BROOKVENT

aircycle 1.2

HIGH PERFORMANCE IN A COMPACT PACKAGE

Heat Recovery Ventilation

Installation, maintenance & user manual

Applicable to the following aircycle 1.2 models:

PRODUCT CODE	DESCRIPTION
AS 90-0102-WIN-01	aircycle 1.2 c/w Integral Humidistat - Wall Mount
AS 90-0102-WINS-01	aircycle 1.2 c/w Integral Humidistat & Summer Bypass - Wall Mount
AS 90-0102-CIN-01	aircycle 1.2 c/w Integral Humidistat - Ceiling Mount
AS 90-0102-CINS-01	aircycle 1.2 c/w Integral Humidistat & Summer Bypass - Ceiling Mount
AS 90-0102-FIN-01	aircycle 1.2 c/w Integral Humidistat – Floor Mount
AS 90-0102-FINS-01	aircycle 1.2 c/w Integral Humidistat & Summer Bypass - Floor Mount

(Product codes above refer to 'standard' system set up. Add " V " to the end of each product code for an 'inverted' system set-up

V. 1.2-19-10-16
brookvent.co.uk

CONTENTS

PLEASE KEEP THESE INSTRUCTIONS WITH THE PRODUCT.
Please read this manual fully prior to installing the MVHR unit.

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IMPORTANT

This appliance is not intended for use by persons (including children) with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

1.0 Introduction

The Brookvent aircycle 1.2 is a compact and highly efficient Mechanical Heat Recovery Ventilation (HRV/MHRV) system, specifically designed for smaller dwellings and apartments with restricted space.

The system should be run continuously 24 hours a day, and should **only** be disconnected by a competent person during service or maintenance.

Heat Recovery ventilation works best in new homes, which are extremely airtight and have high efficiency ratings. These dwellings require a high level of fresh air to ensure a healthy living environment.

The system works by drawing stale air from 'wet rooms' such as Bathrooms, WC's and Kitchens, recovering up to 93% of the heat from this air using a highly efficient heat exchanger, before expelling waste air from the home. Simultaneously, fresh air is drawn into the home, filtered and warmed by the recovered heat and supplied into the 'habitable rooms' such as bedrooms, dining rooms and living rooms.

1.1 Model Variations

PRODUCT CODE	DESCRIPTION
AS 90-0102-WIN-01	aircycle 1.2 c/w Integral Humidistat - Wall Mount
AS 90-0102-WINS-01	aircycle 1.2 c/w Integral Humidistat & Summer Bypass - Wall Mount
AS 90-0102-CIN-01	aircycle 1.2 c/w Integral Humidistat - Ceiling Mount
AS 90-0102-CINS-01	aircycle 1.2 c/w Integral Humidistat & Summer Bypass - Ceiling Mount
AS 90-0102-FIN-01	aircycle 1.2 c/w Integral Humidistat – Floor Mount
AS 90-0102-FINS-01	aircycle 1.2 c/w Integral Humidistat & Summer Bypass - Floor Mount

(Product codes above refer to 'standard' system set up. Add " V " to the end of each product code for an 'inverted' system set-up

1.2 Product Guarantee

This product is guaranteed against defects for a period of 5 years from date of purchase with the first year covering parts and labour and the remaining 4 years covering parts only.

In the instance of a defect, Brookvent may repair the product, replace the product free of charge or refund the cost of the product at Brookvent's own discretion. In terms of installation, operation and maintenance please follow all instructions provided. If this product has been misused, not properly maintained or handled carelessly it may lead to this guarantee being declared void.

Brookvent does not accept liability for damage caused by non-observance of the installation instructions. Service activities must be carried out by Brookvent or by competent installers using original Brookvent parts. This guarantee does not affect your statutory right as a consumer.

Brookvent operate a policy of continuous innovation and improvement and thus reserve the right to alter product specifications and appearances without notice.

2.0 Safety

The following information must be read carefully to ensure safe installation and operation of the Brookvent HRV system.

2.1 General Safety

- Do not use this appliance for functions other than those described in this booklet.
- Never touch the appliance with wet hands.
- The unit is only suitable for 230 VAC/50Hz electric mains.
- Never modify the fan or electronics, all repairs must be conducted by Brookvent.
- Never connect the power if electronics cover is not fitted.
- Do not store inflammable products in close proximity to the unit.
- If cleaning/ dusting the external surface, do so with a dry cloth only.

2.2 Responsibility of the Installer

- Correct Installation, balancing and commissioning of the MHRV unit.
- Record measured air flow volumes on each of the valves at High and Low rate.
- Compliance to requirements and local additional rules.
- Explanation of the ventilation system to the user.
- Warning for the user, to check or replace the air filters on time.
- All the above, as set out in the latest edition of the Domestic Ventilation Compliance Guide and the SAP Appendix Q – Installation Guide and Checklist specific to the UK market.

2.3 Responsibility of the Occupant

- Replacement of the filters as per the recommended/ required interval.
- Cleaning the valves in the rooms regularly to prevent blockage.
- To ensure that the system is functioning properly on a regular basis
- To use manual boost switches (where provided) to prevent build-up of pollutants or mould growth.

IMPORTANT

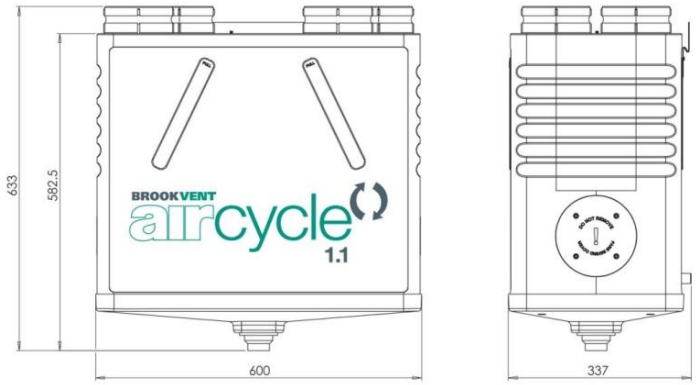
Dirty or clogged filters may cause inadequate ventilation in the home which may lead to air quality issues. It is important that the filters are changed at least once per year or as required.
In new build properties it may be prudent to check/ change your filters after the first 3 months of occupancy depending on the amount of residual 'building dust' present within the property. Failure to do so will affect your warranty.

Filters can be purchased directly online from brookvent.co.uk

3.0 Specifications/ Dimensions

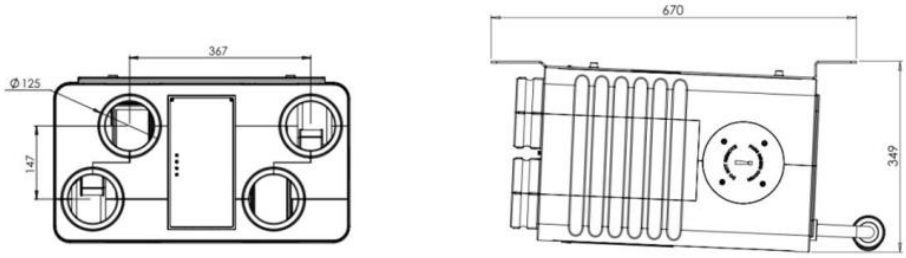
3.01 WALL MOUNT

H 583mm x **W** 600mm x **D** 337mm



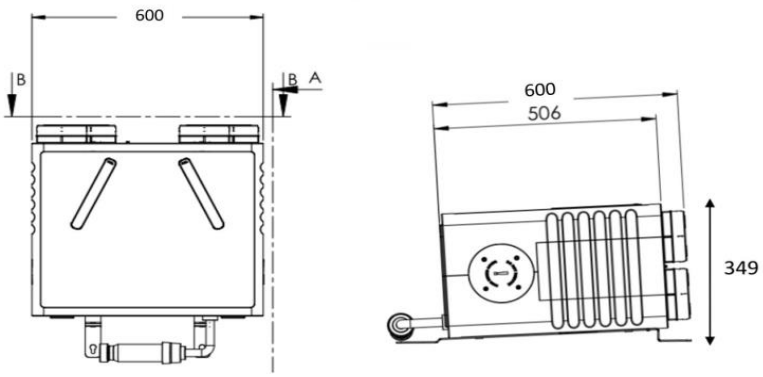
3.02 CEILING MOUNT

L 670mm x **W** 600mm x **D** 349mm



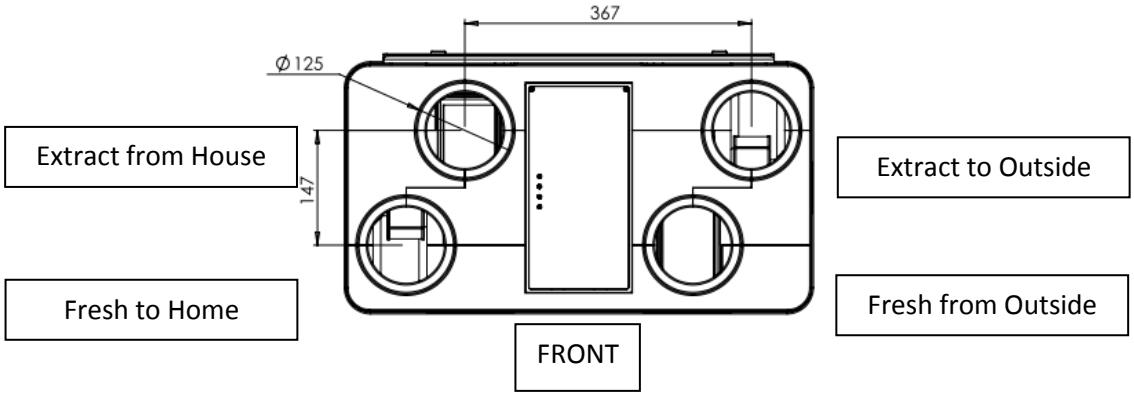
3.03 FLOOR MOUNT

L 670mm x **W** 600mm x **D** 349mm

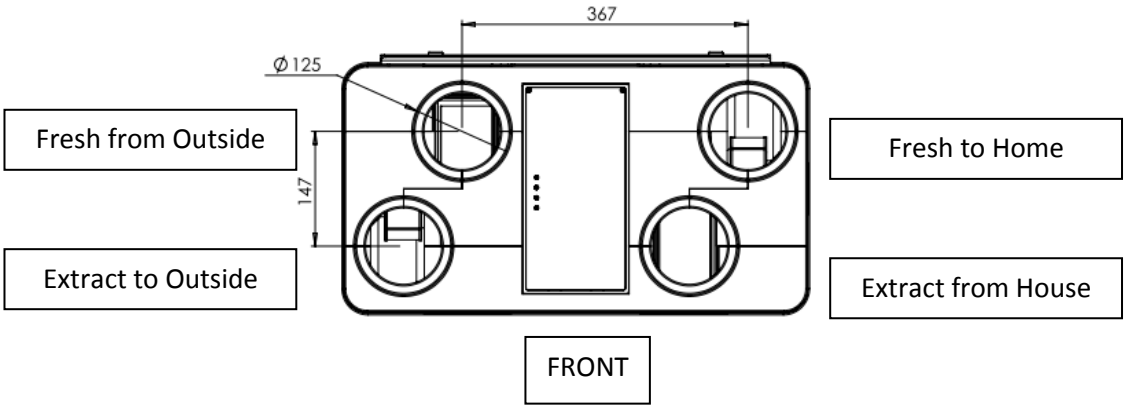


3.1 Duct Connections

Standard Configuration:



Inverted Configuration: (Factory Set: Must be specified at time of order)



3.2 Detailed Specification

Weight: 10kg

Materials:
• Main enclosure: High density, impact resistant EPP (Expanded Polypropylene)
• PCB & control panel enclosure: ABS FR
• Drainage tray: PP
• Filters: Polyester media (G2/3)
• Filter cover: Rubber
• Mounting Bracket: Zinc Plated Steel

Electrical:
• 230v EC Low energy, backward curved centrifugal fans
• PCB c/w potentiometer control
• Supplied complete with 4 core flying lead: (Live: Brown), (Neutral: Black), (Earth: Yellow & Green), (230v Switched Live (Boost): Grey)

Controls:
• Independent fan speed control (Trickle and boost settings for each fan)
• Single 230v boost input (Light switch, humidistat, PIR, etc.)
• Boost over-run timer, adjustable between 0 - 15 min.
• In-built humidity sensor (Boost activation) Variable: 60% - 100% RH, factory set: 70%
• Frost protection, factory set at 5 degrees Celsius.
• Tempering summer bypass (Automatic variation between 20 - 27 Degrees Celsius. Optional

Installation: Wall, Ceiling or Floor Mount

Standards:
Fully complies with Building Regulations for UK & Ireland
SAP Appendix Q Listed | Energy Savings Trust Best Practice | CE

Guarantee Period: 5 Years

3.3 SAP Appendix Q Results

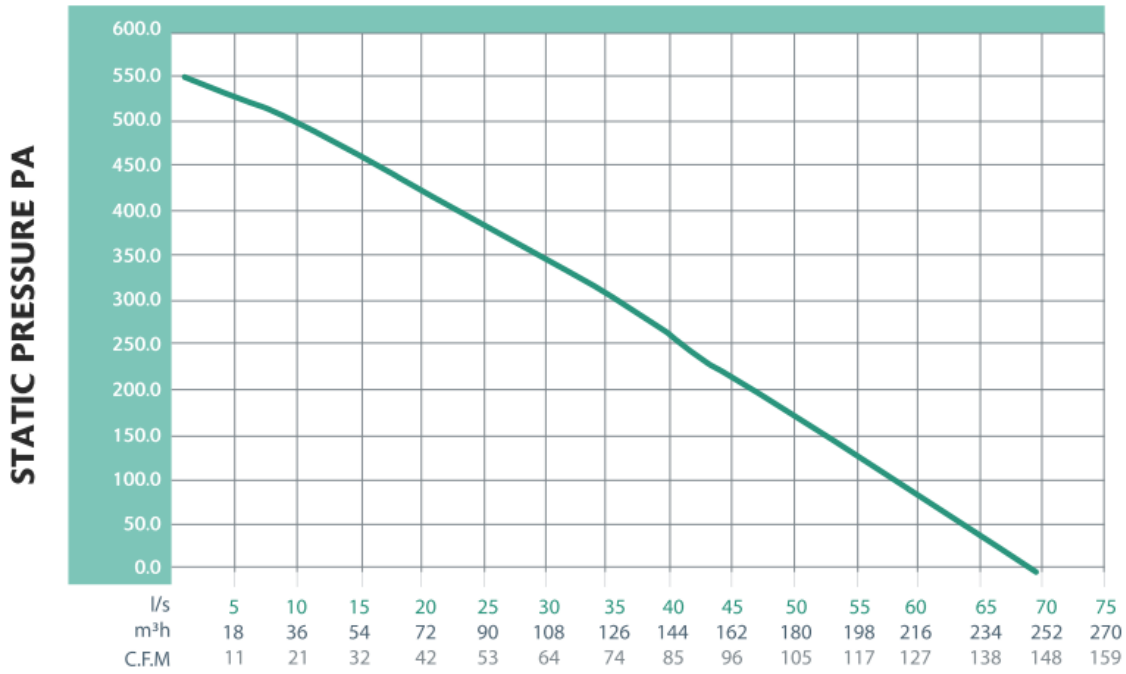
Exhaust Terminal Configuration	Fan Speed Setting	Specific Fan Power (W/l/s)	Heat Exchange Efficiency (%)
Kitchen + 1 Wet Room	100 % Variable	0.53	93
Kitchen + 2 Wet Room	100 % Variable	0.57	91
Kitchen + 3 Wet Room	100 % Variable	0.67	90
Kitchen + 4 Wet Room	100 % Variable	0.82	89
Kitchen + 5 Wet Room	100 % Variable	0.97	88
Kitchen + 6 Wet Room	100 % Variable	1.16	87

SAP 2009 (See SAP - PCDB for further details) http://www.ncm-pcdb.org.uk/sap/

Exhaust Terminal Configuration	Fan Speed Setting	Specific Fan Power (W/l/s)	Heat Exchange Efficiency (%)
Kitchen + 1 Wet Room	100 % Variable	0.59	91
Kitchen + 2 Wet Room	100 % Variable	0.74	91
Kitchen + 3 Wet Room	100 % Variable	0.96	88
Kitchen + 4 Wet Room	100 % Variable	1.20	87
Kitchen + 5 Wet Room	100 % Variable	1.46	86

SAP 2012 (See SAP - PCDB for further details) http://www.ncm-pcdb.org.uk/sap/

3.4 Airflow: Pressure/ Performance Curve



Airflow

3.5 Acoustic Information

			Pressure	Lf (MAX)							Overall	Overall	Breakout dBA @ 3M
		(l/s)	(Pa)	125	250	500	1000	2000	4000	8000	Lw	Lwa	
Speed 1	**Open Supply Duct**	16	6	32.3	32.7	36	37.8	28.5	21.9	19.2	**37**	**31**	10
	Open Extract Duct	17	2	30	26.9	30.7	33.2	25.4	19.2	18.1	**34**	**28**	
	Breakout	19	4	27.4	26	32.6	30.5	29.6	22.1	19.6	**34**	**28**	
Speed 2	**Open Supply Duct**	28	12	28.2	39.2	52.5	50.1	42.4	33.9	24.7	**49**	**44**	19
	Open Extract Duct	29	10	31.7	29.7	47.3	40	33.3	28	22.2	**41**	**34**	
	Breakout	31	9	30.8	33.6	46.4	46.8	34	27.4	21.4	**43**	**37**	
Speed 3	**Open Supply Duct**	38	18	33.8	40.8	56.7	55.8	51.7	42.6	30.3	**56**	**46**	24
	Open Extract Duct	42	25	37.8	34.3	50.6	49.1	34.9	34.2	24.8	**48**	**41**	
	Breakout	42	16	28.7	33.3	50.3	46.2	40.4	33.8	25.4	**48**	**41**	
Speed 4	**Open Supply Duct**	49	31	48.3	44.8	61.3	64.5	56.9	50.3	39.9	**64**	**55**	32
	Open Extract Duct	53	43	45.9	36.2	52..4	59.9	36.5	40.1	26.2	**54**	**50**	
	Breakout	54	30	49.1	35.3	54.1	56.2	47	40.6	35.1	**56**	**50**	
Speed 5 (max)	**Open Supply Duct**	66	40	43.6	47.6	60.4	66.2	63.4	54.2	45.7	**64**	**58**	33
	Open Extract Duct	60	55	42	40.5	56.1	58.8	43.2	41.7	39.2	**60**	**51**	
	Breakout	66	40	36.9	35.7	57.4	60.5	52.9	45.4	40.4	**60**	**51**	

4.0 Installation

It is important that the full installation of this system is carried out by competent persons, including all electrical works and connections being completed by a qualified electrician.

The MVHR unit is designed to be installed indoors, within an attic, storage cupboard, or void space, away from exposure to frost, water, or intense heat. The system should be installed in a ventilated space.
A clear access space is required around the unit; this will ensure ease of installation relating to ductwork, wiring, and the connection of the condensate drain. It is important that filters to the system can also be accessed for replacement.

4.1 Mounting

4.11 WALL MOUNT

The aircycle 1.2 models AS 90-0102-WIN-01, AS 90-0102-WIN-01V, AS 90-0102-WINS-01, and AS 90-0102-WINS-01V are designed for Wall Mounting only. The unit should be attached the to the wall as shown using the wall bracket provided, please ensure the mounting surface can safely bear the load of the unit using suitable screw fixings.

One bracket will be secured to the back of the unit as shown in **Fig. 1**, the second bracket should be secured to the mounting surface as shown in **Fig. 2**. Please ensure the brackets are level. The unit can then be set onto the mounting surface with the lip of each bracket intersecting as shown in **Fig. 3**

Fig. 1

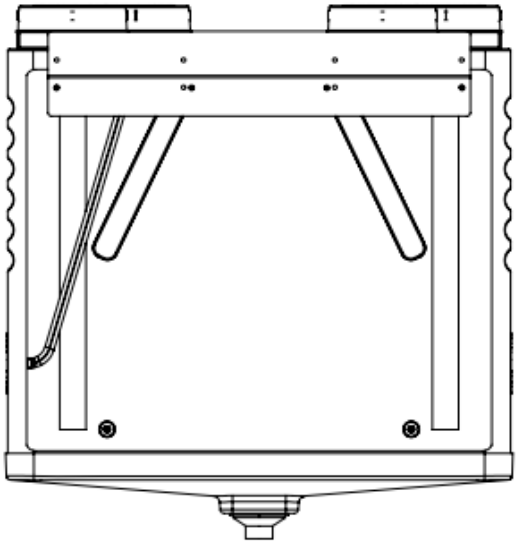
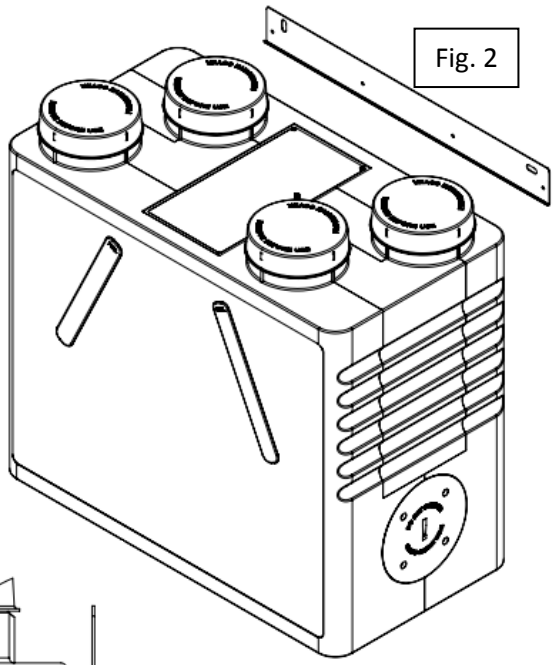


Fig. 2



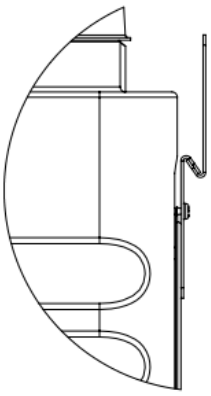


Fig. 3

4.12 CEILING MOUNT

The aircycle 1.2 models **AS 90-0102-CIN-01, AS 90-0102-CIN-01V, AS 90-0102-CINS-01, and AS 90-0102-CINS-01V** are designed for ceiling mounting only.

The unit should be attached to the Ceiling as shown (Fig.1) by first fixing the bracket to the unit using the fixings provided. Brookvent provide drainage to a point as indicted in Fig.2. The 'Dry Trap' **(AF 90-05-167)** and 'Running Adaptor' **(AF 90-05-174)** can also be supplied by Brookvent.

Fig. 1

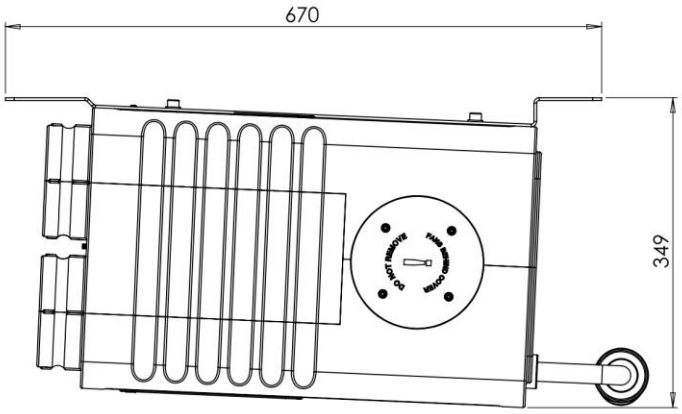
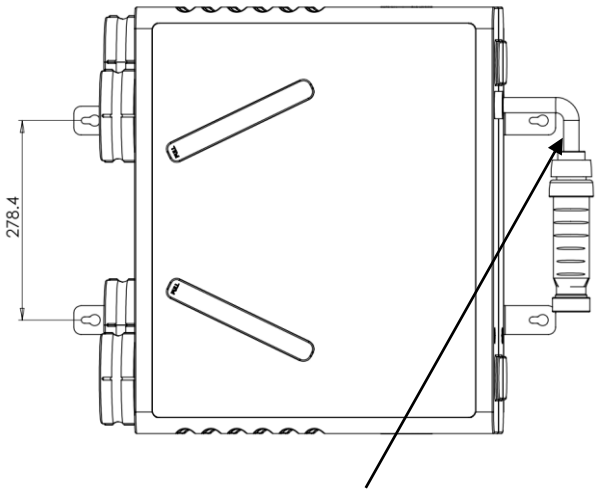
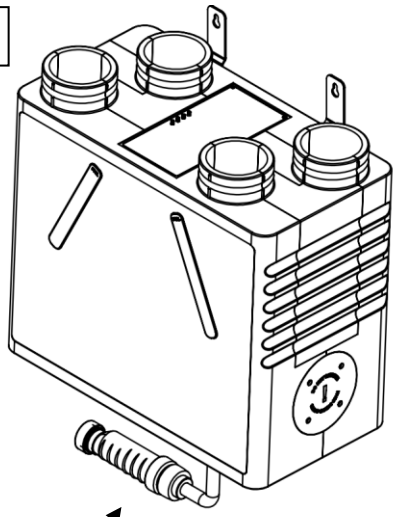


Fig. 2



Brookvent supply drainage to this point.

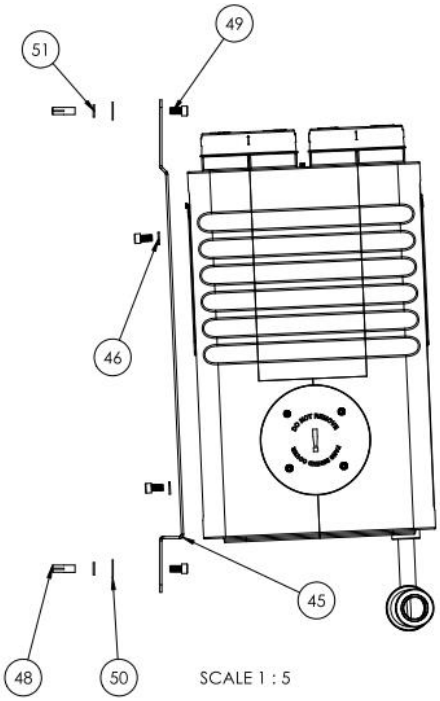
Fig. 3

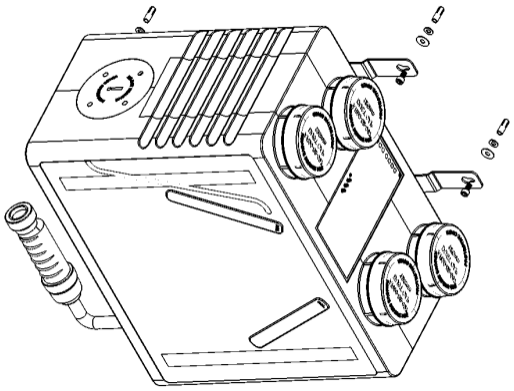


Dry Trap must be fitted with a 10 degree fall. Trap not included.

Also supplied are:

- **No.45 –** Ceiling Mounting Bracket (Quantity: 2)
- **No.46 –** M8 Anti Vibration Washer (Quantity: 7)
- **No.48 –** M8 x 30 Celling Anchor (Quantity: 4)
- **No.49 –** M8 x 16 Socket Cap Bolt (Quantity: 6)
- **No.50 –** M8 x 24 Washer (Quantity: 2)



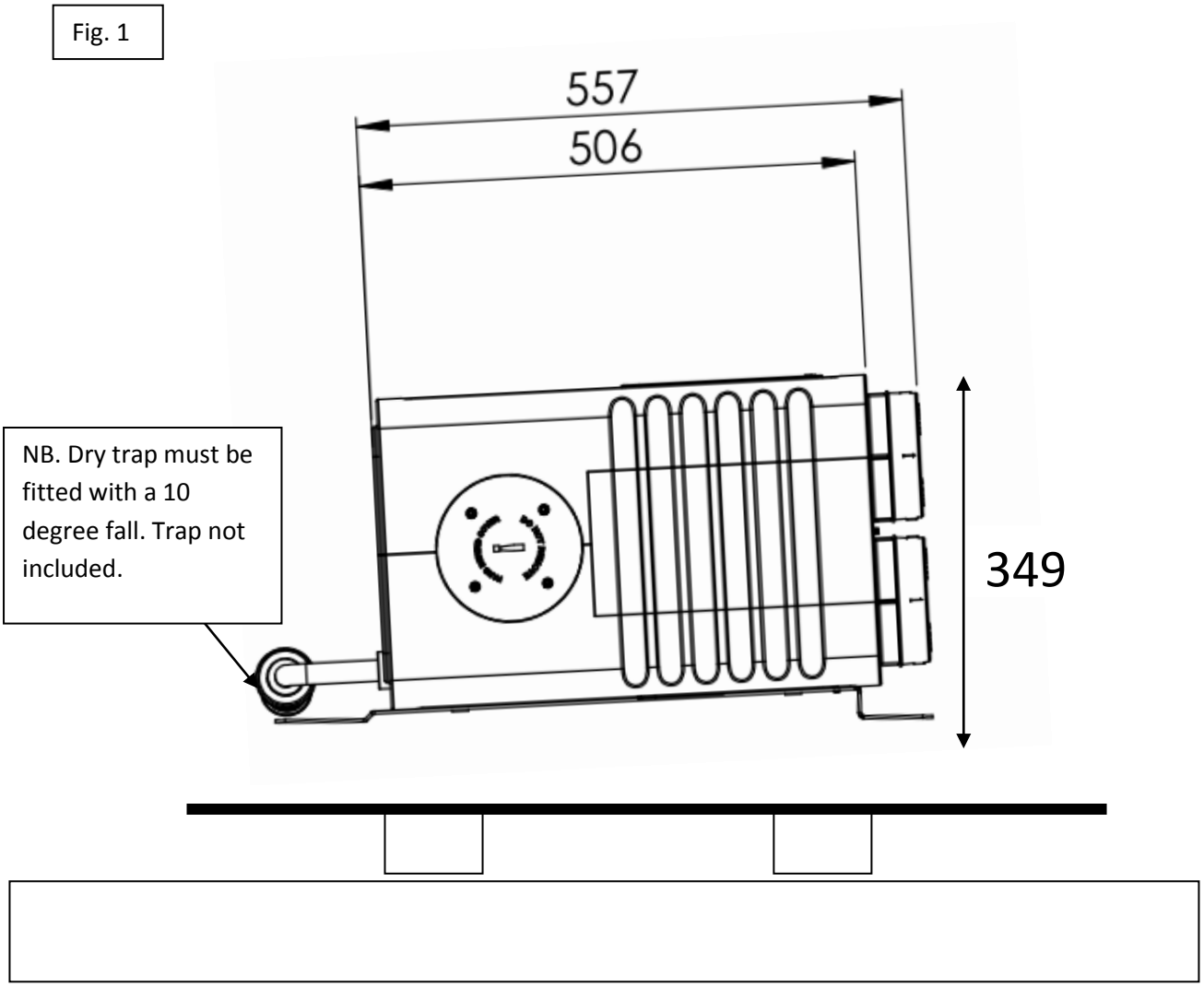


Please ensure that this method of fixing is suitable for the mounting surface and that it can safely bear the load.

4.13 FLOOR MOUNT

The aircycle 1.2 models **AS 90-0102-FIN-01, AS 90-0102-FIN-01V, AS 90-0102-FINS-01, and AS 90-0102-FINS-01V** are designed for floor mounting only and comes complete with its mounting bracket already fitted. The unit should be attached to the Floor, as shown, mounted on a raised plinth. (Fig.1).

Fig. 1



Please ensure that this method of fixing is suitable for the mounting surface and that it can safely bear the load.

4.2 Ductwork and Connections

To comply with SAP Appendix Q, and to facilitate the air flow performance, all ducting used should be rigid. If flexible ducting is required, it should be kept to an absolute minimum of 300mm and kept taut as per the Domestic Compliance Guide (Part F: Eng and Wales 2010).

The spigots on the Brookvent aircycle 1.2 systems are suitable for connection to 125mm diameter round pipe.

The label on top of the unit clearly identifies which spigot should be connected to which ducting route within the dwelling. This is also shown clearly within this manual.

For optimum efficiency and performance, it is recommended that 125mm diameter round pipe is used (where possible) to connect to the spigots and continue throughout the dwelling, this will assist in keeping pressure losses to a minimum. A minimum straight vertical run of 300mm should also be used directly off each spigot (where possible).

Where it is not possible to continue throughout the dwelling in rigid 125mm diameter round pipe due to the void spaces available, a conversion to rigid 204mm x 60mm flat rectangular ducting is recommended. It is recommended that the number of bends in the ducting system is kept to a minimum.

Each of the external roof terminals / wall terminals must be the equivalent to the open area of 125mm diameter round pipe.

To facilitate air circulation within the dwelling there must be a minimum of 10mm undercut on each of the doors (to the finished floor) within the dwelling (or grills placed at low level on the doors).

Extract air valves should be placed in all wet rooms (kitchen, utility, en-suite, etc.) and should be sited, where possible, close to the main source of humidity/ pollutant.

Fresh supply air valves should be placed in all habitable rooms (bedroom, living room, dining room, etc.).

Air valves should be locked upon commissioning so that they are tamper proof.

Duct designs/ layouts should always be adhered to if provided.

The Domestic Compliance Guide: Eng. and Wales 2010 or relevant equivalent dependent upon local guidelines, should be adhered to in terms of installation practices.

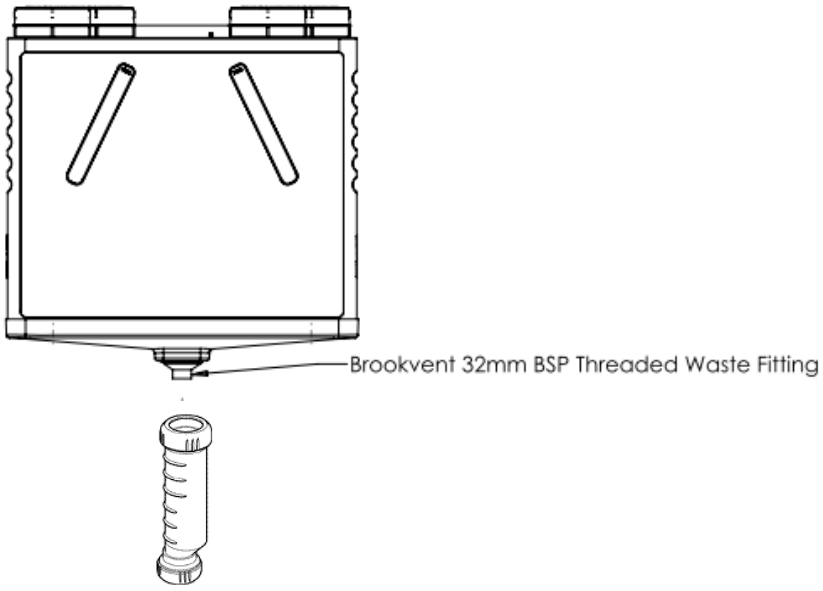
4.3 Connection of Condensate Drain

4.31 WALL MOUNT

Models: **AS 90-0102-WIN-01, AS 90-0102-WIN-01V, AS 90-0102-WINS-01, and AS 90-0102-WINS-01V**

HRV systems generate considerable amounts of moisture due to their high Heat Recovery Efficiency; this moisture must be drained from the system to a suitable discharge location.

The aircycle 1.2 is supplied complete with a centralised drainage connection on the bottom of the unit.



Brookvent recommend the use of a 32mm "Waterless Dry Trap" on HRV systems (as shown below) to prevent the back flow of air into the HRV unit from the waste discharge system (Trap not included).

A "P Trap" or equivalent, IS NOT RECOMMENDED in place of a "Waterless Dry Trap". **If using a "P Trap" care should be taken to ensure that the "P Trap" does not dry out during hot summer months.**

It is imperative that there is a gravitational fall from the unit to the discharge point ensuring that the water drains from the unit. A minimum fall of **5 Degrees** should be ensured throughout. Drainage piping/ connections should be insulated if located in cold roof spaces.

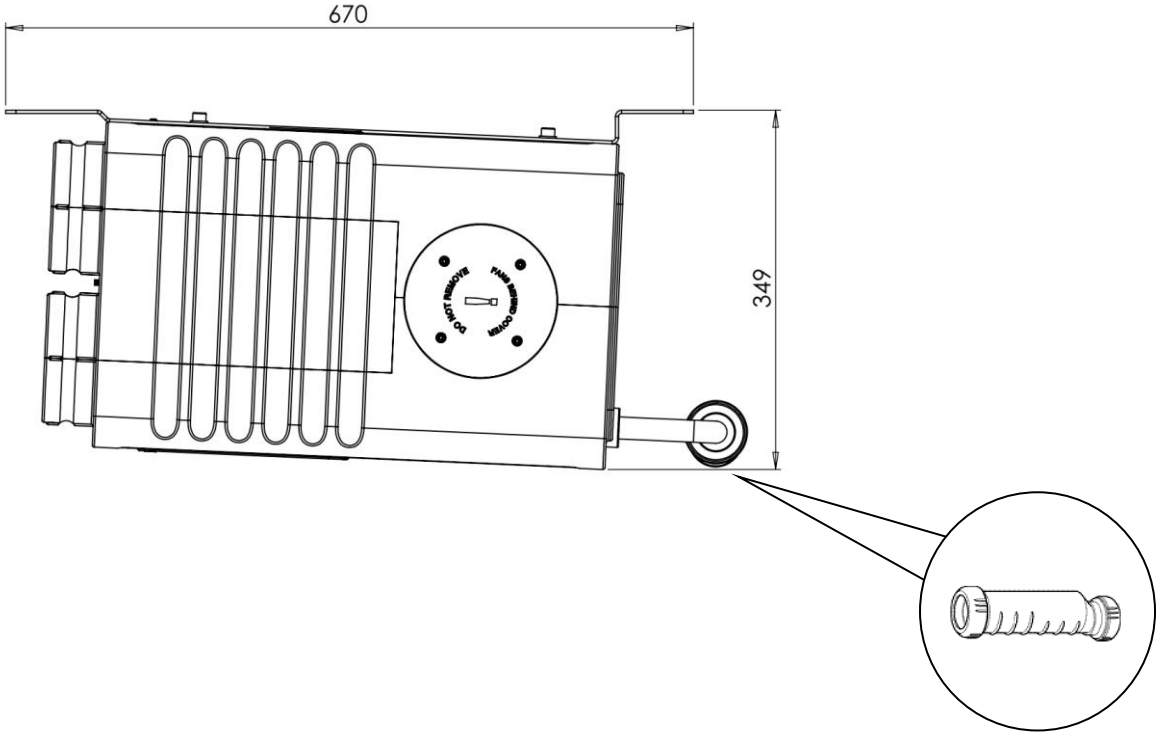
Drainage piping/ connections should be insulated if located in cold roof spaces.

DO NOT connect other condensate pipes from the system or other systems BEFORE the "Waterless Dry Trap"

4.32 CEILING MOUNT

Models: **AS 90-0102-CIN-01, AS 90-0102-CIN-01V, AS 90-0102-CINS-01, and AS 90-0102-CINS-01V**

HRV systems generate considerable amounts of moisture due to their high Heat Recovery Efficiency; this moisture must be drained from the system to a suitable discharge location.



The aircycle 1.2 Ceiling mount drainage connection is **21.5mm**.

Brookvent recommend the use of a 32mm "Waterless Dry Trap" on HRV systems (as shown below) to prevent the back flow of air into the HRV unit from the waste discharge system (Trap not included). A running adaptor to connect from 21.5mm to 32mm **(AF 90-05-174)** can also be supplied by Brookvent.

A "P Trap" or equivalent, IS NOT RECOMMENDED in place of a "Waterless Dry Trap". **If using a "P Trap" care should be taken to ensure that the "P Trap" does not dry out during hot summer months.**

It is imperative that there is a gravitational fall from the unit to the discharge point ensuring that the water drains from the unit. A minimum fall of **5 Degrees** should be ensured throughout. Drainage piping/ connections should be insulated if located in cold roof spaces.

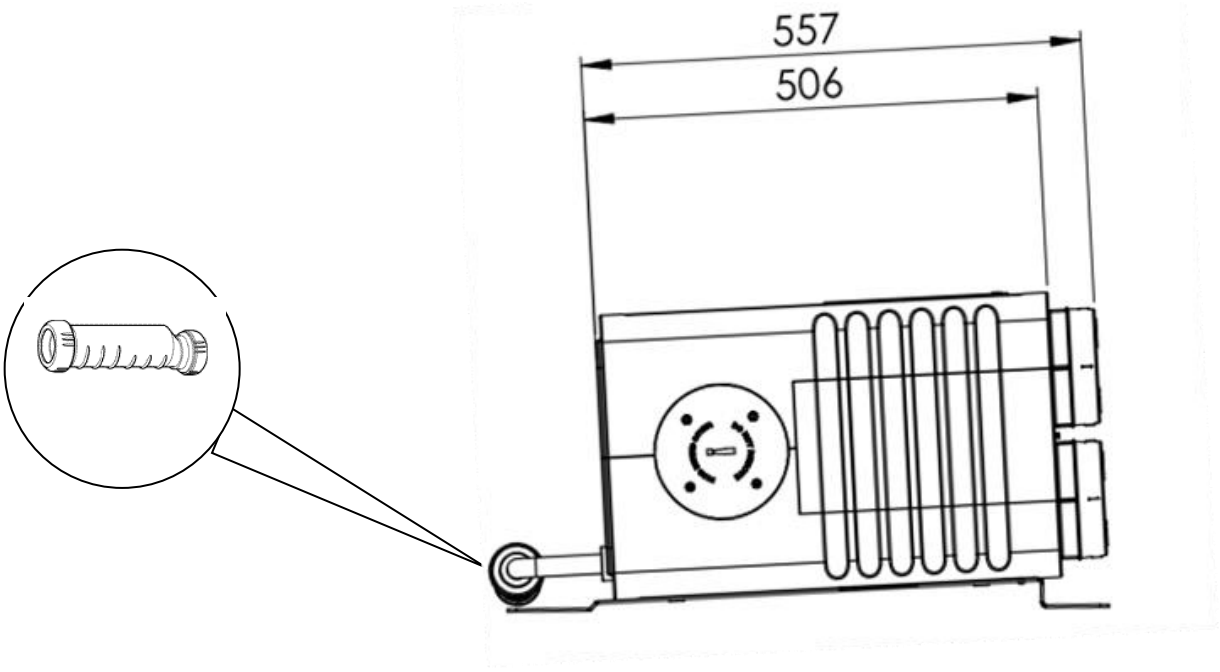
Drainage piping/ connections should be insulated if located in cold roof spaces.

DO NOT connect other condensate pipes from the system or other systems BEFORE the "Waterless Dry Trap"

4.32 FLOOR MOUNT

Models: **AS 90-0102-FIN-01, AS 90-0102-FIN-01V, AS 90-0102-FINS-01, and AS 90-0102-FINS-01V**

HRV systems generate considerable amounts of moisture due to their high Heat Recovery Efficiency; this moisture must be drained from the system to a suitable discharge location.



The aircycle 1.2 Floor mount drainage connection is **21.5mm**.

Brookvent recommend the use of a 32mm "Waterless Dry Trap" on HRV systems (as shown below) to prevent the back flow of air into the HRV unit from the waste discharge system (Trap not included). A running adaptor to connect from 21.5mm to 32mm **(AF 90-05-174)** can also be supplied by Brookvent.

A “P Trap” or equivalent, IS NOT RECOMMENDED in place of a “Waterless Dry Trap”. **If using a “P Trap” care should be taken to ensure that the “P Trap” does not dry out during hot summer months.**

It is imperative that there is a gravitational fall from the unit to the discharge point ensuring that the water drains from the unit. A minimum fall of **5 Degrees** should be ensured throughout. Drainage piping/ connections should be insulated if located in cold roof spaces.

Drainage piping/ connections should be insulated if located in cold roof spaces.

DO NOT connect other condensate pipes from the system or other systems BEFORE the “Waterless Dry Trap”

5.0 Electrical Connections/ Wiring

IMPORTANT

All the electrical connections must be carried out by a qualified electrician. Installations and wiring must conform to current IEE regulations (UK), local or appropriate regulations (applying to other countries).

Electrical Details:

Voltage: 230 V AC ~

Fuse rating: 5 A

Warning: This unit must be earthed.

Please Note: The core cable from the mains power supply must be connected to a fixed wiring installation, via **a 5 amp** fused isolator, as to comply with current IEE wiring regulations.

A switch or circuit breaker must be used in the power supply circuit. It should be in close proximity to the HRV unit and should be clearly marked as the disconnecting device for the HRV Unit.

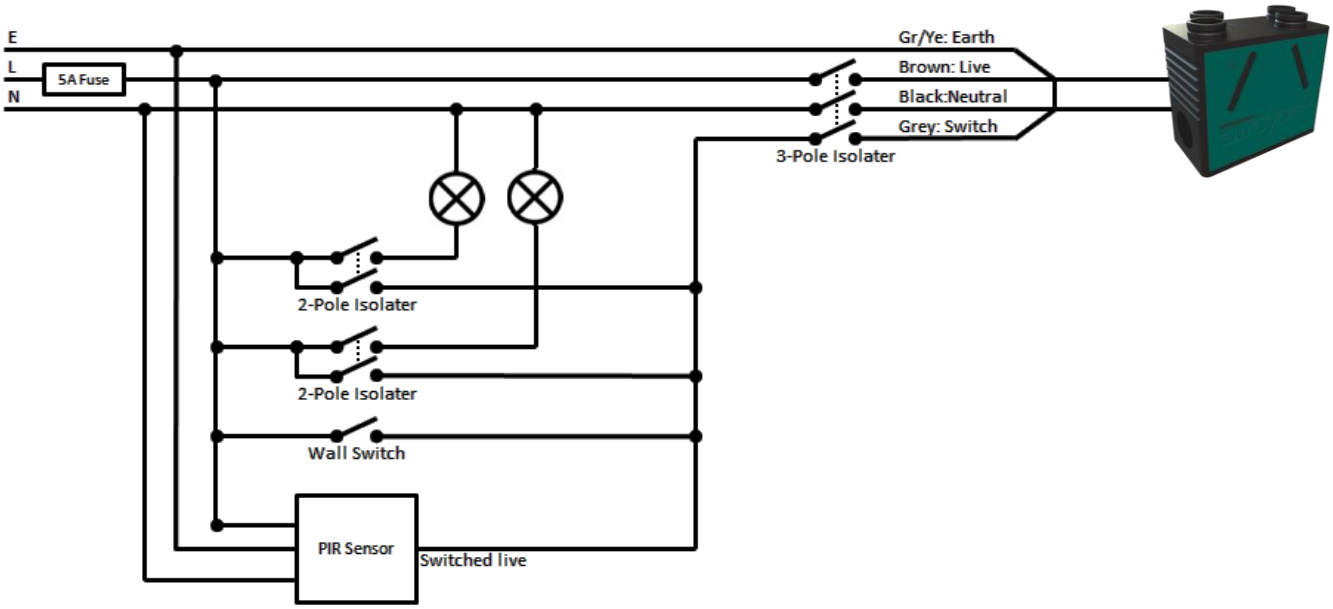
Connecting to mains:

The aircycle 1.2 unit comes pre-wired with 2m length of 4-core cable, which should be connected into a fan-isolation switch. In turn a 3-core mains cable should be used to connect to a **5A fused spur**, which should be located close to the unit. The unit should never be connected to a plug outlet.

Green/Yellow	= Earth
Brown	= Live
Black	= Neutral
Grey	= Switch

The grey switch wire is used to boost the system. When a live 230v signal is applied, the Auto Boost function will be triggered.

5.1 Wiring Schematic



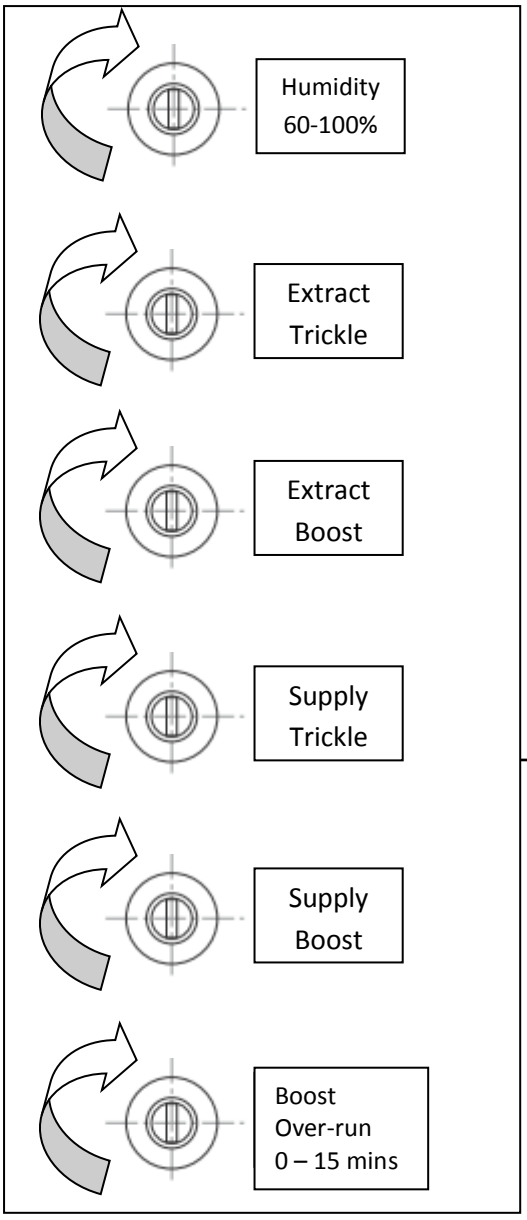
6.0 Controls and Settings

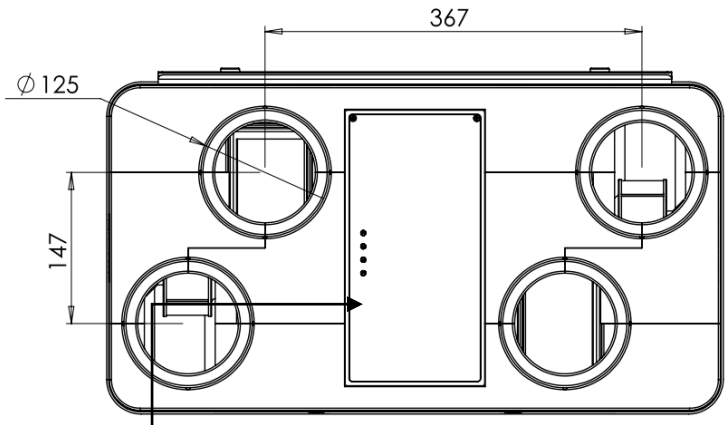
6.1 Fan Speed Control

The fan speeds of the unit are controlled by four potentiometers (Speed Pots) on top of the unit; these are clearly marked “Trickle” and “Boost”. These allow individual control of the trickle and boost rates for the supply and extract fans within the unit.

These separate speed options allow one speed to be set for normal day to day operation (I.e. Trickle) and an increased speed to be set (I.e. Boost) that operates only when the Grey switch wire is triggered by a 230v boost signal such as a Wall Switch or Passive Infrared Sensor.

If the Boost for either fan is required to be set, it should always be set higher than the Trickle. Turing these Speed Pots clockwise increases the fan speed.





NB. On standard configuration systems the controls are located on the RHS as shown. Inverted configuration systems have their controls located on the LHS and are clearly labelled.

6.2 Commissioning Fan Speeds

1. Turn all 4 fan control spindles down fully to off (**Extract Trickle**, **Extract Boost**, **Supply Trickle, Supply Boost**).
2. Turn the "Boost Over-run" to zero.
3. Turn the Boost Switch on (or trigger the boost by other means provided, e.g. bathroom light switch relay if applicable).
4. Turn the **Extract Boost** spindle up until the minimum extract boost rate is achieved in all the wet rooms (extract valves) as per the BPEC process for commissioning.
5. Turn boost switch off (or other if applicable).
6. Turn the **Supply Trickle** up until the whole dwelling ventilation rate has been achieved in all the habitable rooms (supply valves) as per the BPEC process for commissioning.
   NB: The trickle rate cannot be higher than the boost rate.
7. Turn the **Extract Trickle** up until the total airflow balances the total supply trickle rate.
   DO NOT ADJUST THE VALVES!
8. Turn the Boost Switch on (or trigger the boost by other means provided, e.g. bathroom light switch relay if applicable).
9. Turn the **Supply Boost** up until the total airflow balances the total extract boost rate.
   DO NOT ADJUST THE VALVES!
10. Ensure that the whole system is commissioned correctly following the procedures laid out by BPEC and the Domestic Compliance Guide (England and Wales) – Part F – Means of Ventilation.

Commissioning is carried out to ensure that the required air flows are achieved throughout the property. The volume airflow at each point should be measured using a suitably calibrated Airflow Meter (anemometer), this is should be fitted with an adapter/ hood to ensure all air is captured and measured by the device.

For the required airflow rates refer to the design specification for the property and or refer to Building Regulations (Part F: Means of Ventilation, England and Wales) or relevant equivalent dependent upon local guidelines.

If further guidance is required on the commissioning process, please contact Brookvent directly.

Example Commissioning:

Property – Area: 80sq.m Airtightness: less than 5cu.m/hr @ 50Pa

Supply Rooms:		Extract Rooms	
Living	11l/s	Kitchen	13l/s
Dining	5l/s	Bathroom	8 l/s
Bedroom	8 l/s	En-suite	8 l/s

Whole dwelling ventilation rate = 24l/s *(the greater of Area x 0.3 or whole dwelling rate table in building regulations).*

Whole dwelling boost rate =29 l/s *(the greater of the summation of the extract rates or the whole dwelling rate).*

As per the instructions above, turn all spindles down. Turn the boost switch on. Turn the Extract boost spindle up until the extract boost rates are achieved (kitchen 13l/s, bathroom 8l/s, En suite 8 l/s).

Lock the valves in place.

Turn the boost switch off. Turn the supply trickle spindle up to achieve the rates for the supply rooms (living 11l/s, Dining 5l/s, Bedroom 8l/s).

Lock the valves in place.

Turn the Extract up down until the whole dwelling rate i.e. 24l/s is achieved through the extract valves. Do not adjust the valves, only adjust the control on the unit.

Turn the boost switch on. Turn the Supply Boost up until the whole dwelling Boost rate i.e. 29l/s is achieved through the Supply valves. Do not adjust the valves, only adjust the control on the unit.

Turn the boost switch off.

6.3 Humidity Control

This potentiometer control is located on the front of the unit and can be adjusted by hand and can be set between 60%-100% (Not active) relative Humidity, causing the unit to boost when it senses the set humidity level. Adjusting the speed pot anti-clockwise will cause the unit to become more sensitive thus boosting the system more often.

The factory setting for humidity is 70% RH. Turning this Speed Pot clockwise increases the humidity level at which the unit will boost.

NB. Upon start-up/ power-on the humidity sensor will be inactive for a period of 60mins due to calibration.

6.4 Boost Over-Run Timer

All Brookvent aircycle systems come complete with an automatic boost over-run timer of 15mins (factory set). The grey 'switch wire' on the aircycle 3.1 systems (See section '5.0 Electrical Connections/ Wiring') is used to boost the system.
When a live 230v signal is applied by a switch or sensor, the boost function will be triggered. When the signal stops, the boost will over-run for a minimum of 15 mins as to ensure the system has adequately cleared the pollutants that were present. This is also true for the internal humidistat feature in the aircycle 3.1.

The 15min boost over-run timer control is located on the front of the unit and can be adjusted by hand and can be set between 0 mins and 15 mins by rotating the control clockwise to increase the over-run timing.

6.5 Frost Protection

This is an automatic factory setting that causes the supply fan to turn off for 5 minutes every hour when it senses temperatures below the 5 ^{o}C the set level allowing the warm extract air from the home to pass though the core unaccompanied by the cold fresh in-take air. This action succeeds in regularly raising the overall temperature within the Heat Recovery System preventing the potential formation of ice particles which could cause damage.

This feature is factory set, automatic, and requires no maintenance.

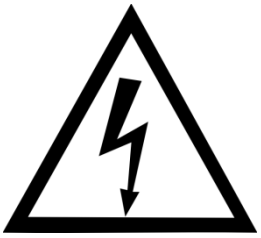
6.6 Tempering Summer Bypass

Feature available on selected models only (AS 90-0301-WINS-01).

The Tempering Summer Bypass feature, unique to Brookvent aircycle systems, functions via thermostatically responsive solenoid which operates on a linear scale between 20 Degrees Celsius (No Summer Bypass) and 27 Degrees Celsius (Full Summer Bypass); gradually increasing the amount of air directed around the Heat Recovery Core as the temperature of the extract air from the home rises thus comfortably regulating the indoor air temperature during warmer months.

This feature is factory set, automatic, and requires no maintenance.

7.0 Maintenance



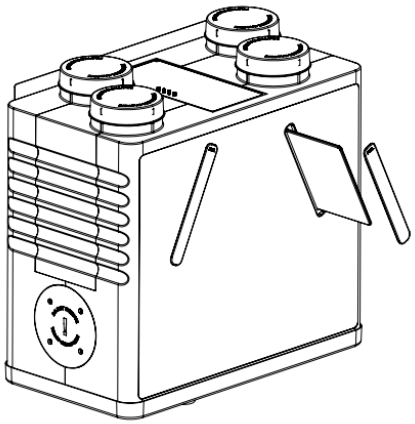
Warning: Dangerous Voltage. Before completing any form of maintenance, ensure to isolate the unit from the mains and ensure all supply circuits are disconnected.

This HRV unit may contain connections/signal wires from multiple electrical circuits. **ISOLATING THE CONTROL BOX WILL NOT ISOLATE ALL CIRCUITS WITHIN THE UNIT- PLEASE ENSURE ISOLATION OF ALL CONNECTING CIRCUITS BEFORE ACCESSING THE UNIT.** Examples of other connecting circuits are: electric showers, lighting circuits, and humidistats. These connecting circuits may be used to trigger the auto-boost the system.

It is important to follow all guidelines relating to the maintenance of this HRV system to ensure the unit continues to perform to the levels required.

7.1 Filter Replacement

The filters of this HRV unit will usually need to be changed every 6 – 12 months depending on occupancy/ use, and the type of environment the dwelling is located in (I.e. urban/ rural, and their associated levels of airborne pollutants).



It is recommended that the filters are checked every 6 months. Replacement filters can be purchased online at brookvent.co.uk

To change the filters, simply remove the filter covers from the front of the unit, replace the filters, and replace the filter covers firmly.

Important: Blocked filters will shorten the life span of your fan and increase the energy consumption. Never run the HRV system without filters as this will allow unfiltered material to build up in the heat recovery core and connected ductwork. In new build properties it may be prudent to check/ change your filters after the first 3 months of occupancy depending on the amount of residual 'building dust' present within the property

7.2 Additional Maintenance Checks

It is recommended that the following checks are also made when completing annual maintenance of the HRV unit:

- Condensate Drain: Ensure the condensation drain is firmly secured and is clear of any debris, remove/ clean if necessary. If a P Trap has been fitted, ensure that this remains filled. Brookvent strongly recommend the use of Waterless Dry Traps in place of traditional P Traps.
- Fixings: Ensure that all of the unit fixings and the mounting fixings have not become loose over time and are kept sufficiently tight.

8.0 User Operation

The Brookvent aircycle 1.2 is an extremely compact and highly efficient Mechanical Heat Recovery Ventilation (HRV/MHRV) system, specifically designed for smaller dwellings and apartments with restricted space.

The system should be run continuously 24 hours a day, and should only be disconnected by a competent person during service or maintenance.

The system works by drawing stale air from 'wet rooms' such as Bathrooms, WC's and Kitchens, recovering up to **93%** of the heat from this air using a highly efficient heat exchanger, before expelling the waste air outside the home. Simultaneously, fresh air is drawn into the home, filtered and warmed by the recovered heat and supplied into the 'habitable rooms' such as bedrooms, dining rooms and living rooms.

How your system is configured upon installation will influence how it can be operated at the user level. Please ensure to refer to the commissioning certificate provided by your installer for full details.

General Guidance

Your system may be set up to boost from trickle speed automatically via sensors (e.g. Passive Infrared Sensors) or manually via simple switch controls. These may be timed switches or push/pull switches. Boost options, if provided and if required, should be used when excess pollutants are being generated within the home (Cooking, Bathing etc.)

With certain dwellings the system may be configured to operate at what is known as a "constant ventilation rate". This means that there is no boost required to adequately ventilate the home and the system operates at one set level at all times requiring no user input/control.

8.1 Typical Automatic Control Options

Your system commissioning certificate completed by your system installer should detail your automatic control options (if any).

Passive Infra-red (PIR) Sensors

These are motion sensing switches; these sensors trigger the system into boost mode when activity/ motion is detected in a particular room. They are typically put into sanitary accommodation or bathrooms.

Humidistat

These sensors detect humidity in the air and trigger the system into boost mode when humidity reaches a certain level. These are typically placed in bathrooms or in kitchens. Please note that the aircycle 1.2 system has an In-built humidistat that operates in the same fashion.

Light switch

The lighting circuit of the home can be used to boost the system meaning that when the occupier enters the room and turns the on the light, the system is triggered into boost mode. This is typically used in sanitary accommodation and bathrooms.

The items detailed above are examples of the types of Automatic Control Options that are typically used in conjunction with the Brookvent aircycle 1.2

8.2 Typical Manual Control Options

Your system commissioning certificate completed by your system installer should detail your manual control options (if any).

Spring loaded switch

This switch may be placed in any room within the house; however, it is typically used in sanitary accommodation, bathrooms and or kitchens. When pressed, it will trigger the system into boost mode for a defined time.

Trickle and Boost switch

This is a simple on-off switch with no determined time delay. When the switch is flicked to boost the system goes into its boost state, the switch then must be put back to trickle

by the occupier for standard operation. (Please note that the aircycle 1.2 system has a minimum boost overrun time of 15mins).

*The items detailed above are examples of the types of Manual Control Options that are typically used in conjunction with the Brookvent aircycle 1.2 *

9.0 Trouble Shooting

The unit is not running?

Check that the unit is connected to a 5amp fused spur.

Check that there is a live feed to the fused spur.

Check that the 5 amp fuse has not tripped/blown.

Check that all the spindles are in the full power position (the fans take a few seconds to start up.

The system is constantly in Boost?

New houses can be quite damp with items drying out; this can cause the inbuilt humidistat (and external humidistats) to activate. The in-built humidistat is disabled for the first hour after set up; however, if the system is boosting after this period the level can be adjusted to 100% effectively switching off the humidistat. Remember to turn this stat down again after commissioning.

Check whether the system is designed to boost from a light switch relay, if so, have any of these been left on while commissioning process is being carried out.

Notes

Notes

Customer Support

At Brookvent we pride ourselves on providing Gold Standard after sales and support to all customers. Please feel free to contact one of our specialist team about any query you may have and we will be more than happy to assist you.

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It is important to retain this manual and make a copy available to any person using or working with (maintaining) the system.

Brookvent operate a policy of continuous innovation and improvement and thus reserve the right to alter product specifications and appearances without notice.