
REFRIGERATION & AIR CONDITIONING SERVICES

Jon Bowman

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Ref: CAL001

Refrigeration & Air
Conditioning
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22 April 2024

Dear Sirs,

RE: Call Boy - Flats 1 - 5 Harmer Street , Gravesend, Kent DA11 1AX

Condition 6 Ventilation

Following our recent visit, we are pleased to provide a report on the HVAC system installed at Call Boy - Flats 1-5 Harmer Street, Gravesend, Kent DA11 1AX.

As per your email, we understand that the council requires the Ventilation System to comply with the design referenced in the information submitted for condition 5 and the Environmental Air Quality Scheme Checklist, demonstrating compliance with condition 6 of the scheme.

Our understanding is that the initial system was designed to use Envirovent Slimline, 150 units. Unfortunately, these units were not available at the time of installation, and an alternative was suggested and Installed. The Nuaire MRXBOX95AB-WH1 unit. This alternative unit offers Superior Specifications and Capacity suitable for the size of the Apartments.

We have conducted a detailed inspection of the installation, and have tested each unit to ensure the Air Flow and The Filtration Flow are operating within the manufactures specifications. Which it does.

The Manufacturers Specifications Meets Regulations :

Part F Building Regulations Compliant.

Part L Building Regulations Compliant.

Please see the manufacturers Technical Data sheets enclosed.

If you require any further information, please do not hesitate to contact us.

Yours Faithfully


Paul Sheppard

Nuaire, Western Industrial Estate, Caerphilly, CF83 1NA, United Kingdom. email:info@nuaire.co.uk

UK Commercial Enquiries T:029 2085 8200 UK Residential Enquiries T:029 2085 8500 International Enquiries T:+44.29 2085 8497

Whilst the information given on this data sheet is fan specific, it is in summary and reference to the product selection catalogue and installation & maintenance documents is recommended.
This data sheet produced on 26 Apr 2024 15:00 using software version 3.8.00 - 22-Apr-2021

Technical Data

MRXBOX95AB-WH1 - Wall Mounted Multi Room Xbox with Summer Bypass

Wall Mounted Multi-Room Heat Recovery Unit with Summer Bypass

Fan Code: **MRXBOX95AB-WH1**

Low maintenance

High quality components such as filters and EC motors ensure lowest possible maintenance and long life motors.

Meets Regulations

Part F building regulations compliant
Part L building regulation compliant

Low power consumption

Reducing operating and the life cycle costs.

Compact

Dedicated design ensured the most compact size for duty on the market.

Constant quiet running fans

Quiet running unit, ensuring occupant acceptability.

Creates a healthier environment

High efficiency filters removes up to 95% of dust particles.

Easy to use

Well located controls for simple installation, commissioning and use.

Warranty

MRXBOX95B-WH1 has a 5 year warranty for peace of mind.

Optional Remote

Fail indicator MRXBOX95LH-RFI is connected to the fan unit via low voltage wiring.

Summer boost facility

To boost the fan speed to 100% (overrides commissioned boost speed)

Control Options

All versions shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components prewired 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 fan failure indication.
- Integral S/L terminal for 100% boost speed, from remote switch e.g. plate switch
- Integral S/L terminal for boost to commission level, from remote switch, e.g. light switch
- Integral automatic summer bypass
- Integral heat exchanger frost protection.
- Discreet daily run monitor.

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 vitiated 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 bypass opens automatically when outside temperature exceeds 20°C. This opens the damper via an actuator. Outside air supplied through the bypass is still filtered, so the air quality is optimal, irrespective of the bypass setting (open or closed).

The ventilation unit shall vary its speed and therefore the ventilation rate as it receives signals from the 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.

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 bypass opens automatically when outside temperature exceeds 20°C. This opens the damper via an actuator. Outside air supplied through the bypass is still filtered, so the air quality is optimal, irrespective of the bypass setting (open or closed).

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 of an ambient temperature of 40°C.

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

The unit shall be suitable for 150mm diameter circular ducting.

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

Optional Controls

MRXBOX95LH-RFI - Remote fail indicator.

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SUMMARY FAN DATA SHEET

Nuaire, Western Industrial Estate, Caerphilly, CF83 1NA, United Kingdom. email:info@nuaire.co.uk

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MRXBOX95AB-WH1 - Wall Mounted Multi Room Xbox with Summer Bypass

Wall Mounted Multi-Room Heat Recovery Unit with Summer Bypass



Fan Code:	MRXBOX95AB-WH1
Installation Manual Links:	671686
Maximum Fan Speed:	3,320 RPM
Electrical Supply:	230 V 1 Phase 50 Hz
Motor Rating:	0.15 kW
Motor Current:	flc: 1.07 A
Motor Current:	sc: 1.1 A
Max. Operating Temp.:	40°C
Weight:	24 kg

Sound Data

Acoustic performance to ISO 13347 and AMCA 300.

Sound Power Levels re 1 pWatts (Hz):

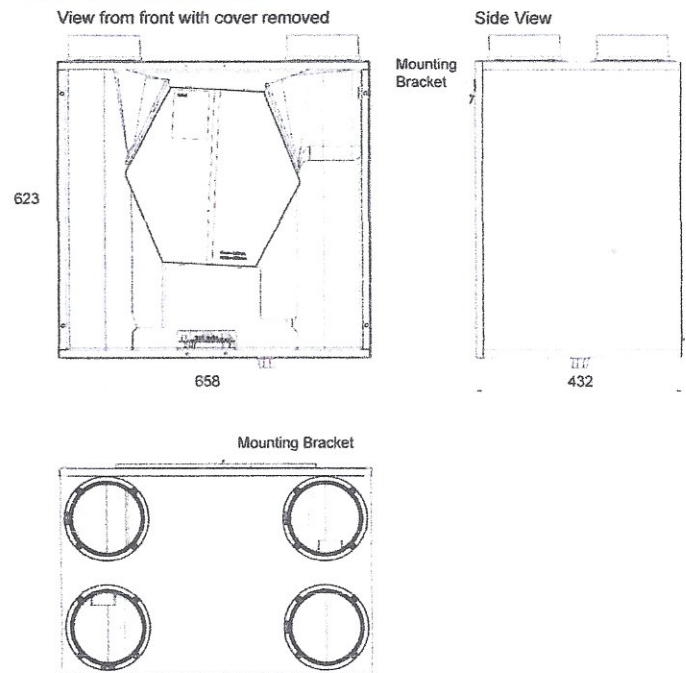
	63	125	250	500	1k	2k	4k	8k	dBA
Open Inlet	48	51	58	49	47	39	25	<16	35
Open Outlet	56	63	67	67	62	60	50	41	50
Breakout	56	61	59	53	43	40	25	<16	36

dBA is hemi-spherical at 3 metres. For spherical deduct 3 dBA.

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Fan Dimensions

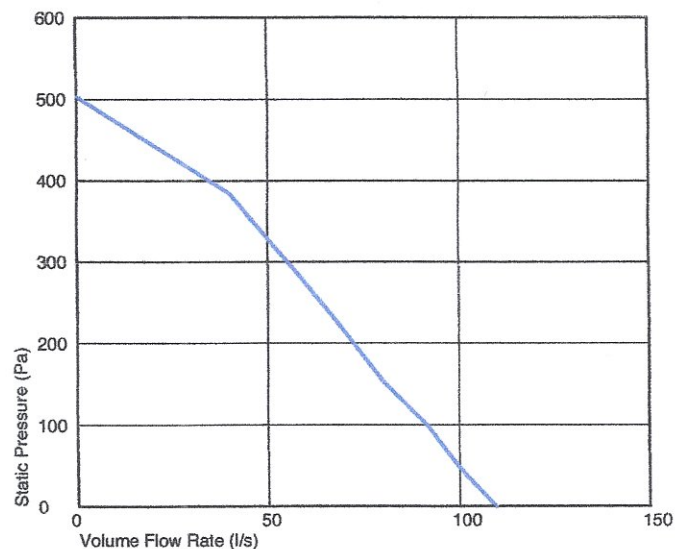


The drawing is for dimensional purposes only. Dimensions in mm.

SAP PCDB Test Results

Application	Specific Fan Power (W/l/s)	Heat Exchange Efficiency %
Kitchen + 1 wet room	0.52	88
Kitchen + 2 wet rooms	0.56	88
Kitchen + 3 wet rooms	0.67	88
Kitchen + 4 wet rooms	0.78	86
Kitchen + 5 wet rooms	0.95	86
Kitchen + 6 wet rooms	1.16	85
Kitchen + 7 wet rooms	1.4	85

Performance Curve



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Location	Measured noise level L_{Aeq}	Equivalent daytime $L_{Aeq, 16 \text{ hour}}$	Equivalent night $L_{Aeq, 8 \text{ hour}}$
<u>Rooms facing Harmer Street (secondary glazing)</u>			
Ground floor bedroom, Unit 1	28.7	25.1	17.7
Ground floor living room / kitchen, Unit 2	34.4	30.8	-
First floor bedroom, Unit 5	28.9	25.3	17.9
First floor bedroom, Unit 6	28.8	25.2	17.8
Second floor living room / kitchen, Unit 9	36.5	32.9	-
Second floor bedroom, Unit 9	34.7	31.1	23.7
<u>Rooms at rear of building (double glazing)</u>			
Ground floor living room / kitchen, Unit 1	30.7	27.1	-
Ground floor bedroom, Unit 2	28.9	25.3	17.9
Ground floor living room / kitchen, Unit 5	28.4	24.8	-
Ground floor living room / kitchen, Unit 6	32.0	28.4	-
Second floor bedroom, Unit 9	33.5	29.9	22.5

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