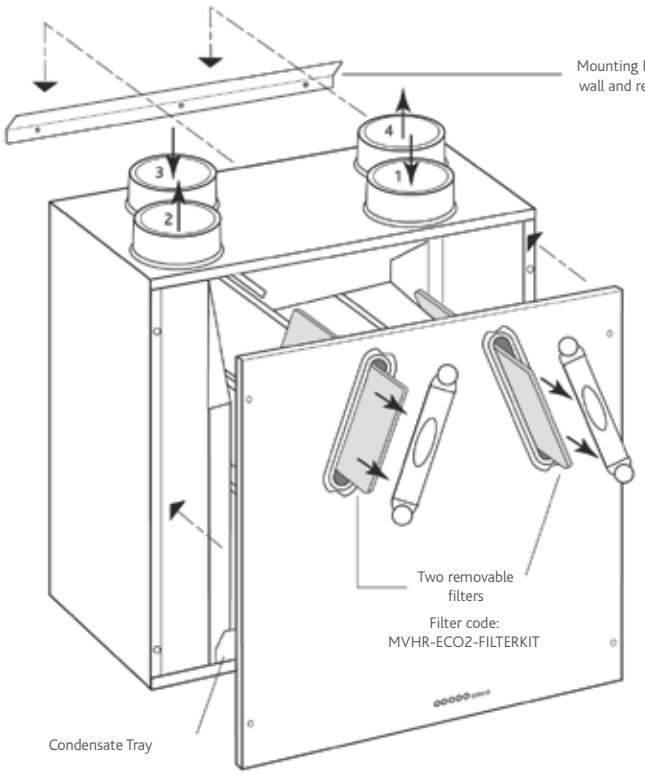
SAP 2012 Test Results

Product Code	MRXBOXAB-ECO2			MRXBOX-ECO2		
Application	Specific Fan Power (W/l/s)	Heat Exchange Efficiency	Energy Saving Trust Best Practice Compliant	Specific Fan Power (W/l/s)	Heat Exchange Efficiency	Energy Saving Trust Best Practice Compliant
Kitchen + 1 Wet Room	0.52	90%	Yes	0.47	89%	Yes
Kitchen + 2 Wet Room	0.59	89%	Yes	0.54	88%	Yes
Kitchen + 3 Wet Room	0.77	87%	Yes	0.66	87%	Yes
Kitchen + 4 Wet Room	1.00	86%	Yes	0.85	87%	Yes
Kitchen + 5 Wet Room	1.23	86%	Yes	1.05	86%	Yes

General Arrangement

SPIGOT LOCATION &
DUCTING REFERENCES

Spigot 1. 125mm dia. = Extract air from dwelling.
Spigot 2. 125mm dia. = Extract air to outside.
Spigot 3. 125mm dia. = Intake air from outside.
Spigot 4. 125mm dia. = Supply air to property



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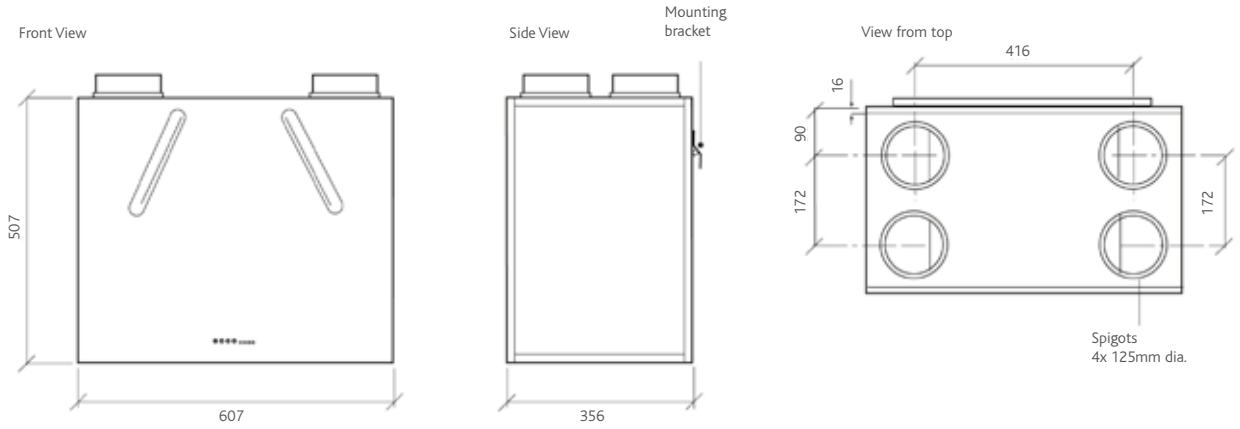
Technical - MRXBOX(AB)-ECO2

DIMENSIONS (mm)
Weight - 20kg



Electrical Details

Please note: The electrical connection of the unit must be carried out by a qualified electrician.

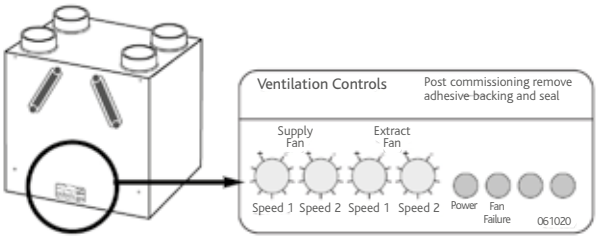
The unit is supplied with a flexible cord for connection to the mains supply.

NOTE: This unit must be earthed.

The mains power supply cable should be connected to a fixed wiring installation in accordance with current IEE wiring regulations.

Electrical Details: MRXBOX(AB)-ECO2	
Voltage:	230V 1ph 50Hz
Consumption:	1.2 Amp

Detail of unit control on front panel.



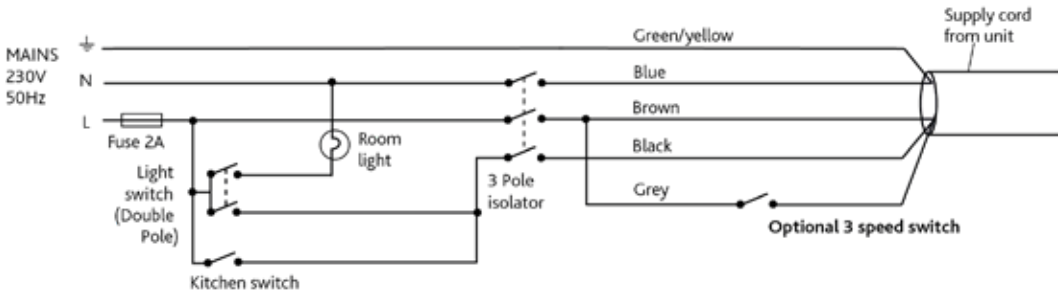
Tamper proof label following commissioning, includes system status indication.

ENGIE - Status A - for Construction / Contractual

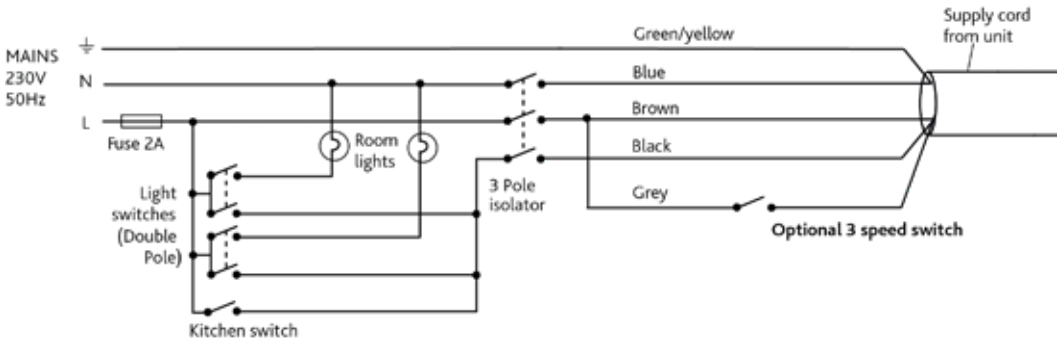
MRXBOXAB-ECO2
& MRXBOX-ECO2

Wiring - MRXBOX(AB)-ECO2

UNIT SERVING KITCHEN & BATHROOM



UNIT SERVING KITCHEN & TWO BATHROOMS



Optional Sensors and Detectors

Customise MRXBOX(AB)-ECO2 for enhanced performance. All supplied with pre-plugged 10m data cable and incorporates status LED.

MRXBOX95-PIR (Passive Infrared)
A low voltage sensor, detects movement and activates system. Incorporates overrun timer and timer adjustments.

MRXBOX95-HUM (Relative Humidity)
A low voltage sensor, activates the system when the RH level is above set point. Incorporates overrun timer and RH setpoint level adjustment.

MRXBOX95-RFI (Remote Fail Indicator)
If fan failure occurs, the audio visual indicator will flash a warning.

MRXBOX-VSC CONTROL SCREEN COMPATIBLE WITH THIS UNIT

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Consultants Specification

SPECIFICATION

The unit shall be fully insulated providing excellent thermal and acoustic characteristics and shall be complete with a multi-plate, counter-flow, high-efficiency heat exchanger block, with a thermal efficiency of up to 95%. The heat exchanger shall be protected by G3 grade filters on fresh air inlet and system extract. The heat exchanger and filters shall be accessible via the front access panel, enabling quick and easy maintenance.

The unit shall have low energy, high-efficiency EC fan/motor assemblies with sealed for life bearings, the impellers shall be backward-curved centrifugal type. The motors shall be suitable for an ambient temperature of 40°C.

The unit shall be supplied complete with an insulated condensate drip tray and 21.5mm drain connection.

The unit shall be suitable for 125mm circular ducting.

Note: The unit is also available in opposite handed format, refer to spigot configuration for set up.

The breakout noise level and power requirements shall be as detailed by the unit manufacturer and in accordance with the ventilation equipment schedule.

Units shall be MRXBOX-ECO2 or MRXBOXAB-ECO2 as manufactured by Nuaire and shall be listed on the SAP PCDB.

MRXBOX-ECO2-OH and MRXBOXAB-ECO2-OH are opposite handed assemblies compliant as per standard handed versions listed in SAP PCDB.

OPERATION

The supply and extract system shall be positioned as indicated on the drawings and shall be in accordance with the particular fan schedule in the specification.

The combined supply and extract with heat recovery unit shall supply filtered fresh air to each of the habitable rooms and moisture-laden air shall be extracted from all wet areas, e.g. bathroom, en suite, w.c, kitchen, utility rooms etc. The supply air shall be pre-heated by the warm extract air via the integrated counter-flow heat exchanger element. The extracted air shall also be filtered before it reaches the heat exchanger block.

The ventilation unit shall vary its speed and therefore the ventilation rate, as it receives signals from one of the following:

• Switched live signal from light/remote switches.

When signals are received, the fan shall alter its speed to adjustable, normal and boost rates.

The unit shall have the facility to commission the supply and extract fans independently on minimum speed (continuous background ventilation) and boost speed via inbuilt minimum and maximum speed adjustment. The fans shall have infinitely variable speed control.

INTEGRAL AUTOMATIC HX BYPASS WITH NO REDUCTION IN AIRFLOW

(MRXBOXAB-ECO2 & MRXBOXAB-ECO2-OH)

The bypass damper shall open automatically via a wax actuator, allowing the air to bypass the heat exchanger to deliver fresh filtered air during the warmer months.

The automatic bypass diverts 100% airflow around the heat exchanger with no reduction in airflow as independently tested by the BRE.

INTEGRAL HUMIDITY SENSOR

(MRXBOXAB-ECO2 & MRXBOXAB-ECO2-OH)

The integral humidity sensor incorporated within the extract fan chamber will automatically boost both the extract and supply fan, to the commissioned boost speed, when the humidity level exceeds that set by the front panel mounted adjustment potentiometer.

CONTROL OPTIONS

All versions shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components are pre-wired and factory fitted by the manufacturer:

• Independent control of background supply and extract flow rates.
• Independent control of boost speed supply and extract flow rates.
• Integral heat exchanger frost protection.
• Fan failure indication.
• Integral S/L terminal for boost from remote switch, e.g. light switch.
• Additional S/L terminal for 100% boost speed from remote switch, e.g. plate switch.
• Discreet daily run monitor.
• Remote fail indicator (part number MRXBOX95-RFI).
• Indication and controls – The unit shall have clear LED visual indication for maintenance, servicing and operation mode, i.e. HX bypass, frost protection.

MRXBOX-VSC (VISUAL SYSTEM CONTROLLER)

The MRXBOX-VSC is compatible with the Nuaire MRXBOXAB-ECO2 heat recovery units and can be purchased separately. The controller comes complete with commissioning and end user functions.

The display will be a 3.5˝ LCD display and will remain on standby until such time the screen is touched.

The initial display will show the MVHR system status as listed below:

• Current fan speed.
• Current indoor/outside temperature.
• Indicate when the Summer bypass is activated.
• Indicate when frost protection is activated.
• Indicate when the filters require cleaning/changing.

The unit shall come with a 5 year warranty which starts from the day of delivery, and includes parts and labour for the first year and parts only for the remaining 4 years.

ENGIE - Status A - for Construction / Contractual

Ductmaster Thermal

Ductmaster Thermal is an award winning, all-in-one thermal ducting solution that fully complies with building regulations.

The lightweight material means that installation becomes a one-man job, while the unique clip system forms an airtight seal, with no need for sealant or tape. Installation is quick and easy, significantly reducing both costs and time spent on site.

system approval LABC

housebuilder product awards 2014 winner

The only complete solution on the market

- Fully compliant with Building Regulations
- Improved thermal efficiency
- Unique clamping mechanism – no requirement for sealant and tape
- Lightweight material - one person install
- Simple quick-fit components
- Significantly reduces time on site
- Environmentally friendly through eco-efficiency
- Cost-effective solution
- Independently tested for thermal conductivity by BASF – Germany
- LABC Approved
- Patent Pending
- Independently tested for air-tightness by BRE

BUILDING REGULATIONS COMPLIANT

Thermal Ducting Building Regulations

Ductmaster's range of thermal duct is specifically designed to comply with 2010 Building Regulations to significantly improve thermal conductivity and thermal resistance of ventilation ducting used in domestic properties.

The requirement

Ducting should be insulated where it passes through unheated areas and voids (e.g. loft spaces) with equivalent of at least 25mm of a material having a thermal conductivity of ≤0.04W/(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 reason

Ducting in MVHR systems carry warm air through them. When these ducts pass through unheated spaces, such as a loft, if the ductwork does not have sufficient thermal insulation condensation can form on the ductwork and cause water damage to your property.

ENGIE - Status A - for Construction / Contractual

How Nuaire Thermal Complies

THE SIMPLE SOLUTION TO MEET BUILDING REGULATIONS

The most common method of insulation duct used through unheated spaces is bubble wrapped ductwork (figure 1), which has limited thermal resistance.

An alternative method is to wrap the ductwork in 25mm of rockwool (figure 2) which can be very labour intensive and can be prone to human error, often leaving areas of the ductwork uncovered.

Nuaire's Ductmaster Thermal (figure 3) significantly improves thermal efficiency and is the simplest, most cost effective solution to meet current building regulations.

WATCH THE
DUCTMASTER THERMAL RACE
The Race Is On!

Scan the QR code or visit the Nuaire YouTube channel:
www.youtube.com/NuaireGroup

Typical Installation Methods

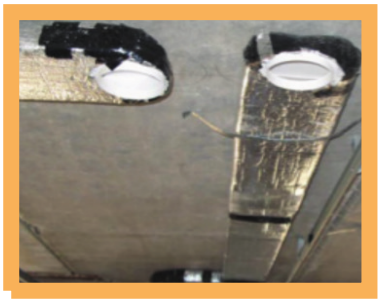


Figure 1: Bubble wrap

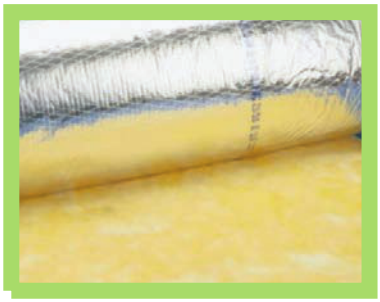


Figure 2: Rockwool

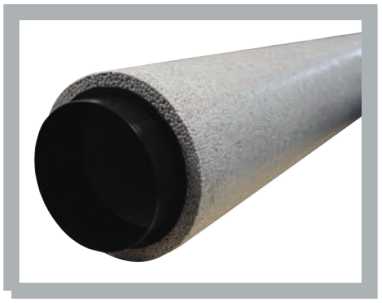
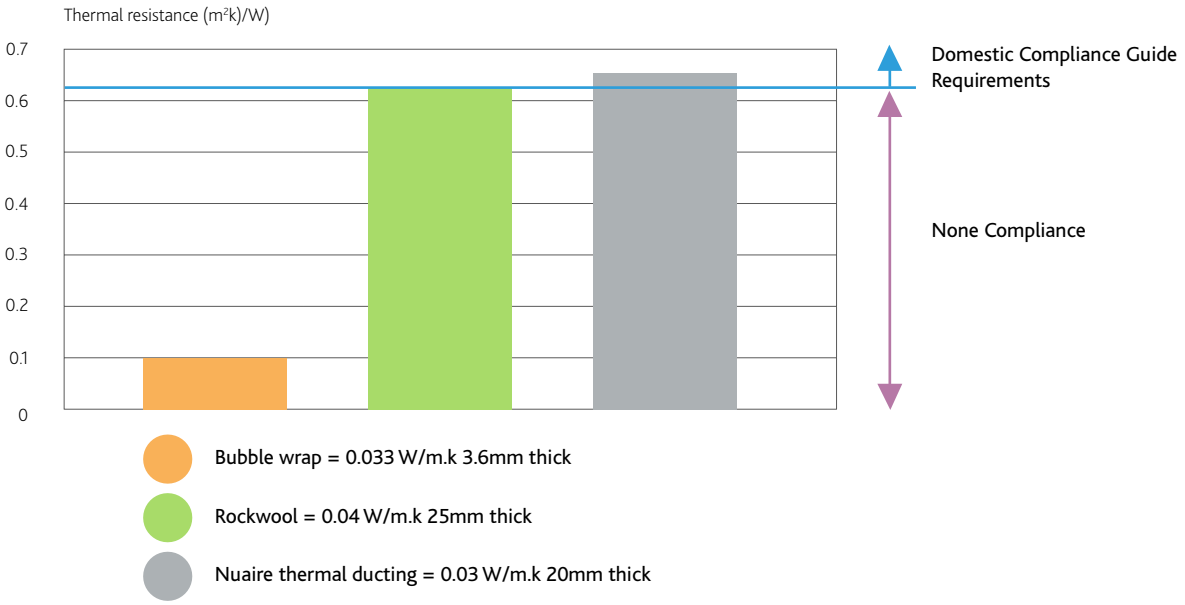


Figure 3: Nuaire thermal ducting

COMPLIANCE CHART

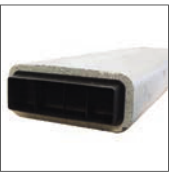


ENGIE - Status A - for Construction / Contractual

Rectangular Ducting Ancillaries - 204mm x60mm

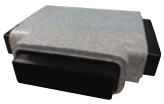
INSULATED DUCT 1M LENGTH

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
NTD-204-1M	204mm x 60mm	Insulated Duct 1m	6	0.2	0.4	0.8	1.4	2.2



INSULATED T PIECE

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
NTD-204-TP	204mm x 60mm	Insulated T Piece	6	0.9	2.3	5.9	11.2	18.3

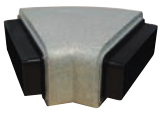


INSULATED 90° HORIZONTAL BEND

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
NTD-204-90H	204mm x 60mm	Insulated 90° Horizontal Bend	6	0.6	1.6	4.1	7.9	12.8

INSULATED 45° HORIZONTAL BEND

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
NTD-204-45H	204mm x 60mm	Insulated 45° Horizontal Bend	6	0	0.3	1.2	2.6	4.5

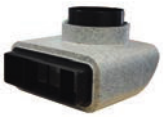


INSULATED 90° VERTICAL BEND

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
NTD-204-90V	204mm x 60mm	Insulated 90° Vertical Bend	6	0.7	1.9	5.2	10.1	16.6

INSULATED PLENUM TO 125mm DIAMETER

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
NTD-204-PL	204mm x 60mm	Insulated Plenum	6	0.5	1.3	3.4	6.4	10.4



DUCT CLAMPS

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
NTD-204-CONL	204mm x 60mm	Duct clamps with fixing lugs	6	-	-	-	-	-
NTD-204-CON	204mm x 60mm	Duct clamps without fixing lugs	6	-	-	-	-	-

CUTTING AID

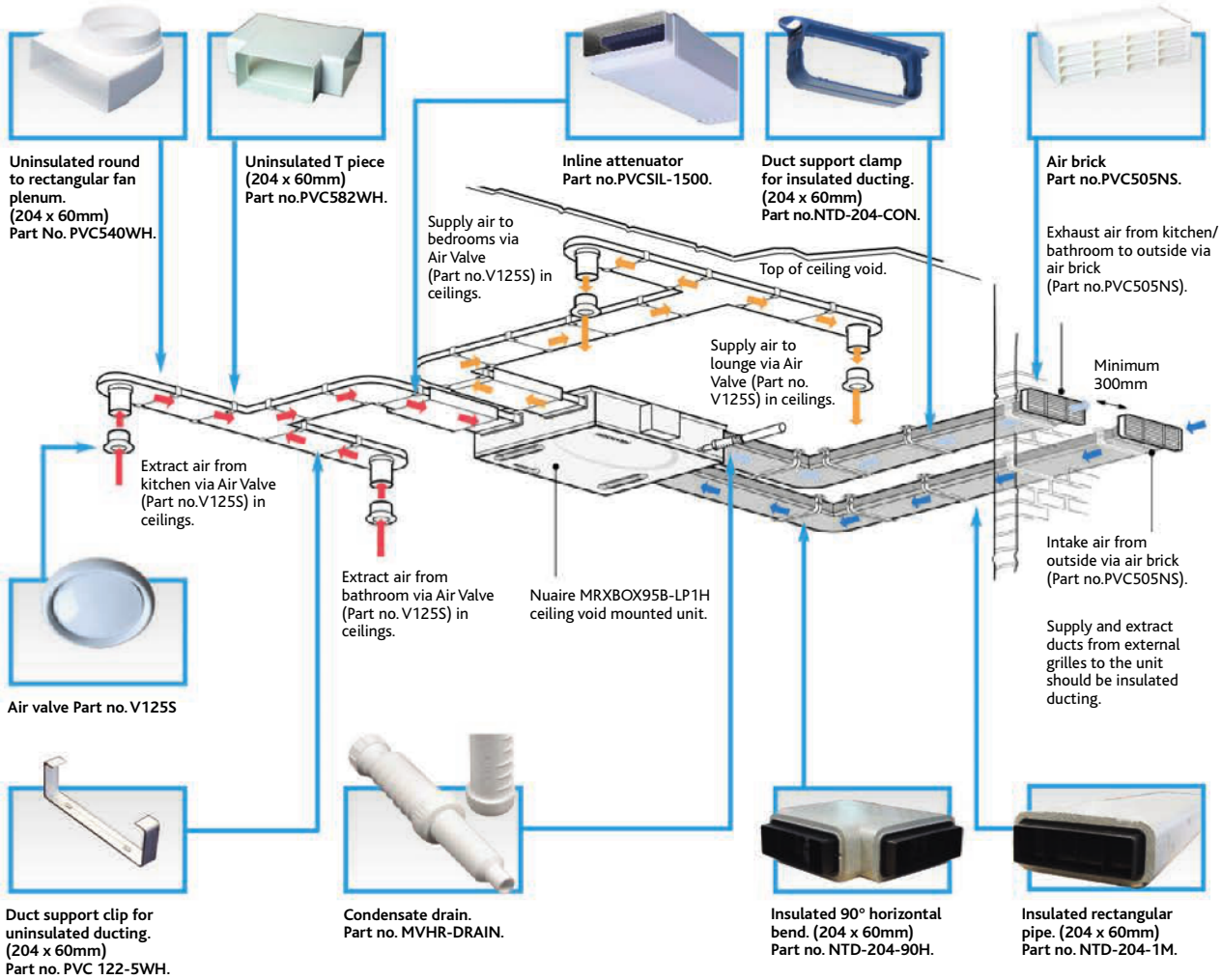
Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
NTD-204-CUTTING AID	204mm x 60mm	Cutting Aids for Ductmaster Thermal Rectangular Ducting	1	-	-	-	-	-

ENGIE - Status A - for Construction / Contractual

General Arrangement

TYPICAL MVHR DUCTED ARRANGEMENT FOR A CEILING VOID MOUNTED UNIT USING RECTANGULAR INSULATED AND UNINSULATED 204 X 60MM DUCTING

Supply insulated | Supply uninsulated | Extract uninsulated | Extract insulated

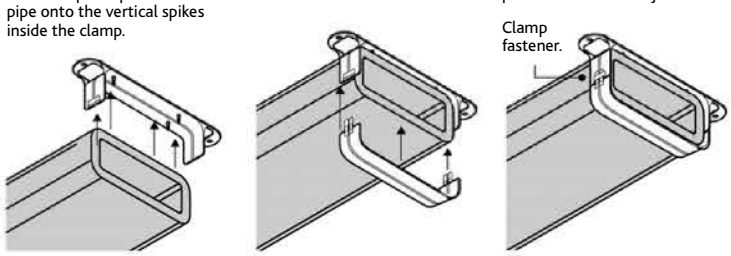


USING DUCT CLAMP NTD-204-CON WITH RECTANGULAR INSULATED DUCT PIPE.

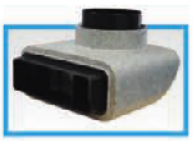
Remove the bottom part of the duct clamp from the top half of the calm and using two screws attach the top half of the clamp to the installation position.
Offer the rectangular duct pipe up to the installed portion of duct clamp and press the duct pipe onto the vertical spikes inside the clamp.

With the duct length in position, offer the lower part of the duct clamp up to the top half of the clamp.

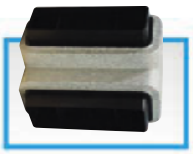
Locate the fixing tabs on each side of the lower part of the duct clamp into the clamp fasteners each side of the top half of the clamp.
Each duct joint should be supported by a clamp centrally positioned over each joint.



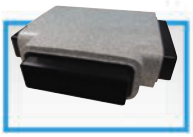
OTHER INSULATED DUCTING ANCILLARIES



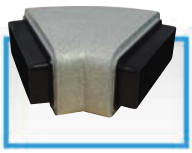
Insulated fan plenum. (204 x 60mm) Part No. NTD-204-PL.



Insulated 90° vertical bend. (204 x 60mm). Part no. NTD-204-90V.



Insulated T piece. (204 x 60mm). Part no. NTD-204-TP.



Insulated 45° horizontal bend. (204 x 60mm). Part no.NTD-204-45H.

ENGIE - Status A - for Construction / Contractual

Product Specification

MANUFACTURER
Nuaire Ltd.

PRODUCT BRAND NAME
Ductmaster

MATERIAL
Injection moulded 20mm in thickness; carbon impregnated Expanded Polystyrene (EPS) Density: 25 Kg/m^3 Colour: Silver/Grey

THERMAL CONDUCTIVITY
Thermal conductivity tested to BASF EN13163

FIRE RESISTANCE
Flame retardant to Class EN13501-1

ENVIROMENTAL
Environmentally friendly through high eco-efficiency

PRODUCTS
Nuaire Ductmaster thermal insulated duct shall be available in two different sizes, based on the internal dimension: 125mm Diameter or 204 x 60mm rectangular. Unlike other thermal ducting systems Nuaire's unique ducting design negates the need for solid plastic inner ducting to achieve the required thermal properties and leakage rates stipulated by building regulations.

CLAMPING MECHANISM SPECIFICATION
Material: Acrylonitrile Butadiene Styrene (ABS)
Colour: Blue - RAL 5015

COMPONENT DESCRIPTIONS
Nuaire's fast clamp system shall achieve a level of leakage substantially lower than the maximum allowed for a class A duct as defined in DW/143 (Ductwork leakage testing). Fast clamps also negate the need to use any sealants or tapes to join the duct pieces resulting in a cleaner, faster and easier installation on site.

NTD-125-CONL: 125mm DIAMETER CLAMP WITH FIXING LUGS

NTD-125-CON: 125mm DIAMETER CLAMP WITH OUT FIXING LUGS

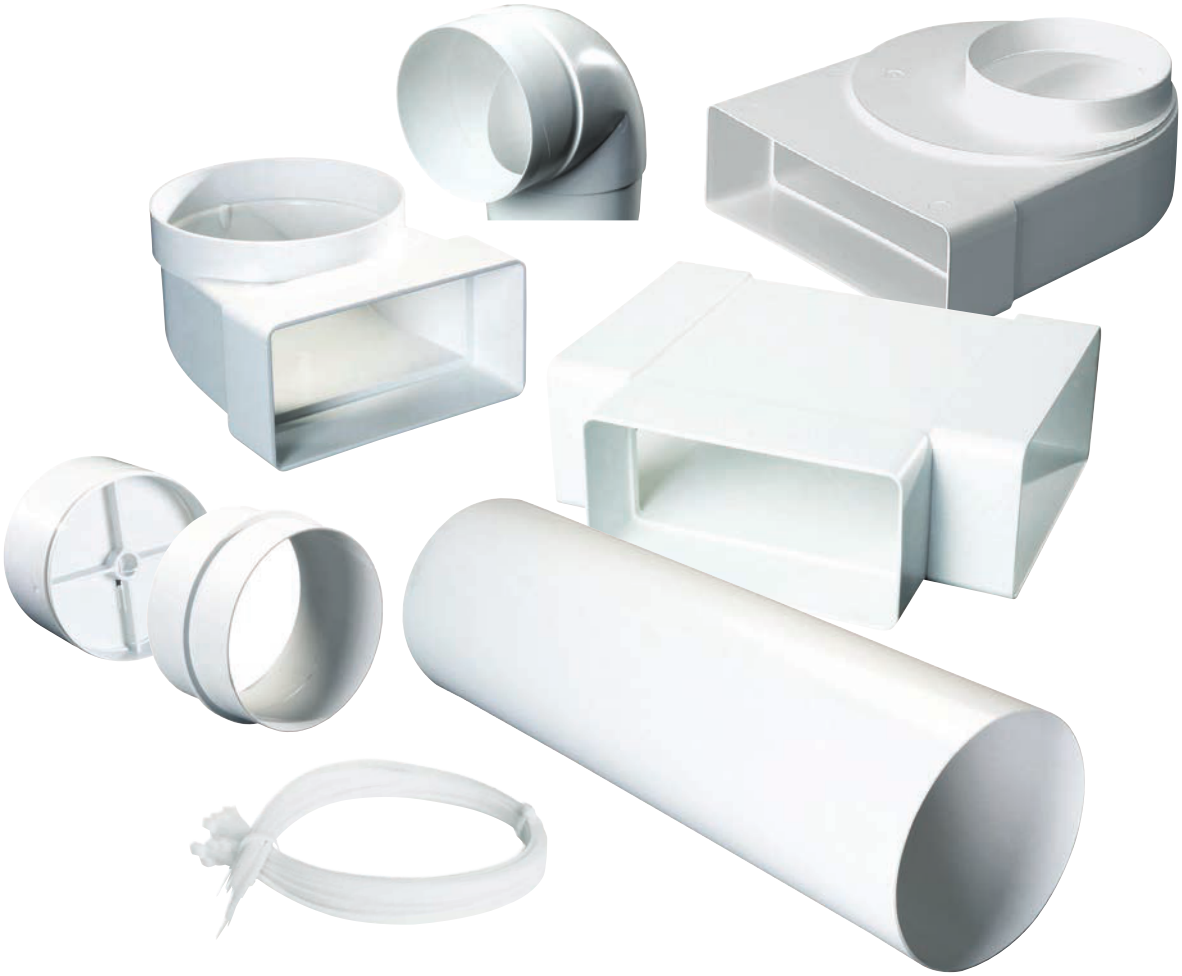
NTD-204-CONL: 204X60 CLAMP WITH FIXING LUGS

NTD-204-CON: 204X60 CLAMP WITH OUT FIXING LUGS

ENGIE - Status A - for Construction / Contractual

Ductmaster PVC

Nuaire provides a comprehensive range of ancillaries for all ducted applications to ensure the most cost effective solution can be achieved.



Circular duct
Provides optimum system efficiency. Lightweight with simple push fit connections for ease of installation.

Flat duct systems
Ideal for apartments, ceiling voids, loft and other confined spaces where space is at a premium, without reducing whole system performance. Available in 204mm x 60mm and 220mm x 90mm high performance duct.

Attenuation
Reduce duct noise as per 'Domestic Compliance Guide 2010' and noise requirements in 'Part F Building Regulations 2010'. Attenuator ducting also reduces cross talk through the ventilation systems, between rooms.

Wide selection of internal/external grilles
Designed to maximise system airflow performance and occupant comfort.

Fire protection
Available for all duct systems to meet regulations.

Self Seal
A simple and innovative solution for ducting systems to ensure the air leakage in and out of the duct joint is kept to an absolute minimum.

ENGIE - Status A - for Construction / Contractual

PVC Flat Ducting

FLAT CHANNEL 1.5m LENGTH

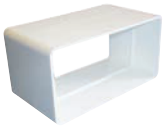
Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC515WH	204mm x 60mm	Flat Channel 1.5m Length	5	0.3	0.6	1.3	2.2	3.3
PVC4015WH	121mm x 60mm	Flat Channel 1.5m Length	10	0.7	1.5	3.1	5.3	7.9
PVC015WH	110mm x 54mm	Flat Channel 1.5m Length	10	1.2	2.4	5.3	9	13.7

FLAT CHANNEL 2m LENGTH

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
D3-2000	204mm x 60mm	Flat Channel 2m Length	5	0.4	0.8	1.7	2.9	4.4
D1-2000	121mm x 60mm	Flat Channel 2m Length	10	1.5	3.1	6.7	11.7	17.9

SLIM DUCT CONNECTORS

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC520WH	204mm x 60mm	Slim Duct Connector	10	0	0	0	0	0
PVC420WH	121mm x 60mm	Slim Duct Connector	10	0	0	0	0	0
PVC020WH	110mm x 54mm	Slim Duct Connector	20	0	0	0	0	0

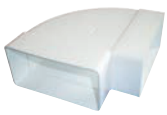


CHANNEL CLIPS

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC122-5WH	204mm x 60mm	Channel Clips	10	0	0	0	0	0
PVC422WH	121mmx 60 mm	Channel Clips	10	0	0	0	0	0
PVC020WH	110mm x 54mm	Channel Clips	10	0	0	0	0	0

90° HORIZONTAL BEND

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC550WH	204mm x 60mm	90° Horizontal Bend	10	0.6	1.82	4.1	7.46	12.8
PVC450WH	121mm x 60mm	90° Horizontal Bend	10	1.9	4.8	12.3	23.3	37.8
PVC050WH	110mm x 54mm	90° Horizontal Bend	20	2.6	9.8	19.3	39.8	61

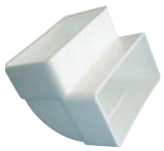


ENGIE - Status A - for Construction / Contractual

PVC Flat Ducting

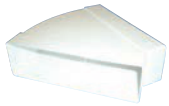
90° VERTICAL BENDS

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC560WH	204mm x 60mm	90°Vertical Bend	10	0.7	1.14	5.0	10.1	16.6
PVC460WH	121mm x 60mm	90°Vertical Bend	10	2.1	5.7	14.8	28.1	45.7
PVC060WH	110mm x 54mm	90°Vertical Bend	20	4.5	15.6	31.8	62.8	95.8



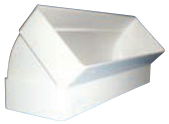
45° HORIZONTAL BEND

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC555WH	204mm x 60mm	45°Horizontal Bend	10	0	0.3	1.2	2.71	4.5



45° VERTICAL BENDS

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC575WH	204mm x 60mm	45°Vertical Bend	10	0	0.3	1.2	2.71	4.6



ADAPTORS

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC570WH	204mm x 60mm	125 dia. Round to Rect. Adaptor	10	0	0.96	2.56	3.84	5.12
PVC470WH	121mm x 60mm	100 dia. Round to Rect. Adaptor	10	0.6	1.3	3.1	5.5	8.6
PVC070WH	110mm x 54mm	100 dia. Round to Rect. Adaptor	20	1.1	3.5	7.4	14.6	23.2

FLAT CHANNEL END CAP

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC518WH	204mm x 60mm	Flat Channel End Cap	1	0	0	0	0	0
PVC018WH	110mm x 54mm	Flat Channel End Cap	1	0	0	0	0	0

HORIZONTAL T PIECE

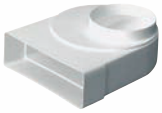
Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC582WH	204mm x 60mm	Horizontal T Piece	10	0.9	2.3	5.9	11.2	18.3
PVC018WH	110mm x 54mm	Horizontal T Piece	20	3.5	9.7	25.6	49.2	80.3

ENGIE - Status A - for Construction / Contractual

PVC Flat Ducting

FAN PLENUM

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC440WH	204mm x 60mm	Fan Plenum 100mm dia	10	2.1	5.5	14.3	27.2	44.3
PVC540WH	204mm x 60mm	Fan Plenum 125mm dia	10	0.5	1.3	3.4	6.4	10.4
PVC641WH	204mm x 60mm	Fan Plenum 1500mm dia	6	0.5	1.4	3.6	6.9	11.3
PVC030WH	110mm x 54mm	Fan Plenum 100mm dia	20	2.1	5.9	15.9	31	51
PVC430WH	121mm x 60mm	Fan Plenum 100mm dia	10	1.8	4.6	11.7	22.1	35.8

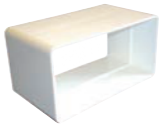


AIR BRICK ADAPTER

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC077WH	110mm x 54mm	Airbrick Adaptor	20	0.4	1	2.4	4.4	7

FLEXIBLE DUCT CONNECTOR

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC581WH	211mm x 64mm	Flexible Duct Connector	1	0	0	0	0	0
PVC481WH	121mm x 60mm	Flexible Duct Connector	1	0	0	0	0	0
PVC381WH	110mm x 54mm	Flexible Duct Connector	1	0	0	0	0	0



ENGIE - Status A - for Construction / Contractual

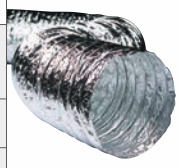
PVC Flexible Ducting

FLEXIBLE RECTANGULAR DUCTING 3M LENGTH

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC333WH	114mm x 57mm	Rectangular Flexible PVC Duct (3m length)	1	1	2.7	7.2	13.9	22.7
PVC433WH	121mm x 60mm	Rectangular Flexible PVC Duct (3m length)	1	0.4	0.8	1.7	2.8	4.3
PVC533WH	211mm x 64mm	Rectangular Flexible PVC Duct (3m length)	1	0.2	0.6	1.5	2.6	4.1

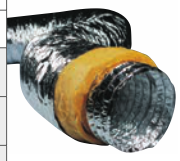
FLEXIBLE ALUMINIUM DUCTING 5M LENGTH

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
FLD100	5m x 100mm	Aluminium Flexible Duct 100mm	1	0.2	0.6	1.7	3.4	5.6
FLD125	5m x 125mm	Aluminium Flexible 120mm	1	0.4	0.7	1.4	2.5	3.8
FLD150	5m x 150mm	Aluminium Flexible Duct 150mm	1	0.2	0.3	0.6	1	1.5
FLD200	5m x 200mm	Aluminium Flexible Duct 200mm	1	0.2	0.3	0.6	0.9	1.1



FLEXIBLE INSULATED DUCTING 5M LENGTH

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
FLDI100	5m x 100mm	Insulated Flexible Duct 100mm	1	0.2	0.6	1.7	3.4	5.6
FLDI125	5m x 125mm	Insulated Flexible Duct 120mm	1	0.4	0.7	1.4	2.5	3.8
FLDI150	5m x 150mm	Insulated Flexible Duct 150mm	1	0.2	0.3	0.6	1	1.5
FLD1200	5m x 200mm	Insulated Flexible Duct 200mm	1	0.2	0.3	0.6	0.9	1.1



SEMI-RIGID ACOUSTIC DUCTING 3M LENGTH

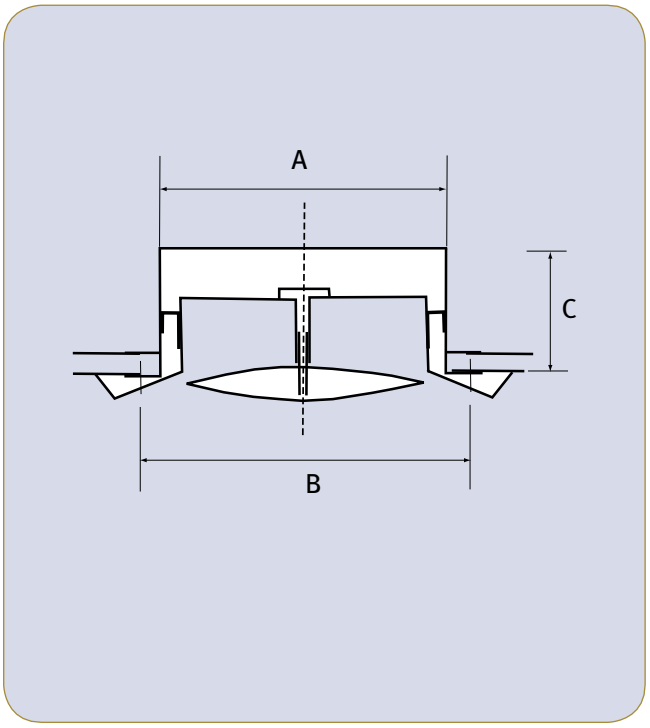
Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
SRDI100	3m x 100mm	Semi-Rigid Acoustic Ducting 100mm	1	0.3	0.6	1.5	2.5	4.4
SRDI125	3m x 125mm	Semi-Rigid Acoustic Ducting 125mm	1	0.1	0.1	0.3	0.7	1.5
SRDI150	3m x 150mm	Semi-Rigid Acoustic Ducting 150mm	1	0	0	0.1	0.3	1.3
SRDI200	3m x 200mm	Semi-Rigid Acoustic Ducting 200mm	1	0	0	0	0	0.2

FLEXIBLE DUCTING 3M LENGTH

Part Number	Duct Size	Description	Box Quantity	Resistance in PA				
				@8l/s	@13l/s	@21l/s	@29l/s	@37l/s
PVC363WH	3m x 100mm	Flexible Ducting 100mm	1	0.2	0.6	1.7	3.4	5.7

ENGIE - Status A - for Construction / Contractual

PLASTIC AIR VALVES VP



- VP air valves can operate as supply and exhaust valves
- They are made of polypropylene – no corrosion occurrence
- They are not painted
- Easy adjustment of air flow by rotating the central part
- Blocking nut allows for setting the minimum slot
- Special design ensures low noise level
- High manufacturing quality and modern design
- Long installation flange made of polypropylene
- Quick installation thanks to elastic metal plates
- Product has certificate of the National Hygiene Institute PZH

AIR VALVES *VP*

Valve Dimensions	ØD (mm)	Ød (mm)	A (mm)
100	97	118	50
125	120	141	50
150	145	162	50
200	195	220	50