

Acoustic solution for MRXBOX95(AB)-WH1 and MRXBOX95(AB)-WM2

Nuaire's First Fix and Acoustic Solution are designed to not only reduce noise but to improve the installation when wall or cupboard mounting the MRXBOX95(AB)-WH1 and MRXBOX95(AB)-WM2 Units.

Offering the only complete MVHR acoustic and first fix solution to overcome both noise and ease the installation of heat recovery units. Nuaire's solution addresses both duct and breakout noise, provides an aesthetically pleasing cupboard installation for the home occupant and reduces installation errors and time.

These units are also available in Opposite Handed format.



Typical Installation

FIRST FIX SOLUTION FF-WH1/FF-WM2

Nuaire's First Fix box is fixed to the underside of the floor slab at first fix stage of the build. The box has four airflow chambers with optional positions for 204x60mm spigots. Ceilings can then be boarded within the cupboard space easily and quickly without the risk of the spigots not aligning to the fan unit.



MRXBOX-FF-WH1

SILENCER SIL-WH1/SIL-WM2

Nuaire has created a unique solution that is not only designed to reduce noise significantly, addressing duct and breakout noise, but is visibly appealing for the home occupant. It can be used with or without the First Fix Solution.

MRXBOX95(AB)-WH1/ MRXBOX95(AB)- WM2

Nuaire's Silencer and First Fix solution are compatible with the MRXBOX95(AB)-WH1 and MRXBOX95(AB)-WM2 heat recovery units, which are designed for medium to large properties.

Acoustic data for MRXBOX95(AB)-WH1 with Silencer and/or First Fix

WH1 with SIL Sound Data		Frequency/Hz	63	125	250	500	1K	2K	4K	8K	dBa @3m
Curve	Max. Power/W	Sound power levels dB re 1pW									
1	150	Open Inlet	40	41	49	39	25	<16	<16	<16	37
		Open Outlet	45	53	58	53	39	34	30	26	
		Breakout	56	61	59	53	43	40	25	16	

WH1 with FF Sound Data		Frequency/Hz	63	125	250	500	1K	2K	4K	8K	dBa @3m
Curve	Max. Power/W	Sound power levels dB re 1pW									
1	150	Open Inlet	44	44	53	43	40	32	19	<16	37
		Open Outlet	48	58	63	60	55	53	44	35	
		Breakout	56	61	59	53	43	40	25	16	

WH1 with FF & SIL Sound Data		Frequency/Hz	63	125	250	500	1K	2K	4K	8K	dBa @3m
Curve	Max. Power/W	Sound power levels dB re 1pW									
1	150	Open Inlet	36	31	43	33	25	<16	<16	<16	37
		Open Outlet	38	45	49	42	32	25	22	<16	
		Breakout	56	61	59	53	43	40	25	16	

The breakout case-radiated dBA values are given for Hemispherical free field radiation at 3m – to obtain the spherical radiated data, subtract 3dBA.

Silencer Corrections

SIL Corrections	Open Inlet	-8	-10	-9	-10	-22	-24	-16	-13
	Open Outlet	-11	-10	-9	-14	-23	-26	-20	-15
	Breakout	0	0	0	0	0	0	0	0

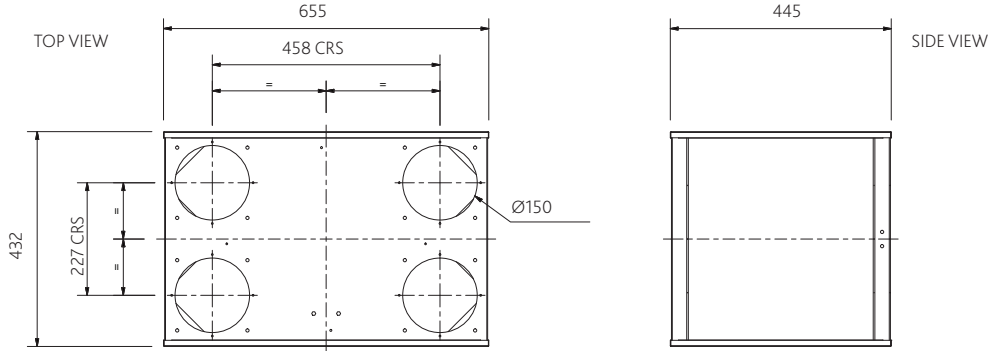
FF Corrections	Open Inlet	-4	-7	-5	-6	-7	-7	-6	-4
	Open Outlet	-8	-5	-4	-7	-7	-7	-6	-6
	Breakout	0	0	0	0	0	0	0	0

FF+SIL Corrections	Open Inlet	-12	-20	-15	-16	-22	-24	-19	-16
	Open Outlet	-18	-18	-18	-25	-30	-35	-28	-26
	Breakout	0	0	0	0	0	0	0	0

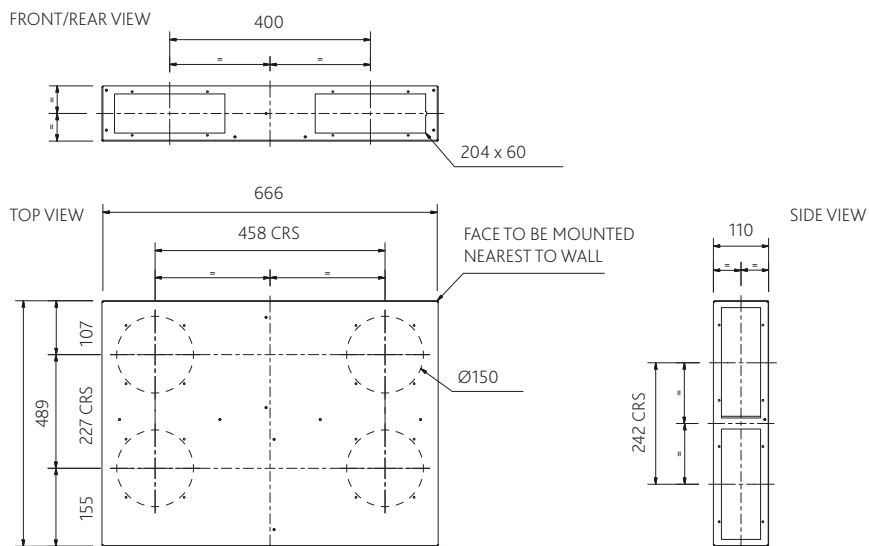
Technical

DIMENSIONS (mm) for WH1 unit

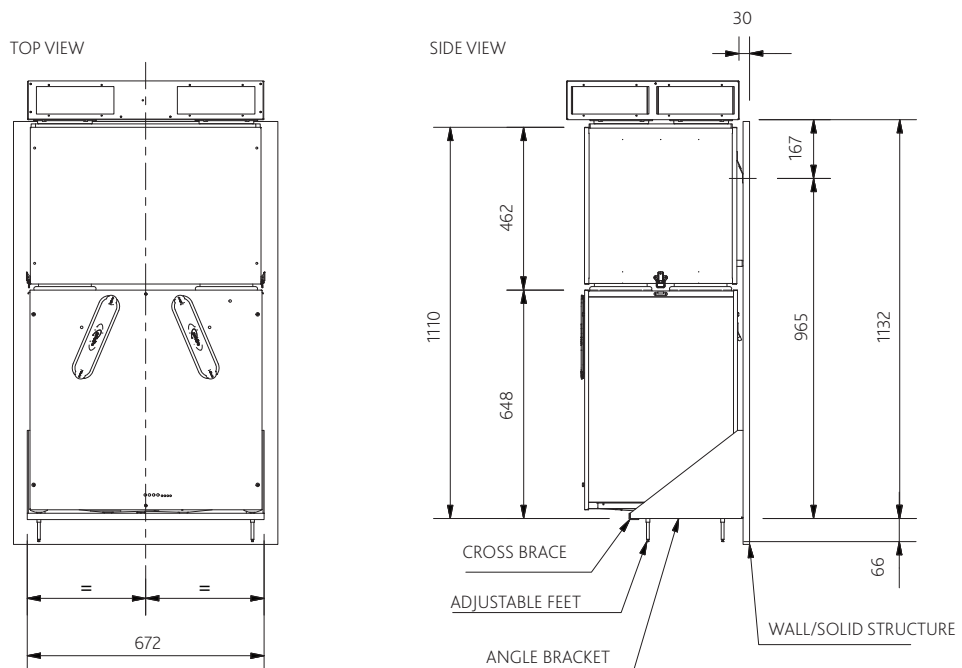
SIL-WH1



FF-WH1



COMPLETED SYSTEM



Consultants Specification

SIL-WH1

The unit offers the facility to be fitted directly to the MVHR unit and plenum chamber without the need for spigots reducing breakout noise. However, there is the capability to fit 150mm circular spigots as an alternative option.

The unit shall be fully lined with acoustic material offering excellent noise reduction.

Wall mounting brackets are to be supplied as part of the system to allow the MVHR unit to be raised after other system components are installed to form an airtight seal and enable the installation to be levelled.

The unit shall be clamped to the MRXBOX95(AB)-WH1 unit to provide an efficient seal and ensure correct alignment.

The unit shall be fixed in position during installation as a standalone section without relying on other system elements.

FF- WH1

The unit shall be supplied with 204mm x 60mm rectangular spigots to connect to the duct run, with the ability to be fitted in eight separate positions reducing the requirement for bends in the system.

The unit offers the facility to be fitted directly to the mating sections without the need for spigots reducing breakout noise, additional 150mm circular spigots to be supplied as an alternative option.

TECHNICAL DATA

Units shall be one of MRXBOX95AB-WH1, MRXBOX95-WH1, MRXBOX95AB-WH1-OH, MRXBOX95-WH1-OH as manufactured by Nuaire.

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 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.

The unit shall be offered with a 5 year warranty.

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. This unit is also available in Opposite Hand formatting.

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 ventilation unit shall vary its speed and therefore the ventilation rate, as it receives signals from the switched live signal from light/ remote switches or any ancillary sensors. 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

(MRXBOX95AB-WH1 & MRXBOX95AB-WH1-OH only)

Including Automatic SUMMER BYPASS where intake and return air temperatures shall be measured so that supply air temperatures can be maximised during winter months and minimised as external ambient temperature rises. The Summer Bypass damper shall be opened by a wax actuator. Supply and Extract air shall be filtered irrespective of the bypass setting (open or closed).

CONTROL OPTIONS

All versions shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components 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 fan failure indication
- Integral S/L terminal for boost from remote switch, e.g. light switch, kitchen boost switch
- Integral heat exchanger frost protection
- Discreet daily run monitor.
- Integral humidistat.

OPTIONAL CONTROLS

MRXBOX95-RFI Remote fail indicator.

MRXBOX95-PIR (Passive Infra-Red) A low voltage sensor which detects movement and activates system.

MRXBOX95-HUM A low voltage sensor which activates the system when the relative humidity level is above a set point.

MRXBOX-VSC An LCD controller for MVHR system with a 3.2" touch screen display.

Acoustic data for MRXBOX95(AB)-WM2 with Silencer and/or First Fix

WM2 with SIL Sound Data		Frequency/Hz	63	125	250	500	1K	2K	4K	8K	dBA @3m
Curve	Max. Power/W		Sound power levels dB re 1pW								
1	150	Open Inlet	49	47	52	46	28	23	20	21	37
		Open Outlet	44	55	62	53	41	34	31	28	
		Breakout	61	61	56	53	47	44	35	33	

WM2 with FF Sound Data		Frequency/Hz	63	125	250	500	1K	2K	4K	8K	dBA @3m
Curve	Max. Power/W		Sound power levels dB re 1pW								
1	150	Open Inlet	53	50	56	50	43	40	30	30	37
		Open Outlet	47	60	67	60	57	53	45	37	
		Breakout	61	61	56	53	47	44	35	33	

WM2 with FF & SIL Sound Data		Frequency/Hz	63	125	250	500	1K	2K	4K	8K	dBA @3m
Curve	Max. Power/W		Sound power levels dB re 1pW								
1	150	Open Inlet	45	37	46	40	28	<16	<16	<16	37
		Open Outlet	37	47	53	42	34	25	23	17	
		Breakout	61	61		53	47	44	35	33	

The breakout case-radiated dBA values are given for Hemispherical free field radiation at 3m – to obtain the spherical radiated data, subtract 3dBA.

Silencer Corrections

SIL Corrections	Open Inlet	63	125	250	500	1K	2K	4K	8K
	Open Inlet	-8	-10	-9	-10	-22	-24	-16	-13
	Open Outlet	-11	-10	-9	-14	-23	-26	-20	-15
	Breakout	0	0	0	0	0	0	0	0

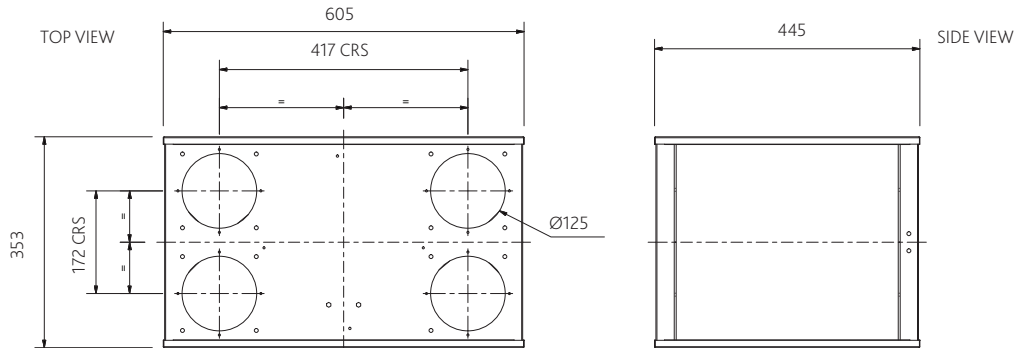
FF Corrections	Open Inlet	63	125	250	500	1K	2K	4K	8K
	Open Inlet	-4	-7	-5	-6	-7	-7	-6	-4
	Open Outlet	-8	-5	-4	-7	-7	-7	-6	-6
	Breakout	0	0	0	0	0	0	0	0

FF+SIL Corrections	Open Inlet	63	125	250	500	1K	2K	4K	8K
	Open Inlet	-12	-20	-15	-16	-22	-24	-19	-16
	Open Outlet	-18	-18	-18	-25	-30	-35	-28	-26
	Breakout	0	0	0	0	0	0	0	0

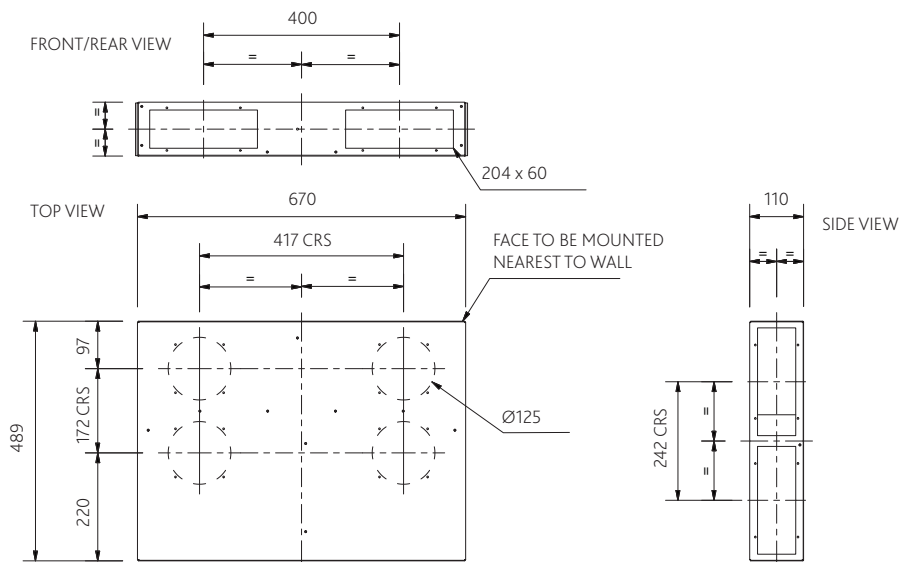
Technical

DIMENSIONS (mm) for WM2 unit

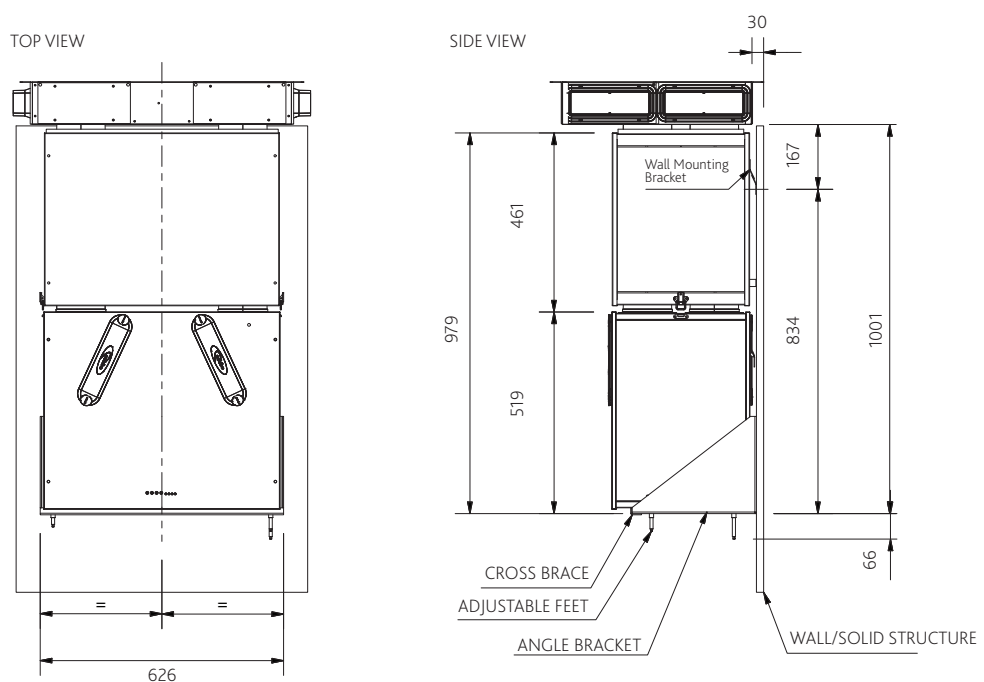
SIL-WM2



FF-WM2



COMPLETED SYSTEM



Consultants Specification

SIL- WM2

The unit offers the facility to be fitted directly to the MVHR unit and plenum chamber without the need for spigots reducing breakout noise. However, there is the capability to fit 125mm circular spigots as an alternative option.

The unit shall be fully lined with acoustic material offering excellent noise reduction.

Wall mounting brackets are to be supplied as part of the system to allow the MVHR unit to be raised after other system components are installed to form an airtight seal and enable the installation to be levelled.

The unit shall be clamped to the MRXBOX95(AB)-WM2 unit to provide an efficient seal and ensure correct alignment.

The unit shall be fixed in position during installation as a standalone section without relying on other system elements.

FF-WM2

The unit shall be supplied with 204mm x 60mm rectangular spigots to connect to the duct run, with the ability to be fitted in eight separate positions reducing the requirement for bends in the system.

The unit offers the facility to be fitted directly to the mating sections without the need for spigots reducing breakout noise, additional 125mm circular spigots to be supplied as an alternative option.

TECHNICAL DATA

Units shall be one of MRXBOX95AB-WM2, MRXBOX95-WM2, MRXBOX95AB-WM2-OH, MRXBOX95-WM2-OH as manufactured by Nuaire.

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.

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