

Sentinel

Kinetic Advance

MVHR

Installation & Commissioning



Stock Ref. N°
405215 Advance S
405216 Advance SX

Vent-Axia[®]

PLEASE RETAIN THESE INSTRUCTIONS WITH THE PRODUCT.

408651





PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE COMMENCING INSTALLATION.

1. Do not install this product in areas where the following may be present or occur:
 - Excessive oil or a grease laden atmosphere.
 - Corrosive or flammable gases, liquids or vapours.
 - Subject to direct water spray from hoses.
 - Ambient temperatures higher than 40°C and lower than -20°C.
 - Possible obstructions that may hinder access to or removal of the unit.
2. All wiring must be in accordance with the current IEE wiring regulations BS7671, or appropriate standards of your country. Installation should be inspected and tested by a suitably qualified person after completion.
3. Ensure the mains supply (voltage, frequency and phase) complies with the rating label.
4. The unit should be provided with a local double pole fused spur fitted with a 3A fuse having a contact separation of at least 3mm.
5. These units must be earthed.
6. Precautions must be taken to avoid the back-flow of gases into the building from the open flue of gas or other fuel-burning appliances.
7. 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.
8. Young children should be supervised to ensure that they do not play with the appliance.

Installation Guidance

1. The installer is responsible for the installation and electrical connection of the sentinel system on site. It is the responsibility of the installer to ensure that the equipment is safely and securely installed and left only when mechanically and electrically safe.
2. All regulations and requirements must be strictly followed to prevent hazards to life and property, both during and after installation, and during any subsequent servicing and maintenance.
3. The unit's condensate drain must be connected to the building's wastewater drainage system.
4. Certain applications may require the installation of sound attenuation to achieve the sound levels required.
5. The unit must not be connected directly to a tumble drier.
6. The supply and exhaust valves must be fully opened prior to commissioning.
7. The supply air must be drawn from the exterior of the property.
8. The unit should be allowed to stabilise during commissioning for a minimum period of 5 minutes when changing between boost and normal speeds.
9. Ensure that the unit's external grilles are a minimum of 1500mm apart. The exhaust grille should be located at least 600mm away from any flue outlet. The inlet grille should be located 2000mm away from any flue outlet.
10. This product and associated duct installation should be carried out in accordance with the domestic ventilation compliance guide.

Disposal



This product should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority for recycling advice.

Contents

Warnings and Safety Information

Installation Guidance.....	3
----------------------------	---

About this document

Contents	4
----------------	---

Technical Data

Product Description	5
Accessories	6
Technical Specification.....	7
Product Dimensions	8
Sentinel Kinetic Advance Summer Bypass	9
Performance Data	10

Installation

Overview.....	11
Wall Mounting the Unit	12
Floor Mounting the Unit	13
Floor Mounting the Unit (Alternate Method)	14
Vertical Discharge Condensate Installation.....	15
Attach the Ducting	16
Electrical Installation.....	17
Connect Switches and Sensors	18
Connect the Power Supply	20

Commissioning

Powering up the Unit.....	21
Overview.....	21
Control Unit Touch Screen Display	21
Commissioning Menu.....	22
Commissioning Screens Summary	23
Commissioning Modify Settings	24

Operation and Monitoring

Control Unit Screens Summary.....	32
User controls	34
Settings and Performance.....	35
Default settings.....	40

Maintenance

Filter Maintenance	41
Periodic Maintenance.....	42
Spares	43

Troubleshooting

Diagnosing a Problem	44
----------------------------	----

Product fiche

Product fiche.....	47
--------------------	----

UK Building Regulations (Part F) Declaration of Conformance

The Sentinel Kinetic conforms to the 2010 Building Regulations (Part F - Means of Ventilation) requirements for installed performance of a ducted mechanical extract fan when installed in accordance with the instructions in this document and the Domestic Ventilation Compliance Guide.

Note:

Read in conjunction with the User Guide Instruction manual 408652

Product Description

The Vent-Axia **Sentinel Kinetic Advance models S & SX Mechanical Ventilation/Heat Recovery (MVHR)** is a heat recovery unit designed for the energy efficient ventilation of houses and similar dwellings, conforming to the latest requirements of the Building Regulations document F 2010.

The unit is designed for continuous 24 hour exhaust ventilation of stale moist air from bathrooms, toilets, utility rooms and kitchens. As the stale air is extracted, a heat exchanger within the unit transfers up to 93% of the waste air's room temperature, into the supply air entering the bedrooms and lounge. This design concept provides significant energy recovery on household heat costs, coupled with the optimum comfort conditions.

In addition, a Kinetic Advance SX unit maintains a constant airflow independent of change in system pressure.

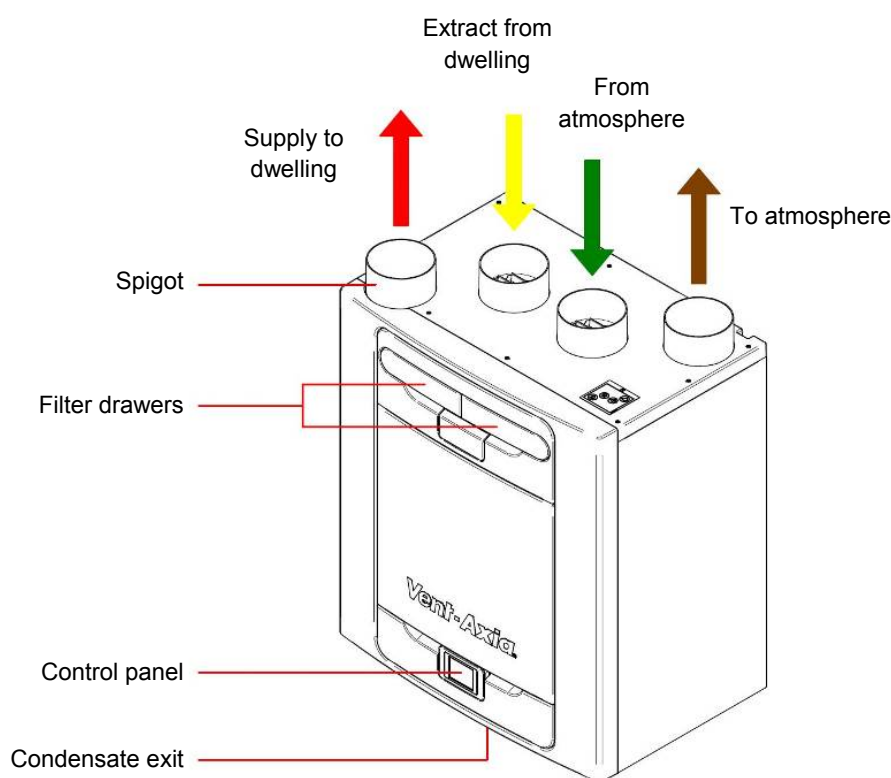


Figure 1: Sentinel Kinetic Advance with RH spigot configuration

Models

- **405215 Sentinel Kinetic Advance S.**
- **405216 Sentinel Kinetic Advance SX.**

Accessories

- **472703 WIFI Controller Accessory**

The WIFI controller is a plug & play accessory that fits next to the Control module. This offers the user instant access to various functions and features for direct monitoring and control of the unit using a smart phone or tablet via the Vent-Axia app.

- **472693 Ventwise PCB Accessory.**

The optional Ventwise controller has four inputs. These can be used for sensing temperature rise in a bath/shower hot water supply and/or current in a cooker/hob electrical circuit to activate boost, ensuring additional ventilation when needed.

- **472697 Input Switch PCB Accessory.**

The optional Input Switch Accessory offers four volt free pairs of switch terminals for sensor inputs to allow boosting from a full range of Vent-Axia controllers e.g. humidistats, PIRs, and timers.

- **472699 LS2/3 PCB Accessory.**

The optional LS2/3 Accessory offers two extra switched live inputs for boosting via light switches (220-240V ac) or Normal/Boost switches. This connection has the advantage of Delay and Over-run features. Delay enables prevention of boost airflow between 0 and 20 minutes, and Over-run enables boost airflow to continue after the light switch has been turned off for up to 30 minutes. This allows effective clearance of stale air or humidity.

- **472701 Analogue I/O PCB Accessory.**

The Analogue I/O Accessory has two terminals with 0-24V outputs to allow 0V – 10V control by sophisticated controllers such as CO₂ sensors and proportional humidistats.

- **472695 Power heater PCB Accessory.**

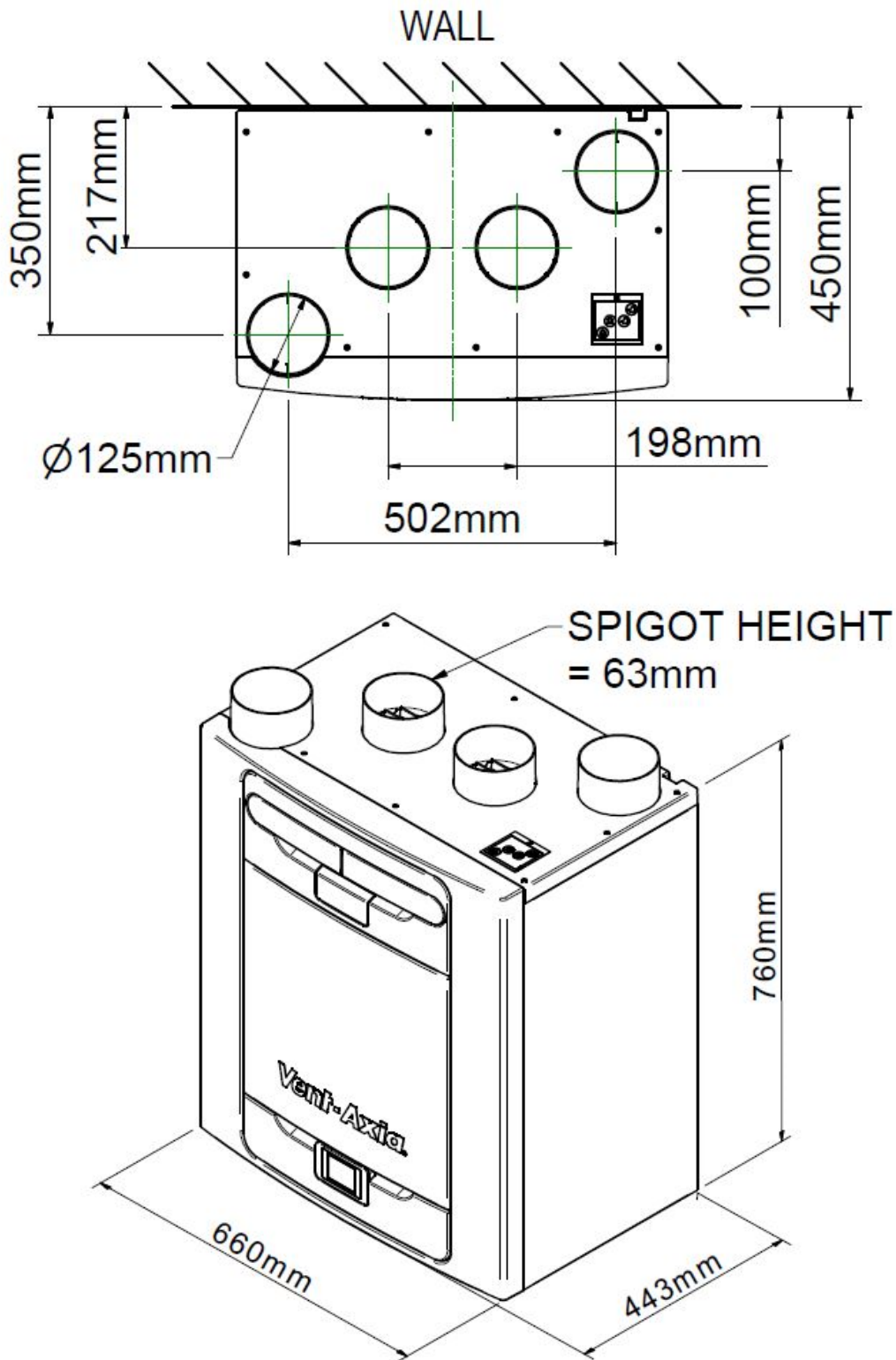
The optional Power heater PCB Accessory allows a means of control for any external pre heaters fitted to the unit.

For these alternative control options, see www.vent-axia.com

Technical Specification

Performance	Sentinel Kinetic Advance S	Sentinel Kinetic Advance SX
Airflow	Maximum, FID, 115 l/s (414 m ³ /h) Low default 20% Normal default 30% Boost default 50% Purge default 100%	Low default 15 l/s (54 m ³ /h) Normal default 25 l/s (90 m ³ /h) Boost default 40 l/s (144 m ³ /h) Purge default 90 l/s (324 m ³ /h) @300pa
Sound levels (@ 3 m)	See website for full sound spectrum	See website for full sound spectrum
Power		
AC Voltage Input	220-240 V AC (single phase)	
AC Frequency Input	50 Hz nominal	
Supply Fuse	3 A (located in fused spur)	
Product Fuse	2 A (located on main PCB)	
Rated Power	190W (max.)	
Physical		
Height (excl. spigots)	760 mm	
Width	660 mm	
Depth	443 mm	
Weight	27 kg	
Spigot diameter	125 mm	
Condensate pipe diameter	22 mm or 32 mm	
Environmental		
IP Rating	IPX2	
Operating Temperature	-20°C to +45°C	
Air Intake Temperature	As above	
Operating Humidity	0% to 95% RH	
Storage Temperature	-20°C to +45°C	
Storage Humidity	0% to 95% RH	
Software Version	V7	

Product Dimensions



Remove front cover (see page 17) to view Rating label.
(Label is positioned to the right of the controller).

Figure 2: Sentinel Kinetic Advance Dimensions

Sentinel Kinetic Advance Summer Bypass

The Sentinel Kinetic Advance includes a unique Summer Bypass (SBP) feature to provide energy-free cooling when the house temperature and ambient temperature allows.

Note that the volume of air provided by this ventilation system is a fraction of that required for space heating or space cooling and will not in itself be sufficient to cool a room. It will however, provide a contribution and make a difference.

Modes of operation

There are 4 Modes of Operation: Normal / Evening Fresh / Night Time Fresh and Off

Normal.

Airflow rate is determined by sensors, boost control and/or timed settings, otherwise it operates at normal rate.

If the room is warmer than the set (shown as "indoor") temperature (i.e. you need the room to be cooler) and the outdoor air is cooler than the actual room temperature (i.e. the outdoor air could cool your room) then the SBP will open and the unit will supply cooler air to your room.

Note that the above only applies whilst the outdoor air temperature is above 14 C (adjustable) in order to prevent cold draughts.

The set ("indoor") temperature should be set 2 or 3 degrees higher than the central heating thermostat and 2 or 3 degrees below any air conditioning thermostat if fitted. This will prevent any clash between the separate systems.

Evening Fresh.

Intended for use as the outdoor temperature cools in the evening, but reverts to Normal mode after a set time so that any increase in noise is avoided overnight.

The unit will go onto 'Boost' speed when the summer bypass opens and continue on this speed for five hours. If the external minimum temperature is reached before the end of the purge period, the unit will revert to normal operating mode.

Air flow rate for 'Boost' speed is selected in the "GO TO MODE" screen

Night Time Fresh.

Intended for use as the outdoor temperature cools in the evening and continues through the night when cooling is a higher priority than any increase of noise. Note that the air noise in your system is influenced by the ducting design and layout and the size and type of vents used in the rooms. If improvements are required speak to your installer.

The unit will go onto 'Boost' speed when the summer bypass opens and continue on this speed until the external temperature is higher than the internal temperature and then revert to normal operating mode. If the external minimum temperature is reached before the end of the purge period the unit will revert to normal operating mode.

Air flow rate for 'Boost' speed is selected in the "GO TO MODE" screen.

Off

The summer bypass is switched off and will not provide energy free cooling.

Note: Pressing the Boost button during Evening Fresh and Night Time fresh modes will revert the unit to normal bypass mode.

Performance Data

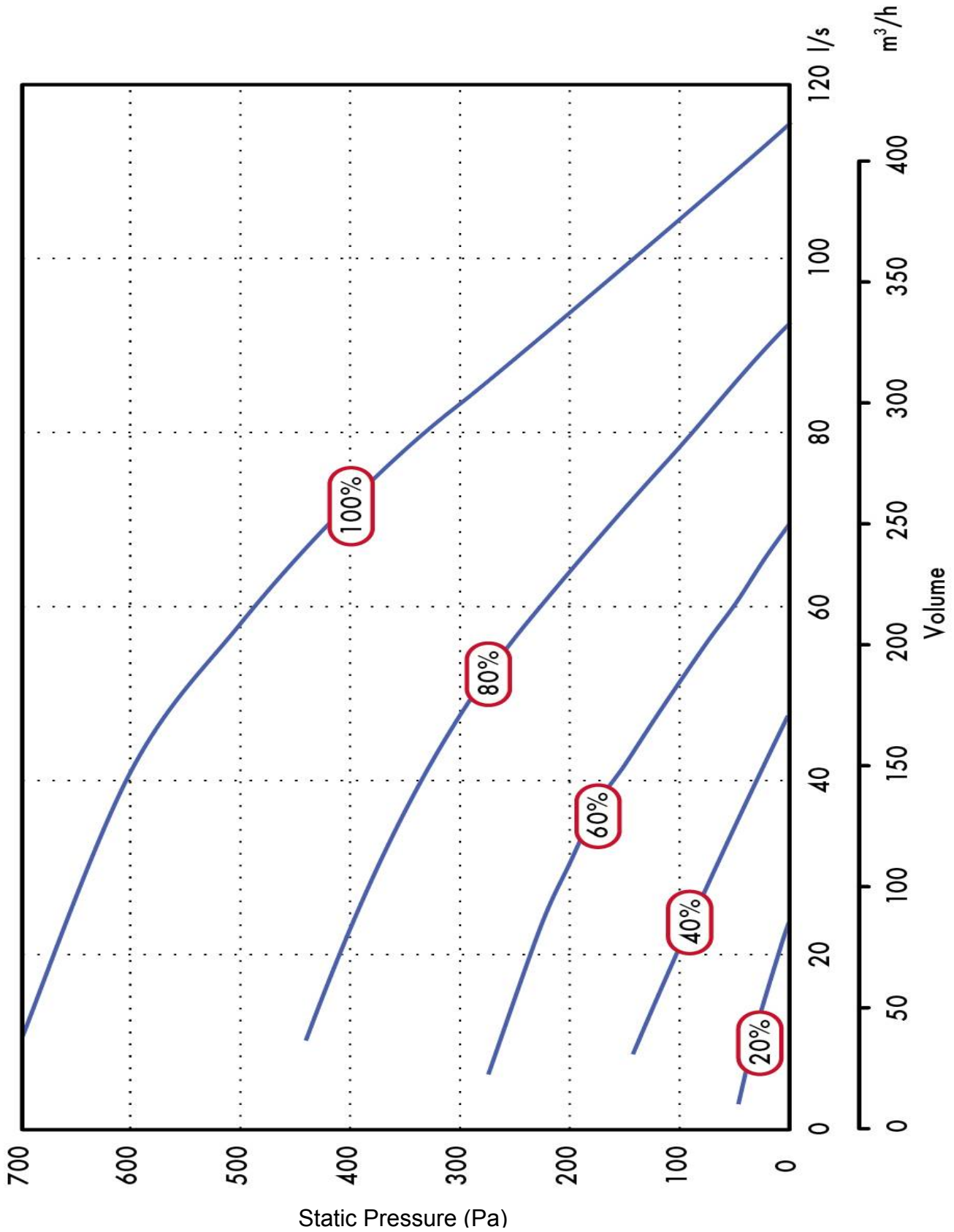


Fig 3 Sentinel Kinetic Advance Performance graph

Overview

The following instructions are intended to help prevent potential hazards and installation should only be carried out by a qualified electrician and installer. This booklet covers both the Kinetic Advance S and SX models. The control systems are identical on both models but there are some differences during the commissioning that the installer needs to be aware of.

NOTE: we advise installers to fix all mains and sensor wiring along with any internal accessories prior to fixing the MVHR unit in position, leaving approximately 500 mm tails to allow for internal routing.

Before installation of the unit

Inspect the Unit

When taking delivery of the unit, check the items delivered against the enclosed delivery note. Inspect the unit for damage in transit. If in doubt, contact Customer Services. Each box contains a Kinetic Advance Heat Recovery unit, a wall bracket, & an accessory pack containing, miscellaneous fixings and product documentation.

Lift and Move the Unit Safely

On page 7 check the weight of the unit that you are installing. Always use appropriate lifting techniques and appliances when moving heavy equipment.

Check Site Requirements and Safety Notices

Check that the physical and environmental conditions for the site meet, or exceed, the requirements detailed in the *Technical Specification* on page 7.

Read and observe the safety notices listed in *Warnings and Safety Information* on page 2.

Unit Installation

The Sentinel Kinetic Advance units are typically installed on a wall in a kitchen, utility room, storage cupboard, roof void, or similar and the wall should have sufficient strength to support the unit.

The unit may also be floor mounted, either directly to the floor or using standard kitchen cabinet feet. Ensure that a secure, firm, flat, and level surface is provided to place the unit onto when using the floor mount method.

Take into consideration the position of the electrical services and the condensate drain.

Ensure there is adequate access at the front of the unit for installation, operation and maintenance.

It is recommended, a local disconnection mains is installed within 1m of the unit to facilitate future maintenance..

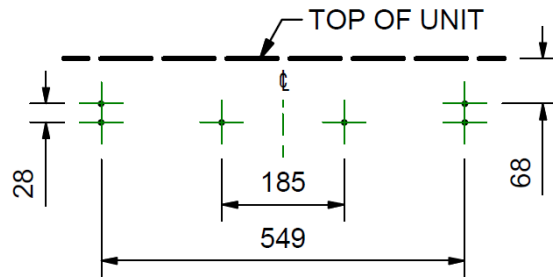
The unit **MUST** always be mounted vertically with ducting exiting vertically. Do not use this unit as a support for any other equipment.

Select Unit Orientation

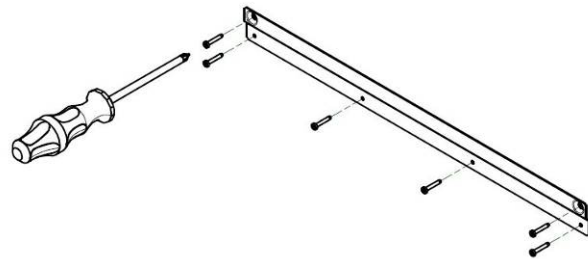
The unit is supplied from the factory with the condensate exit (and the atmosphere spigots) to the right of the unit, when viewed from the front. If the unit is configured in the opposite orientation with condensate exit (and the atmosphere spigots) to the right, then the condensate installation will need to be reversed.

Wall Mounting the Unit

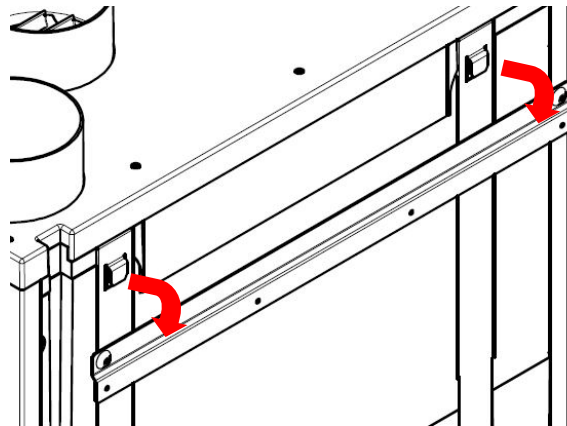
Step 1: Mark the wall bracket position using the dimensions shown. Note the position of the top of the unit in relation to the wall bracket. Ensure the bracket position is horizontal.



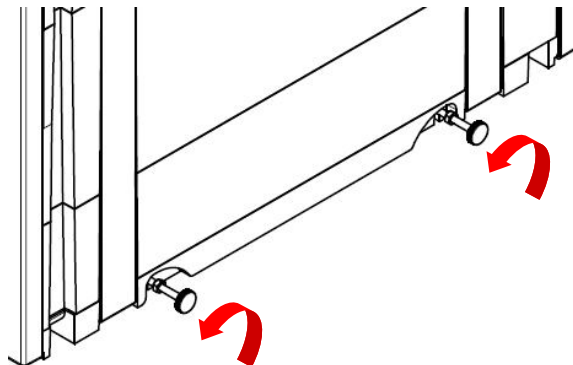
Step 2: Attach the wall bracket to the wall using appropriate fixings.



Step 3: Lift the unit and locate the two hooks on the rear onto the wall bracket.

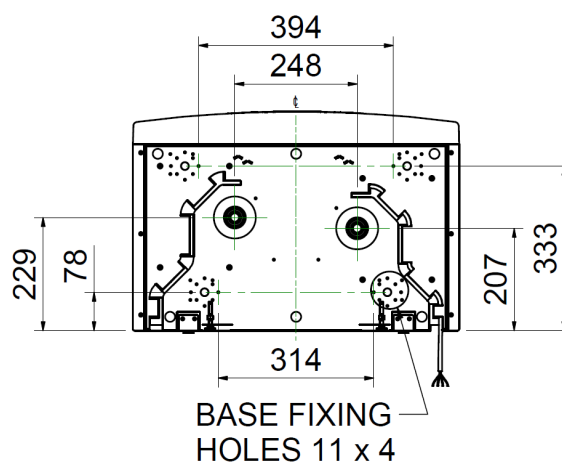


Step 4: Use the two adjusters at the bottom of the unit to ensure the base of the unit is horizontal in both axis. Lock the adjusters in the correct position using the two M6 nuts.



Floor Mounting the Unit

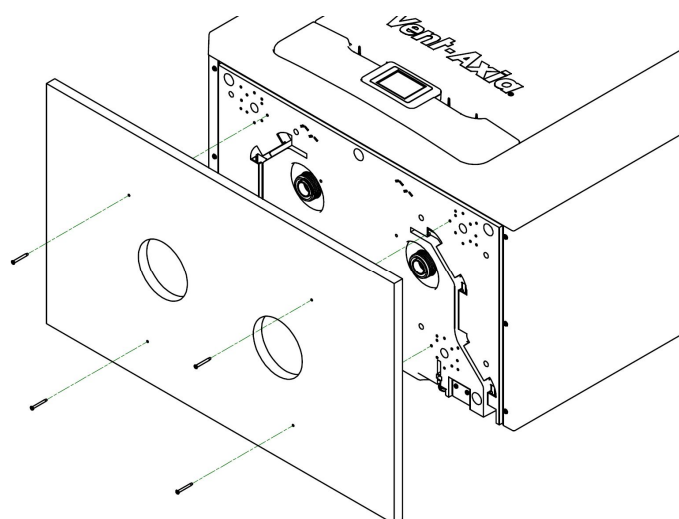
Step 1: The unit has 44 x 12mm deep fixing holes on the underside suitable for a No.6 screw. Pre drill a board using the dimensions shown, and cut 2 x 105mm minimum diameter holes for the condensate drain access.



Step 2: Mount the board to the underside of the unit using appropriate fixings.

Note: Ensure any other cabling requirements (e.g. sensor, control cables etc) are routed through the two cable channels as required prior to attaching the board.

The board may then be attached to joists, flooring, or equivalent.

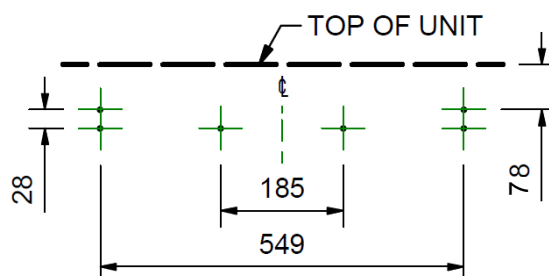


Vent-Axia recommend that where possible, the wall bracket is used in conjunction with any floor mount solution to prevent the unit from tipping.

Step 3: Mark the wall bracket position using the dimensions shown. Note the position of the top of the unit in relation to the wall bracket. Ensure the bracket position is parallel to the floor.

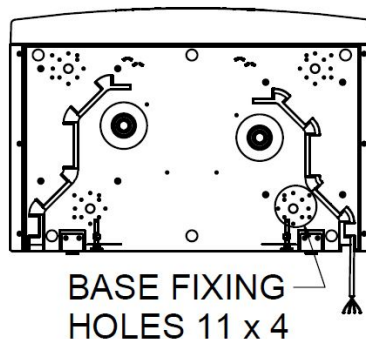
Step 4: Attach the wall bracket to the wall or baton using appropriate fixings. (As shown on page 12)

Step 5: Lift the unit and locate the two hooks on the rear onto the wall bracket prior to fixing the unit to the floor. (As shown on page 12)

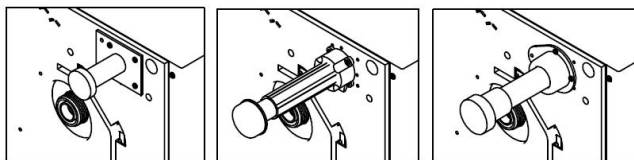


Floor Mounting the Unit (Alternate Method)

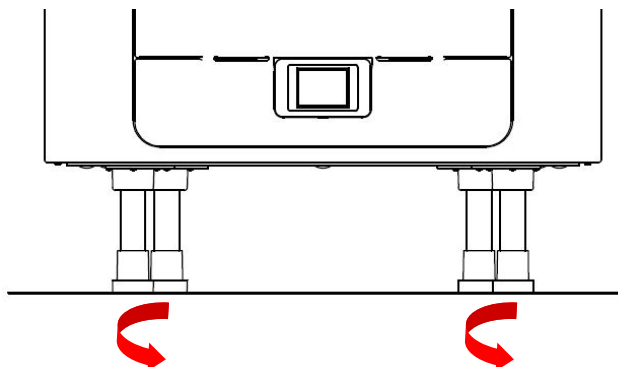
Step 1: The unit has 44 x 12mm deep fixing holes on the underside suitable for a No.6 screw. The holes are configured to allow fitment of most standard kitchen foot types.



Step 2: Mount your chosen foot type to the underside of the unit using appropriate fixings.



Step 3: Adjust your chosen foot type to ensure the base of the unit is horizontal in both axis.

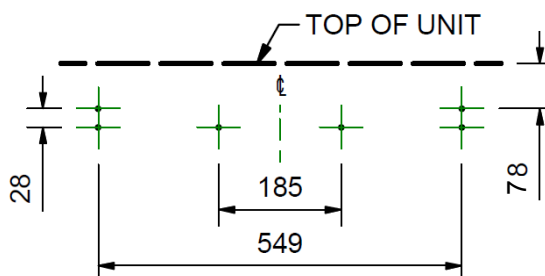


Vent-Axia recommend that where possible, the wall bracket is used in conjunction with any floor mount solution to prevent the unit from tipping.

Step 4: Mark the wall bracket position using the dimensions shown. Note the position of the top of the unit in relation to the wall bracket. Ensure the bracket position is parallel to the floor.

Step 5: Attach the wall bracket to the wall or baton using appropriate fixings. (As shown on page 12)

Step 6: Lift the unit and locate the two hooks on the rear onto the wall bracket prior to fixing the unit to the floor. (As shown on page 12)



Vertical Discharge Condensate Installation

Note

The kinetic advance condensate outlet is compatible with standard 22 mm plastic push-fit fittings and 32mm plastic waste pipe fittings.

A water trap must be fitted between the unit and the rest of the waste system.

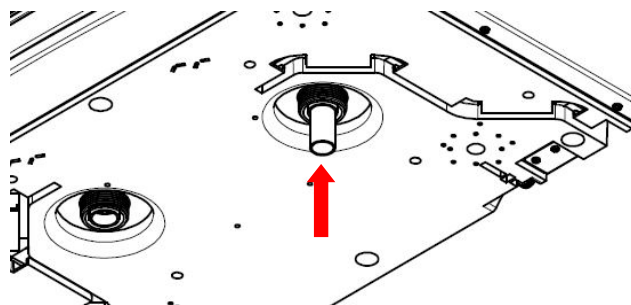
Wastepipes must have a 3 degree minimum angle to allow the water to drain away from the unit naturally.

In areas where freezing weather conditions occur, outlet pipes must be insulated to avoid blockage by ice, which may cause damage to the unit and surroundings.

This installation guide is for a standard configuration unit as specified on page 5. If the unit is configured in the opposite orientation (LH condensate) then the condensate installation will be reversed.

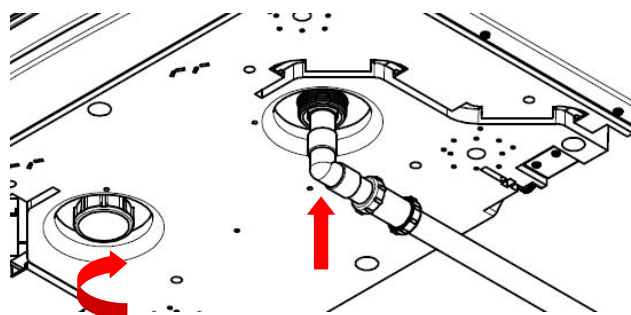
22mm waste pipe

Step 1: Solvent weld a small piece of 22mm plastic waste pipe to the (RH) condensate outlet.



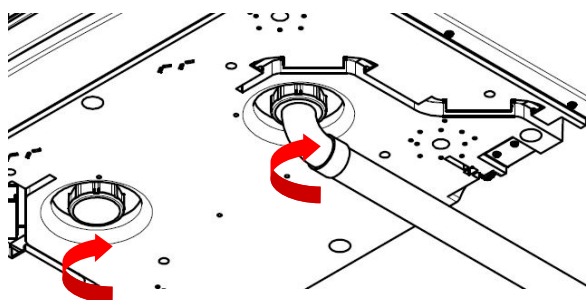
Step 2: Attach the appropriate pipe fittings for your installation. Always use a demountable coupler close to the unit.

Fit the drain cap supplied with the unit to the opposite (LH) condensate outlet.



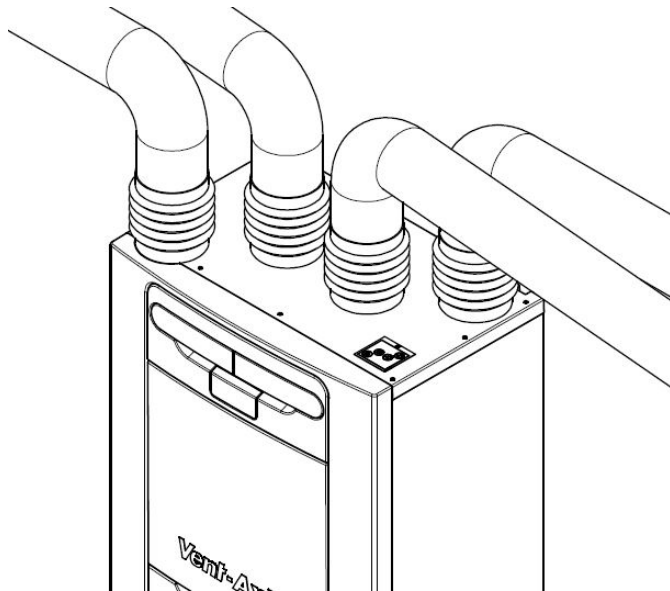
32mm waste pipe

Step 1: Attach the appropriate pipe fittings for your installation to the (RH) condensate outlet. Fit the drain cap supplied with the unit to the opposite (LH) condensate outlet.



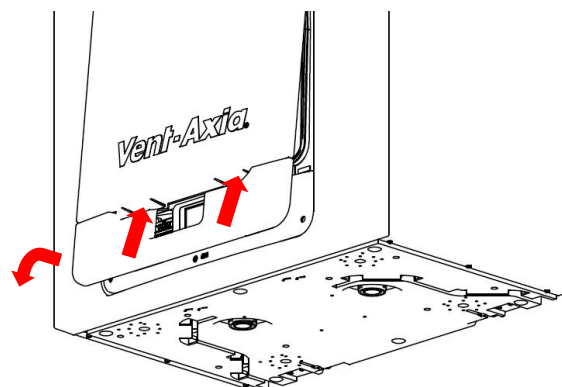
Attach the Ducting

1. Always use a short piece of insulated flexible duct 100-150 mm long, extended to its full length when connecting to ductwork.
2. Securely connect this ducting to the spigots using worm-drive clips or cable ties.
3. Insulate any ducting passing through an unheated space to prevent any heat losses and surface condensation.

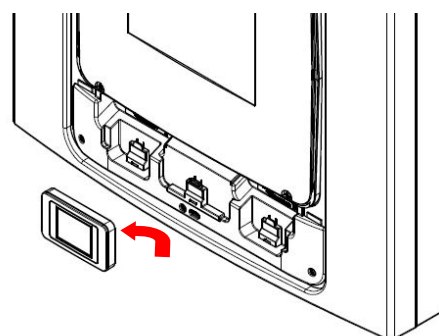


Electrical Installation

Step 1: Remove the outer cover by pressing the tabs either side of the control module and lifting the cover outwards from the bottom edge.



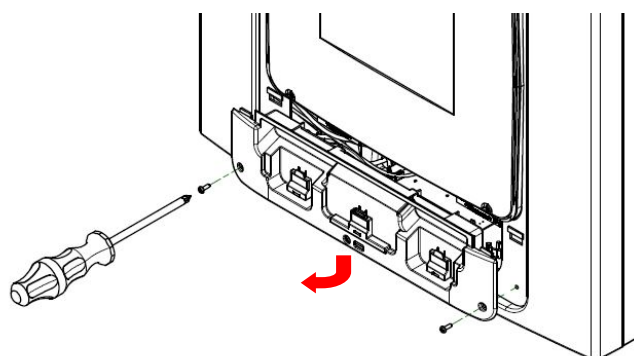
Step 2: Remove the control module by lifting it upwards and away from the unit.



Step 3: Remove the two screws on either side of the access panel. Lift the panel outwards from the bottom edge to remove.

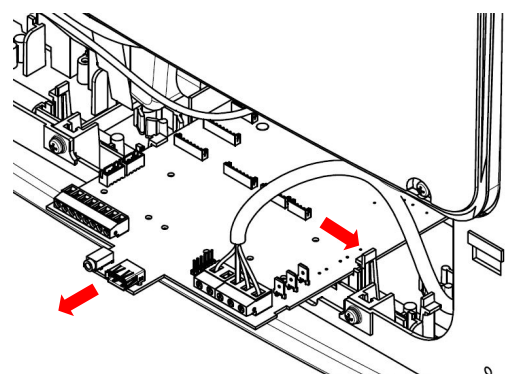
Note: The access panel is tethered on the left hand side.

Note: All printed circuit boards are ESD sensitive. Always ensure the correct ESD protection is used (e.g. conductive wrist straps and anti-static mats.)



Step 4: Push the locking tab away from the printed circuit board and slide it outwards to access the terminals

Note: The printed circuit board will relock after 60mm



Connect Switches and Sensors

The unit can be switched to boost by a variety of methods:

- Applying 240 V to the LS input .
- Switching across 1 pair of switch terminals.

N.B Alternative switches and inputs can be achieved by adding optional input accessories to the printed circuit board. See Accessories on page 6 for further details.

Connect any switches or sensors required to control the unit by connecting to the terminal connectors at the bottom of the control unit as shown on Page 19 and in Table 1. If necessary contact Vent-Axia regarding the wiring and fixing of accessories and sensors.

When fitting external controls, all cables should be routed through the two cable channels on the underside of the unit shown below.

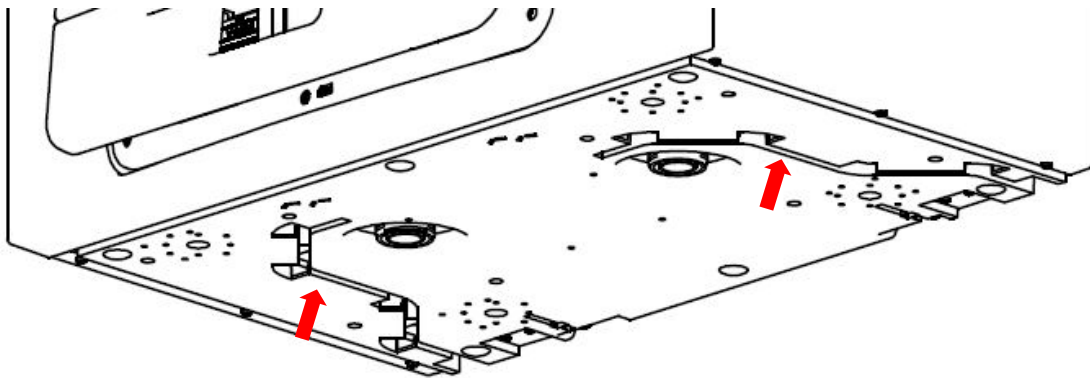
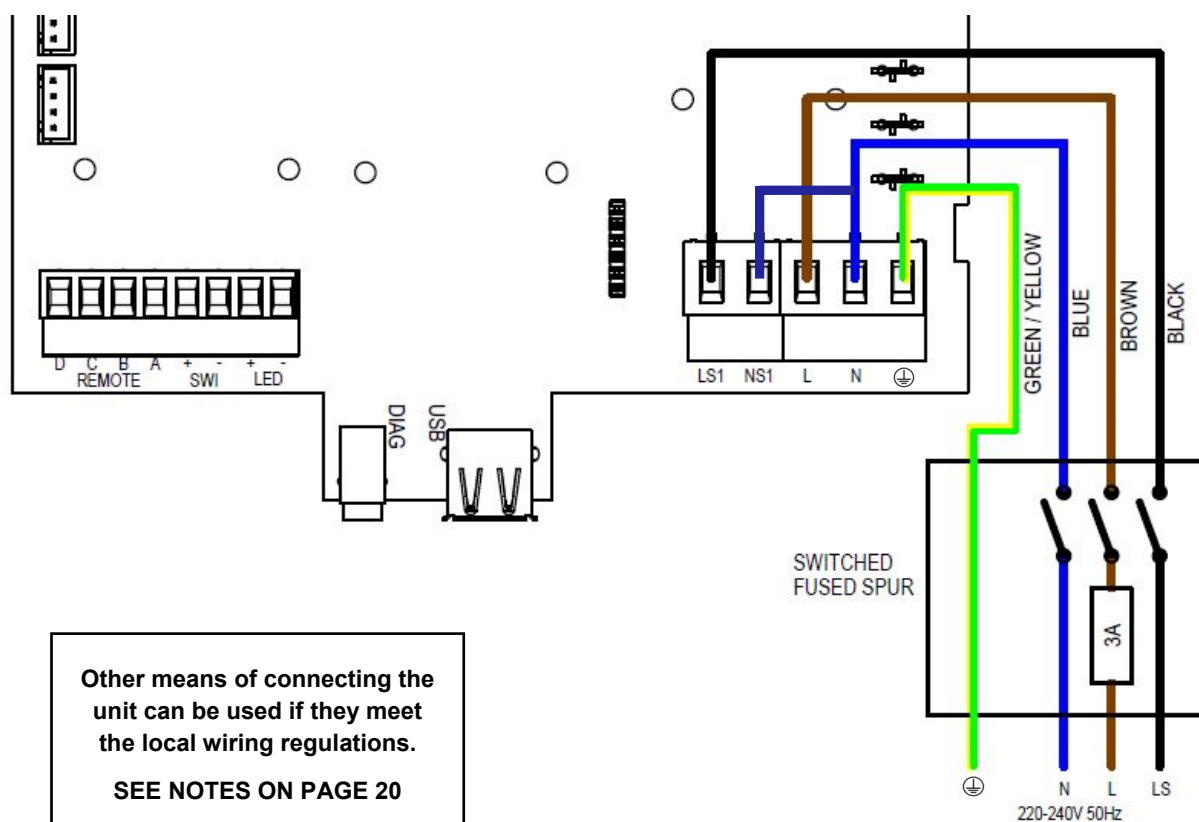


Figure 4: Sentinel Kinetic Advance cable channels



Terminal No.	Name	Description (Control Mode 01)
REMOTE	Remote	Terminals for connecting a remote externally from the unit.
SWI	Switch 1	Volt-free contact for sensor input between + and - terminals
LED	Red Light Emitting Diode Output	A 5 V LED driving signal output between the + and – terminals that enables remote indication of a unit fault. See the Control Panel for fault code (see <i>Service/Fault Code Screens</i> on page 44). Also used for as connection to a BMS or similar.
DIAG	Diagnostic	Diagnostic port
USB	USB	Commissioning port.
LS1	Switched Live	220-240 V AC, 50 Hz input
NS1	Switched Neutral	220-240 V AC, 50 Hz input
L	Mains Live	220-240 V AC, 50 Hz input
N	Mains Neutral	220-240 V AC, 50 Hz input
⊕ EARTH	Mains Earth	Earthing connector

Table 1: Terminal Connections

Connect the Power Supply



WARNINGS

1. MAINS SUPPLY VOLTAGES (220-240 V AC) ARE PRESENT IN THIS EQUIPMENT WHICH MAY CAUSE DEATH OR SERIOUS INJURY BY ELECTRIC SHOCK. ONLY A QUALIFIED ELECTRICIAN OR INSTALLER SHOULD CONNECT THE POWER SUPPLY TO THIS UNIT.
2. THIS UNIT MUST BE CORRECTLY EARTHED.

This unit is designed for operation from a single-phase alternating current source (220-240 V AC). A 1.5 m cable is connected internally to the unit for connection to an isolator switch.

To connect the power supply:

Ensure the local AC power supply is switched off.

One end of the power cable supplied is already connected to the unit and routed through the cable tray.

Connect the other end of the cable to the switched fused spur.

Use cable clamps and clips to secure the cable, as appropriate.

Connecting a Boost (Light) Switch

A Switched Live (LS) may be used to boost the airflow when a light is turned on, for instance in a bathroom or kitchen. If the LS core of the mains cable is not used it should be terminated in an appropriate manner.

A Switched Neutral (NS) terminal is also available for use in conjunction with the above. If the LS terminal is used without an NS connection then a bridging wire must be used between NS and N

NOTES

Power supplied to the unit via a 3 pole isolating switch, such as Vent-Axia Part Number 563518, (or 4 pole isolating switch if using LS and NS,) must be supplied via the same circuit as the LS connection. Alternatively an isolator relay controller, part number 442030, may be used. The live supply to the unit should be fused at 3A.

Powering up the Unit

Switching On

To switch the unit on:

1. Switch on the power at the mains supply isolator feeding the unit.
2. Following switch-on, the fan motors will start and the Control Unit will display a start-up screen, described on page 22.

N.B. If you are intending to carry out work or maintenance inside the unit, switch off the power at the mains outlet supplying the unit before you remove the covers.

Switching Off

To switch the unit off:

3. Turn the power off at the mains supply isolator.

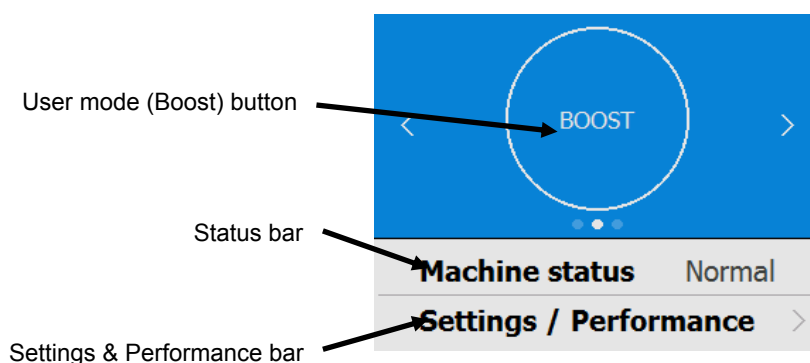
Overview









The instructions in this section are intended to provide configuration and operation information for setting up the equipment. In the event of problems, see *Troubleshooting* on page 44

Follow good practice when commissioning the unit. Ensure that the system is installed according to the system designers intent incorporating any acoustic ducting, that all joints are air tight, ducting is well supported, bends are avoided close to vents, and that the vent valves are fully open at the start of the commissioning process.

Control Unit Touch Screen Display

The Control Unit is located at the front of the Sentinel Kinetic Advance unit. The Control Unit provides the user interface for commissioning and monitoring purposes. The display is a resistive touchscreen with LED backlight, which is turned off to automatically after 5 minutes to minimise power consumption.



Navigate through the functions by pressing the      symbols, adjust settings using the   buttons. A  symbol indicates that there are further screens related to a menu option. Select the option on the touchscreen to access the related screens.

Commissioning Menu

When powering up the unit for the first time, the controller will automatically scroll through the commissioning menu 'Modify settings' screens (see page 24) allowing the installer to configure the settings.

If the unit has been pre-installed by an electrician, and has been powered up prior to commissioning then the User Menu Home screen will appear, follow the steps below to access the commissioning 'Modify Settings' menu.

Start up screen

Every time the unit is powered up, the start up screen appears as the software loads showing the display version.

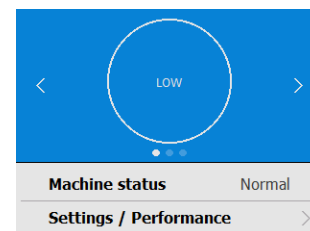




User Menu Home Screen

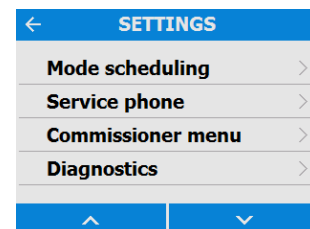
The user menu home screen, consists of a User Mode (LOW, BOOST, PURGE) button, a Machine status bar, and a Settings / Performance bar.



The Machine status scrolls through Mode of operation, Summer bypass status and Frost protection status.

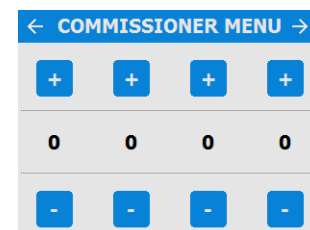
Press '**Settings / Performance**' to access these menus.



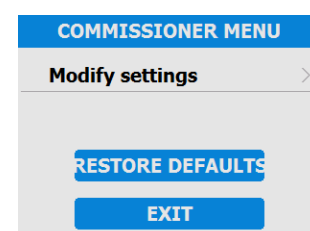
Scroll down to '**Commissioner menu**' using the   buttons at the bottom of the screen.



Enter the 4 digit lock code using the  /  buttons on the screen to access the commissioning menu. The default is 0000 and can be changed in the Modify settings menu.



Press '**Modify settings**' to enter the commissioning screens.



Commissioning Screens Summary

When the unit is switched on (see *Powering up the Unit* on page 21, the following Control Unit screens are available for commissioning the unit.

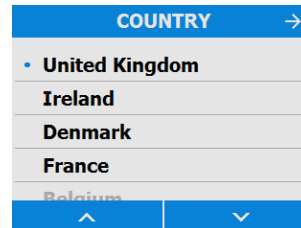


Commissioning Modify Settings

The following pages show all available settings with the commissioning menu. Please note that some settings may not appear, or may be in a different order, due to pre-configuration by your distributor.

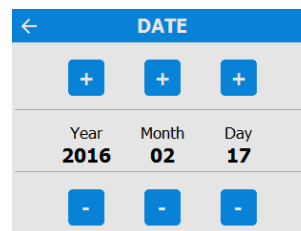
Country

Select country – This will load any pre-determined national default parameters and the language settings for all subsequent screens.



Date

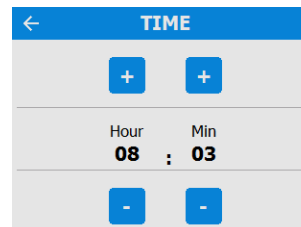
The Date is pre-loaded as part of the factory defaults, but may be changed if required using the **+** / **-** buttons on the screen.



Time

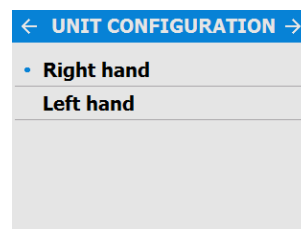
The Time is pre-loaded as part of the factory defaults, but may be changed if required using the **+** / **-** buttons on the screen.

Note: The clock is 24 hour



Unit configuration

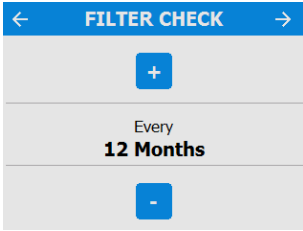
Select the orientation of the unit depending on the configuration of the installation.



Filter Check

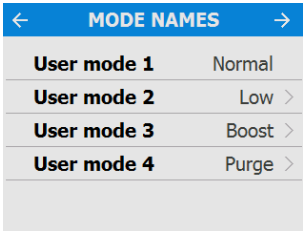
Select the time interval for checking the filters using the **+** / **-** buttons on the screen, between 1 month and 18 months.

Note: There is an automatic filter check after the first 3 months irrespective of set intervals.

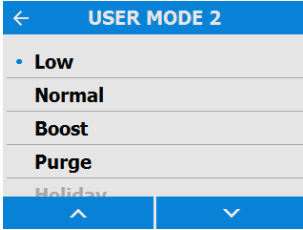


Mode Names

Change the mode pre-set for each user mode as required, Select each mode to modify to the required speed.

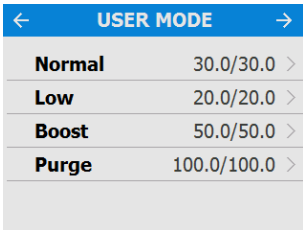


Scroll through the settings using the **^** & **v** buttons and select the mode pre-set for each User mode.

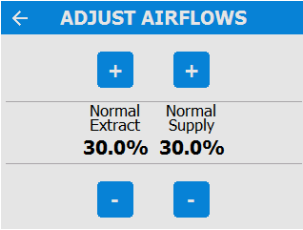


User Mode

Adjust the supply and extract airflows for each mode pre-set. Select each mode to adjust to the required air speed.



Adjust the airflows using the **+** / **-** buttons.





Port Allocation



If the installation has switch sensors, is wired to the lighting, has Vent-wise sensors or Vent-Wise momentary switch, the mode parameters can be set for each port. The unit will automatically detect any available ports.



Note: Number of available ports and port types may differ from image shown depending on unit specification.

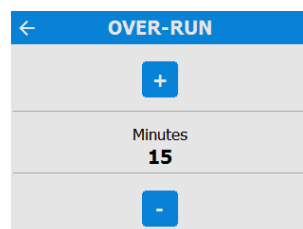
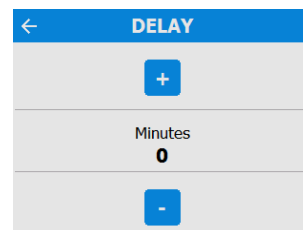
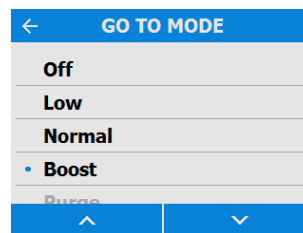
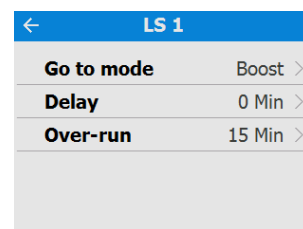
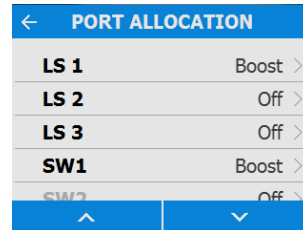
Select the Port to view the Go To Mode, Delay and Over-run parameters.

Select the parameters to edit them.

Scroll through the settings using the  &  buttons and select the Go To mode for each Port Allocation.

Adjust the time delay for each Port Allocation using the  /  buttons. Selectable range is 0-20

Adjust the Over-Run for each Port Allocation using the  /  buttons. Selectable range is 0-30



Summer Bypass

Adjust the summer bypass settings. Select each setting to adjust Bypass mode, indoor and outdoor temperatures and go to modes.

Select the required bypass mode. Details of each mode can be found on page 9.

The indoor temperature setting is the maximum desired room temperature. This should be set to 3° above the central heating temperature.

Change the indoor temperature using the **+** / **-** buttons on the screen.

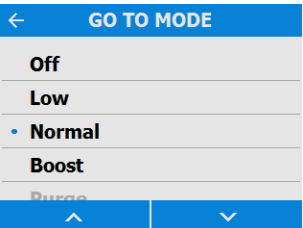
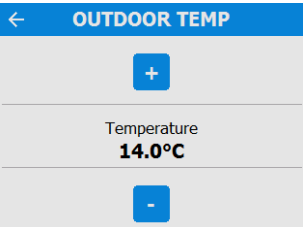
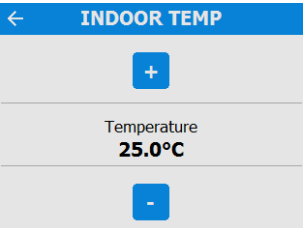
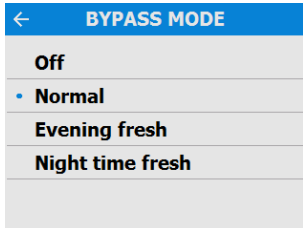
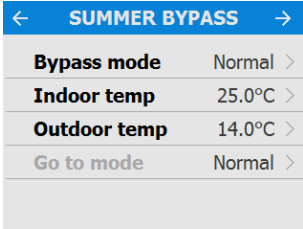
The outdoor temperature is the minimum air temperature that the bypass will permit. This is to prevent cold draughts.

Change the outdoor temperature using the **+** / **-** buttons on the screen.

This is the mode the bypass will switch to when activated. Factory default is Normal for Normal bypass setting, and Boost for Evening fresh and Night time fresh setting.



Scroll through the settings using the **^** & **v** buttons and select the Go To mode for each Bypass mode.



Note: Number of available modes may differ from image shown depending on bypass setting and the modes set in the commissioning process.

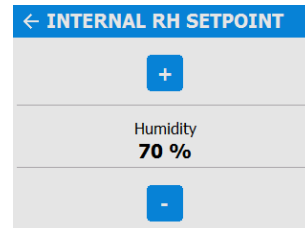
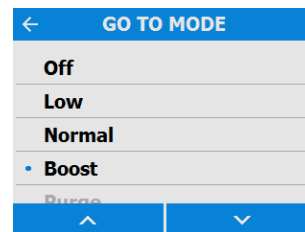
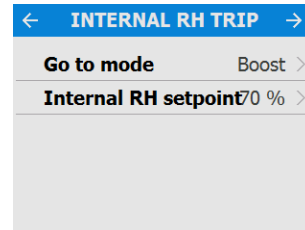


Internal RH Trip

The integral humidity sensor increases airflow speed in proportion to relative humidity levels. The sensor also reacts to small but rapid increases in humidity, even if the normal trigger threshold is not reached. The night time relative humidity setback feature suppresses nuisance tripping as humidity gradually increases with falling temperature.

Scroll through the settings using the  &  buttons and select the required Go To mode.

Adjust the internal Relative Humidity using the  /  buttons. Selectable range is 60% - 90%



Frost Protection

Frost Protection is required to prevent the heat exchanger freezing at low temperatures. The process is fully automatic.

Airflow mode reduces the Intake flow and increases the Extract and Supply flow in varying proportions dependent on the incoming air temperature. The unit will continue to recover heat as low as -20C. At this point, the unit switches to 'Extract Only' mode.

If the building has a leakage rate below 3m³/hr @ 50Pa, a pre-heater should be used, or 'Bypass' mode should be selected.

Bypass mode opens the Summer Bypass and stops recovering heat which prevents condensation forming in the MVHR unit.

Bypass mode maintains balanced Extract and Supply airflows. This is used in airtight buildings where there is no possibility of air infiltration to compensate for unbalanced flows. In these circumstances, a pre-heater is normally fitted.

Bypass mode is also required if there is an open flue in the building where negative internal pressure is not allowed.



Balanced, Reduced Flow and Pre-Heater mode reduced the both the Intake and Exhaust flow to a level that allows the pre-heater to continue to provide air above the 'Frost Protection' point.



← FROST PROTECTION →
• Airflow
Bypass
Airflow & preheater
Bypass & preheater



Mode Scheduling

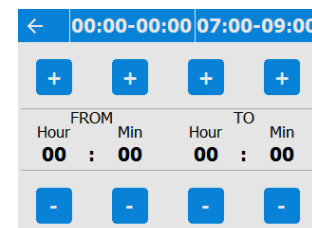
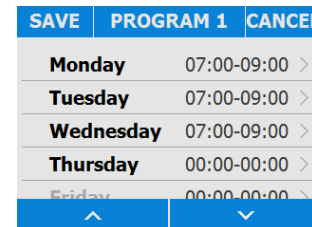
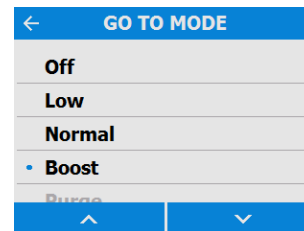
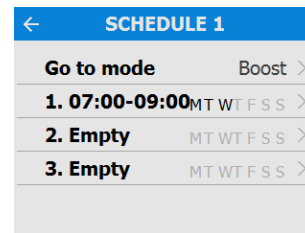
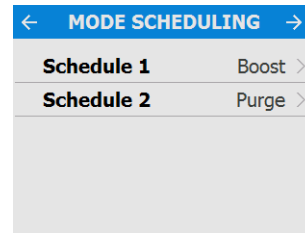
Use a schedule to set a Mode (Airflow setting) for a fixed, repeated period. For example, set Boost Mode every morning between 7:00am and 8:00am while cooking breakfast.

Select the Schedule to view the settings

Scroll through the settings using the  &  buttons and select the Go To mode for each Schedule.

Scroll through the days of the week using the  &  buttons and select each day to be included in the Schedule program.

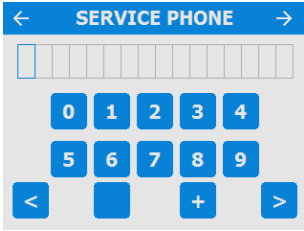
Adjust the start and finish times for each day using the  /  buttons. Press the top right of the banner (**07:00-09:00**) to copy the previous day setting, or the centre of the banner (**00:00-00:00**) to reset the day to zero



Service Phone

The Service Phone screen enables the installer to enter the telephone number that should be called for service in the event of a unit fault or for routine maintenance.

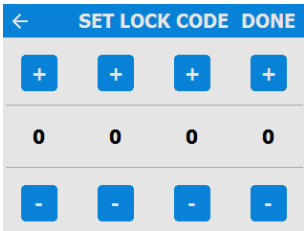
Enter the number using the buttons on the screen, Scroll through the number using the < > buttons.



Set Lock Code

Set the lock code using the + / - buttons on the screen, press Done to save the code.

Note: Default code if not set at this point will be 0000.

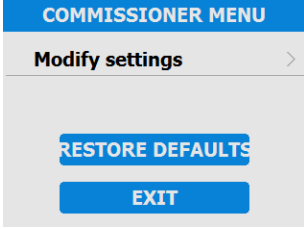


Commissioning Home Screen

Once the commissioning settings have been modified exit to the commissioning menu.

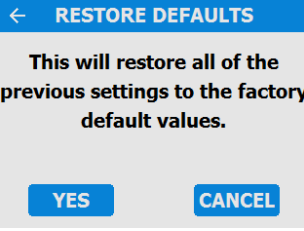
Settings are stored in a non-volatile memory and will be retained irrespective of mains supply breaks, however, the unit can also be restored back to factory defaults at this screen.

Press EXIT to return to the User Menu Home screen.



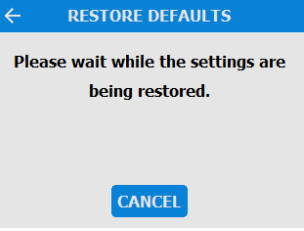
Restore Defaults

To return the unit back to factory settings press the Restore Defaults button. A confirmation screen will appear. Press YES to confirm, or CANCEL to return to the Commissioning Home screen



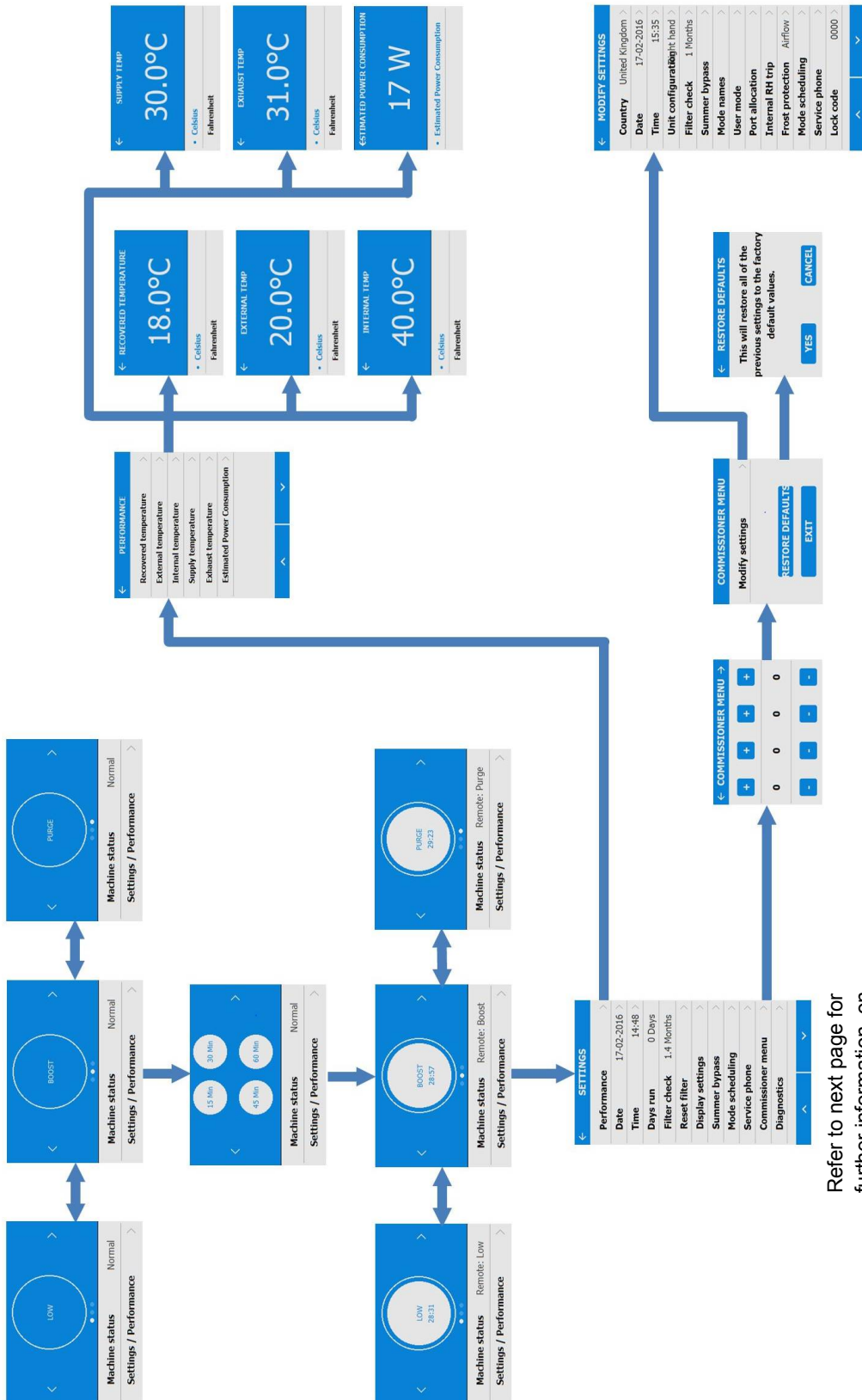
Once confirmed the following screen will appear, the restore process takes approximately 5 seconds. Press CANCEL to stop the restore process during this time.

Once the system has restored back to factory default settings it will go back to the start up screens.



Control Unit Screens Summary

The following Control Unit screens are available for daily operation and monitoring of the unit.

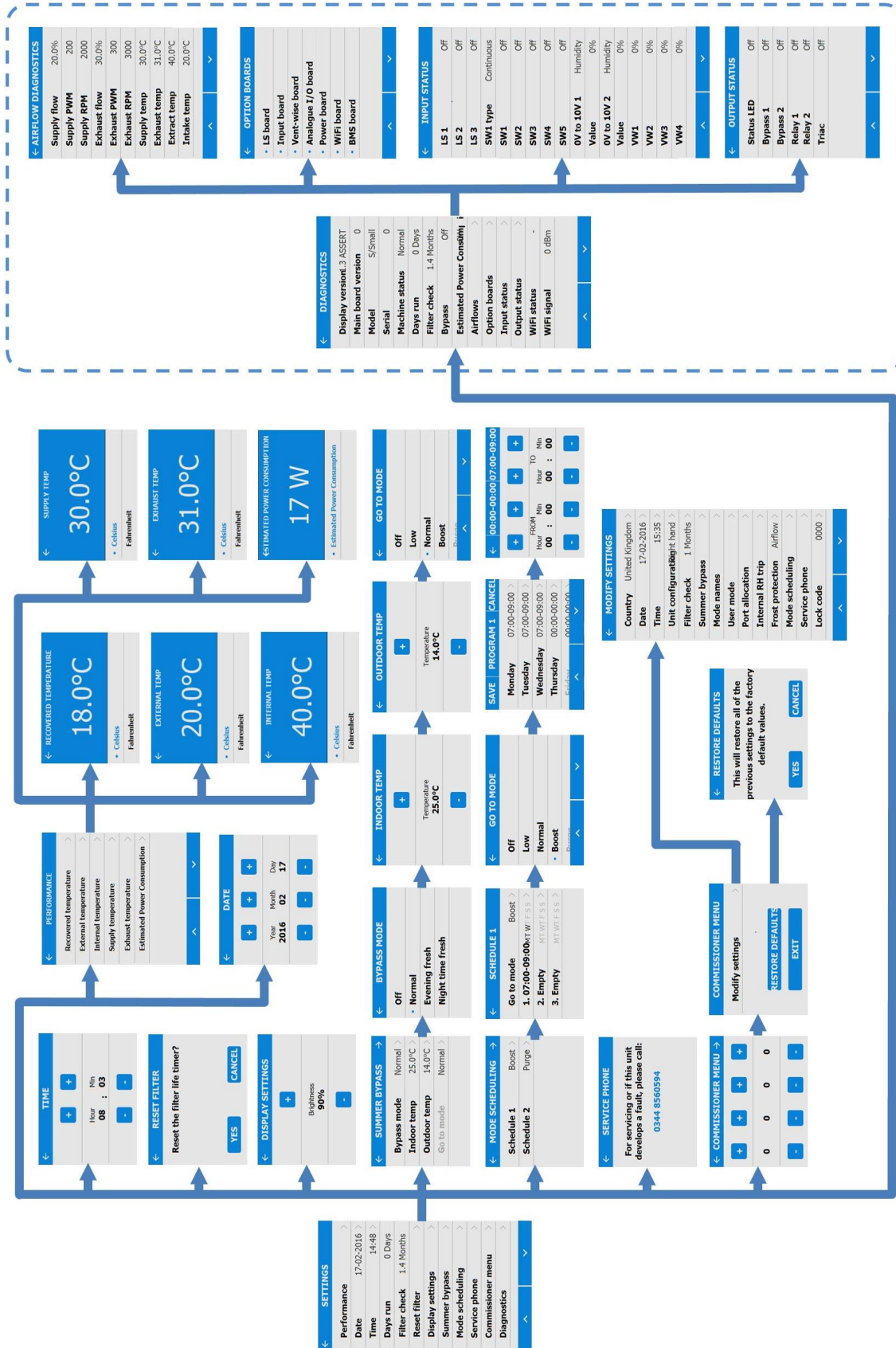


Refer to installation and Commissioning guide for further information on these settings .

Refer to next page for further information on these settings .

Control Unit Screens Summary

The following Control Unit screens are available in the Settings / Performance section.



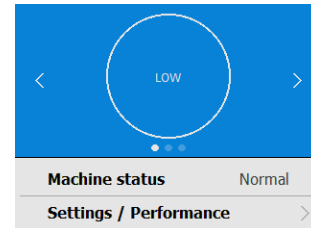
User controls

User Menu Home Screen

The user menu home screen, consists of a User Mode (BOOST) button, a Machine status bar, and a Settings / Performance bar.

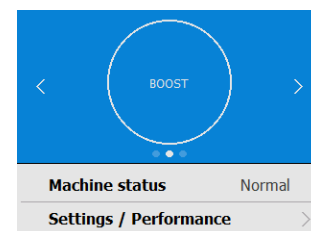
The Machine status scrolls through Mode of operation, Summer bypass status and Frost protection status.

Press Settings / Performance to access these menus.

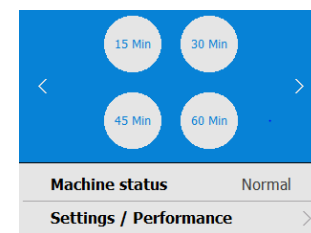


User Mode

Scroll through the pre-defined user modes (factory defaults are BOOST, LOW, and PURGE) using the < > buttons either side of the User Mode button. Select the required function by pressing the centre button.

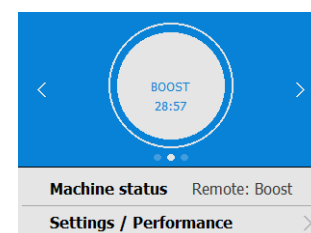


When a user mode is selected, select the duration by pressing the required button from the four options on the screen.






The button will appear white and the user mode will flash. A countdown clock will also appear showing the time remaining for the selected User Mode.

Pressing the User mode button again will cancel the User Mode and the unit will default back to Normal mode.

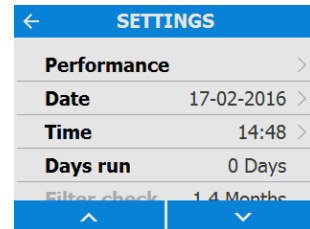


Settings and Performance

Settings



Scroll through the settings using the  &  buttons and select using  where applicable to access Language, Date, Time, Reset filter, Display settings, Summer Bypass, Mode Scheduling, Service phone, Commissioner Menu & Diagnostics.

Days Run and Filter check are reported values and do not have editable parameters in this section.

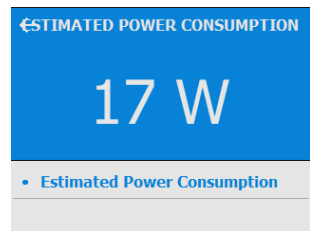
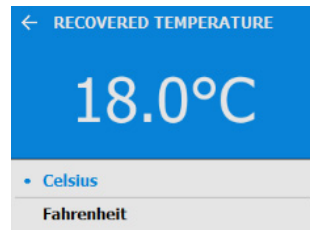
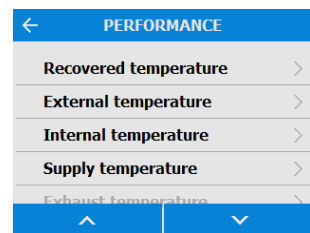


Performance



The performance menu shows key performance indicators such as recovered Temperature and Estimated power consumption.

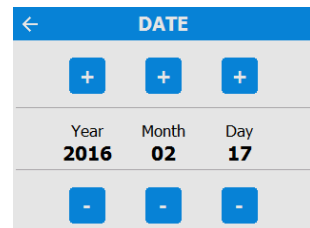
Scroll through the list using the  &  buttons and select the required parameter.

Each performance temperature can be shown in Celsius or Fahrenheit by pressing the required temperature.



Date

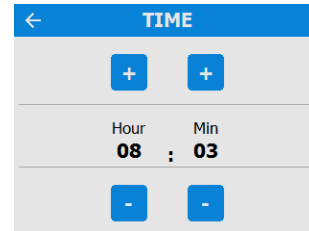
Change the date using the  /  buttons on the screen.



Time

Change the time using the **+** / **-** buttons on the screen.

Note: The clock is 24 hour



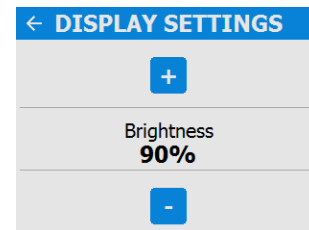
Reset Filter

After maintenance or replacement of the filters, the filter timer can be reset by pressing **YES**. Press **CANCEL** to return to the Settings Menu.



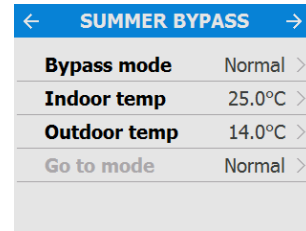
Display Settings

Change the brightness of the touch screen using the **+** / **-** buttons.

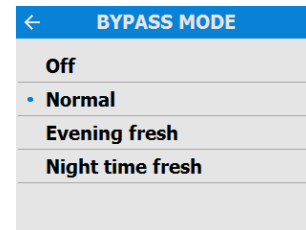


Summer Bypass



Adjust the summer bypass settings. Select each setting to adjust Bypass mode, indoor and outdoor temperatures and go to modes.

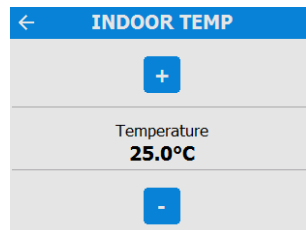


Select the required bypass mode. Details of each mode can be found on page 9.





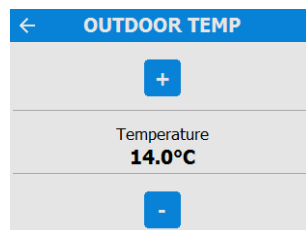
The indoor temperature setting is the maximum desired room temperature. This should be set to 3° above the central heating temperature.

Change the indoor temperature using the  /  buttons on the screen.





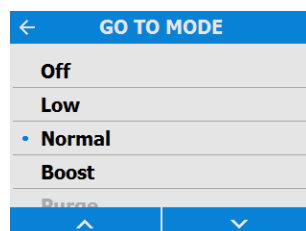
The outdoor temperature is the minimum air temperature that the bypass will permit. This is to prevent cold draughts.

Change the indoor temperature using the  /  buttons on the screen.



This is the mode the bypass will switch to when activated. Factory default is Normal for Normal bypass setting, and Boost for Evening fresh and Night time fresh setting.

Scroll through the settings using the  &  buttons and select the Go To mode for each Bypass mode.







Note: Number of available modes may differ from image shown depending on bypass setting and the modes set in the commissioning process.



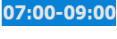
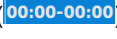
Mode Scheduling

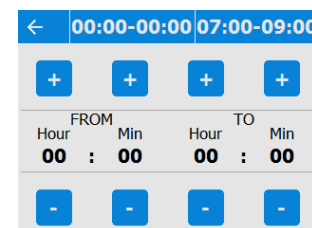
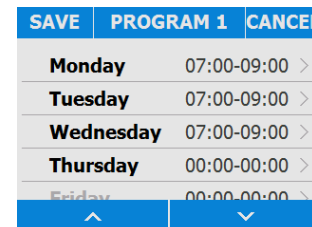
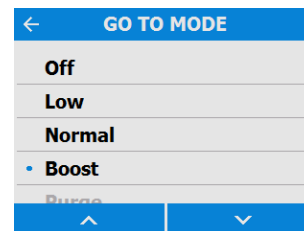
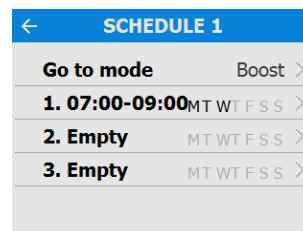
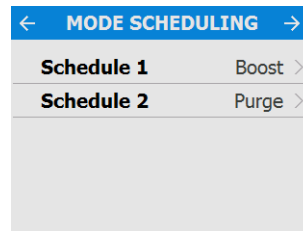
Use a schedule to set a Mode (Airflow setting) for a fixed, repeated period. For example, set Boost Mode every morning between 7:00am and 8:00am while cooking breakfast.

Select the Schedule to view the settings

Scroll through the settings using the  &  buttons and select the Go To mode for each Schedule.

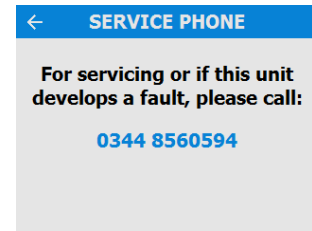
Scroll through the days of the week using the  &  buttons and select each day to be included in the Schedule program.

Adjust the start and finish times for each day using the  /  buttons. Press the top right of the banner () to copy the previous day setting, or the centre of the banner () to reset the day to zero



Service Phone

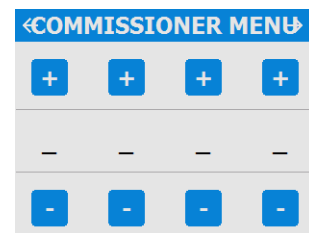
The service phone number can be entered by the installer and should be used if the unit displays a fault code, or to arrange routine servicing for the unit.



Commissioning Menu

Enter the lock code using the **+** / **-** buttons to access the Commissioner Menu.

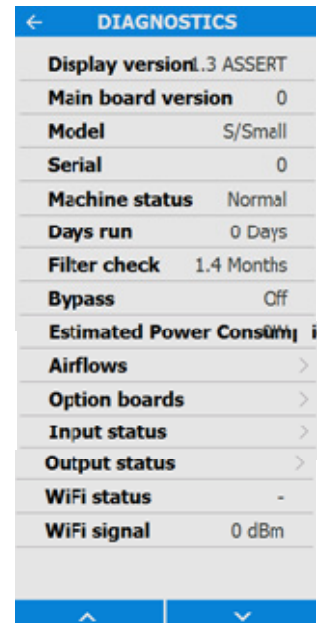
Note: the lock code is set by the installer and settings beyond this point should only be accessed and modified by a qualified installer.



Diagnostics

Scroll through the Diagnostics list using the **^** & **v** buttons to access the following information. Machine Status, Days Run, Filter Check, Bypass, Energy Consumption, Air flows, Option boards, Input status, Output Status, WiFi Status, WiFi signal.

Note: Optional upgrades may be necessary to view all information.



Default settings

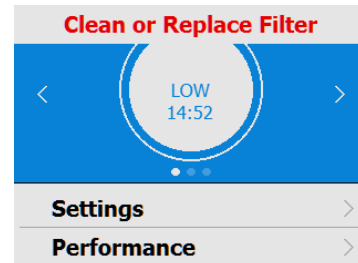
Parameters	Settings
Commissioning Screens	
Country	United Kingdom
Language	English.
Date	Automatic - Factory set
Time	Automatic GMT/BST - Factory set
Unit configuration	Right Hand
Filter Check	12 months
Summer Bypass	Normal
Mode Names	Normal, Boost, Low, Purge
User Mode	
Boost Supply/Extract	50 %
Normal Supply/ Extract	30 %
Low Supply/Extract	20%
Purge Supply/Extract	100%
Internal RH Mode	On
Internal RH Setpoint	70%
Control Mode	Normal
Frost Protection	Airflow Mode
Mode schedule 1	All days set to 0:00 (on), 00:00 (off) – inactive
Mode Schedule 2	All days set to 0:00 (on). 00:00 (off) – inactive
Service Phone	Not Set
Set Lock code	0000
Indoor Temp	25 C
Outdoor Temp	14 C
Boost Over-run	Off
Boost Overrun set time	15
Boost Delay	Off
Boost Delay set time	00
LS1/LS2/LS3	User Mode 3 (Boost)
SW1/SW2/SW3/SW4/SW5	User Mode 3 (Boost)
Vent-Wise 1/2/3/4	User mode 3 (Boost) Load Pot (60 %) Time Pot (20 m)
Proportional 1/2	Humidity – Boost, Normal (60 %) CO2 – Boost (2000 ppm), Normal (1000 ppm) Temperature – Boost (27 C, Normal (17 C)

Table 2 Default settings

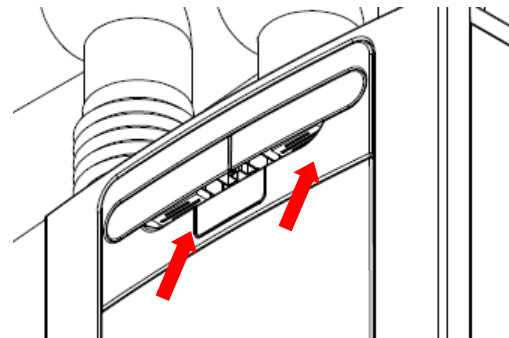
Filter Maintenance

Heat recovery units require regular maintenance. The Sentinel Kinetic has been designed to facilitate access to enable maintenance to be carried out easily.

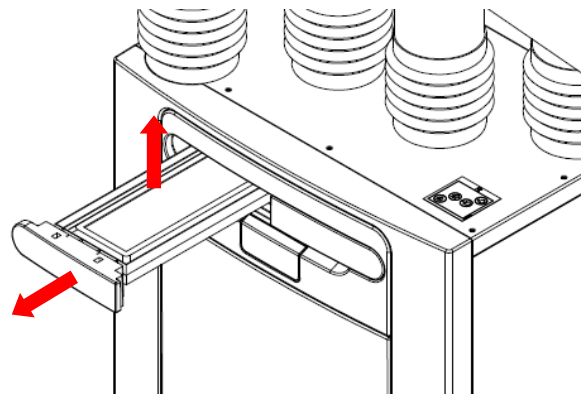
When the unit displays “Clean or replace filters”. This is a reminder to ensure that the filters are not so dirty that they are blocking the airflow or allowing dirt to pass through. The rate at which the filters become dirty will vary hugely depending on the environment and the activity within the property.



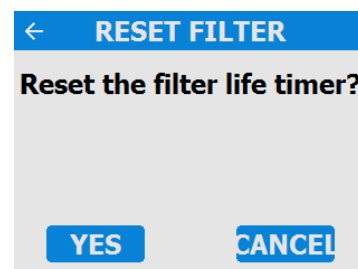
1. Open the filter drawers by pressing the finger plate upwards and sliding the drawer out.



2. Lift each filter out and clean gently by tapping or carefully using a vacuum cleaner if necessary.
3. Replace the filters
4. Close the filter drawers, ensuring the latches have clicked back into the locked position.



5. After maintenance of the filters, the filter timer can be reset by going to Settings/Reset filter.



Periodic Maintenance



WARNING

THE FAN AND ANCILLARY CONTROL EQUIPMENT MUST BE ISOLATED FROM THE POWER SUPPLY DURING MAINTENANCE.

Fan Filters

Check fan filters as described on the previous page.

Heat Exchanger Cell

Step 1: Remove the outer cover by pressing the tabs either side of the control module and lifting the cover outwards from the bottom edge.

Step 2: Remove the inner door by undoing the 4 retaining screws.

Step 3: Slide the heat exchanger out from the unit.

Step 4: Wash the outer cover and heat exchanger in warm water using a mild detergent (such as Milton Fluid) and dry thoroughly.

NOTE: Keep water away from all electrical components and wiring within the unit.

Motors

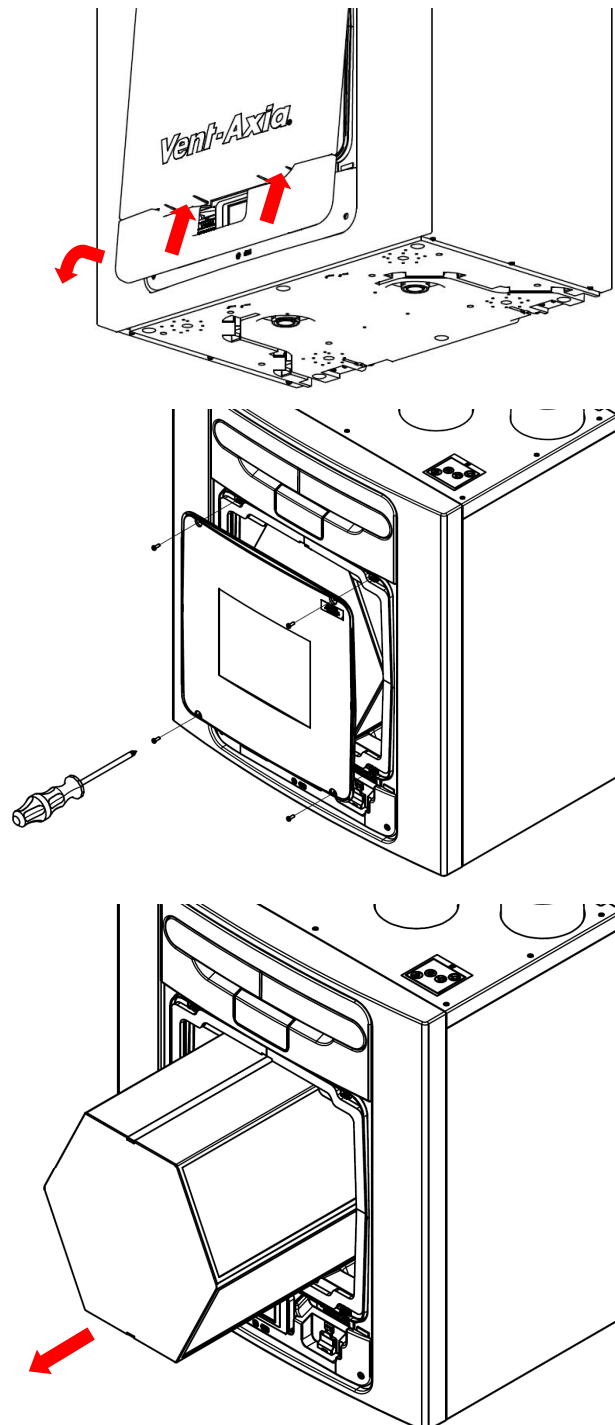
Inspect the motors for build-up of dust and dirt on the impeller blades, which could cause imbalance and increased noise levels. Vacuum or clean if necessary.

Condensate Drain

Check the condensate drain tube is secure and clear of debris. Clean if necessary. Ensure the trap is fully charged with water.

Fastenings

Check that all unit and wall-mount fastenings are sufficiently tight and have not become loose. Re-tighten if necessary.



Spares

The following spare parts may be ordered from Vent-Axia:

Part No	Description
472663	Main Power Board
472665	Control Module
472667	Filters G3, 2 per pack
472669	Filters M5, 1 per pack
472671	Filters F7, 1 per pack
472673	Motor Scroll Assembly
472675	Summer Bypass Motor Assembly
Advance S	
472685	Temperature/Humidity Sensor T1 (Intake air from outside)
472687	Temperature/Humidity Sensor T3 (Extract air from room)
Advance SX	
472685	Temperature/Humidity Sensor T1 (Intake air from outside)
472679	Temperature Sensor T2 (Supply air to room)
472687	Temperature/Humidity Sensor T3 (Extract air from room)
472683	Temperature Sensor T4 (Exhaust air to outside)
472689	Flow Sensor T1 (Intake air from outside)
472691	Flow Sensor T3 (Extract air from room)

Table 3: Spare parts

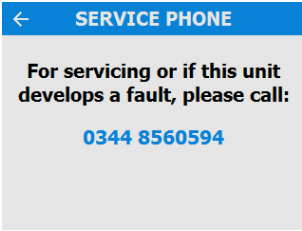
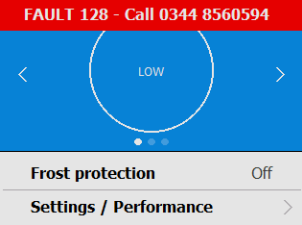
Diagnosing a Problem

In the event of a problem, always troubleshoot the unit according to:

- **Fault code** displayed on the Control Unit.
- **Fault LED** if connected.

If no indications are displayed, then troubleshoot problem according to the fault symptom as described in the following tables.

Service/Fault Code Screens

<p>The Service screen is displayed, alternating with the Fault Code screen, when a fault has caused the unit to switch off and you must phone the telephone number displayed on the screen for assistance.</p>	
<p>The Fault Code screen is displayed, alternating with the Service screen, when a fault has occurred. Take note of the fault code when reporting a fault.</p>	

For assistance contact the service provider and quote the fault code number and the product serial number which can be found behind the front cover.

Note that the fault code is not displayed until the fault has been present for 3 minutes.

The following fault codes numbers may be displayed.

Code numbers are added together if more than one fault is detected.

For example: Code 03 indicates that both left and right fans are not running.

Code	Problem
01	Left Fan Fault
02	Right fan Fault
04	Left Thermistor Fault
08	Right Thermistor Fault
16	Left Centre Thermistor Fault
32	Right Centre Thermistor Fault
64	Left Centre Temp/Humidity Sensor Fault
128	Right Centre Temp/Humidity Sensor Fault

Table 4: Fault Codes

This page is intentionally blank and can be used for making notes regarding the unit.

This page is intentionally blank and can be used for making notes regarding the unit.

Product fiche

Name:	Vent-Axia
Model ID (Stock Ref.) :	Kinetic Advance S - 405215
SEC Class	A+
SEC Value ('Average')	-43.70
SEC Value ('Warm')	-18.32
SEC Value ('Cold')	-88.78
Label Required? (Yes/No=Out of scope)	Yes
Declared as: RVU or NRVU/UVU or BVU	RVU/BVU
Speed Drive	Variable Speed
Type HRS (Recuperative, Regenerative, None)	Recuperative
Thermal Eff: [(%), NA(if none)]	91
Max. Flow Rate (m3/h)	410.4
Max. Power Input (W): (@Max.Flow Rate)	180
LWA: Sound Power Level (dB)	56.5
Ref. Flow Rate (m3/s)	0.07980
Ref. Pressure Diff. (Pa)	50
SPI [W/(m3/h)]	0.23
Control Factor & Control Typology: (CTRL/ Typology)	
Control Factor; CTRL	0.65
Control Typology	Local Demand Control
Declared: -Max Internal & External Leakage Rates(%) for BVUs or carry over (for regenerative heat exchangers only), &Ext. Leakage Rates (%) for Ducted UVUs;	<5% Internal, <5% External
Mixing Rate of Non-Ducted BVUs not intended to be equipped with one duct connection on either supply or extract air side;	N/A
Position and description of visual filter warning for RVUs intended for use with filters, including text pointing out the importance of regular filter changes for performance and energy efficiency of the unit	Refer to User Instructions
For UVUs (Instructions Install Regulated Supply/Extract Grilles Façade)	N/A
Internet Address (for Disassembly Instructions)	www.vent-axia.com
Sensitivity p. Variation@+20/-20 Pa: (for Non-Ducted VUs)	N/A
Air Tightness-ID/OD-(m3/h) (for Non-Ducted VUs)	N/A
Annual Electricity Consumption: AEC (kWh/a)	1.65
Annual Heating Saved: AHS (kWh/a)	
AHS: Average	47.14
AHS: Warm	21.32
AHS: Cold	92.22

The **Vent-Axia** Guarantee

Applicable only to products installed and used in the United Kingdom. For details of guarantee outside the United Kingdom contact your local supplier.

Vent-Axia guarantees its products for two years from date of purchase against faulty material or workmanship. In the event of any part being found to be defective, the product will be repaired, or at the Company's option replaced, without charge, provided that the product:-

- Has been installed and used in accordance with the instructions given with each unit.
- Has not been connected to an unsuitable electricity supply. (The correct electricity supply voltage is shown on the product rating label attached to the unit).
- Has not been subjected to misuse, neglect or damage.
- Has not been modified or repaired by any person not authorised by the company.

IF CLAIMING UNDER TERMS OF GUARANTEE

Please return the complete product, carriage paid to your original supplier or nearest Vent-Axia Centre, by post or personal visit. Please ensure that it is adequately packed and accompanied by a letter clearly marked "Guarantee Claim" stating the nature of the fault and providing evidence of date and source of purchase.

The guarantee is offered to you as an extra benefit, and does not effect your legal rights

Vent-Axia

Head Office: Fleming Way, Crawley, West Sussex, RH10 9YX.

UK NATIONAL CALL CENTRE, Newton Road, Crawley, West Sussex, RH10 9JA

SALES ENQUIRIES: Tel: 0344 8560590 Fax: 01293 565169

TECHNICAL SUPPORT Tel: 0344 8560594 Fax: 01293 532814

For details of the warranty and returns procedure please refer to www.vent-axia or write to Vent-Axia Ltd, Fleming Way, Crawley, RH10 9YX