



MECHANICAL VENTILATION WITH HEAT RECOVERY (MVHR)



**NEW
ECO
RANGE**

Proud to Build British

► Nuaire is a world leader in the design and manufacture of fans and ventilation systems. We put our energy into efficient ventilation so you don't waste yours.

Nuaire is a British company that designs and manufactures innovative ventilation products for the residential and commercial sectors. We are proud to be recognised for our expertise, commitment to innovation and the outstanding quality of our products and customer service. Our people are at the heart of Nuaire, we have more than 400 experienced staff based at our headquarters, with a further 65 technical sales engineers throughout the UK and Ireland.

Getting it right from the start

Nuaire's Technical Application team can offer expert advice and support on design.

Services include supporting 3D Revit designs which illustrate your choice of product, ducting and ancillaries.

This bespoke package enables correct selection and aids project management and site control.

As well as a simple, clean system layout in 3D showing ventilation, Nuaire provides a complete parts list with installation visuals.



Bespoke Design Services

Nuaire are here for you every step of the way, providing a simple, quick selection or offering advice on compliance with the very latest building regulations and environmental issues.



Technical Advice Compliance on SAP PCDB

Stay ahead of the latest building regulations and make the best product and fabric choices.



The Full Service

Help with product selection, detailed parts lists and fast delivery ensure you meet your deadline and budget.



Over 65 Sales Staff

A strong field based sales team to support projects throughout the country.



Gold Star Aftercare

Our comprehensive product warranty and dedicated after sales support gives you peace of mind.

MECHANICAL VENTILATION WITH HEAT RECOVERY (MVHR - System 4)

ACHIEVES
100%
DUTY IN BYPASS
MODE

Mechanical Ventilation with Heat Recovery (MVHR) is fast becoming the most popular strategy for effective whole home ventilation for new build properties.

Solutions for MVHR applications

Nuaire offer the widest range of solutions for MVHR applications, including wall and ceiling mounted heat recovery systems. With up to 95% heat efficiencies and 100% duty in Summer bypass, our MVHR range delivers the maximum energy savings.

MVHR How does it work?



NO NEED TO OPEN WINDOWS TO VENTILATE
Clean fresh air is continuously drawn into the property from outside through the intake air ducting.

SAVE ENERGY BY RECOVERING 95% OF HEAT FROM EXTRACT AIR
The MVHR unit takes advantage of the heat in your home. Heat is recovered from the stale extract air, then used to warm the fresh air drawn in from outside. Up to 95% of the otherwise wasted heat is recovered, saving you energy.

BOOST FACILITY
Both the supply and extract air can be boosted at any time by the home owner to increase the ventilation levels.
Light switches, PIRs and Humidistats can be used.

PREVENTS CONDENSATION BY KEEPING MOISTURE LEVELS LOW
Stale air is continuously extracted from the moisture producing areas, such as kitchens and bathrooms.
Intake air is also filtered to remove dust and pollen particles, helping allergy-sufferers.

	MRXBOX-ECO2	MRXBOXAB-ECO2	MRXBOX-ECO3	MRXBOXAB-ECO3	MRXBOXAB-ECO4	MRXBOXAB-ECO-LP2
Page no.	6	6	12	12	18	24
Size (W x H x Dmm)	607x507x356	607x507x356	658x623x432	658x623x432	710x710x585	900x200x700
Weight	20kg	20kg	24kg	24kg	44kg	37kg
Filters	G3	G3	G3	G3	G3	G3
Summer bypass	No	Yes	No	Yes	Yes	Yes
Recognised & listed on PCDB 'Summer bypass'	n/a	Yes	n/a	Yes	Yes	Yes
Maximum floor area (m²)	150	150	185	185	250	150
Maximum no of wet rooms (SAP 2009)	Kitchen + 7	Kitchen + 7	Kitchen + 7	Kitchen + 7	Kitchen + 7	Kitchen + 6
Specific fan power (SAP 2009 down to)	0.45	0.49	0.44	0.46	0.56	0.54
Heat Recovery % (SAP 2009 up to)	90	90	91	90	94	79
Maximum no of wet rooms (SAP 2012)	Kitchen + 5	Kitchen + 5	Kitchen + 7	Kitchen + 7	Kitchen + 7	Kitchen + 5
Specific fan power (SAP 2012 down to)	0.47	0.52	0.47	0.50	0.62	0.59
Heat Recovery % (SAP 2012 up to)	89	90	91	90	94	79
3rd speed (enhanced airflow)	Yes	Yes	Yes	Yes	Yes	Yes
Spigot size	125mm dia	125mm dia	150mm dia	150mm dia	200mm dia	204mm x 60mm
Opposite handed unit code	MRXBOX-ECO2-OH	MRXBOXAB-ECO2-OH	MRXBOX-ECO3-OH	MRXBOXAB-ECO3-OH	MRXBOXAB-ECO4-OH	MRXBOXAB-ECO-LP2-OH

Ancillaries						
Optional Sensors available	Yes	Yes	Yes	Yes	Yes	Yes
Acoustic Solution - 4-way Silencer	MRXBOX-SIL2	MRXBOX-SIL2	MRXBOX-SIL3	MRXBOX-SIL3	MRXBOX-SIL4	n/a
Acoustic Solution - First Fix Box	MRXBOX-FF2	MRXBOX-FF2	MRXBOX-FF3	MRXBOX-FF3	MRXBOX-FF4	n/a
Acoustic Solution Silencer + First Fix Box	MRX-BOX-SIL2+FF2	MRXBOX-SIL2+FF2	MRX-BOX-SIL3+FF3	MRXBOX-SIL3+FF3	MRXBOX-SIL4+FF4	n/a
Visual System Controller Compatible	Yes	Yes	Yes	Yes	No	Yes

MRXBOXAB-ECO-LP2

and Opposite Handed version

100%
BYPASS

MRXBOXAB-ECO-LP2 and MRXBOXAB-ECO-LP2-OH are specially designed for apartment applications where space is at a premium.

The new MRXBOXAB-ECO-LP2 offers the lowest specific fan power of any low-profile, void-mounted MVHR system and is specifically designed to fit easily into apartments with ceiling void restrictions where space is at a premium.

The MRXBOXAB-ECO-LP2 has been designed with automatic 100% bypass as listed on the SAP Product Characteristics Database (PCDB).

The MRXBOXAB-ECO-LP2 is designed to provide optimised balanced (supply and extract) mechanical ventilation with heat recovery and listed on the PCDB.

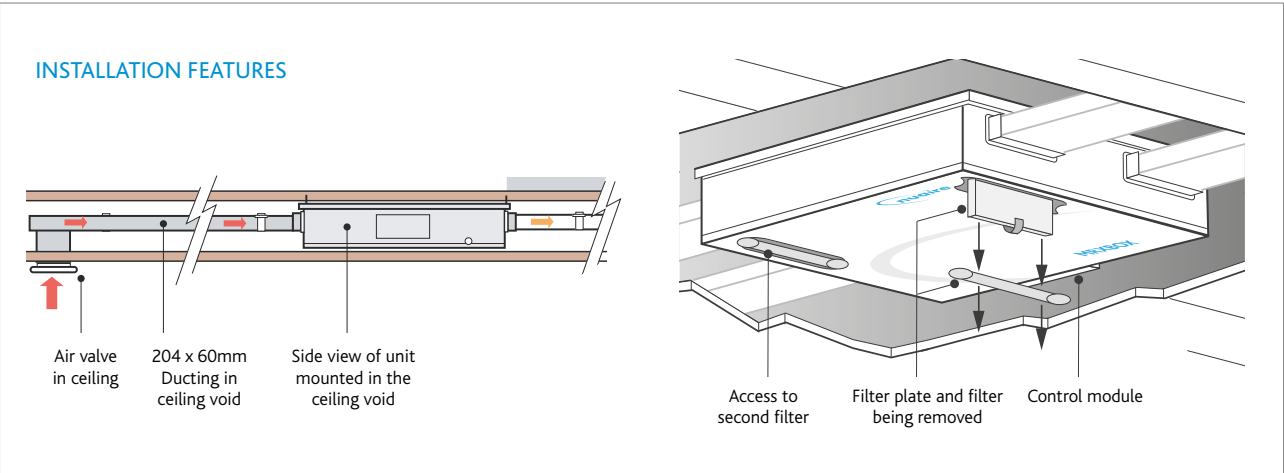
The unit operates by continuously extracting moisture laden air from 'wet' rooms within the property and at the same time drawing in fresh supply air from outside. The heat from the extracted stale air is recovered via a heat exchanger inside the heat recovery unit, which becomes tempered then filtered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

The two independent fans have full speed control for background and boost ventilation rates.

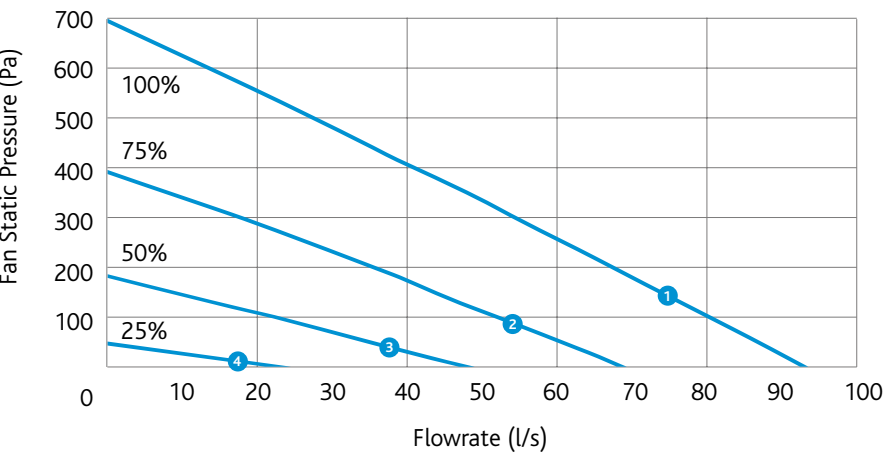
The MRXBOXAB-ECO-LP2 has a summer bypass function. This feature activates automatically and attempts to maintain the home at a comfortable temperature. For example, if the outside temperature is warmer than the inside, the unit will continue to draw air through the heat exchanger. If the house is warmer than outside, the unit will bypass the heat exchanger and draw air in directly from outside.



Typical Installation▼



Performance – MRXBOXAB-ECO-LP2 ▼



CODE DESCRIPTION

MRXBOXAB-ECO-LP2

Low profile multi-room supply and extract heat recovery with automatic Summer bypass.

MRXBOXAB-ECO-LP2-OH

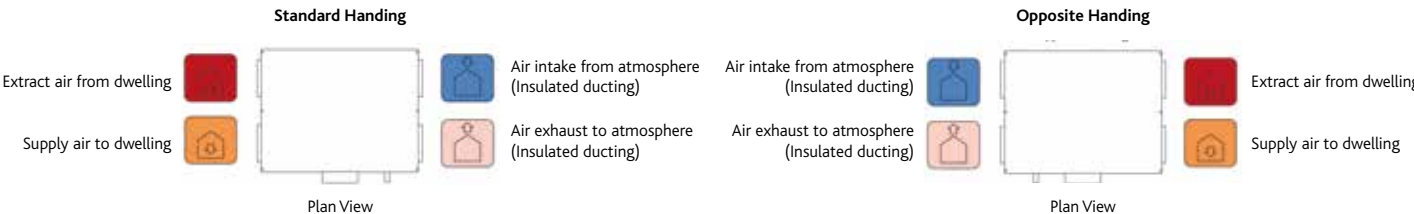
Low profile multi-room supply and extract heat recovery with automatic Summer bypass with reverse handing.

Electrical & Sound ▼

Curve	Maximum power consumption (Watts)		Sound Power Levels dB re 1pW (Frequency Hz)								dBA @3m
			63	125	250	500	1k	2k	4k	8k	
1	163	Open inlet	51	45	50	48	40	42	29	19	
		Open outlet	54	49	59	64	61	60	51	43	
		Breakout	58	60	61	58	48	41	33	25	40
2	69	Open inlet	51	43	46	44	36	36	22	<16	
		Open outlet	51	45	54	59	55	54	44	34	
		Breakout	54	57	56	52	41	34	25	18	34
3	22	Open inlet	45	37	34	32	24	23	<16	<16	
		Open outlet	44	37	43	46	43	41	29	19	
		Breakout	47	50	44	40	30	22	<16	<16	23
4	7	Open inlet	38	31	24	22	<16	<16	<16	<16	
		Open outlet	37	30	33	36	33	31	19	<16	
		Breakout	40	43	34	30	20	<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 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 Nuair's fan selector or call the office on 029 2085 8500.

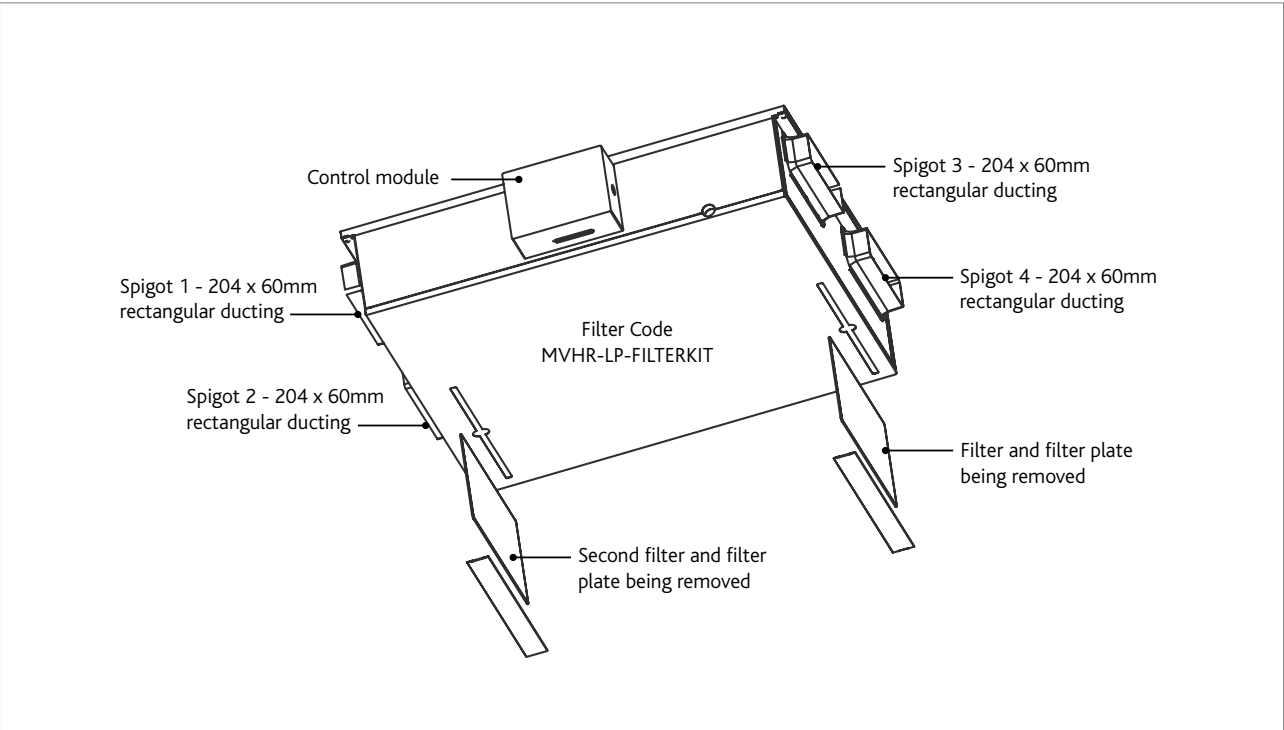


MRXBOXAB-ECO-LP2

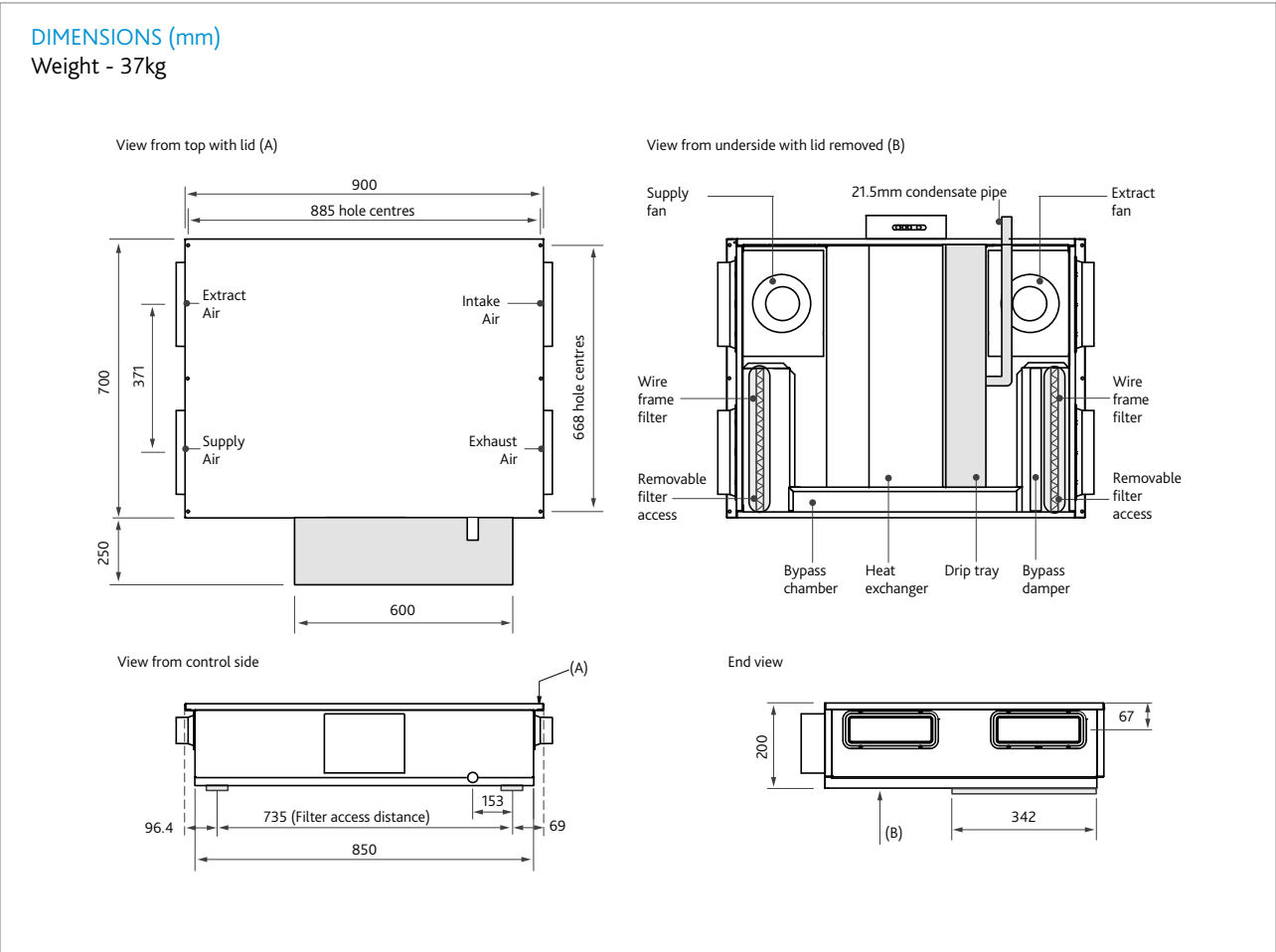
SAP 2012 Test Results ▼

Product Code	MRXBOXAB-ECO-LP2		
Exhaust Terminal Configuration	Specific Fan Power (W/l/s)	Heat Exchange Efficiency	Energy Saving Trust Best Practice Compliant
Kitchen + 1 Wet Room	0.48	78%	Yes
Kitchen + 2 Wet Room	0.61	79%	Yes
Kitchen + 3 Wet Room	0.77	79%	Yes
Kitchen + 4 Wet Room	1.01	79%	Yes
Kitchen + 5 Wet Room	1.26	79%	Yes

General Arrangement ▼



Technical - MRXBOXAB-ECO-LP2 ▼



Electrical Details ▼

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

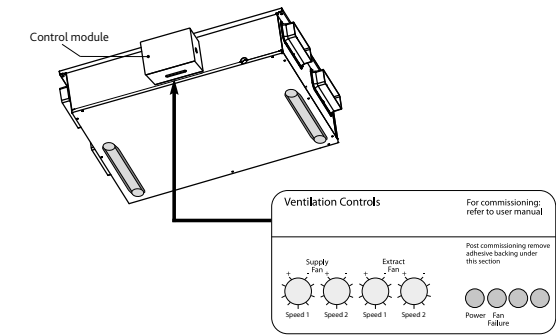
The unit is supplied with a flexible cord for connection to the mains supply.

NOTE: This unit must be earthed.

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

Electrical Details: MRXBOXAB-ECO-LP2	
Voltage:	230V 1ph 50Hz
Consumption:	1.2 Amp

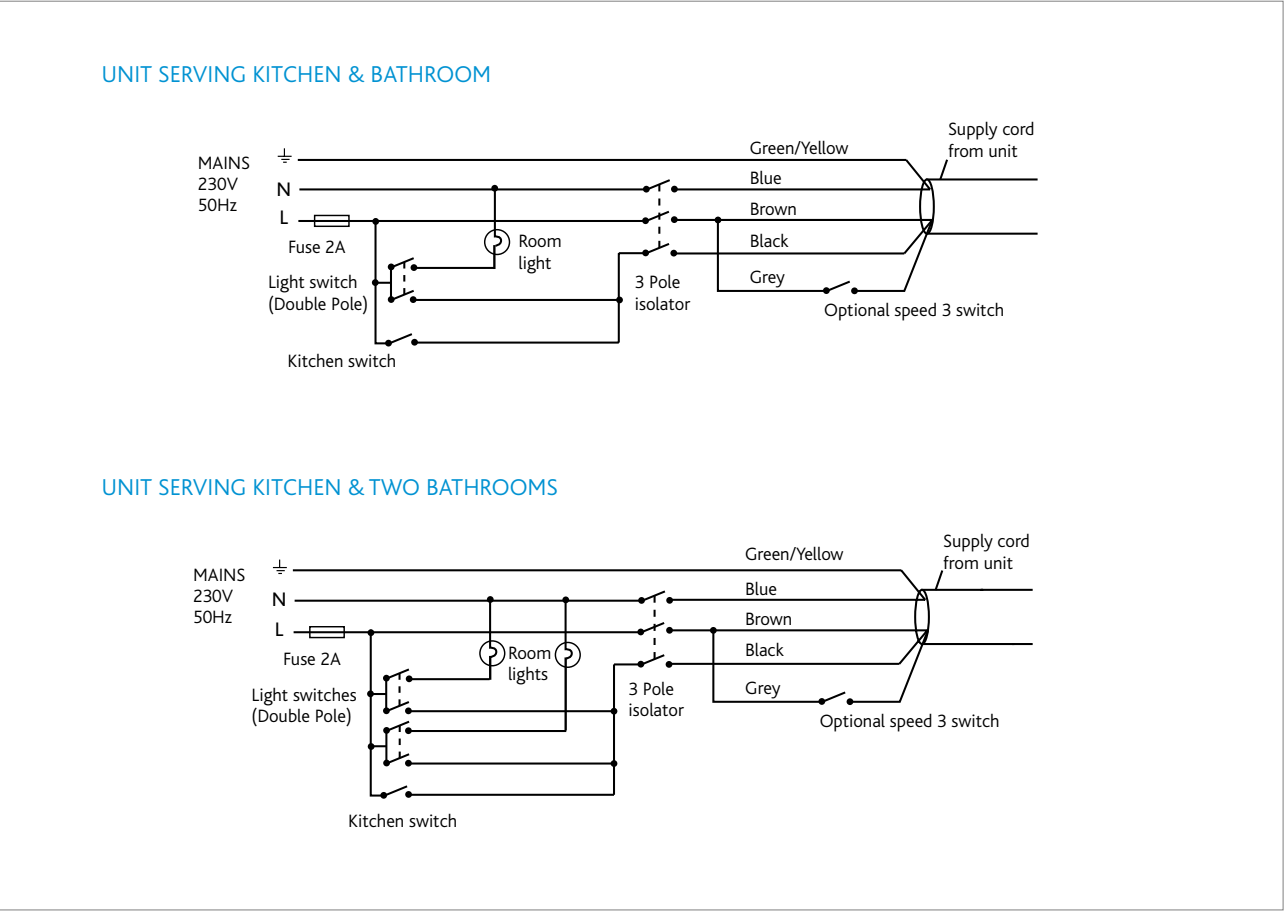
Detail of unit control on control panel.



Tamper proof label following commissioning, includes system status indication.

MRXBOXAB-ECO-LP2

Wiring - MRXBOXAB-ECO-LP2 ▾



Optional Sensors and Detectors ▾

Customise MRXBOXAB-ECO-LP2 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

Consultants Specification

SPECIFICATION

The unit shall be manufactured from galvanised sheet steel with a white, pre-painted removable access panel. The unit shall be fully insulated providing excellent thermal and acoustic characteristics and shall be complete with a multi-plate, aluminium, counter-flow, high-efficiency heat exchanger block, with a thermal efficiency of up to 80%. 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 underside access panels, enabling quick and easy maintenance.

The unit shall have a maximum depth of 200mm to fit within ceiling void restrictions. 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.

Motor assemblies shall be removable from the underside of the unit and will not require the unit to be removed from situ.

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

The unit shall be suitable for 204x60mm rectangular 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 MRXBOXAB-ECO-LP2 and MRXBOXAB-ECO-LP2-OH as manufactured by Nuaire and shall be listed on the PCDB database.

OPERATION

The supply and extract ventilation unit 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 the 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 SUMMER BYPASS

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.

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. summer bypass, frost protection.

MRXBOX-VSC (VISUAL SYSTEM CONTROLLER)

The MRXBOX-VSC is compatible with the Nuaire MRXBOXAB-ECO-LP2 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 as 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.

REMOTE COMMISSIONING

(MRXBOXAB-ECO-LP2-C & MRXBOXAB-ECO-LP2OH-C units only)

These units shall have a remote control PCB fitted with a 1m flexible conduit providing improved access for commissioning.

The unit shall be offered 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.

