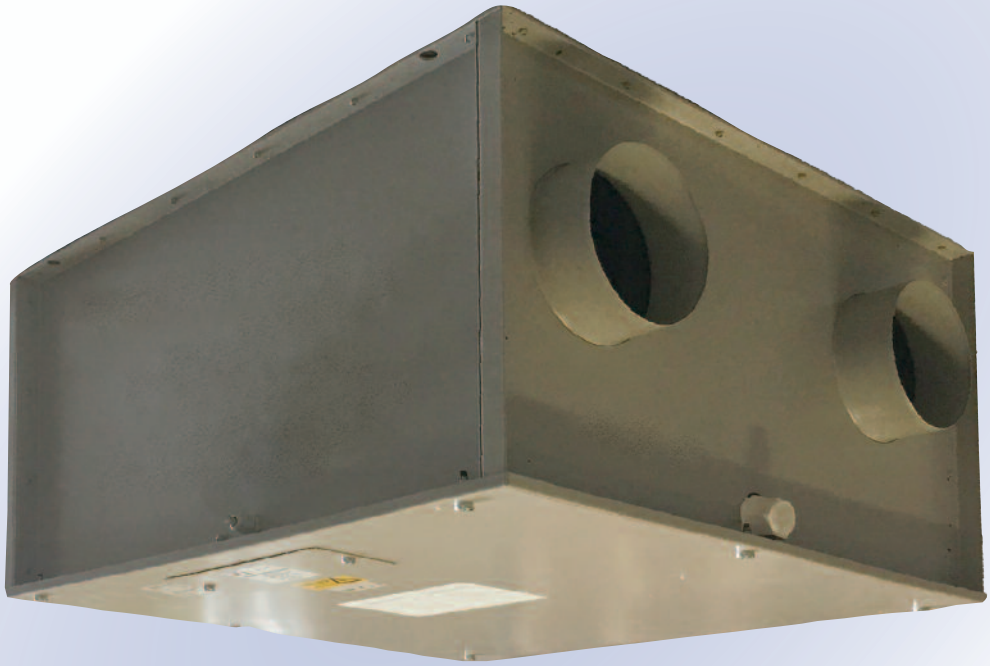
WHHR100/90DC-B-BY



WHHR100/90DC-B-BY

- with summer bypass and frost-stat
- efficient, low energy solution to controlling condensation and pollution in residential properties up to 150m²
- up to 92% heat exchange efficiency
- variable choice of low (trickle), boost and purge speed at installation
- for ceiling, loft or void installation
- low noise levels
- low running costs
- complies with Building Regulations Parts L1A 2013 and F 2013
- manufactured in UK to ISO 9001
- accurate commissioning via remote LCD commissioning unit

* non-bypass models available

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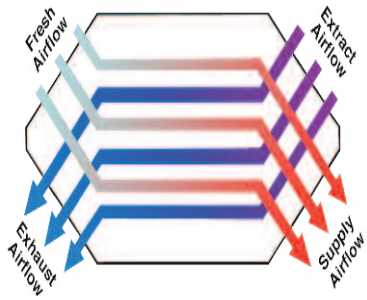
WHHR100/90DC-B-BY

GENERAL FEATURES

- up to 78 litre/sec at 50Pa - max 83 litre/sec capacity
- sfp down to 0.63 W/l/s
- summer bypass which allows the airflow to bypass the heat exchanger automatically when internal and external temperatures are between adjustable setpoints.
- frost-stat - proportionally reduces intake motor speed as temperature falls - activated when the outside temperature between +8°C and -3°C..
- run-time and power outage counters
- easy to install and maintain
- for ceiling, loft or void in-line installation
- variable low (trickle), boost and purge options for each motor
- boost speed can be activated by a 230V switched live from:
  - A light switch (if more than one light switch is used, each one must be a double pole switch)
  - Remote humidistat (230V - DRH240)
  - Passive infra red (230V - PIRFF)
  - Thermostat (230V - THM)
  - Remote switch/pull cord - 230V
- very low noise levels
- low running costs
- 5 year warranty - 1 year parts and labour, 4 years parts only

TECHNICAL FEATURES

- compact unit
- casing from galvanised sheet steel
- thermo-acoustic lining
- pre-wired for easy electrical connection
- low energy EC brushless motor with single width, single inlet, direct drive, forward curved impellors
- operates in temperature up to 60ºC
- easy to access standard, disposable G3 filters
- counter flow heat exchanger



CONTROL FEATURES - STANDARD

- independent variable speed adjustment for each motor for trickle, boost and purge speeds.
- adjustable boost speed over-run timer from 0 to 90 minutes.
- adjustable boost speed delay from 0 to 5 minutes
- remote purge - adjustable over-run timer from 0 to 250 minutes, pre-set to 15 minutes (adjustable at factory).
- adjustable night time boost and purge inhibitor
- integral frost-stat - proportionally reduces intake motor speed as temperature falls
- automatic summer bypass (except non-bypass models)

CONTROL FEATURES - FACTORY SET

- change of ductwork handing on humidistat version (trip point can be set at manufacture)
- integral humidistat - proportionally increases motor speeds with rising humidity
- 0-10V connections can be added for:
  - BMS - for remote motor shut-off
  - CO_2 detector
  - home automation system
- relay for external pre-heater
- 3 speed selector switch
- remote purge
- purge speed over-run time
- holiday mode for reduced speeds when property is unoccupied (factory set option) - default setting is 50% of trickle speed
- run-time and power outage counters downloadable via QR code.

COMPLIES WITH

- Part L1A 2013 of Building Regulations for enhanced energy saving capability
- Part F 2013 of Building Regulations for reliable, efficient ventilation
- EU RoHS Directive Compliant.
- Complies with IEC60335-2-80, LVD2006/95/CE and EMC2014/30/UE (European Directive against radio interference and electro-magnetic compatibility
- manufactured in UK to ISO 9001
- SAP PCDB Listed
- CE marked

TYPICAL SPECIFICATION AVAILABLE AT

http://www.vectaire.co.uk/downloads

MODELS AVAILABLE:

- WHHR90DCB-TABY - top access with bypass
- WHHR90DCB-BABY - bottom access with bypass
- WHHR90DCB-TABYH - top access, with bypass and humidistat
- WHHR90DCB-BABYH - bottom access, with bypass and humidistat
- WHHR10090/DCB - top access
- WHHR100/90DCBBA - bottom access

Vectaire Ltd can supply all accessories for use with these units, including product filters. air filter cassettes, silencers, fire dampers, air valves, ducting, outside grilles and wall cowls. Additionally, Vectaire offers a design service to ensure that the unit installed is the best possible to provide efficient, effective, low energy and low running cost ventilation. Vectaire can also organise installation, commissioning and maintenance of these products

WHHR100/90DC-B-BY

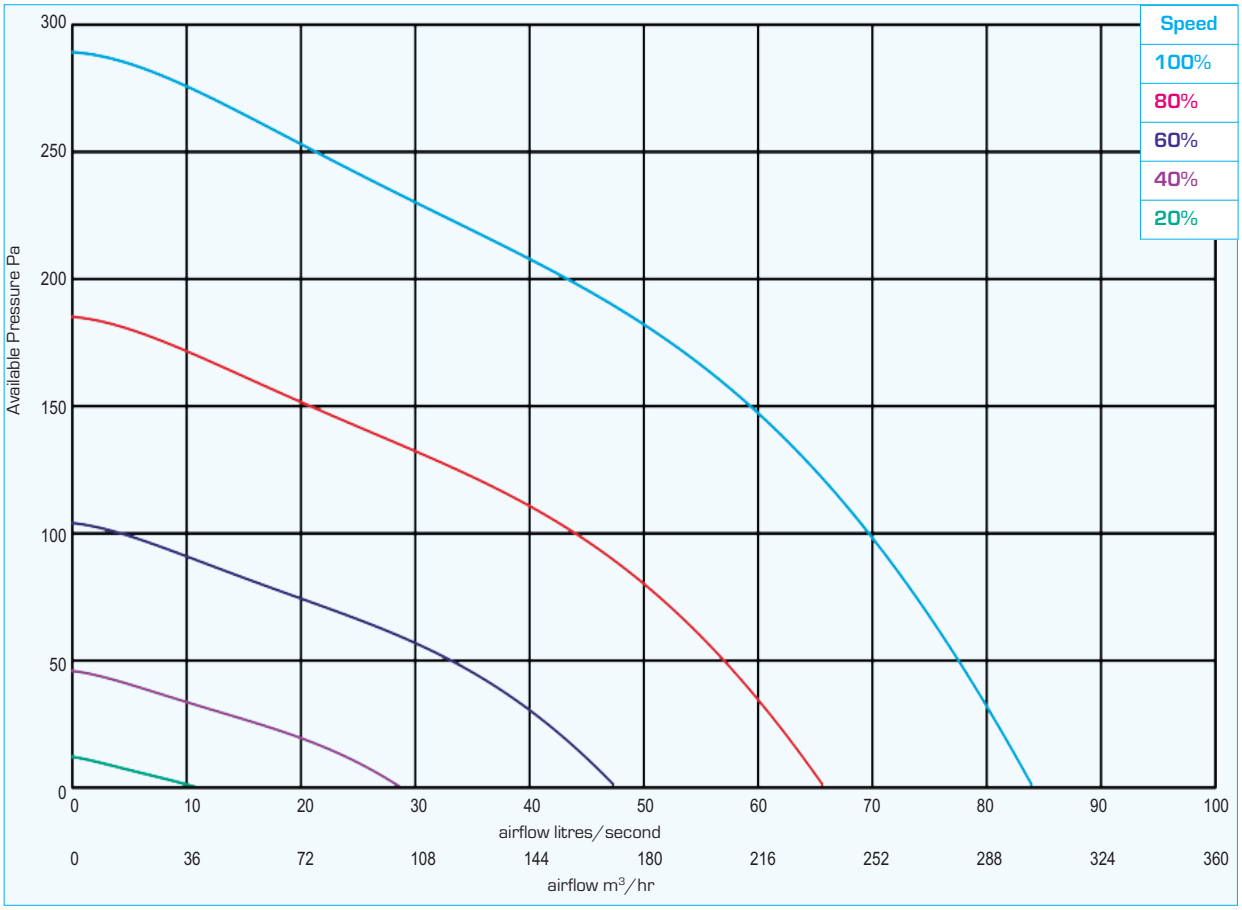
TECHNICAL CHARACTERISTICS											
Model	Airflow l/sec					Total Power - Watts					Operating Current (Amps)
	100%	80%	60%	40%	20%	100%	80%	60%	40%	20%	
WHHR100/90DC-B-BY	83	66	47	29	11	106	54	33	20	12	1.21

WHHR100/90DC-B-BY		Sound Power Levels, L_w (dB) - Octave Bands Frequency Hz.								Sound Pressure dBA @ 3m
Curve Ref		63	125	250	500	1k	2k	4k	8k	
100% (83 l/sec)	Extract	61	60	53	52	47	41	37	31	
	Supply	60	59	58	63	64	59	54	51	
	Breakout	54	53	61	52	49	42	33	25	35.0
80% (66 l/sec)	Extract	58	55	47	48	41	34	31	26	
	Supply	57	56	54	61	61	52	48	44	
	Breakout	49	50	54	52	52	36	28	22	34.0
60% (47 l/sec)	Extract	53	51	41	46	37	28	26	23	
	Supply	52	52	49	58	57	47	42	37	
	Breakout	45	47	50	51	48	32	24	21	32.0
40% (29 l/sec)	Extract	50	48	39	42	34	24	22	22	
	Supply	49	48	46	54	52	41	37	30	
	Breakout	42	43	47	48	45	30	21	20	29.0
20% (11 l/sec)	Extract	47	44	35	39	31	19	17	21	
	Supply	46	46	43	51	47	37	31	23	
	Breakout	39	39	45	44	41	28	17	20	25.0
The breakout dB(A) sound pressure values are given for hemispherical free field propagation at a distance of 3m from the unit										

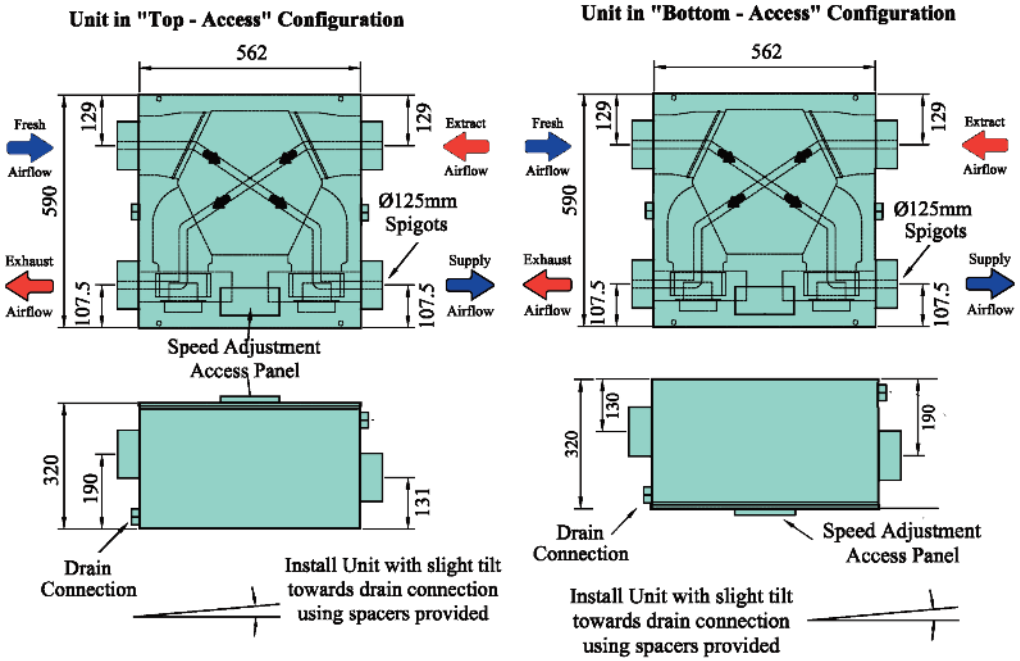
RESULTS for SAP CALCULATIONS ENERGY LEVEL PERFORMANCE - using rigid ducting only						
	2009 Data			2012 Data		
Exhaust Terminal Configuration	Airflow (l/sec)	Specific Fan Power (W/l/sec)	Heat Exchange Efficiency	Airflow (l/sec)	Specific Fan Power (W/l/sec)	Heat Exchange Efficiency
Kitchen + 1 additional wet room	15	0.63	92%	21	0.76	91%
Kitchen + 2 additional wet rooms	21	0.72	91%	29	0.90	91%
Kitchen + 3 additional wet rooms	27	0.84	91%	37	1.05	88%
Kitchen + 4 additional wet rooms	33	0.94	89%			
Figures at minimum flow rate conditions						

WHHR100/90DC-B-BY

PERFORMANCE (curves are for guidance only)



DIMENSIONS - mm



N.B a clearance of at least 200 mm should be allowed on each side of the cabinet for access to the interior

MVHR

Horizontal Models - features and overview

	EVO200		EVO250		EVO220		EVO350		Studio		Mini		WHHR 100/90 DC-B-BY	
	S*	H*	S*	H*	S*	H*	S*	H*	S*	H*	S*	H*	S*	H*
Automatic Summer Bypass	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Automatic Frost Protection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Filters	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Delay Timer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Purge Speed (factory set)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Purge Speed Timer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Built-in Humidistat	✘	✓	✘	✓	✘	✓	✘	✓	✘	✓	✘	✓	✘	✓
Universal Handing (non-humidistat models)	✓	✘	✓	✘	✘	✘	✓	✘	✘	✘	✘	✘	✘	✘
Very low noise levels	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Max Airflow at 50Pa - l/s	74	74	80	80	75	75	107	107	55	55	30	30	78	78
Max Wet Rooms - Kitchen+ SAP2009/SAP2012	K+6/4	K+6/4	K+6/4	K+6/4	K+-/5	K+-/5	K+7/6	K+7/6	K+5/3	K+5/3	K+2/1	K+2/1	K+4/3	K+4/3
SFP w/l/s SAP2009/SAP2012	0.64/ 0.70	0.64/ 0.70	0.70/ 0.75	0.70/ 0.75	-/0.55	-/0.55	0.67/ 0.75	0.67/ 0.75	0.80/ 0.79	0.80/ 0.79	1.11/ 1.40	1.11/ 1.40	0.63/ 0.76	0.63/ 0.76
% Heat Recovery SAP2009/SAP2012	94/93	94/93	88/87	88/87	-/87	-/87	87/87	87/87	84/84	84/84	83/82	83/82	92/91	92/91
Duct Size - Ømm	-		-		125		200		125		125		125	
or mm x mm	204 x 60		204 x 60		-		-		-		-		-	
Wired Remote Control (optional)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
External Condensate	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Size mm W x H x D	944 x 754 x 198		750 x 650 x 250		634 x 554 x 220		795 x 654 x 355		552 x 534 x 220		400 x400 x 220		590 x 562 x 320	
Weight kg	28		21		21		25		17		9		22	
Approximate Mass kg	28		21		22		25		17		9		22	

S* - standard models
H* - models with integral humidistat

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Horizontal MVHR

EVOs, WHHR100/90DC-B, Mini and Studio

Vectaire's range of horizontal MVHRs include the EVOs, WHHR100/90DC-B, Mini and Studio. All these models provide optimum ventilation by continuously and quietly supplying fresh air. The energy efficient motors automatically remove excess moisture helping to maintain a healthy atmosphere.

They tackle condensation in areas between 60m^2 and 200m^2 making them ideal for all residential dwellings, whether houses, apartments or student accommodation with the most powerful models also being suitable for hotels, care homes, multi-occupancy establishments and other commercial properties.

These MVHRs meet the latest requirements of the Building Regulations for whole house ventilation systems with heat recovery (System 4).

How They Work

They incorporate two fans - one extracts stale, damp air from the wet rooms in a building, and the other replaces it with warmed fresh air from outside. The two airflows pass through a heat exchanger which recovers the heat from the outgoing air. This is filtered and tempered before being transferred to the incoming fresh air supply and ducted to the living areas. Thus the dwelling is permanently well ventilated and comfortable with good indoor air quality.

Vectaire MVHRs can recover up to 94% of the heat which might otherwise be lost.

The speed of the two fans can be adjusted independently with a choice of variable trickle, boost and purge speeds at installation

Summer Bypass

All models incorporate a summer bypass which allows the airflow to bypass the heat exchanger automatically when internal and external temperatures are between adjustable setpoints.

Frost Protection

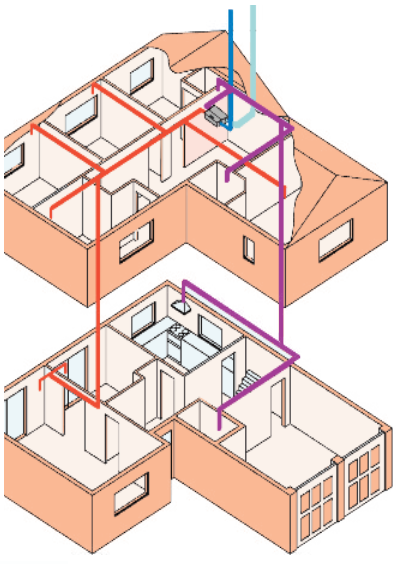
The integral frost-stat proportionally reduces intake motor speed as the temperature falls. This stops the ingress of cold air and consequently the removal of warm air making sure that the ambient remains comfortable. It is activated when the outside temperature is between +8^{0}C and -3^{0}C.

Humidity Control

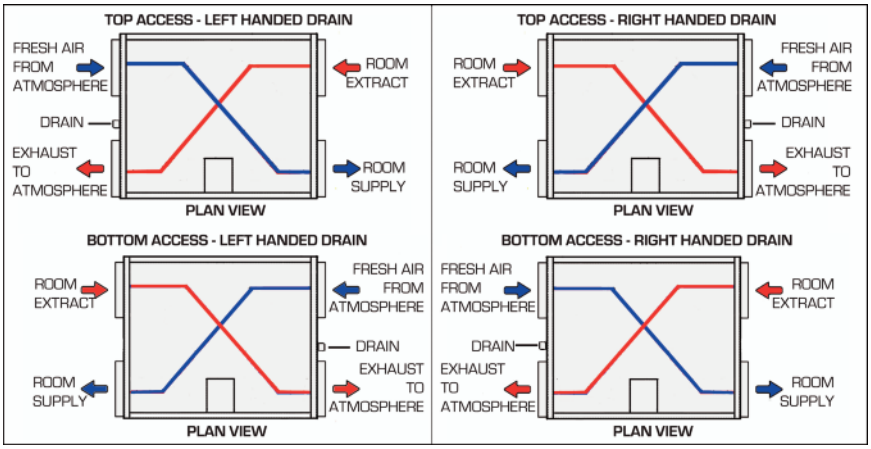
Models with an integral humidity sensor (H) increase the speed of the motors proportionally as the humidity rises. It responds to increases in relative humidity ensuring a comfortable ambience throughout the day and night. The speed of the motors will fall back to normal levels once the excess humidity has been cleared making sure the minimum amount of energy is used.

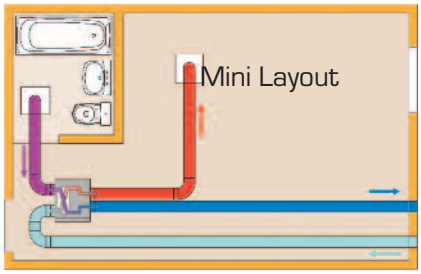
LCD Control

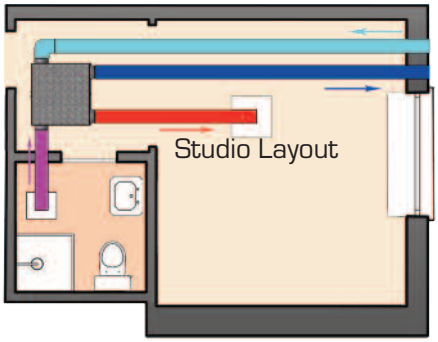
All models can have a remote commissioning state-of- the-art touch screen LCD controller. It is one of the most technologically advanced available giving both installer and user a range of options to ensure that the MVHR is set to provide quiet and efficient ventilation at all times whilst recovering the heat that would otherwise be lost.



Incoming fresh air
Warmed fresh air
Extracted warm, moist, stale air
Cooled outgoing stale air
MVHR







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MVHR LCD Controller

- For use with all Vectaire Heat Recovery Units
- Remote units can be mounted wherever is convenient to the user ((Model No: LCD-DISPLAY)
- (Option of Integral LCD screen with upright MVHRs Midis and Maxis)

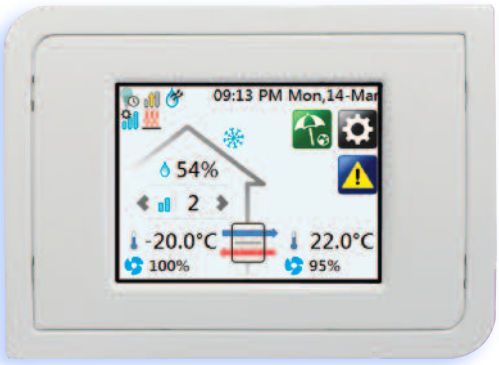
LCD Touch Screen Functions

Display shows:

> motor speeds - for both supply and extract fans. They can be set independently and are variable
> inside and outside temperatures
> status icons - show which functions are currently controlling fan speeds
> date and time
> relative humidity level
> bypass status
> error and service notifications
> filter saturation level - shows when filters need replacing

LCD Touch Screen Functions for USER

> screen allows USER to set and control:
- time
- date
- reset the filter saturation level after filters have been changed
- holiday mode - sets system to minimum running, saving energy whilst maintaining air quality
- operating speed
- language



Commissioning Options - these options are ONLY for use by the installer, and can only be used with a Commissioning Access Code.

If an incorrect passcode is entered 5 times consecutively the system will automatically lock for one hour. Access permissions are lost every time the option screen is exited.

Setting Time: sets up 12 or 24hr format, DST (daylight saving time) and time zone.	Language Selection
Setting Date: sets date format	Touch Screen Calibration
Holiday Mode: sets system to minimum running when required (factory set to maintain air quality)	Commissioning Screen
Boost Speed Time Delay	Night Time Boost Inhibitor
Boost Speed Over-run Timer	Screen Cleaning: wipe screen safely without deleting settings
Run Time Counter and Filter Saturation	Exit to main screen