

# VENTILATION WITH HEAT RECOVERY

## RESIDENTIAL APPLICATION





# CLEAN AIR THINKING



Future proof with the highest quality,  
fresh indoor air, at home.



# Contents

	Page
DV51CH Adroit	6
DV51 Adroit	12
DV96 Adroit	18
DV110 Adroit	24
DV145 Adroit	30
DV245 Adroit	36
DV50 Adroit	42
DV80 Adroit	48
DV65 Entro-V	54
DV82 Entro-V	58
DV130 Entro-V	62
<i>Unohab</i>	66
Range overview	70
Residential Accessories	72

# THE BENCHMARK



The highest quality air for your family



# Ventilation with Heat Recovery

## Residential

The indoor climate is of the utmost importance as most of us spend the greater part of our lives indoors. To ensure comfort and a sense of well-being, the air we breathe should be clean, and also be at the right temperature and humidity level.

Whatever the situation, Mechanical Ventilation with Heat Recovery solutions can play a significant role as they help create a healthier living environment whilst saving valuable energy.

### UNOHAB RANGE

A single room heat recovery system designed for social housing, private sector apartment blocks, ideal for Renovation Maintenance and Improvement (RMI) housing and construction. The non-ducted system provides high thermal efficiency, extremely low power consumptions and low noise ventilation solution.

### ENTRO RANGE

A range of SAP eligible and Passive House Institute certified Mechanical Ventilation with Heat Recovery units for residential applications. These side entry units are made with high density EPP material that provides significant insulations and eliminates thermal bridging. Complete with 100% summer bypass and a number of optional extras, Entro offers the installer a huge range of installation options to suite their ventilation needs.

Visit [Airflow.com](https://www.airflow.com) to learn more about our residential product range.



For the latest ventilation news, information, product data and application advice

[CLICK](#) [CALL](#) [VISIT](#)

[airflow.com](https://www.airflow.com)



### ADROIT RANGE

A range of internet enabled, Passive House Institute certified Mechanical Ventilation with Heat Recovery units for residential applications. Available with a unique triple filter system, these units ensure healthy and fresh indoor air. Adroit units enable remote control and monitoring of the unit's ventilation and through the Adroit Cloud Service, offer advanced control functions. All units offer automatic summer bypass and have the option of smart frost protection.

# DV51CH Adroit

## Adroit Line Top Entry

Up to 184 m<sup>3</sup>/h air volume @100Pa



### KEY FEATURES

- Up to 90% thermal efficiency
- Triple filter design with two Coarse > 75% and one ISO ePM1 50% filters - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Internet control by smartphone, tablet, or PC
- BMS connection
- Fits neatly as part of an integrated solution



The DV51CH Adroit is a compact kitchen unit incorporating a cooker hood extractor, designed to perfectly combine ventilation and extraction of cooking odours.

The heat recovery unit is delivered with a slim and stylish cooker hood, manufactured from metal providing a fire safe ventilation solution for kitchen installations. The DV51CH Adroit MVHR unit can be easily integrated in the kitchen design as the cooker hood is available in white or stainless steel. This kitchen ventilation solution is also an efficient use of space in small apartments. The grease filter which protects the MVHR unit against cooking particles can be easily cleaned in soapy water.

A unique feature of the DV51CH Adroit is the benefit of recovering the heat from the hob while other kitchen units discharge directly to outside, skipping the heat recovery process.

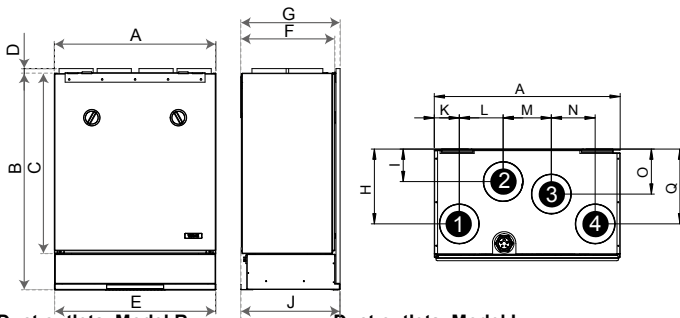


## TECHNICAL DATA

Specification	DV51CH (R)	DV51CH (L)
Suitable for dwellings up to m <sup>2</sup>	75	
Air flow m <sup>3</sup> /h / l/s @100 Pa	184 / 51	
Thermal efficiency	Up to 83%	
Heat exchanger	Counterflow (Aluminium)	
Fans	EC	
Summer bypass damper	100% automatic	
Frost protection	Stop supply fan	
Controls	Capacitive buttons with 3 speed profiles (on cooker hood)	
Digital controls	Optional digital - 4 profiles, 100% adjustable	
Mounting	Wall	
Sound pressure level @ 3m (dB(A))	15.5	
Duct diameter (mm)	4x125	
Condensate discharge (mm)	12	
Electrical supply	230 V / 1 ph / 50 Hz	
Electrical power input at max flow (W)	77 W	
Filter class (ISO 16890)	2 x ISO Coarse > 75% (G4) and 1 x ISO ePM1 50% (F7) filters	
Built-in electric post-heater (optional)	900 W	
Protection class	IP34	
Casing insulation (mm)	10	
Weight (kg)	51 (including cooker hood)	
Dimensions (L x D x H) (mm)	598 x 349 x 802 (including cooker hood)	
Part No.	90001174 (white)	90001175 (white)
	90001172 (stainless steel)	90001173 (stainless steel)
EAN	5019009326559 (white), 5019009326535 (stainless steel)	5019009326566 (white), 5019009326542 (stainless steel)

\*Complies with ISO 16890

## DIMENSIONS



### Duct outlets, Model R

- Inner diameter of the female collar: 125 mm
1. Extract air from the apartment to the unit
  2. Supply air from the unit to the apartment
  3. Exhaust air flowing outdoors from the unit
  4. Outdoor air to the unit

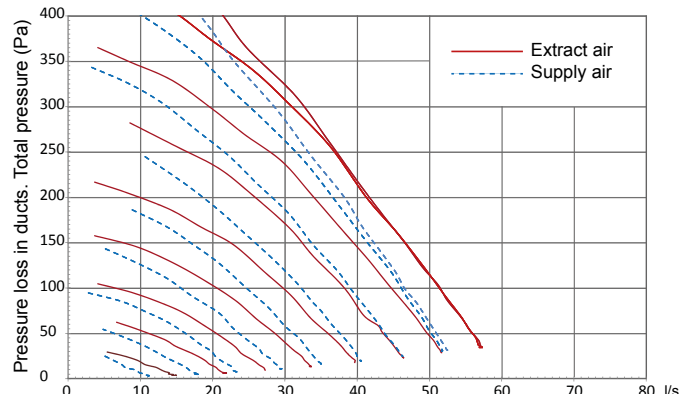
### Duct outlets, Model L

- Inner diameter of the female collar: 125 mm
1. Outdoor air to the unit
  2. Exhaust air flowing outdoors from the unit
  3. Supply air from the unit to the apartment
  4. Extract air from the apartment to the unit

+ excludes motors. Motor warranty one year from date of purchase

Model	A	B	C	D	E	F	G	H	I
DV51CH	598	802	668	17	597	349	368	239	103
	J	K	L	M	N	O	P		
	23	81	141	155	141	143	96		

## PERFORMANCE



\* Guidance only. Dependant upon system pressure.

## ACCESSORIES

Accessory	Product Code
Adroit Digital Controller	90000610
Adroit Relative Humidity Transmitter	90000612
Adroit CO <sub>2</sub> Transmitter	90000613
Adroit Speed Controller	9041219
Additional post heater for DV51CH (R)	90001262
Additional post heater for DV51CH (L)	90001263
Filter set (ISO Coarse > 75% + ISO ePM1 50%, ISO Coarse > 75%) (2xG4, 1xF7)	90001843
Boost Switch	90000542
KNX-Converter	90000723

## SAP RESULTS

### Systems with rigid ductwork only SAP 2005 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.86	79
Kitchen+2 additional wet room	0.76	80
Kitchen+3 additional wet room	0.80	80
Kitchen+4 additional wet room	0.91	81
Kitchen+5 additional wet room	1.05	81
Kitchen+6 additional wet room	1.22	81

### Systems with rigid ductwork only SAP 2012 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.78	80
Kitchen+2 additional wet room	0.84	80
Kitchen+3 additional wet room	0.99	81
Kitchen+4 additional wet room	1.24	81

# DV51CH Adroit

## Adroit Line Top Entry

Up to 184 m<sup>3</sup>/h air volume @100Pa

The DV51CH Adroit is fitted with a triple air filter facility which consists of 2 x ISO Coarse > 75% (G4) and 1 x ISO ePM1 50% (F7) filters – complies to ISO 16890. The air filtration will help to prevent small pollen particles from entering indoors.

Adjusting the ventilation characteristics according to specific lifestyles has never been so easy and efficient. Ventilation in a small apartment can be fully controlled through different options of controllers: a switch controller, capacitive touch buttons on the cooker hood front panel, a digital Adroit controller with 4 individual ventilation profiles or via the Internet or a local network using a laptop, smartphone, tablet etc.

The DV51CH Adroit can be integrated within the kitchen units and matched with other kitchen appliances offering an elegant overall style to the entire dwelling. This unit is ideally installed in one- or two-bedroom flats or a small three-bedroom apartment. Saving space and energy, the DV51CH Adroit unit is also easy to maintain and service, having plenty of front space to replace the filters and clean the grease filter grille.

The DV51CH can be integrated with a Building Management System (BMS) via a Modbus connection or KNX, which allows the user to monitor and control the unit's functions via a central control system.

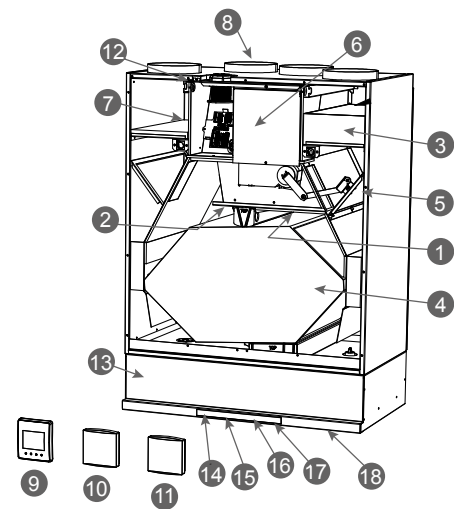
## NEW STYLISH AND COMPACT DESIGN



The internal humidity and carbon dioxide sensors ensure automatic boosting of the ventilation unit when required. This function reduces energy consumption even more by having an automated ventilation adjustment.








As previously stated, the unique feature of this MVHR Adroit unit is recovering the heat coming from the hob into the heat exchanger, a total energy class of A+ (when equipped with an additional sensor) is obtained. Another unique feature of this unit is having a partial bypass function. This partial bypass can automatically move into a suitable position where enough outdoor air is mixed with the supply air to provide the required indoor air temperature.

The DV51CH Adroit cooker hood has a modern and intuitive front panel which blends in with the kitchen furniture design. Two colours are available for the cooker hood: white and stainless steel. In addition, the unit can be customised further by using the brackets provided to hang a matching kitchen unit door. The kitchen door will have the standard width of 600 mm.



- |                   |                                      |   |                      |
|-------------------|--------------------------------------|---|----------------------|
| 1 Extract fan     | 6 Connection box                     | 11 Humidity sensor (optional)                   | 15 Fan speed buttons |
| 2 Supply fan      | 7 Extract filter                     | 12 Internal humidity and carbon dioxide sensors | 16 LED light button  |
| 3 Supply filter   | 8 Post heater (optional)             | 13 Cooker hood                                  | 17 Selection button  |
| 4 Heat exchanger  | 9 Control panel (optional)           | 14 Damper button                                | 18 Grease filter     |
| 5 Bypass actuator | 10 CO <sub>2</sub> sensor (optional) |   |                      |

## CONTROLS

- 
**Damper's position**  
 The damper is opened by pressing the damper button (light turns on). The damper is closed (light turns off) by pressing the damper button or automatically after one hour (without a timer or 45-120 min when programmed).
- 
**Cooker hood light**  
 Turn the light on or off by pressing the light switch. The brightness of the light can be adjusted.
- 
**Ventilation profiles**  
 Select the profile by pressing the fan speed button repeatedly until the signal light indicates the desired ventilation profile:
- 
**Away profile**  
 Use this ventilation profile when the apartment is unoccupied, e.g. during holiday.
- 
**At home profile**  
 Use this ventilation profile when the apartment is occupied.
- 
**Boost profile**  
 Use this profile to enhance ventilation, e.g. when there are more people than usual in the apartment.
- 
**Selection button**  
 The selection button is used to adjust the brightness of the cooker hood LED.

## CONTROLS

Adroit DV51CH is controlled via 4 ventilation profiles controls providing the following features:

- 4 ventilation profiles, 100% adjustable
- Internet connection available
- Automatic boost function with delay timer
- Filter maintenance reminder via counter clock (standard)
- Heater control for optional post-heater
- Connection to BMS via LON or KNX
- Self diagnostic via fault signal relay
- On-demand control via humidity and CO<sub>2</sub> sensors
- Separate fan control for ease of commissioning
- Weekly ventilation programming allows users to pre-set the ventilation levels scheduled for different days
- Indoor temperature control based on extract air temperature or supply air temperature
- 100% adjustable speed levels
- User friendly for quick and simple control



ISO Coarse > 75% (G4) filter



ISO ePM1 50% (F7) filter

## 100% AUTOMATIC BYPASS

The unit is equipped with an automatic, 100% bypass which totally isolates the heat exchanger so that no air passes through it. This prevents overheating the dwelling in the summer season.

## CONTROLS & ACCESSORIES



**Adroit Digital Controller**  
No: 90000610  
Intuitive digital controller with touch buttons. Wall mounted.



**Boost Switch**  
No: 90000542  
Single gang momentary boost modular switch in a smooth polar white finish.



**Adroit Speed Controller**  
No: 9041219  
Four speed manual controller. Wall mounted.

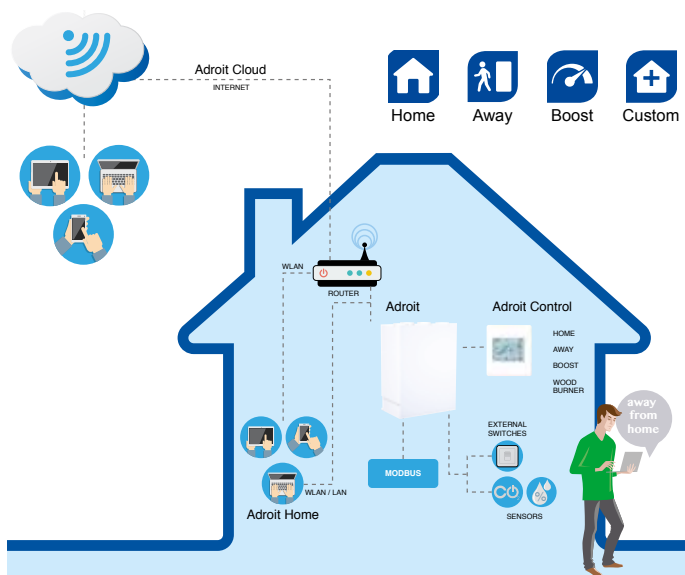


**DV51CH Adroit Filter Set**  
No: 90001843  
Replace filters 2x a year.  
(2 x G4/ISO Coarse 75%,  
1 x F7/ISO ePM1 50%)

Others products available from [airflow.com](http://airflow.com)

## DV51CH Slim-Line Cooker Hood

Colour options of white or brushed stainless steel

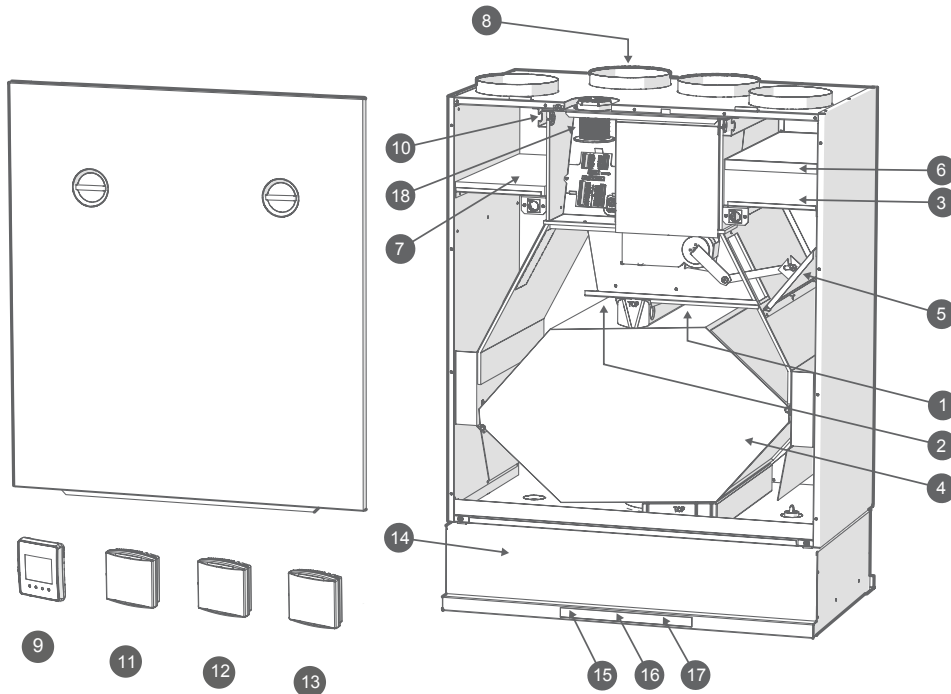


# DV51CH Adroit



## Adroit Line Top Entry

Up to 184 m<sup>3</sup>/h air volume @100Pa

### MAIN PARTS OF THE VENTILATION UNIT

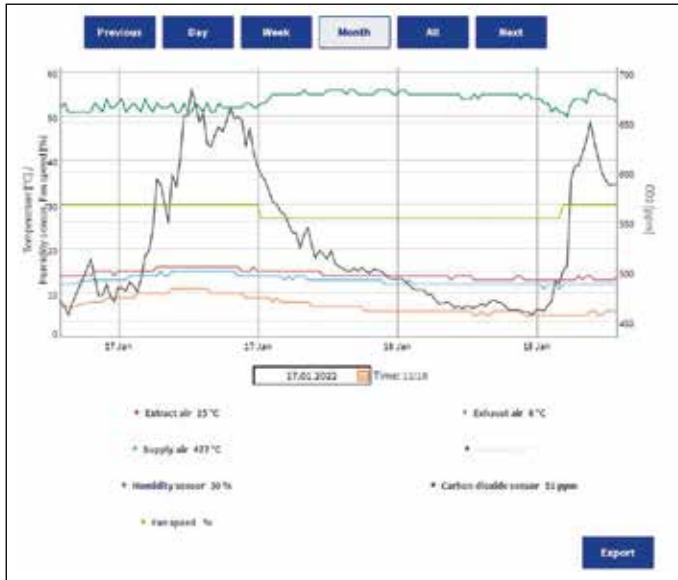


R model in the figure. In the L model, the parts are mirrored.

- |   |                               |   |   |                                  |    |
|---|-------------------------------|---|---|----------------------------------|----|
|  | Extract air fan               | 1 |  | Internal humidity sensor         | 10 |
|  | Supply air fan                | 2 |  | Internal carbon dioxide sensor   | 10 |
|  | Fine filter for supply air    | 3 |  | Humidity sensor (optional)       | 11 |
|  | Heat recovery cell            | 4 |  | Carbon dioxide sensor (optional) | 12 |
|  | Bypass damper                 | 5 |  | VOC sensor (optional)            | 13 |
|  | Coarse filter for supply air  | 6 |  | Cooker hood                      | 14 |
|  | Coarse filter for extract air | 7 |  | Damper button                    | 15 |
|  | Post-heater (optional)        | 8 |  | Fan speed adjustment             | 16 |
|  | Digital controller (optional) | 9 |  | Light switch                     | 17 |
|   |                               |   |  | Cable gland                      | 18 |

## BUILT-IN CO<sub>2</sub> SENSOR

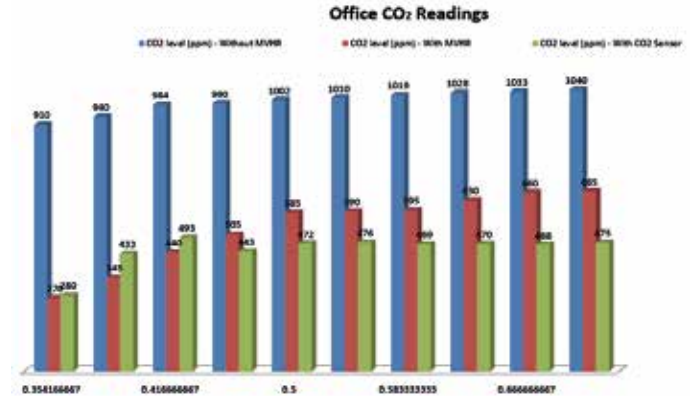
The Adroit range includes an internal carbon dioxide (CO<sub>2</sub>) sensor as standard, in order to achieve demand-controlled ventilation reducing the energy consumption even more by boosting the unit only when necessary. Extracting indoor humidity and carbon dioxide particulates while providing warm fresh air, helps create a healthy indoor environment for the residents. The data log allows residents to monitor CO<sub>2</sub> levels for the past year. The data log can be displayed on the Adroit Cloud and Adroit digital controller, also it can be exported to Excel for tracking and monitoring purposes.



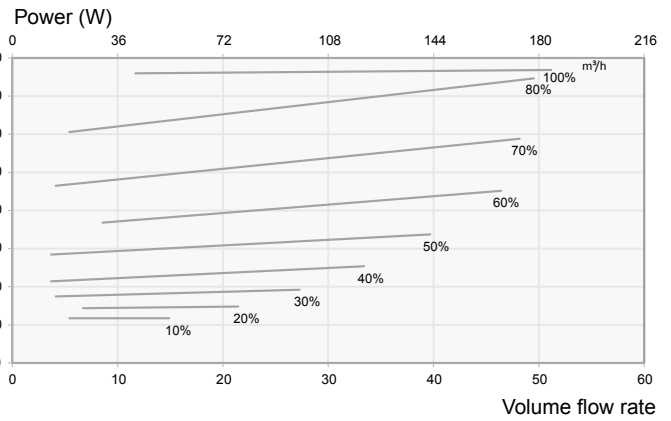
An experiment has been conducted in our offices, to understand CO<sub>2</sub> levels at different times and the impact an MVHR system will have, with and without a CO<sub>2</sub> sensor. It proved highly beneficial to have MVHR with CO<sub>2</sub> set-up on the threshold of 470ppm.

Time Of Day	08:30	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
CO <sub>2</sub> level (ppm) - Without MVHR	910	940	984	990	1002	1010	1019	1028	1033	1040
CO <sub>2</sub> level (ppm) - With MVHR	270	345	440	505	585	590	595	630	660	665
CO <sub>2</sub> level (ppm) - With CO <sub>2</sub> Sensor	280	433	493	443	472	476	469	470	468	475

CO<sub>2</sub> sensor threshold was set to approx. 470ppm



## FAN INPUT POWER



$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max) (l/sec)}}$$

## SOUND VALUES

		Sound power level in the supply air duct (one duct) by octave band L <sub>w</sub> , dB										Sound power level in the extract air duct (one duct) by octave band L <sub>w</sub> , dB										
		Adjustment position										Adjustment position										
Adjustment position (%)		10	20	30	40	50	60	70	80	90	100	10	20	30	40	50	60	70	80	90	100	
Medium frequency of the octave band Hz	63	58	60	62	64	66	68	73	81	81	81	52	52	55	55	59	61	72	70	72	72	
	125	47	52	57	59	62	65	67	68	68	68	52	52	54	55	56	58	60	62	62	62	
	250	44	50	55	57	64	62	65	67	67	67	30	33	39	42	44	47	50	51	52	51	
	500	39	46	52	54	57	59	62	65	66	67	30	38	40	42	46	49	50	54	56	55	
	1000	32	40	45	48	52	56	59	64	64	64	20	27	31	34	37	39	42	45	46	46	
	2000	21	30	37	42	45	48	51	53	53	53	13	15	20	24	28	30	33	35	36	36	
L <sub>w</sub> , dB	4000	18	22	30	36	42	46	49	52	52	52	17	17	17	18	18	19	21	23	23	23	
	8000	21	21	23	27	34	40	44	48	48	48	21	21	21	21	21	21	21	21	21	21	
L <sub>WA</sub> , dB(A)		58	61	64	66	70	71	75	82	82	82	55	55	58	58	61	63	72	71	73	73	
		41	47	52	55	59	61	64	67	68	68	37	39	42	44	46	49	51	54	55	55	
Adroit DV51, Adroit DV51CH (no standard extraction through the hood in the kitchen) Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m <sup>2</sup> sound absorption)																						
Adjustment position																						
Adjustment position (%)		10	20	30	40	50	60	70	80	90	100	10	20	30	40	50	60	70	80	90	100	
L <sub>pA</sub> , dB (A)		21	24	28	29	32	35	38	40	40	40	21	24	28	29	32	35	38	40	40	40	40
Adroit DV51CH (standard extraction 8 l/s through the hood in the kitchen) Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m <sup>2</sup> sound absorption)																						
Adjustment position																						
Adjustment position (%)			22			40																
L <sub>pA</sub> , dB (A)			28			32																

# DV51 Adroit

## Adroit Line Top Entry

Up to 184 m<sup>3</sup>/h air volume @100Pa



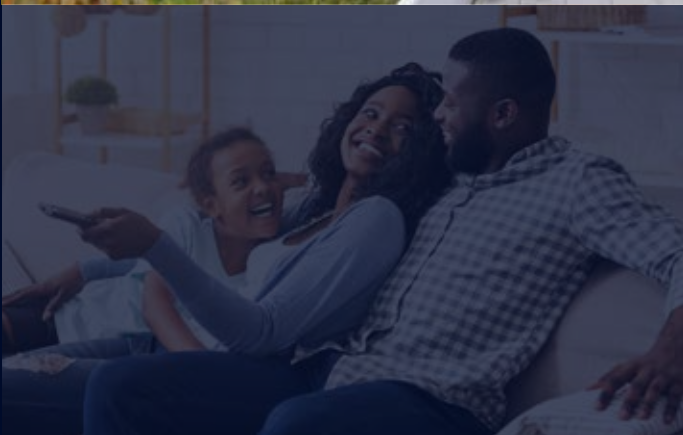
### KEY FEATURES

- Up to 90% thermal efficiency
- Triple filter design with two Coarse > 75% and one ISO ePM1 50% filters - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Internet control by smartphone, tablet, or PC
- BMS connection
- Extremely quiet operation

With its powerful air volume capacity and high thermal efficiency the DV51 Adroit is suitable for smaller flats and family homes. Control your indoor air environment at home or on the go via the Adroit 'Cloud' internet control by smart phone, tablet or PC.

With the triple filter design with an ISO ePM1 50% (F7) pollen filter, the DV51 Adroit provides additional protection against invisible, harmful particles and creates an ultra hygienic environment.

The automatic, 100% summer by-pass facility isolates the heat recovery function and helps to effectively maintain a temperate indoor air climate during the summer months. The unit includes an easily removable, Aluminium heat exchanger and may be equipped with a range of optional accessories for higher performance.

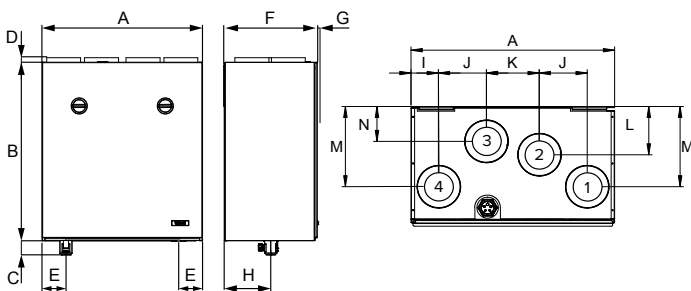


## TECHNICAL DATA

Specification	DV51
Suitable for dwellings up to m <sup>2</sup>	75
Max air flow (m <sup>3</sup> /h) / (l/s) at 100Pa.	184 / 51
Thermal efficiency (%)	Up to 83%
Heat exchanger	Cross-Counter-Flow (Aluminium)
Fans	EC
Summer by-pass damper	100% automatic
Frost protection	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Wall
Sound pressure level @3m (dB(A))	15.5
Duct diameter (mm)	125 (4 ports)
Condensate discharge (mm)	12
Electrical supply	230V / 1ph / 50Hz
Electrical power input at max flow (W)	77
Filter Class*	2x ISO Coarse > 75% (G4) and 1x ISO ePM1 50% (F7)
Built-in electric post-heater (optional) (W)	900
Protection class	IP34
Casing insulation (mm)	10
Weight (kg)	45
Dimensions (L x D x H) (mm)	598 x 349 x 668
Duct entry	Top Entry
Versions available	
Right Hand:	90001184
With optional electric post-heater:	90001186
Left Hand:	90001185
With optional electric post-heater:	90001187
EAN Right-handed unit	5019009326672 5019009326696 (EPH unit)
EAN Left-handed unit	5019009326689 5019009326702 (EPH unit)

\*Complies with ISO 16890

## DIMENSIONS



### Duct outlets, Model R

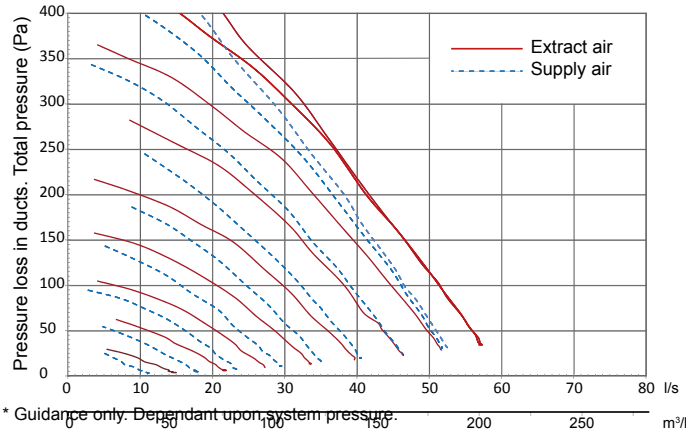
- Inner diameter of the female collar: 125 mm
1. Outdoor air to the unit
  2. Exhaust air flowing outdoors from the unit
  3. Supply air from the unit to the dwelling
  4. Extract air from the dwelling to the unit

### Duct outlets, Model L

- Inner diameter of the female collar: 125 mm
1. Extract air from the dwelling to the unit
  2. Supply air from the unit to the dwelling
  3. Exhaust air flowing outdoors from the unit
  4. Outdoor air to the unit

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N
DV51	598	668	52	17	89	349	10	173	81	141	155	143	239	103

## PERFORMANCE



## ACCESSORIES

### Adroit Digital Controller

Wall mounted, LCD display with four 100% independently user adjustable air flow profiles (Home, Away, Boost, Custom). A range of indoor parameters ie: air flow rates, temperature, humidity, by-pass, time clock settings, CO<sub>2</sub> sensor, filter alert are adjustable to suit your indoor environment. Internet connectivity via Adroit 'Cloud' for control at home or on the go.

### Adroit Speed Controller

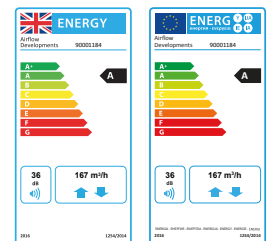
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

Visit [airflow.com](http://airflow.com) for Adroit controls options data sheet.

Accessory	Product Code
Adroit Digital Controller	90000610
Adroit Relative Humidity Transmitter	90000612
Adroit CO <sub>2</sub> Transmitter	90000613
Adroit Speed Controller (manual)	9041219
Additional post heater for DV51 (R)	90001262
Additional post heater for DV51 (L)	90001263
Filter set (ISO Coarse > 75 % + ISO ePM1, 50%, ISO Coarse > 75 %) (2xG4, 1xF7)	90001843
Boost Switch	90000542
KNX-Converter	90000723

## CERTIFICATION

The DV51 Adroit meets requirements set out by the Energy Related Products (ErP) Directive 2016, achieving an A rating. You can find out more about the ErP Directive at: [www.airflow.com](http://www.airflow.com)



# DV51 Adroit

## Adroit Line Top Entry

Up to 184 m<sup>3</sup>/h air volume @100Pa

The DV51 Adroit is fitted with a unique triple air filter facility. It comes with two ISO Coarse > 75% (G4) air filters and an ISO ePM1 50% (F7) filter, which provides additional air filtration by preventing particles as small as pollen from entering the premises. This is of particular benefit to those that suffer from asthma or hay fever and other respiratory conditions.

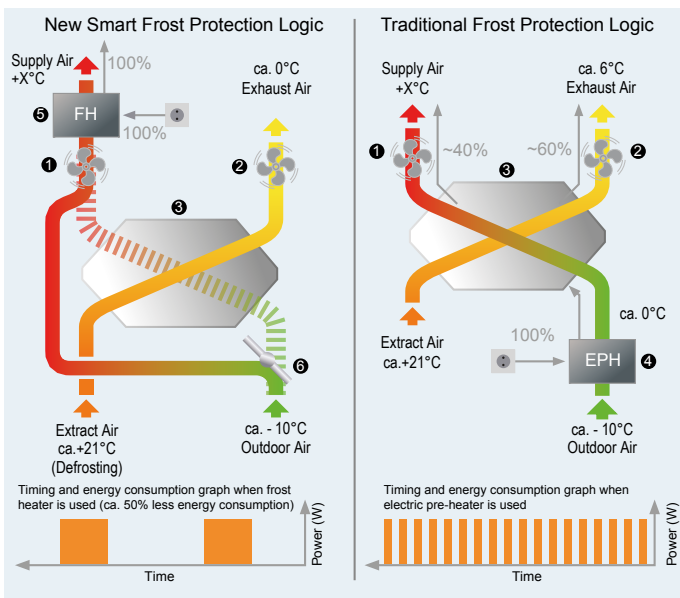
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information to the user regarding the performance of their Adroit system including; adjusting the ventilation levels, filter maintenance, separate fan control, faults in the system and commissioning

the system. You can also use an optional manual controller which provides simple control by switching ventilation profiles.

Through combining your unit with additional humidity and CO<sub>2</sub> sensors, you are able to achieve on-demand ventilation for the property. This is possible, as due to changes to humidity and CO<sub>2</sub> levels that occur through changes in occupancy or usage, the ventilation will boost or reduce to match demand; without the need of manual intervention.

The DV51 can be integrated with a Building Management System (BMS) via a Modbus connection or KNX, which allows the user to monitor and control the unit's functions via a central control system.

## NEW SMART FROST PROTECTION



- ① Supply air fan
- ② Exhaust air fan
- ③ Heat exchanger
- ④ Electric pre-heater
- ⑤ Frost heater
- ⑥ Electric bypass damper

On the traditional frost protection method, the outdoor air is pre-heated before passing through the heat exchanger. This way the unit could still provide balanced ventilation even when the frost protection was on. However, the electric heater kicks in intermittently hence consumes more energy than needed.

The new Smart Frost Protection method works in a more energy efficient manner which constantly monitors the heat exchanger conditions and uses the frost heater only when necessary. This significantly reduces the energy consumption and provides more heat recovery throughout the winter season.

## TRIPLE FILTER DESIGN

The majority of the MVHR units in the U.K incorporate ISO Coarse > 75% (G4) filters on the extract / supply air side. These filters catch only coarse particles such as insects and leaves to protect the heat exchanger.

ISO ePM1 50% (F7) fine filters on the other hand are highly efficient, catch invisible particles such as pollen, spore, bacterium and **dust entering the lungs**.

**Adroit units are the only MVHR units which incorporate triple filter design combining ISO Coarse > 75% (G4) course filters with the ISO ePM1 50% (F7) fine filter. This significantly improves the indoor air quality and lowers your maintenance costs.**



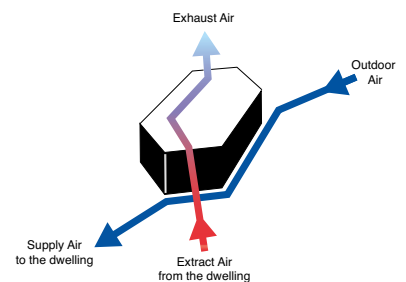
ISO Coarse > 75% (G4) filter



ISO ePM1 50% (F7) filter

## 100% AUTOMATIC BYPASS

The unit is equipped with an automatic, 100% bypass which totally isolates the heat exchanger so that no air passes through it. This prevents overheating the dwelling in the summer season.



## SAP RESULTS

Systems with rigid ductwork only SAP 2009 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.86	79%
Kitchen+2 additional wet rooms	0.76	80%
Kitchen+3 additional wet rooms	0.80	80%
Kitchen+4 additional wet rooms	0.91	81%
Kitchen+5 additional wet rooms	1.05	81%
Kitchen+6 additional wet rooms	1.22	81%

Systems with rigid ductwork only SAP 2012 results

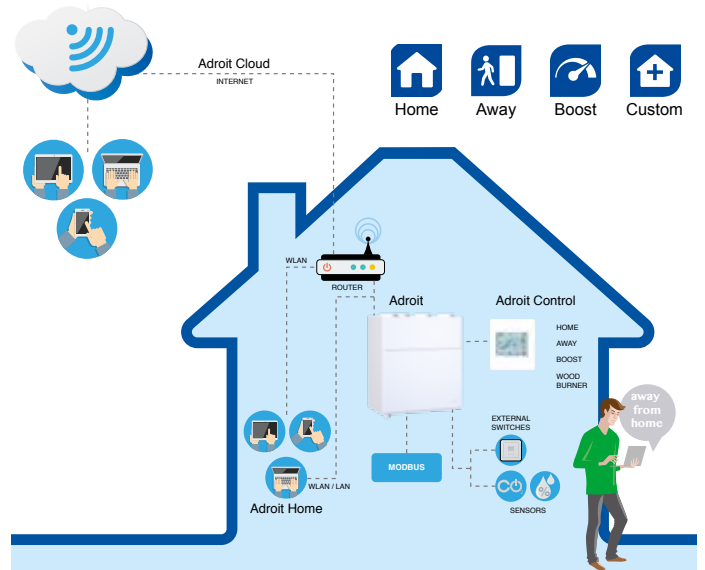
Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.78	80%
Kitchen+2 additional wet rooms	0.84	80%
Kitchen+3 additional wet rooms	0.99	81%
Kitchen+4 additional wet rooms	1.24	81%

## CONTROLS

Ideal indoor air quality is achieved by automatically **adjusted ventilation**

Adroit DV51 is controlled via 4 ventilation profiles controls providing the following features:

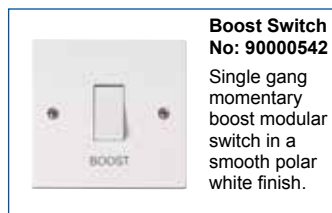
- 4 ventilation profiles**, 100% adjustable
- Internet** connection available
- Automatic boost function** with delay timer
- Filter maintenance reminder** via counter clock (standard)
- Heater control** for optional post-heater
- Connection to BMS** via LON or KNX
- Self diagnostic** via fault signal relay
- On-demand control** via humidity and CO<sub>2</sub> sensors
- Separate fan control** for ease of commissioning
- Weekly ventilation programming** allows users to pre-set the ventilation levels scheduled for different days
- Indoor temperature control** based on extract air temperature or supply air temperature



## CONTROLS & ACCESSORIES



**Adroit Digital Controller**  
No: 90000610  
Intuitive digital controller with touch buttons. Wall mounted.



**Boost Switch**  
No: 90000542  
Single gang momentary boost modular switch in a smooth polar white finish.



**Adroit Speed Controller**  
No: 9041219  
Four speed manual controller. Wall mounted.



**DV51 Adroit Filter Set**  
No: 90001843  
Replace filters 2x a year. (2 x G4/ISO Coarse 75%, 1 x F7/ISO ePM1 50%)

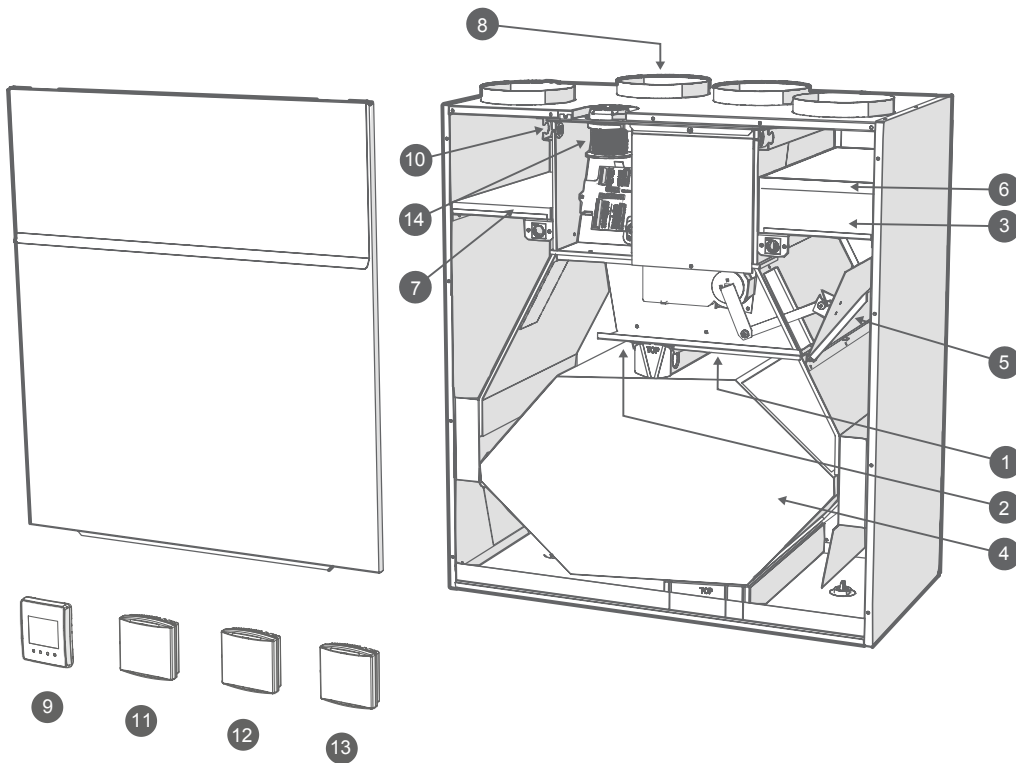
Others products available from [airflow.com](http://airflow.com)

# DV51 Adroit




## Adroit Line Top Entry

Up to 184 m<sup>3</sup>/h air volume @100Pa

### MAIN PARTS OF THE VENTILATION UNIT

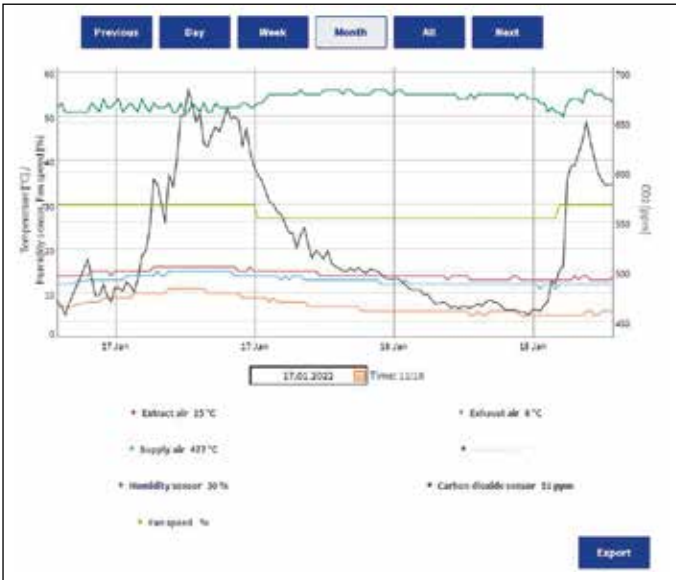


R model in the figure.  
In the L model, the parts are mirrored.

- |   |                               |   |   |                                  |    |
|---|-------------------------------|---|---|----------------------------------|----|
|  | Extract air fan               | 1 |  | Post-heater (optional)           | 8  |
|  | Supply air fan                | 2 |  | Digital controller (optional)    | 9  |
|  | Fine filter for supply air    | 3 |  | Internal humidity sensor         | 10 |
|  | Heat recovery cell            | 4 |  | Internal carbon dioxide sensor   | 10 |
|  | Bypass damper                 | 5 |  | Humidity sensor (optional)       | 11 |
|  | Coarse filter for supply air  | 6 |  | Carbon dioxide sensor (optional) | 12 |
|  | Coarse filter for extract air | 7 |  | VOC sensor (optional)            | 13 |
|   |                               |   |  | Cable gland                      | 14 |

## BUILT-IN CO<sub>2</sub> SENSOR

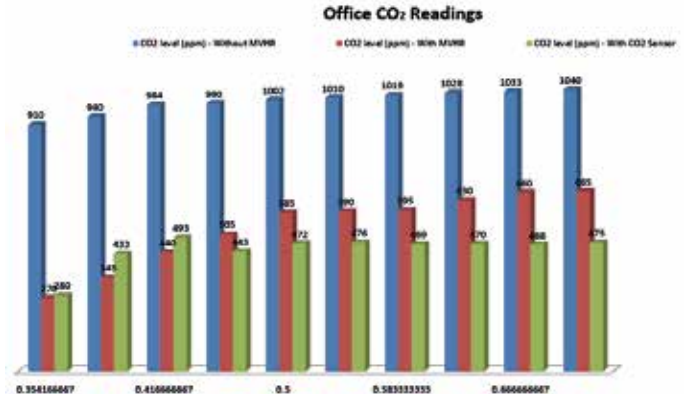
The Adroit range includes an internal carbon dioxide (CO<sub>2</sub>) sensor as standard, in order to achieve demand-controlled ventilation reducing the energy consumption even more by boosting the unit only when necessary. Extracting indoor humidity and carbon dioxide particulates while providing warm fresh air, helps create a healthy indoor environment for the residents. The data log allows residents to monitor CO<sub>2</sub> levels for the past year. The data log can be displayed on the Adroit Cloud and Adroit digital controller, also it can be exported to Excel for tracking and monitoring purposes.



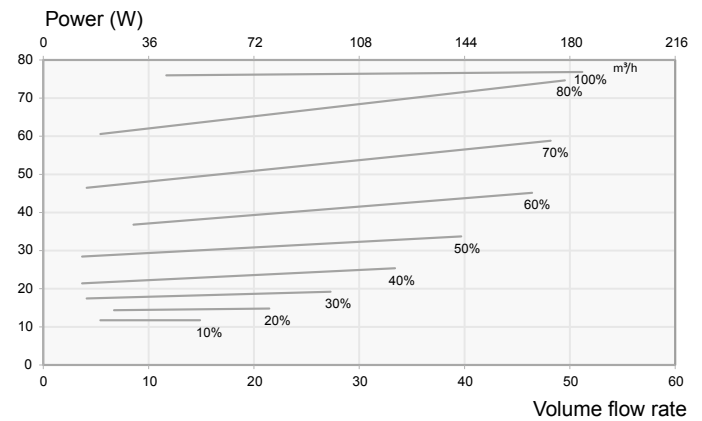
An experiment has been conducted in our offices, to understand CO<sub>2</sub> levels at different times and the impact an MVHR system will have, with and without a CO<sub>2</sub> sensor. It proved highly beneficial to have MVHR with CO<sub>2</sub> set-up on the threshold of 470ppm.

Time Of Day	08:30	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
CO <sub>2</sub> level (ppm) - Without MVHR	910	940	984	990	1002	1010	1019	1028	1033	1040
CO <sub>2</sub> level (ppm) - With MVHR	270	345	440	505	585	590	595	630	660	665
CO <sub>2</sub> level (ppm) - With CO <sub>2</sub> Sensor	280	433	493	443	472	476	469	470	468	475

CO<sub>2</sub> sensor threshold was set to approx. 470ppm



## FAN INPUT POWER



$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max) (l/sec)}}$$

## SOUND VALUES

		Sound power level in the supply air duct (one duct) by octave band $L_{w,i}$ , dB									Sound power level in the extract air duct (one duct) by octave band $L_{w,e}$ , dB								
		Adjustment position									Adjustment position								
Adjustment position (%)	Air flow l/s	10	20	30	40	50	60	70	80	100	10	20	30	40	50	60	70	80	100
Medium frequency of the octave band Hz	63	59	66	70	72	74	79	78	79	81	55	59	61	64	67	76	72	72	73
	125	57	62	64	66	69	71	73	76	76	57	60	62	66	68	70	72	74	77
	250	47	55	62	66	68	69	71	73	73	39	47	55	60	61	62	63	65	67
	500	36	44	50	55	59	63	66	68	70	26	33	38	42	47	52	55	57	57
	1000	29	39	45	50	54	59	61	63	65	21	29	34	38	42	45	48	50	52
	2000	21	29	39	45	50	53	56	58	60	13	15	22	27	32	35	37	39	41
	4000	18	19	24	32	40	46	50	53	55	17	17	18	18	21	25	28	32	34
	8000	21	21	22	23	26	31	36	40	43	21	22	21	21	22	22	22	22	23
$L_{w,i}$ , dB		62	67	71	74	76	80	80	81	83	59	62	65	69	71	77	75	77	79
$L_{w,e}$ , dB(A)		44	51	56	60	63	66	68	72	72	41	45	50	54	56	58	60	62	64
		Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m <sup>2</sup> sound absorption)																	
		Adjustment position																	
Adjustment position (%)	Air flow l/s	10	20	30	40	50	60	70	80	100	10	20	30	40	50	60	70	80	100
$L_{p,A}$ , dB (A)		6/7	12/14	19/22	22/25	27/30	31/34	35/40	41/45	44/48	24	29	35	38	40	45	47	49	50

# DV96 Adroit

(Integral CO<sub>2</sub> Sensor)

## Adroit Line Top Entry

Up to 310 m<sup>3</sup>/h air volume @100Pa

### KEY FEATURES

- Up to 90% thermal efficiency
- Triple filter design with two Coarse > 75% and one ISO ePM1 50% filters - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Internet control by smartphone, tablet, or PC
- BMS connection
- Auto cut-out switch for extra safety

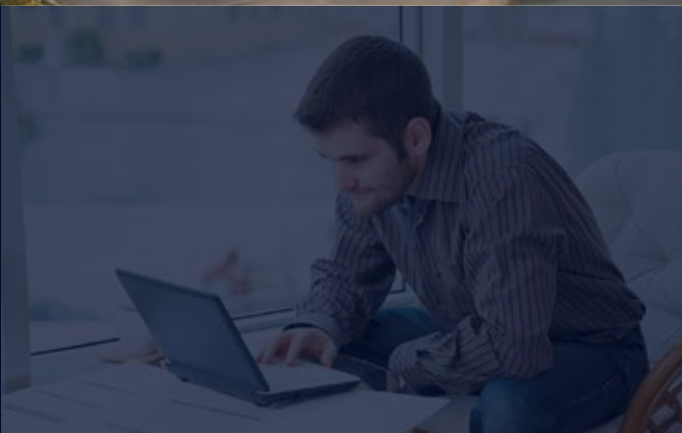


With its powerful air volume capacity and high thermal efficiency the DV96 Adroit is suitable for medium sized family homes. Control your indoor air environment at home or on the go via the Adroit 'Cloud' internet control by smart phone, tablet or PC.

With the triple filter design with an ISO ePM1 50% (F7) pollen filter, the DV96 Adroit provides additional protection against invisible, harmful particles and creates an ultra hygienic environment.

The automatic, 100% summer by-pass facility isolates the heat recovery function and helps to effectively maintain a temperate indoor air climate during the summer months.

The unit includes an easily removable, plastic heat exchanger and may be equipped with a range of optional accessories for higher performance.

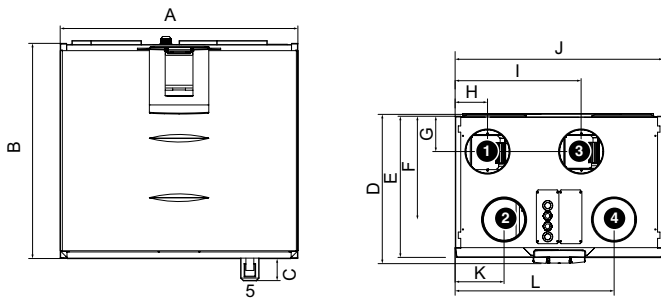


## TECHNICAL DATA

Specification	DV96
Suitable for dwellings up to m <sup>2</sup>	130
Max air flow (m <sup>3</sup> /h) / (l/s) at 100Pa.	310 / 86
Thermal efficiency (%)	Up to 90
Heat exchanger	Cross-Counter-Flow (Plastic)
Fans	EC
Summer by-pass damper	100% automatic
Integral humidity sensor (RH %)	0 - 100
Frost protection (optional heater)	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Wall / Ceiling
Sound pressure level @3m (dB(A))	26.5
Duct diameter (mm)	125 (4 ports)
Condensate discharge (ins)	3/4 BSP
Electrical supply	230V / 1ph / 50Hz
Electrical power input at max flow (W)	202
Filter Class*	2x ISO Coarse > 75% (G4) and 1x ISO ePM1 50% (F7)
Built-in electric post-heater (optional) (W)	900
Protection class	IP34
Casing insulation (mm)	20
Weight (kg)	47
Dimensions (L x D x H) (mm)	600 x 430 x 545
Duct entry	Top Entry
Versions available	
Right Hand:	90001265
With optional electric post-heater:	90001265EPH
Left Hand:	90001266
With optional electric post-heater:	90001266EPH
EAN Right-handed unit	5019009327211 5019009327372 (EPH unit)
EAN Left-handed unit	5019009327228 5019009327389 (EPH unit)

\*Complies with ISO 16890

## DIMENSIONS



### Duct outlets, model R

Inner diameter of female outlet collar  $\phi$  125 mm

1. Supply air to dwelling
2. Extract air from dwelling to unit
3. Exhaust air out
4. Outdoor air to unit
5. Condensate drain

### Duct outlets, model L

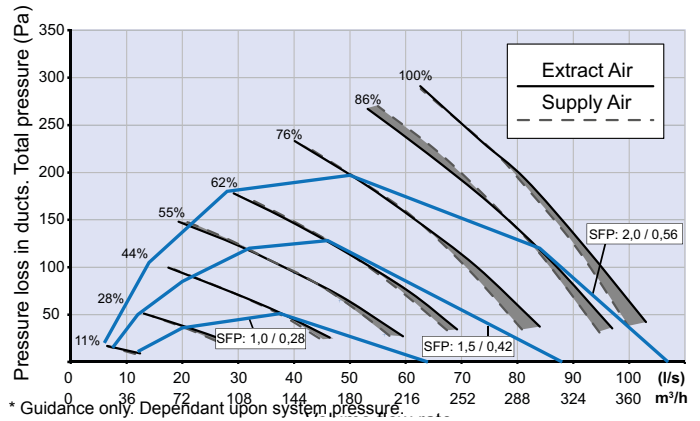
Inner diameter of female outlet collar  $\phi$  125mm

1. Exhaust air out
2. Outdoor air to unit
3. Supply air to dwelling
4. Extract air from dwelling to unit
5. Condensate drain

+ excludes motors. Motor warranty one year from date of purchase

Model	A	B	C	D	E	F	G	H	I	J	K	L
DV96	600	545	55	430	407	298	102	93	363	600	141	459

## PERFORMANCE



## ACCESSORIES

### Adroit Digital Controller

Wall mounted, LCD display with four 100% independently user adjustable air flow profiles (Home, Away, Boost, Custom). A range of indoor parameters ie: air flow rates, temperature, humidity, by-pass, time clock settings, CO<sub>2</sub> sensor, filter alert are adjustable to suit your indoor environment. Internet connectivity via Adroit 'Cloud' for control at home or on the go.

### Adroit Speed Controller

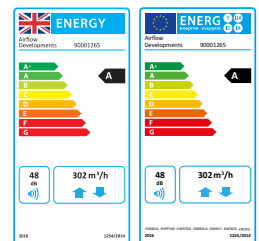
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

Visit [airflow.com](http://airflow.com) for Adroit controls options data sheet.

Accessory	Product Code
Adroit Digital Controller	90000610
Adroit Relative Humidity Transmitter	90000612
Adroit CO <sub>2</sub> Transmitter	90000613
Adroit Speed Controller	9041219
Ceiling Mounting Plate	90000716
Attic Roof Penetration Plate	90000718
Additional 900W Heater for DV96 (R)	90000614
Additional 900W Heater for DV96 (L)	90000615
Filter set (ISO Coarse > 75 % + ISO ePM, 50%, ISO Coarse > 75 %) (2xG4, 1xF7)	90000375
Boost Switch	90000542
KNX-Converter	90000723

## CERTIFICATION

The DV96 Adroit meets requirements set out by the Energy Related Products (ErP) Directive 2016, achieving an A rating. You can find out more about the ErP Directive at: [www.airflow.com](http://www.airflow.com)



The DV96 was tested and has achieved Passive House Approval by the Passive House Institute when equipped with the optional Electric Post-heater.



# DV96 Adroit

## (Integral CO<sub>2</sub> Sensor)

### Adroit Line Top Entry

Up to 310 m<sup>3</sup>/h air volume @100Pa

The DV96 Adroit is fitted with a unique triple air filter facility. It comes with two ISO Coarse > 75% (G4) air filters and an ISO ePM1 50% (F7) filter, which provides additional air filtration by preventing particles as small as pollen from entering the premises. This is of particular benefit to those that suffer from asthma or hay fever and other respiratory conditions.

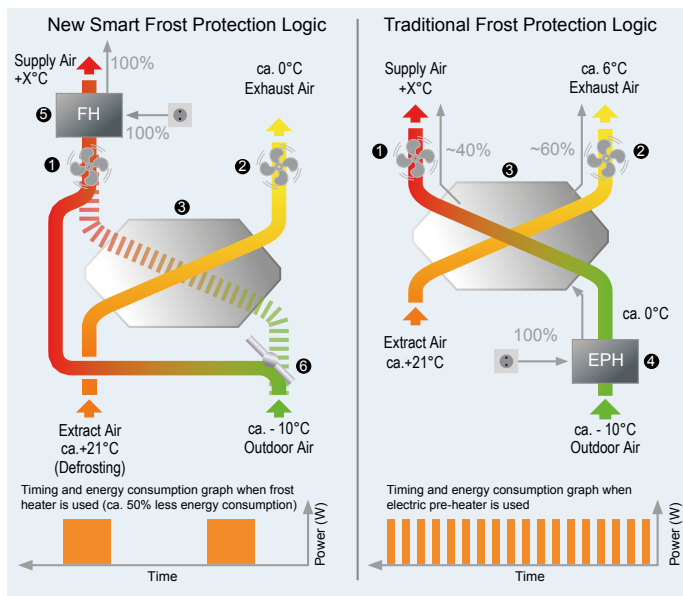
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information to the user regarding the performance of their Adroit system including; adjusting the ventilation levels, filter maintenance, separate fan control, faults in the system and commissioning

the system. You can also use an optional manual controller which provides simple control by switching ventilation profiles.

Through combining your unit with additional humidity and CO<sub>2</sub> sensors, you are able to achieve on-demand ventilation for the property. This is possible, as due to changes to humidity and CO<sub>2</sub> levels that occur through changes in occupancy or usage, the ventilation will boost or reduce to match demand; without the need of manual intervention.

The DV96 can be integrated with a Building Management System (BMS) via a Modbus connection or KNX, which allows the user to monitor and control the unit's functions via a central control system.

### NEW SMART FROST PROTECTION



- ① Supply air fan
- ② Exhaust air fan
- ③ Heat exchanger
- ④ Electric pre-heater
- ⑤ Frost heater
- ⑥ Electric bypass damper

On the traditional frost protection method, the outdoor air is pre-heated before passing through the heat exchanger. This way the unit could still provide balanced ventilation even when the frost protection was on. However, the electric heater kicks in intermittently hence consumes more energy than needed.

The new Smart Frost Protection method works in a more energy efficient manner which constantly monitors the heat exchanger conditions and uses the frost heater only when necessary. This significantly reduces the energy consumption and provides more heat recovery throughout the winter season.

### TRIPLE FILTER DESIGN

The majority of the MVHR units in the U.K incorporate ISO Coarse > 75% (G4) filters on the extract / supply air side. These filters catch only coarse particles such as insects and leaves to protect the heat exchanger.

ISO ePM1 50% (F7) fine filters on the other hand are highly efficient, catch invisible particles such as pollen, spore, bacterium and **dust entering the lungs**.

**Adroit units are the only MVHR units which incorporate triple filter design combining ISO Coarse > 75% (G4) course filters with the ISO ePM1 50% (F7) fine filter. This significantly improves the indoor air quality and lowers your maintenance costs.**



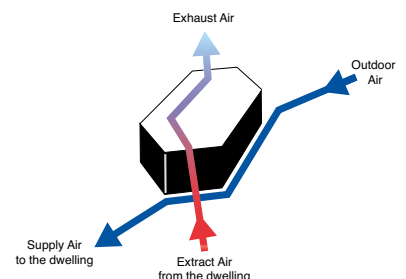
ISO Coarse > 75% (G4) filter



ISO ePM1 50% (F7) filter

### 100% AUTOMATIC BYPASS

The unit is equipped with an automatic, 100% bypass which totally isolates the heat exchanger so that no air passes through it. This prevents overheating the dwelling in the summer season.



## SAP RESULTS

Systems with rigid ductwork only SAP 2009 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.95	89%
Kitchen+2 additional wet rooms	0.85	89%
Kitchen+3 additional wet rooms	0.89	88%
Kitchen+4 additional wet rooms	1.01	87%
Kitchen+5 additional wet rooms	1.16	87%
Kitchen+6 additional wet rooms	1.33	86%

Systems with rigid ductwork only SAP 2012 results

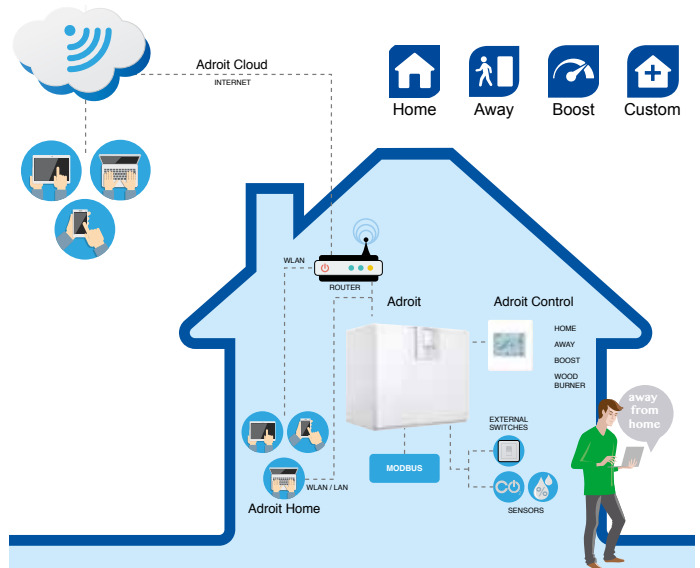
Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.87	89%
Kitchen+2 additional wet rooms	0.98	88%
Kitchen+3 additional wet rooms	1.13	87%
Kitchen+4 additional wet rooms	1.4	86%

## CONTROLS



Ideal indoor air quality is achieved by automatically **adjusted ventilation**

Adroit DV96 is controlled via 4 ventilation profiles controls providing the following features:

- 4 ventilation profiles, 100% adjustable
- Internet connection available
- Automatic boost function with delay timer
- Filter maintenance reminder via counter clock (standard)
- Heater control for optional post-heater
- Connection to BMS via LON or KNX
- Self diagnostic via fault signal relay
- On-demand control via humidity and CO<sub>2</sub> sensors
- Separate fan control for ease of commissioning
- Weekly ventilation programming allows users to pre-set the ventilation levels scheduled for different days
- Indoor temperature control based on extract air temperature or supply air temperature



## CONTROLS & ACCESSORIES

 <p><b>Adroit Digital Controller</b> No: 90000610</p> <p>Intuitive digital controller with touch buttons. Wall mounted.</p>	 <p><b>Boost Switch</b> No: 90000542</p> <p>Single gang momentary boost modular switch in a smooth polar white finish.</p>
--	---

 <p><b>Adroit Speed Controller</b> No: 9041219</p> <p>Four speed manual controller. Wall mounted.</p>	 <p><b>DV96 Adroit Filter Set</b> No: 90000375</p> <p>Replace filters 2x a year. (2 x G4/ISO Coarse 75%, 1 x F7/ISO ePM1 50%)</p>
--	--

Others products available from [airflow.com](http://airflow.com)

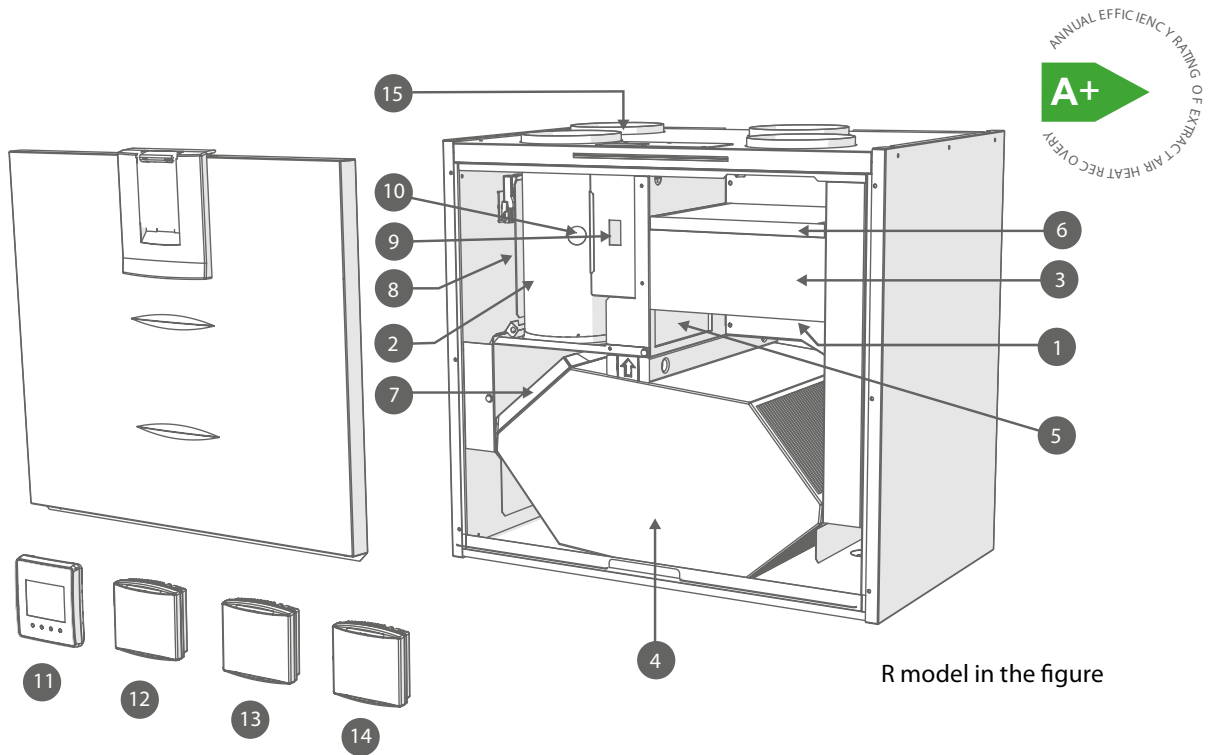
# DV96 Adroit

(Integral CO<sub>2</sub> Sensor)

















## Adroit Line Top Entry

Up to 310 m<sup>3</sup>/h air volume @100Pa

### MAIN PARTS OF THE VENTILATION UNIT

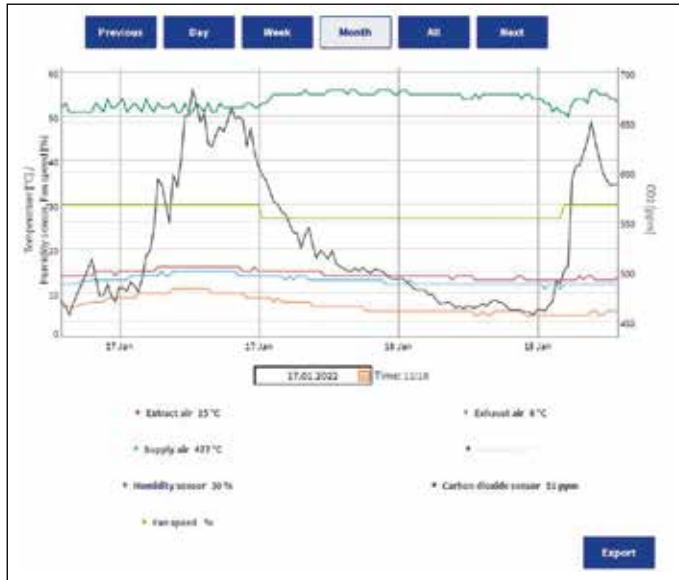


R model in the figure

- |   |  |   |   |
|---|--|---|---|
|  | Extract air fan (behind the protective cover) ..... 1        |  | Electrical safety cut off switch ..... 9  |
|  | Supply air fan (behind metal duct pipe) ..... 2              |  | Internal humidity sensor ..... 10         |
|  | Fine filter for supply air ..... 3                           |  | Internal carbon dioxide sensor ..... 10   |
|  | Heat recovery cell ..... 4                                   |  | Digital Controller (optional) ..... 11    |
|  | Heat Recovery cell bypass damper ..... 5                     |  | Humidity sensor (optional) ..... 12       |
|  | Coarse filter for supply air ..... 6                         |  | Carbon dioxide sensor (optional) ..... 13 |
|  | Coarse filter for extract air ..... 7                        |  | VOC sensor (optional) ..... 14            |
|  | Post-heater (Optional) (behind the extract air duct) ..... 8 |  | Cable gland ..... 15                      |

## BUILT-IN CO<sub>2</sub> SENSOR

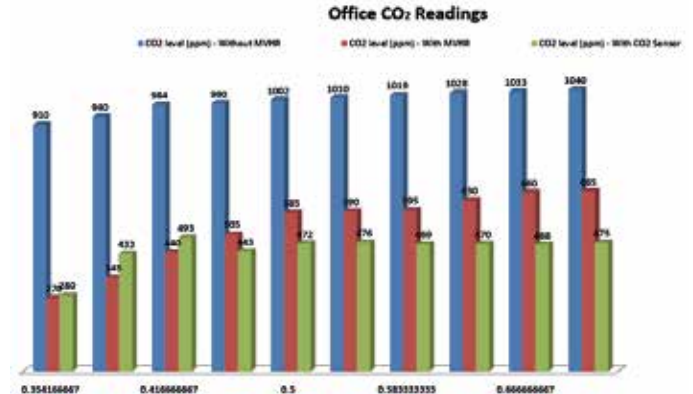
The Adroit range includes an internal carbon dioxide (CO<sub>2</sub>) sensor as standard, in order to achieve demand-controlled ventilation reducing the energy consumption even more by boosting the unit only when necessary. Extracting indoor humidity and carbon dioxide particulates while providing warm fresh air, helps create a healthy indoor environment for the residents. The data log allows residents to monitor CO<sub>2</sub> levels for the past year. The data log can be displayed on the Adroit Cloud and Adroit digital controller, also it can be exported to Excel for tracking and monitoring purposes.



An experiment has been conducted in our offices, to understand CO<sub>2</sub> levels at different times and the impact an MVHR system will have, with and without a CO<sub>2</sub> sensor. It proved highly beneficial to have MVHR with CO<sub>2</sub> set-up on the threshold of 470ppm.

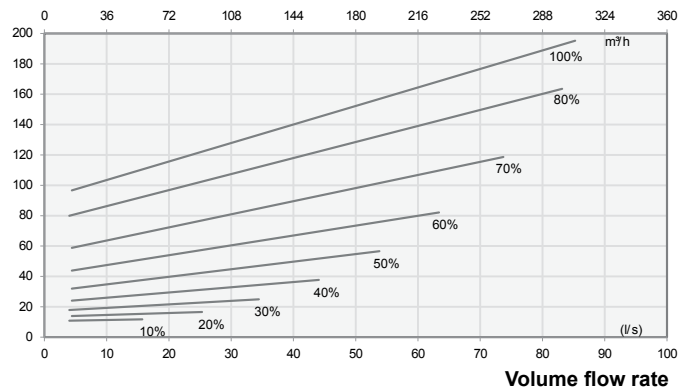
Time Of Day	08:30	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
CO <sub>2</sub> level (ppm) - Without MVHR	910	940	984	990	1002	1010	1019	1028	1033	1040
CO <sub>2</sub> level (ppm) - With MVHR	270	345	440	505	585	590	595	630	660	665
CO <sub>2</sub> level (ppm) - With CO <sub>2</sub> Sensor	280	433	493	443	472	476	469	470	468	475

CO<sub>2</sub> sensor threshold was set to approx. 470ppm



## FAN INPUT POWER

Power (W)



$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max) l/sec}}$$

## SOUND VALUES

		Sound power level in the supply air duct (one duct) by octave band $L_{w,i}$ , dB									Sound power level in the extract air duct (one duct) by octave band $L_{w,e}$ , dB								
		Adjustment position									Adjustment position								
Adjustment position (%)		10	20	30	40	50	60	70	80	100	10	20	30	40	50	60	70	80	100
Medium frequency of the octave band Hz	63	54	63	69	74	76	80	84	87	86	51	55	63	66	70	73	76	78	79
	125	50	56	62	66	70	73	77	80	81	43	46	52	55	60	63	66	68	71
	250	46	54	59	63	66	69	72	74	77	33	38	44	47	51	55	58	61	63
	500	40	48	54	57	61	63	66	68	71	29	38	44	47	51	53	57	59	61
	1000	34	44	51	55	60	62	64	66	68	23	32	38	42	46	49	52	54	57
	2000	21	35	44	49	54	57	61	63	66	13	17	24	29	33	36	39	42	44
$L_{wA}$ , dB(A)	4000	17	23	34	41	47	51	55	58	61	17	17	18	20	23	26	29	32	34
	8000	21	21	26	34	42	47	52	56	59	21	21	21	21	21	22	23	25	27
		56	65	70	75	78	81	85	88	88	52	56	64	66	71	74	76	79	80
		42	50	57	61	64	67	70	73	75	33	39	45	48	52	55	58	61	63
		Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m <sup>2</sup> sound absorption)																	
		Adjustment position																	
Adjustment position (%)		10	20	30	40	50	60	70	80										100
$L_{pA}$ , dB (A)		24	28	34	33	38	41	44	46										48

# DV110 Adroit

(Integral CO<sub>2</sub> Sensor)

## Adroit Line Top Entry

Up to 389 m<sup>3</sup>/h air volume @100Pa

### KEY FEATURES

- Over 90% thermal efficiency
- Triple filter design with two Coarse > 75% and one ISO ePM1 50% filters - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Internet control by smartphone, tablet, or PC
- BMS connection
- Auto cut-out switch for extra safety



With its powerful air volume capacity and high thermal efficiency the DV110 Adroit is suitable for medium sized family homes. Control your indoor air environment at home or on the go via the Adroit 'Cloud' internet control by smart phone, tablet or PC.

With the triple filter design with an ISO ePM1 50% (F7) pollen filter, the DV110 Adroit provides additional protection against invisible, harmful particles and creates an ultra hygienic environment.

The automatic, 100% summer by-pass facility isolates the heat recovery function and helps to effectively maintain a temperate indoor air climate during the summer months.

The unit includes an easily removable, plastic heat exchanger and may be equipped with a range of optional accessories for higher performance.

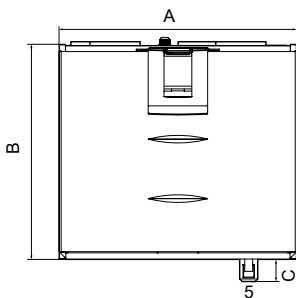


## TECHNICAL DATA

Specification	DV110
Suitable for dwellings up to m <sup>2</sup>	170
Max air flow (m <sup>3</sup> /h) / (l/s) at 100Pa.	389 / 108
Thermal efficiency (%)	Up to 90
Heat exchanger	Cross-Counter-Flow (Plastic)
Fans	EC
Summer by-pass damper	100% automatic
Integral humidity sensor (RH %)	0 - 100
Frost protection (optional heater)	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Wall / Ceiling
Sound pressure level @3m (dB(A))	22.5
Duct diameter (mm)	125 (4 ports)
Condensate discharge (ins)	3/4 BSP
Electrical supply	230V / 1ph / 50Hz
Electrical power input at max flow (W)	226
Filter Class*	2x ISO Coarse > 75% (G4) and 1x ISO ePM1 50% (F7)
Built-in electric post-heater (optional) (W)	900
Protection class	IP34
Casing insulation (mm)	20
Weight (kg)	58
Dimensions (L x D x H) (mm)	638 x 472 x 678
Duct entry	Top Entry
Versions available	
Right Hand:	90001267
With optional electric post-heater:	90001267EPH
Left Hand:	90001268
With optional electric post-heater:	90001268EPH
EAN Right-handed unit	5019009327235 5019009327396 (EPH unit)
EAN Left-handed unit	5019009327242 5019009327402 (EPH unit)

\*Complies with ISO 16890

## DIMENSIONS

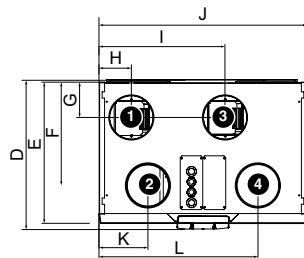


### Duct outlets, model R

Inner diameter of female outlet collar ø 160 mm

1. Supply air to dwelling
2. Extract air from dwelling to unit
3. Exhaust air out
4. Outdoor air to unit
5. Condensate drain

+ excludes motors. Motor warranty one year from date of purchase



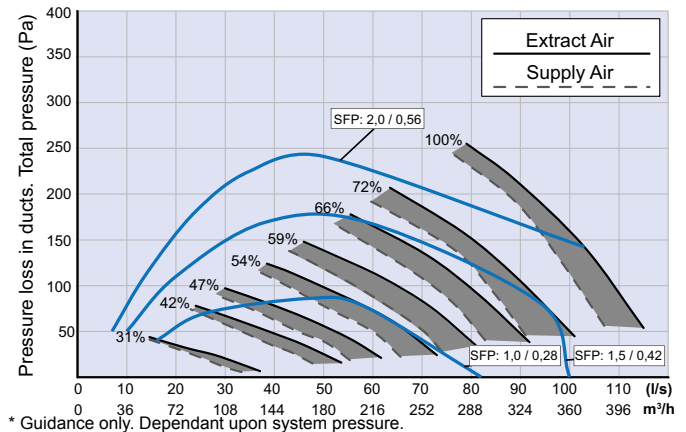
### Duct outlets, model L

Inner diameter of female outlet collar ø 160 mm

1. Exhaust air out
2. Outdoor air to unit
3. Supply air to dwelling
4. Extract air from dwelling to unit
5. Condensate drain

Model	A	B	C	D	E	F	G	H	I	J	K	L
DV110	638	678	42	472	455	325	111	112	390	638	160	478

## PERFORMANCE



## ACCESSORIES

### Adroit Digital Controller

Wall mounted, LCD display with four 100% independently user adjustable air flow profiles (Home, Away, Boost, Custom). A range of indoor parameters ie: air flow rates, temperature, humidity, by-pass, time clock settings, CO<sub>2</sub> sensor, filter alert are adjustable to suit your indoor environment. Internet connectivity via Adroit 'Cloud' for control at home or on the go.

### Adroit Speed Controller

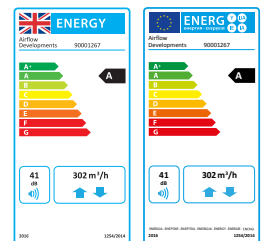
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

Visit [airflow.com](http://airflow.com) for Adroit controls options data sheet.

Accessory	Product Code
Adroit Digital Controller	90000610
Adroit Relative Humidity Transmitter	90000612
Adroit CO <sub>2</sub> Transmitter	90000613
Adroit Speed Controller	9041219
Ceiling Mounting Plate	90000716
Attic Roof Penetration Plate	90000718
Additional 900W Heater for DV110 (R)	90000616
Additional 900W Heater for DV110 (L)	90000617
Filter set (ISO Coarse > 75 % + ISO ePM, 50%, ISO Coarse > 75 %) (2xG4, 1xF7)	90000378
Boost Switch	90000542
KNX-Converter	90000723

## CERTIFICATION

The DV110 Adroit meets requirements set out by the Energy Related Products (ErP) Directive 2016, achieving an A rating. You can find out more about the ErP Directive at: [www.airflow.com](http://www.airflow.com)



The DV110 was tested and has achieved Passive House Approval by the Passive House Institute when equipped with the optional Electric Post-heater.



# DV110 Adroit

## (Integral CO<sub>2</sub> Sensor)

### Adroit Line Top Entry

Up to 389 m<sup>3</sup>/h air volume @100Pa

The DV110 Adroit is fitted with a unique triple air filter facility. It comes with two ISO Coarse > 75% (G4) air filters and an ISO ePM1 50% (F7) filter, which provides additional air filtration by preventing particles as small as pollen from entering the premises. This is of particular benefit to those that suffer from asthma or hay fever and other respiratory conditions.

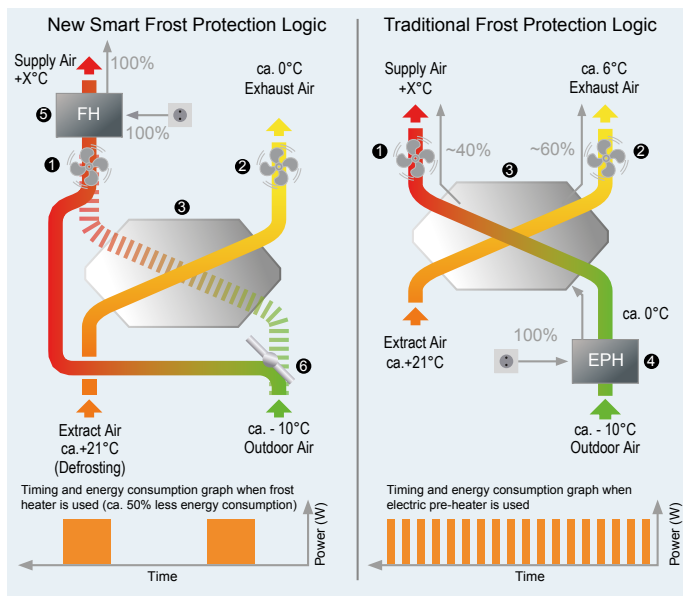
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information to the user regarding the performance of their Adroit system including; adjusting the ventilation levels, filter maintenance, separate fan control, faults in the system and commissioning

the system. You can also use an optional manual controller which provides simple control by switching ventilation profiles.

Through combining your unit with additional humidity and CO<sub>2</sub> sensors, you are able to achieve on-demand ventilation for the property. This is possible, as due to changes to humidity and CO<sub>2</sub> levels that occur through changes in occupancy or usage, the ventilation will boost or reduce to match demand; without the need of manual intervention.

The DV110 can be integrated with a Building Management System (BMS) via a Modbus connection or KNX, which allows the user to monitor and control the unit's functions via a central control system.

### NEW SMART FROST PROTECTION



- 1 Supply air fan
- 2 Exhaust air fan
- 3 Heat exchanger
- 4 Electric pre-heater
- 5 Frost heater
- 6 Electric bypass damper

On the traditional frost protection method, the outdoor air is pre-heated before passing through the heat exchanger. This way the unit could still provide balanced ventilation even when the frost protection was on. However, the electric heater kicks in intermittently hence consumes more energy than needed.

The new Smart Frost Protection method works in a more energy efficient manner which constantly monitors the heat exchanger conditions and uses the frost heater only when necessary. This significantly reduces the energy consumption and provides more heat recovery throughout the winter season.

### TRIPLE FILTER DESIGN

The majority of the MVHR units in the U.K incorporate ISO Coarse > 75% (G4) filters on the extract / supply air side. These filters catch only coarse particles such as insects and leaves to protect the heat exchanger.

ISO ePM1 50% (F7) fine filters on the other hand are highly efficient, catch invisible particles such as pollen, spore, bacterium and **dust entering the lungs**.

**Adroit units are the only MVHR units which incorporate triple filter design combining ISO Coarse > 75% (G4) course filters with the ISO ePM1 50% (F7) fine filter. This significantly improves the indoor air quality and lowers your maintenance costs.**



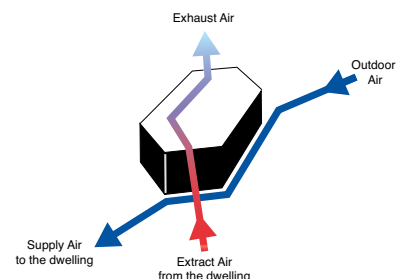
ISO Coarse > 75% (G4) filter



ISO ePM1 50% (F7) filter

### 100% AUTOMATIC BYPASS

The unit is equipped with an automatic, 100% bypass which totally isolates the heat exchanger so that no air passes through it. This prevents overheating the dwelling in the summer season.



## SAP RESULTS

Systems with rigid ductwork only SAP 2009 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	1.01	91%
Kitchen+2 additional wet rooms	0.8	91%
Kitchen+3 additional wet rooms	0.79	90%
Kitchen+4 additional wet rooms	0.86	90%
Kitchen+5 additional wet rooms	0.98	89%
Kitchen+6 additional wet rooms	1.12	89%
Kitchen+7 additional wet rooms	1.28	88%

Systems with rigid ductwork only SAP 2012 results

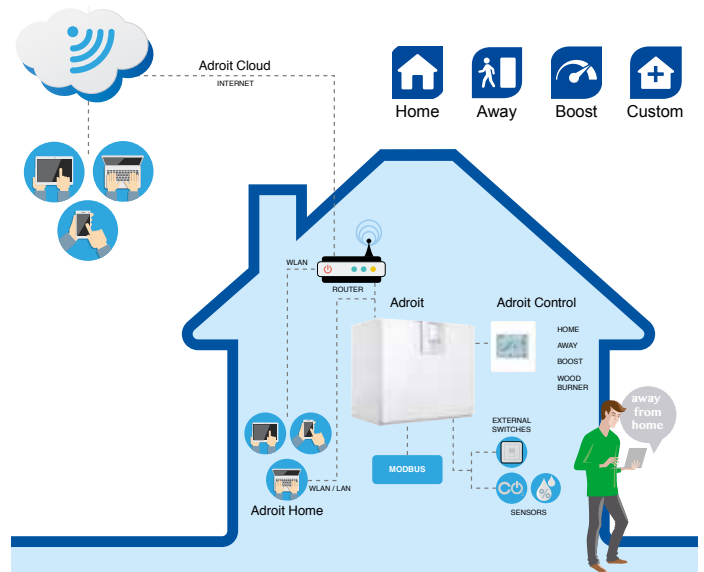
Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.83	91%
Kitchen+2 additional wet rooms	0.85	90%
Kitchen+3 additional wet rooms	0.97	89%
Kitchen+4 additional wet rooms	1.16	89%
Kitchen+5 additional wet rooms	1.4	88%

## CONTROLS

Ideal indoor air quality is achieved by automatically **adjusted ventilation**

Adroit DV110 is controlled via 4 ventilation profiles controls providing the following features:

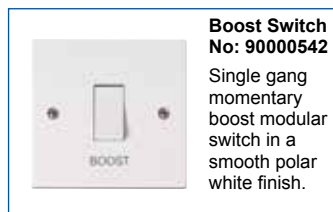
- 4 ventilation profiles, 100% adjustable
- Internet connection available
- Automatic boost function with delay timer
- Filter maintenance reminder via counter clock (standard)
- Heater control for optional post-heater
- Connection to BMS via LON or KNX
- Self diagnostic via fault signal relay
- On-demand control via humidity and CO<sub>2</sub> sensors
- Separate fan control for ease of commissioning
- Weekly ventilation programming allows users to pre-set the ventilation levels scheduled for different days
- Indoor temperature control based on extract air temperature or supply air temperature



## CONTROLS & ACCESSORIES



**Adroit Digital Controller**  
No: 90000610  
Intuitive digital controller with touch buttons. Wall mounted.



**Boost Switch**  
No: 90000542  
Single gang momentary boost modular switch in a smooth polar white finish.



**Adroit Speed Controller**  
No: 9041219  
Four speed manual controller. Wall mounted.



**DV110 Adroit Filter Set**  
No: 90000378  
Replace filters 2x a year. (2 x G4/ISO Coarse 75%, 1 x F7/ISO ePM1 50%)

Others products available from [airflow.com](http://airflow.com)

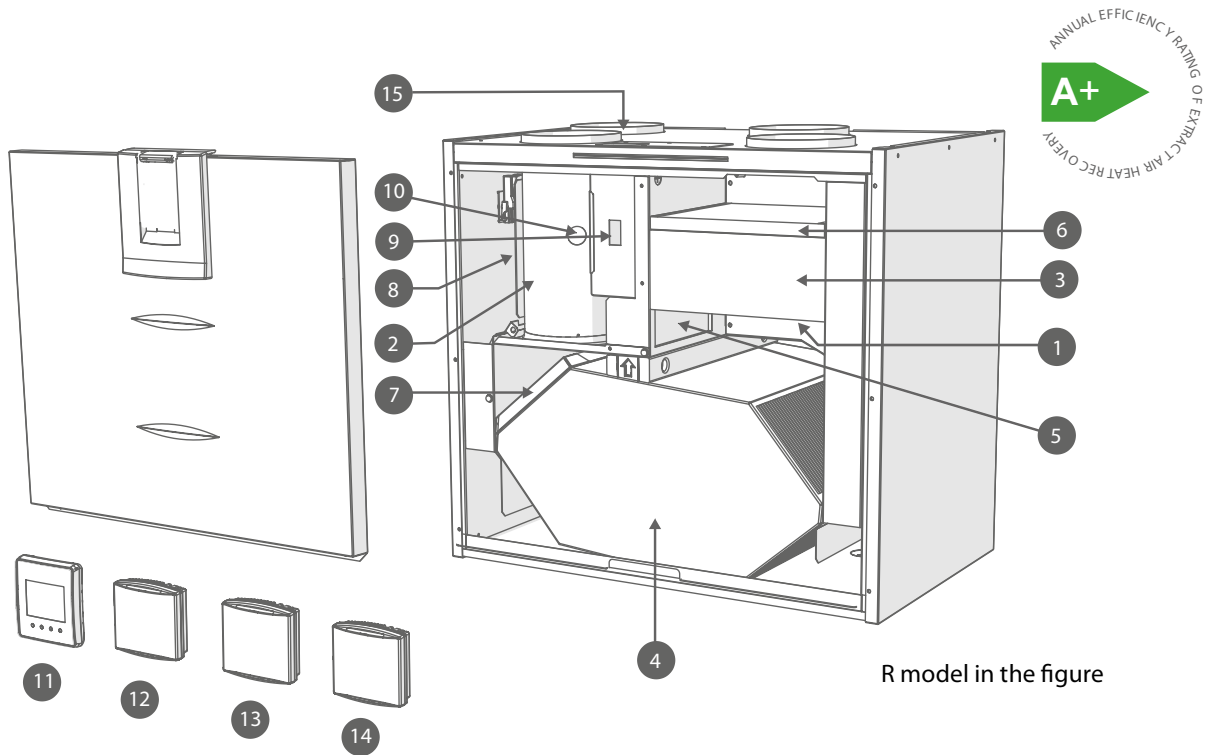
# DV110 Adroit

(Integral CO<sub>2</sub> Sensor)

















## Adroit Line Top Entry

Up to 389 m<sup>3</sup>/h air volume @100Pa

### MAIN PARTS OF THE VENTILATION UNIT

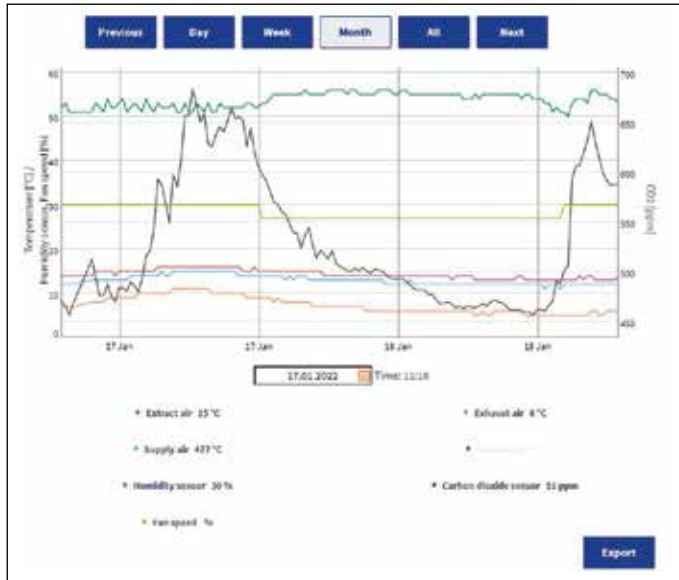


R model in the figure

- |  |  |   |   |                                  |    |
|--|--|---|---|----------------------------------|----|
|  | Extract air fan (behind the protective cover)        | 1 |  | Electrical safety cut off switch | 9  |
|  | Supply air fan (behind metal duct pipe)              | 2 |  | Internal humidity sensor         | 10 |
|  | Fine filter for supply air                           | 3 |  | Internal carbon dioxide sensor   | 10 |
|  | Heat recovery cell                                   | 4 |  | Digital Controller (optional)    | 11 |
|  | Heat Recovery cell bypass damper                     | 5 |  | Humidity sensor (optional)       | 12 |
|  | Coarse filter for supply air                         | 6 |  | Carbon dioxide sensor (optional) | 13 |
|  | Coarse filter for extract air                        | 7 |  | VOC sensor (optional)            | 14 |
|  | Post-heater (Optional) (behind the extract air duct) | 8 |  | Cable gland                      | 15 |

## BUILT-IN CO<sub>2</sub> SENSOR

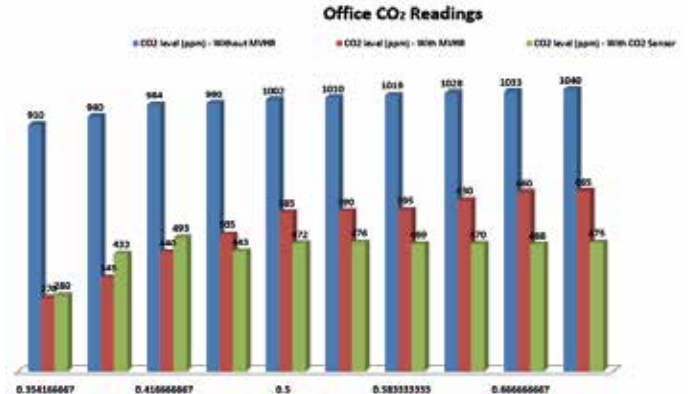
The Adroit range includes an internal carbon dioxide (CO<sub>2</sub>) sensor as standard, in order to achieve demand-controlled ventilation reducing the energy consumption even more by boosting the unit only when necessary. Extracting indoor humidity and carbon dioxide particulates while providing warm fresh air, helps create a healthy indoor environment for the residents. The data log allows residents to monitor CO<sub>2</sub> levels for the past year. The data log can be displayed on the Adroit Cloud and Adroit digital controller, also it can be exported to Excel for tracking and monitoring purposes.



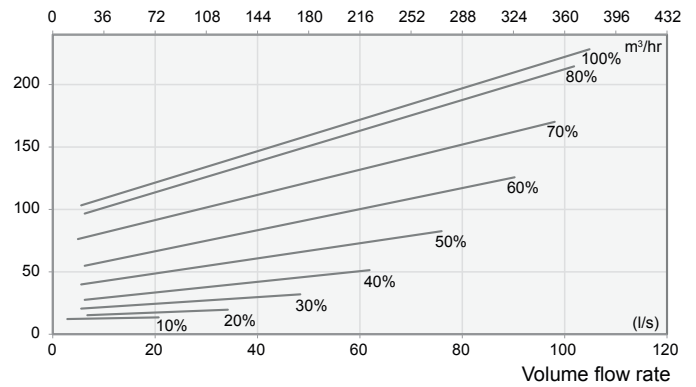
An experiment has been conducted in our offices, to understand CO<sub>2</sub> levels at different times and the impact an MVHR system will have, with and without a CO<sub>2</sub> sensor. It proved highly beneficial to have MVHR with CO<sub>2</sub> set-up on the threshold of 470ppm.

Time Of Day	08:30	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
CO <sub>2</sub> level (ppm) - Without MVHR	910	940	984	990	1002	1010	1019	1028	1033	1040
CO <sub>2</sub> level (ppm) - With MVHR	270	345	440	505	585	590	595	630	660	665
CO <sub>2</sub> level (ppm) - With CO <sub>2</sub> Sensor	280	433	493	443	472	476	469	470	468	475

CO<sub>2</sub> sensor threshold was set to approx. 470ppm



## FAN INPUT POWER



$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max) (l/s)}}$$

## SOUND VALUES

		Sound power level in the supply air duct (one duct) by octave band $L_{w,i}$ , dB									Sound power level in the extract air duct (one duct) by octave band $L_{w,e}$ , dB								
		Adjustment position									Adjustment position								
Adjustment position (%)		10	20	30	40	50	60	70	80	100	10	20	30	40	50	60	70	80	100
Medium frequency of the octave band Hz	63	53	60	67	71	74	78	81	83	84	54	56	62	65	69	72	75	77	79
	125	48	56	61	66	70	74	76	78	42	44	50	53	58	61	64	66	68	
	250	46	53	58	62	65	69	71	74	34	41	46	50	53	56	60	62	64	
	500	40	48	56	57	60	62	65	67	26	35	40	43	46	49	52	55	56	
	1000	31	42	50	55	58	61	64	65	18	27	34	38	41	44	47	50	51	
	2000	18	32	40	46	52	56	60	62	13	17	24	29	33	36	39	42	44	
$L_{wA}$ , dB(A)	4000	17	20	30	38	44	49	53	56	17	17	17	18	20	23	27	31	33	
	8000	21	21	25	34	42	48	53	57	21	21	21	21	21	22	24	26	29	
		55	62	69	73	76	80	83	85	86	55	57	62	66	70	72	75	78	79
		41	49	56	60	63	67	69	72	73	32	38	43	46	50	53	56	59	60
		Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m <sup>2</sup> sound absorption)																	
		Adjustment position																	
Adjustment position (%)		10	20	30	40	50	60	70	80	100	10	20	30	40	50	60	70	80	100
$L_{pA}$ , dB (A)		21	24	30	32	35	39	42	45	47	21	24	30	32	35	39	42	45	47

# DV145 Adroit

(Integral CO<sub>2</sub> Sensor)

## Adroit Line Top Entry

Up to 576 m<sup>3</sup>/h air volume @100Pa

### KEY FEATURES

- Over 90% thermal efficiency
- Triple filter design with two Coarse > 75% and one ISO ePM1 50% filters - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Internet control by smartphone, tablet, or PC
- BMS connection
- Auto cut-out switch for extra safety

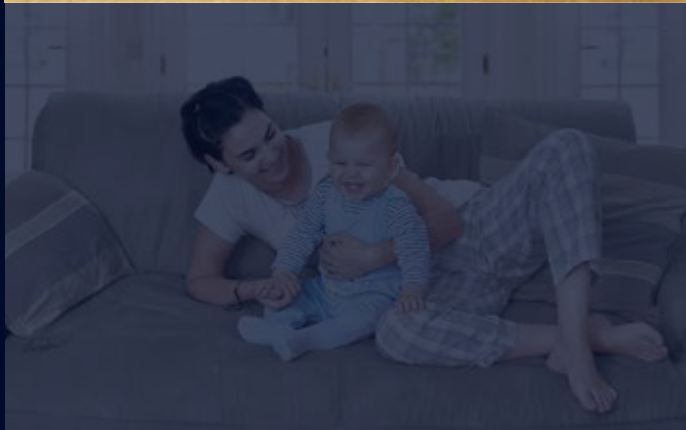


With its powerful air volume capacity and high thermal efficiency the DV145 Adroit is suitable for larger family homes. Control your indoor air environment at home or on the go via the Adroit 'Cloud' internet control by smart phone, tablet or PC.

With the triple filter design with an ISO ePM1 50% (F7) pollen filter, the DV145 Adroit provides additional protection against invisible, harmful particles and creates an ultra hygienic environment.

The automatic, 100% summer by-pass facility isolates the heat recovery function and helps to effectively maintain a temperate indoor air climate during the summer months.

The unit includes an easily removable, plastic heat exchanger and may be equipped with a range of optional accessories for higher performance.

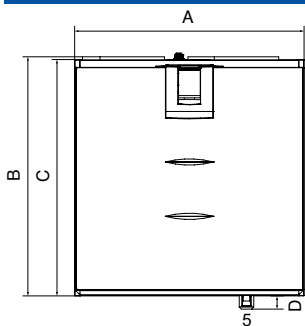


## TECHNICAL DATA

Specification	DV145
Suitable for dwellings up to m <sup>2</sup>	250
Max air flow (m <sup>3</sup> /h) / (l/s) at 100Pa.	576 / 160
Thermal efficiency (%)	Up to 90
Heat exchanger	Cross-Counter-Flow (Plastic)
Fans	EC
Summer by-pass damper	100% automatic
Integral humidity sensor (RH %)	0 - 100
Frost protection (optional heater)	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Wall / Floor
Sound pressure level @3m (dB(A))	25.5
Duct diameter (mm)	200 (4 ports)
Condensate discharge (ins)	3/4 BSP
Electrical supply	230V / 1ph / 50Hz
Electrical power input at max flow (W)	302
Filter Class*	2x ISO Coarse > 75% (G4) and 1x ISO ePM1 50% (F7)
Built-in electric post-heater (optional) (W)	2400 (900 + 1500)
Protection class	IP34
Casing insulation (mm)	20
Weight (kg)	76
Dimensions (L x D x H) (mm)	717 x 578 x 748
Duct entry	Top Entry
Versions available	
Right Hand:	90001269
With optional electric post-heater:	90001269EPH
Left Hand:	90001270
With optional electric post-heater:	90001270EPH
EAN Right-handed unit	5019009327259 5019009327419 (EPH unit)
EAN Left-handed unit	5019009327266 5019009327426 (EPH unit)

\*Complies with ISO 16890

## DIMENSIONS

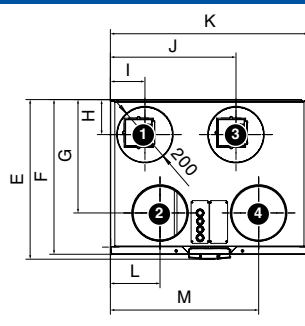


### Duct outlets, model R

Inner diameter of female outlet collar ø 160 mm

1. Supply air to dwelling
2. Extract air from dwelling to unit
3. Exhaust air out
4. Outdoor air to unit
5. Condensate drain

+ excludes motors. Motor warranty one year from date of purchase



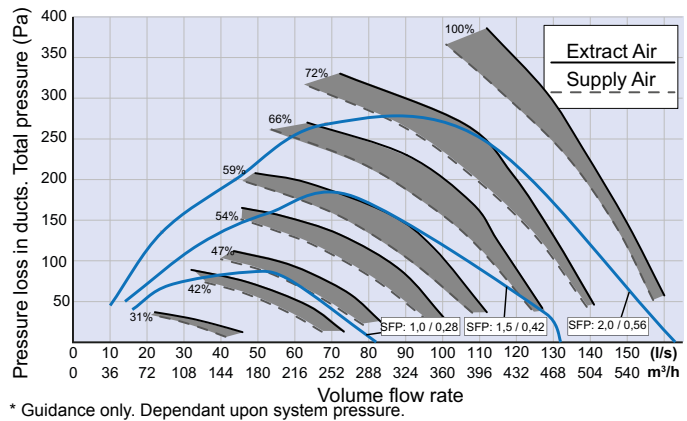
### Duct outlets, model L

Inner diameter of female outlet collar ø 160 mm

1. Exhaust air out
2. Outdoor air to unit
3. Supply air to dwelling
4. Extract air from dwelling to unit
5. Condensate drain

Model	A	B	C	D	E	F	G	H	I	J	K	L	M
DV145	717	748	739	43	578	560	411	127	125	455	717	180	537

## PERFORMANCE



\* Guidance only. Dependant upon system pressure.

## ACCESSORIES

### Adroit Digital Controller

Wall mounted, LCD display with four 100% independently user adjustable air flow profiles (Home, Away, Boost, Custom). A range of indoor parameters ie: air flow rates, temperature, humidity, by-pass, time clock settings, CO<sub>2</sub> sensor, filter alert are adjustable to suit your indoor environment. Internet connectivity via Adroit 'Cloud' for control at home or on the go.

### Adroit Speed Controller

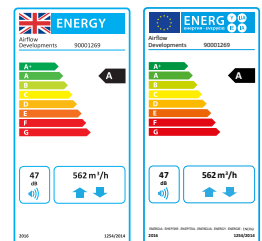
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

Visit [airflow.com](http://airflow.com) for Adroit controls options data sheet.

Accessory	Product Code
Adroit Digital Controller	90000610
Adroit Relative Humidity Transmitter	90000612
Adroit CO <sub>2</sub> Transmitter	90000613
Adroit Speed Controller	9041219
Floor Rack	90000722
Attic Roof Penetration Plate	90000720
Additional 900W + 1500W Heater for DV145 (R)	90000624
Additional 900W + 1500W Heater for DV145 (L)	90000625
Filter set (ISO Coarse > 75 % + ISO ePM, 50%, ISO Coarse > 75 %) (2xG4, 1xF7)	90000376
Boost Switch	90000542
KNX-Converter	90000723

## CERTIFICATION

The DV145 Adroit meets requirements set out by the Energy Related Products (ErP) Directive 2016, achieving an A rating. You can find out more about the ErP Directive at: [www.airflow.com](http://www.airflow.com)



The DV145 was tested and has achieved Passive House Approval by the Passive House Institute when equipped with the optional Electric Post-heater.



# DV145 Adroit

## (Integral CO<sub>2</sub> Sensor)

### Adroit Line Top Entry

Up to 576 m<sup>3</sup>/h air volume @100Pa

The DV145 Adroit is fitted with a unique triple air filter facility. It comes with two ISO Coarse > 75% (G4) air filters and an ISO ePM1 50% (F7) filter, which provides additional air filtration by preventing particles as small as pollen from entering the premises. This is of particular benefit to those that suffer from asthma or hay fever and other respiratory conditions.

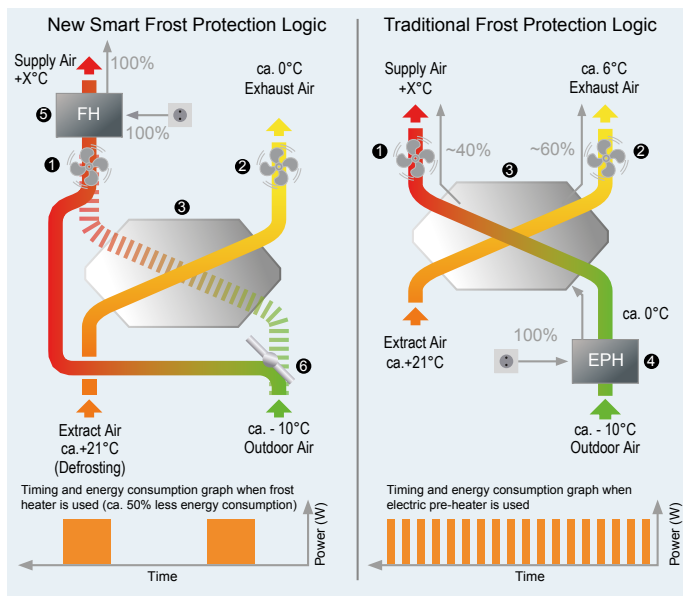
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information to the user regarding the performance of their Adroit system including; adjusting the ventilation levels, filter maintenance, separate fan control, faults in the system and commissioning

the system. You can also use an optional manual controller which provides simple control by switching ventilation profiles.

Through combining your unit with additional humidity and CO<sub>2</sub> sensors, you are able to achieve on-demand ventilation for the property. This is possible, as due to changes to humidity and CO<sub>2</sub> levels that occur through changes in occupancy or usage, the ventilation will boost or reduce to match demand; without the need of manual intervention.

The DV145 can be integrated with a Building Management System (BMS) via a Modbus connection or KNX, which allows the user to monitor and control the unit's functions via a central control system.

### NEW SMART FROST PROTECTION



- 1 Supply air fan
- 2 Exhaust air fan
- 3 Heat exchanger
- 4 Electric pre-heater
- 5 Frost heater
- 6 Electric bypass damper

On the traditional frost protection method, the outdoor air is pre-heated before passing through the heat exchanger. This way the unit could still provide balanced ventilation even when the frost protection was on. However, the electric heater kicks in intermittently hence consumes more energy than needed.

The new Smart Frost Protection method works in a more energy efficient manner which constantly monitors the heat exchanger conditions and uses the frost heater only when necessary. This significantly reduces the energy consumption and provides more heat recovery throughout the winter season.

### TRIPLE FILTER DESIGN

The majority of the MVHR units in the U.K incorporate ISO Coarse > 75% (G4) filters on the extract / supply air side. These filters catch only coarse particles such as insects and leaves to protect the heat exchanger.

ISO ePM1 50% (F7) fine filters on the other hand are highly efficient, catch invisible particles such as pollen, spore, bacterium and **dust entering the lungs**.

**Adroit units are the only MVHR units which incorporate triple filter design combining ISO Coarse > 75% (G4) course filters with the ISO ePM1 50% (F7) fine filter. This significantly improves the indoor air quality and lowers your maintenance costs.**



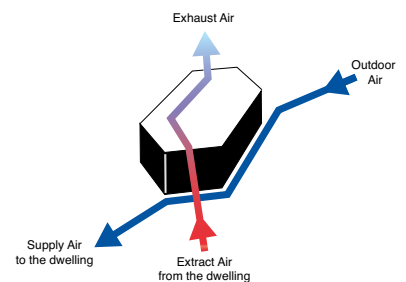
ISO Coarse > 75% (G4) filter



ISO ePM1 50% (F7) filter

### 100% AUTOMATIC BYPASS

The unit is equipped with an automatic, 100% bypass which totally isolates the heat exchanger so that no air passes through it. This prevents overheating the dwelling in the summer season.



## SAP RESULTS

Systems with rigid ductwork only SAP 2009 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	1.39	92%
Kitchen+2 additional wet rooms	1.09	92%
Kitchen+3 additional wet rooms	0.99	92%
Kitchen+4 additional wet rooms	0.99	91%
Kitchen+5 additional wet rooms	1.05	91%
Kitchen+6 additional wet rooms	1.13	90%
Kitchen+7 additional wet rooms	1.24	90%

Systems with rigid ductwork only SAP 2012 results

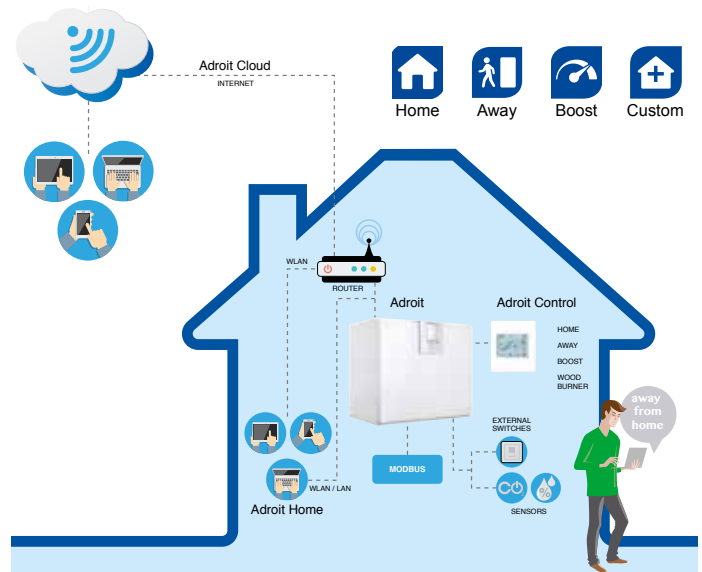
Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	1.11	92%
Kitchen+2 additional wet rooms	1.05	92%
Kitchen+3 additional wet rooms	1.05	91%
Kitchen+4 additional wet rooms	1.19	90%
Kitchen+5 additional wet rooms	1.31	90%
Kitchen+6 additional wet rooms	1.48	90%

## CONTROLS

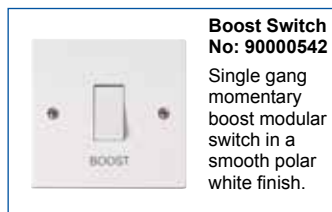
Ideal indoor air quality is achieved by automatically **adjusted ventilation**

Adroit DV145 is controlled via 4 ventilation profiles controls providing the following features:

- 4 ventilation profiles, 100% adjustable
- Internet connection available
- Automatic boost function with delay timer
- Filter maintenance reminder via counter clock (standard)
- Heater control for optional post-heater
- Connection to BMS via LON or KNX
- Self diagnostic via fault signal relay
- On-demand control via humidity and CO<sub>2</sub> sensors
- Separate fan control for ease of commissioning
- Weekly ventilation programming allows users to pre-set the ventilation levels scheduled for different days
- Indoor temperature control based on extract air temperature or supply air temperature



## CONTROLS & ACCESSORIES



Others products available from [airflow.com](http://airflow.com)

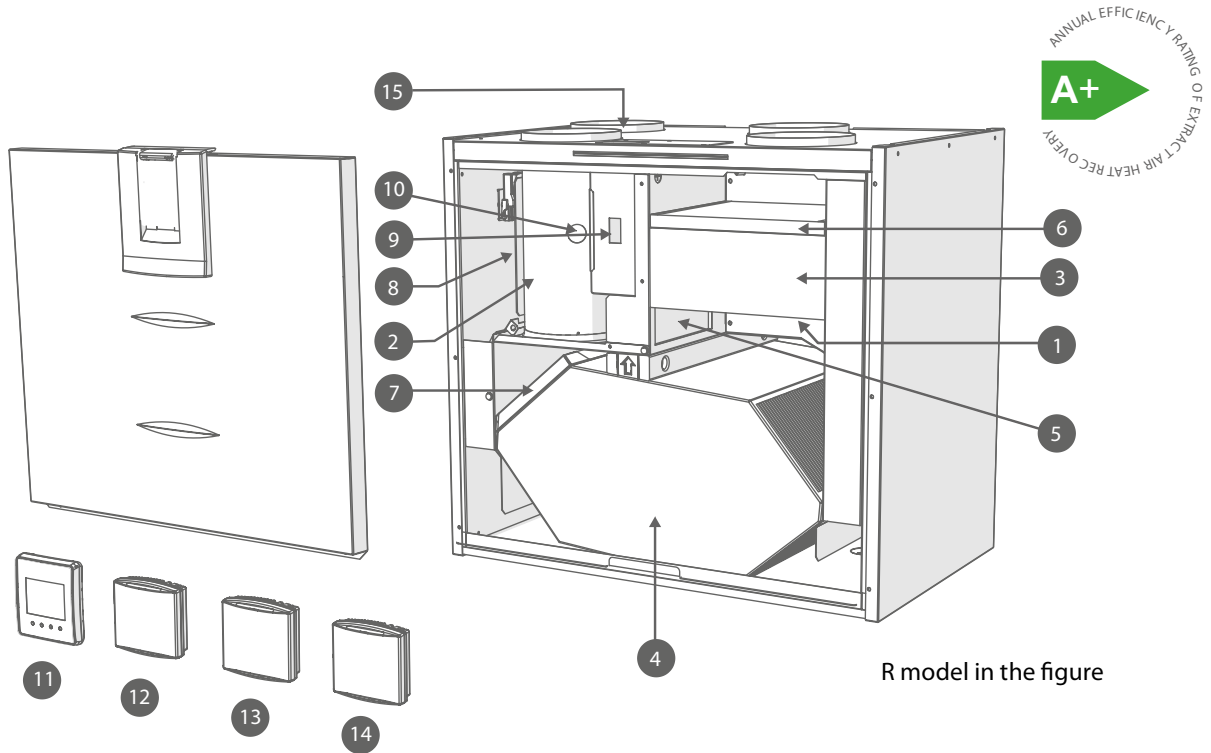
# DV145 Adroit

(Integral CO<sub>2</sub> Sensor)

















## Adroit Line Top Entry

Up to 576 m<sup>3</sup>/h air volume @100Pa

### MAIN PARTS OF THE VENTILATION UNIT

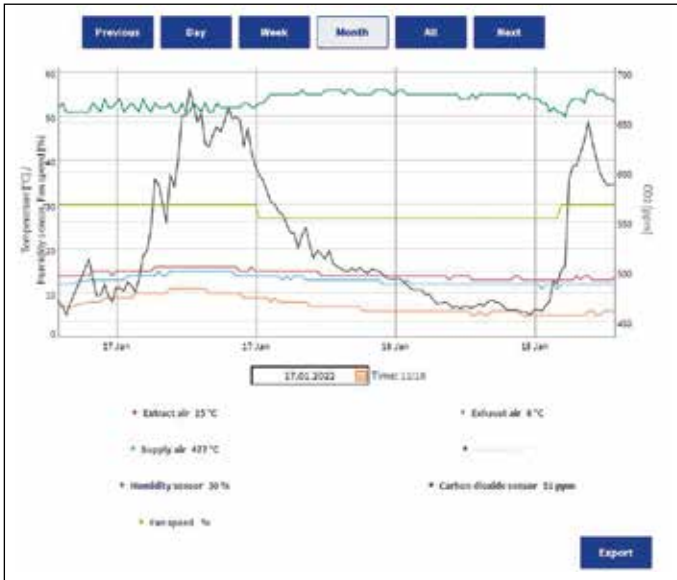


R model in the figure

- |   |  |   |   |                                  |    |
|---|--|---|---|----------------------------------|----|
|  | Extract air fan (behind the protective cover)        | 1 |  | Electrical safety cut off switch | 9  |
|  | Supply air fan (behind metal duct pipe)              | 2 |  | Internal humidity sensor         | 10 |
|  | Fine filter for supply air                           | 3 |  | Internal carbon dioxide sensor   | 10 |
|  | Heat recovery cell                                   | 4 |  | Digital Controller (optional)    | 11 |
|  | Heat Recovery cell bypass damper                     | 5 |  | Humidity sensor (optional)       | 12 |
|  | Coarse filter for supply air                         | 6 |  | Carbon dioxide sensor (optional) | 13 |
|  | Coarse filter for extract air                        | 7 |  | VOC sensor (optional)            | 14 |
|  | Post-heater (Optional) (behind the extract air duct) | 8 |  | Cable gland                      | 15 |

## BUILT-IN CO<sub>2</sub> SENSOR

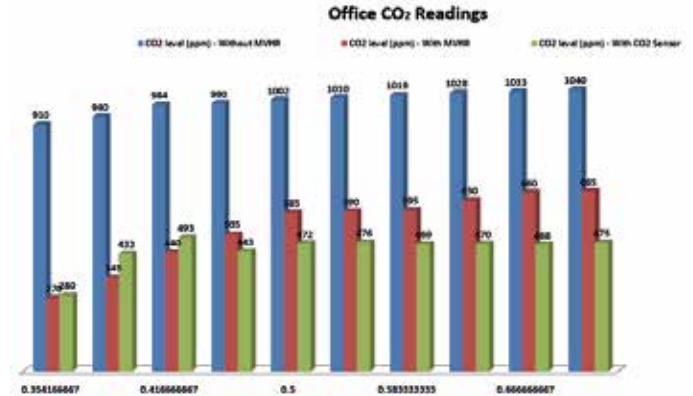
The Adroit range includes an internal carbon dioxide (CO<sub>2</sub>) sensor as standard, in order to achieve demand-controlled ventilation reducing the energy consumption even more by boosting the unit only when necessary. Extracting indoor humidity and carbon dioxide particulates while providing warm fresh air, helps create a healthy indoor environment for the residents. The data log allows residents to monitor CO<sub>2</sub> levels for the past year. The data log can be displayed on the Adroit Cloud and Adroit digital controller, also it can be exported to Excel for tracking and monitoring purposes.



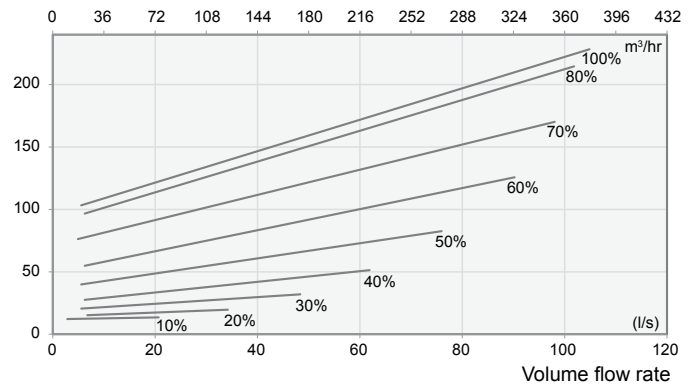
An experiment has been conducted in our offices, to understand CO<sub>2</sub> levels at different times and the impact an MVHR system will have, with and without a CO<sub>2</sub> sensor. It proved highly beneficial to have MVHR with CO<sub>2</sub> set-up on the threshold of 470ppm.

Time Of Day	08:30	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
CO <sub>2</sub> level (ppm) - Without MVHR	910	940	984	990	1002	1010	1019	1028	1033	1040
CO <sub>2</sub> level (ppm) - With MVHR	270	345	440	505	585	590	595	630	660	665
CO <sub>2</sub> level (ppm) - With CO <sub>2</sub> Sensor	280	433	493	443	472	476	469	470	468	475

CO<sub>2</sub> sensor threshold was set to approx. 470ppm



## FAN INPUT POWER



$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max) (l/s)}}$$

## SOUND VALUES

		Sound power level in the supply air duct (one duct) by octave band L <sub>w</sub> , dB									Sound power level in the extract air duct (one duct) by octave band L <sub>w</sub> , dB									
		Adjustment position									Adjustment position									
Adjustment position (%)		10	20	30	40	50	60	70	80	100	10	20	30	40	50	60	70	80	100	
Medium frequency of the octave band Hz	63	55	66	73	76	80	83	85	86	87	53	58	63	67	73	78	78	79	79	
	125	50	58	64	68	72	76	79	83	84	45	50	56	61	65	69	73	75	75	
	250	52	57	63	65	68	72	74	77	78	40	39	44	49	54	57	60	63	64	
	500	41	48	53	57	61	64	67	69	71	30	37	43	47	50	53	56	58	59	
	1000	53	47	52	57	60	64	65	67	68	32	33	36	41	44	48	50	52	53	
	2000	23	34	43	48	53	58	62	64	66	14	22	30	34	38	42	45	48	48	
	4000	18	23	35	44	50	55	59	62	63	17	17	19	23	27	31	35	38	39	
8000	21	22	28	39	47	54	58	62	63	21	21	21	22	24	28	32	35	36		
L <sub>w</sub> , dB		59	68	74	77	81	84	86	88	89	54	59	64	68	74	79	79	80	81	
L <sub>WA</sub> , dB(A)		53	52	58	62	66	69	72	75	76	37	40	45	50	54	58	60	63	63	
Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m <sup>2</sup> sound absorption)																				
Adjustment position																				
Adjustment position (%)		10	20	30	40	50	60	70	80	100										
L <sub>pA</sub> , dB (A)		28	27	32	35	39	43	46	48	49										

# DV245 Adroit

(Integral CO<sub>2</sub> Sensor)

## Adroit Line Top Entry

Up to 976 m<sup>3</sup>/h air volume @100Pa

### KEY FEATURES

- Up to 90% thermal efficiency
- Triple filter design with two Coarse > 75% and one ISO ePM1 50% filters - ISO 16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Internet control by smartphone, tablet, or PC
- BMS connection
- Auto cut-out switch for extra safety



A+

Based on average climate with a local demand control



With its powerful air volume capacity and high thermal efficiency the DV245 Adroit is suitable for large sized family homes. Control your indoor air environment at home or on the go via the Adroit 'Cloud' internet control by smart phone, tablet or PC.

With the triple filter design with an ISO ePM1 50% (F7) pollen filter, the DV245 Adroit provides additional protection against invisible, harmful particles and creates an ultra hygienic environment.

The automatic, 100% summer by-pass facility isolates the heat recovery function and helps to effectively maintain a temperate indoor air climate during the summer months.

The unit includes an easily removable, plastic heat exchanger and may be equipped with a range of optional accessories for higher performance.

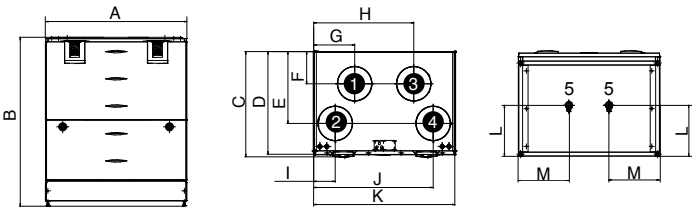


## TECHNICAL DATA

Specification	DV245
Suitable for dwellings up to m <sup>2</sup>	400
Max air flow (m <sup>3</sup> /h) / (l/s) at 100Pa.	976 / 271
Thermal efficiency (%)	Up to 90
Heat exchanger	Cross-Counter-Flow (Aluminium)
Fans	EC
Summer by-pass damper	100% automatic
Integral humidity sensor (RH %)	0 - 100
Frost protection (optional heater)	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Floor
Sound pressure level @3m (dB(A))	24.5
Duct diameter (mm)	250 (4 ports)
Condensate discharge (ins)	3/4 BSP
Electrical supply	230V / 1ph / 50Hz
Electrical power input at max flow (W)	328
Filter Class*	2x ISO Coarse > 75% (G4) and 1x ISO ePM1 50% (F7)
Built-in electric post-heater (optional) (W)	3000 (2 x 1500)
Protection class	IP34
Casing insulation (mm)	50
Weight (kg)	181
Dimensions (L x D x H) (mm)	1038 x 773 x 1226-1241
Duct entry	Top Entry
Versions available	
Right Hand:	90001271
With optional electric post-heater:	90001271EPH
Left Hand:	90001272
With optional electric post-heater:	90001272EPH
EAN Right-handed unit	5019009327273 5019009327433 (EPH unit)
EAN Left-handed unit	5019009327280 5019009327440 (EPH unit)

\*Complies with ISO 16890

## DIMENSIONS



### Duct outlets, Model R

Inner diameter of the female collar: 250 mm

- 1.Extract air from the apartment to the unit
- 2.Supply air from the unit to the apartment
- 3.Outdoor air to the unit
- 4.Exhaust air flowing outdoors from the unit

### Duct outlets, Model L

Inner diameter of the female collar: 250 mm

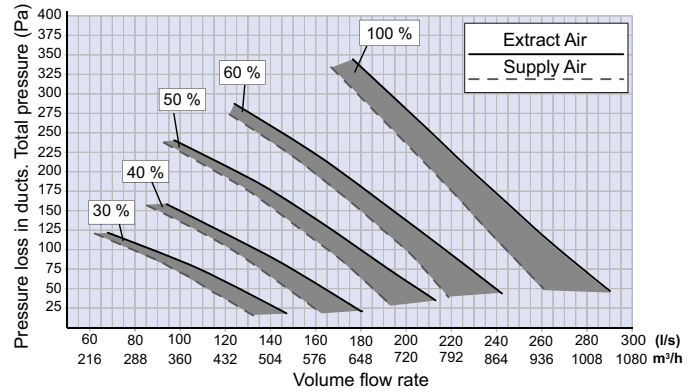
- 1.Outdoor air to the unit
- 2.Exhaust air flowing outdoors from the unit
- 3.Extract air from the apartment to the unit
- 4.Supply air from the unit to the apartment

+ excludes motors. Motor warranty one year from date of purchase

Model	A	B	C	D	E	F	G
DV245	1038	1226-1421**	773	754	528	237	301
	H	I	J	K	L	M	
	735	158	878	1038	373	371	

\*\*Adjustable feet

## PERFORMANCE



\* Guidance only. Dependant upon system pressure.

## ACCESSORIES

### Adroit Digital Controller

Wall mounted, LCD display with four 100% independently user adjustable air flow profiles (Home, Away, Boost, Custom). A range of indoor parameters ie: air flow rates, temperature, humidity, by-pass, time clock settings, CO<sub>2</sub> sensor, filter alert are adjustable to suit your indoor environment. Internet connectivity via Adroit 'Cloud' for control at home or on the go.

### Adroit Speed Controller

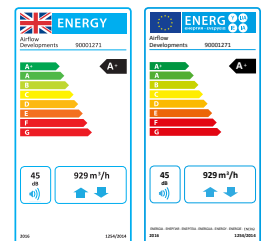
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

Visit [airflow.com](http://airflow.com) for Adroit controls options data sheet.

Accessory	Product Code
Adroit Digital Controller	90000610
Adroit Relative Humidity Transmitter	90000612
Adroit CO <sub>2</sub> Transmitter	90000613
Adroit Speed Controller (manual)	9041219
Additional 1500W + 1500W Heater for DV245 (R)	90000630
Filter set (ISO Coarse > 75 % + ISO ePM, 50%, ISO Coarse > 75 %) (2xG4, 1xF7)	90000611
Boost Switch	90000542
KNX-Converter	90000723

## CERTIFICATION

The DV245 Adroit meets requirements set out by the Energy Related Products (ErP) Directive 2016, achieving an A rating. You can find out more about the ErP Directive at: [www.airflow.com](http://www.airflow.com)



The DV245 was tested and has achieved Passive House Approval by the Passive House Institute when equipped with the optional Electric Post-heater.



# DV245 Adroit

## (Integral CO<sub>2</sub> Sensor)

### Adroit Line Top Entry

Up to 976 m<sup>3</sup>/h air volume @100Pa

The DV245 Adroit is fitted with a unique triple air filter facility. It comes with two ISO Coarse > 75% (G4) air filters and an ISO ePM1 50% (F7) filter, which provides additional air filtration by preventing particles as small as pollen from entering the premises. This is of particular benefit to those that suffer from asthma or hay fever and other respiratory conditions.

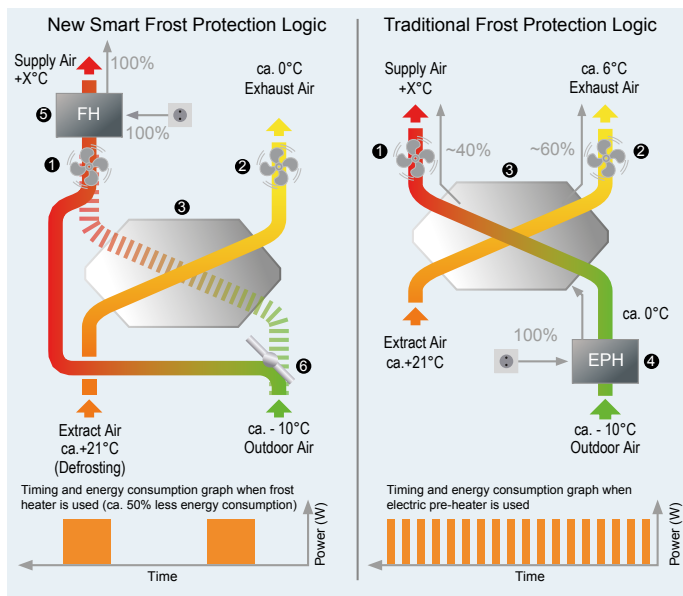
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information to the user regarding the performance of their Adroit system including; adjusting the ventilation levels, filter maintenance, separate fan control, faults in the system and commissioning

the system. You can also use an optional manual controller which provides simple control by switching ventilation profiles.

Through combining your unit with additional humidity and CO<sub>2</sub> sensors, you are able to achieve on-demand ventilation for the property. This is possible, as due to changes to humidity and CO<sub>2</sub> levels that occur through changes in occupancy or usage, the ventilation will boost or reduce to match demand; without the need of manual intervention.

The DV245 can be integrated with a Building Management System (BMS) via a Modbus connection or KNX, which allows the user to monitor and control the unit's functions via a central control system.

### NEW SMART FROST PROTECTION



- 1 Supply air fan
- 2 Exhaust air fan
- 3 Heat exchanger
- 4 Electric pre-heater
- 5 Frost heater
- 6 Electric bypass damper

On the traditional frost protection method, the outdoor air is pre-heated before passing through the heat exchanger. This way the unit could still provide balanced ventilation even when the frost protection was on. However, the electric heater kicks in intermittently hence consumes more energy than needed.

The new Smart Frost Protection method works in a more energy efficient manner which constantly monitors the heat exchanger conditions and uses the frost heater only when necessary. This significantly reduces the energy consumption and provides more heat recovery throughout the winter season.

### TRIPLE FILTER DESIGN

The majority of the MVHR units in the U.K incorporate ISO Coarse > 75% (G4) filters on the extract / supply air side. These filters catch only coarse particles such as insects and leaves to protect the heat exchanger.

ISO ePM1 50% (F7) fine filters on the other hand are highly efficient, catch invisible particles such as pollen, spore, bacterium and **dust entering the lungs**.

**Adroit units are the only MVHR units which incorporate triple filter design combining ISO Coarse > 75% (G4) course filters with the ISO ePM1 50% (F7) fine filter. This significantly improves the indoor air quality and lowers your maintenance costs.**



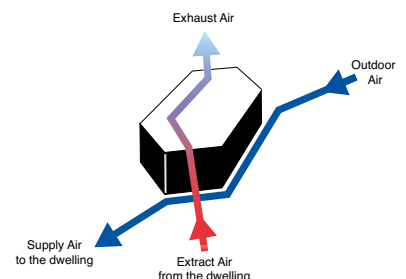
ISO Coarse > 75% (G4) filter



ISO ePM1 50% (F7) filter

### 100% AUTOMATIC BYPASS

The unit is equipped with an automatic, 100% bypass which totally isolates the heat exchanger so that no air passes through it. This prevents overheating the dwelling in the summer season.





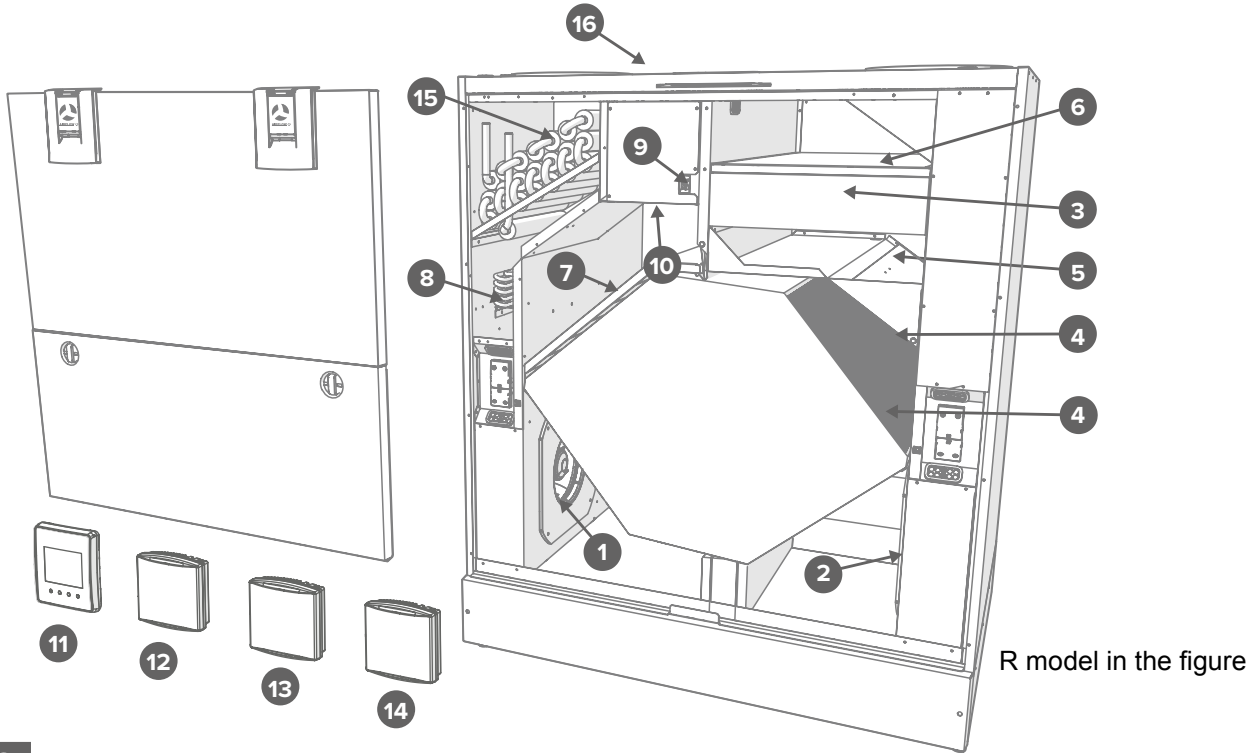
# DV245 Adroit


















(Integral CO<sub>2</sub> Sensor)

## Adroit Line Top Entry

Up to 976 m<sup>3</sup>/h air volume @100Pa

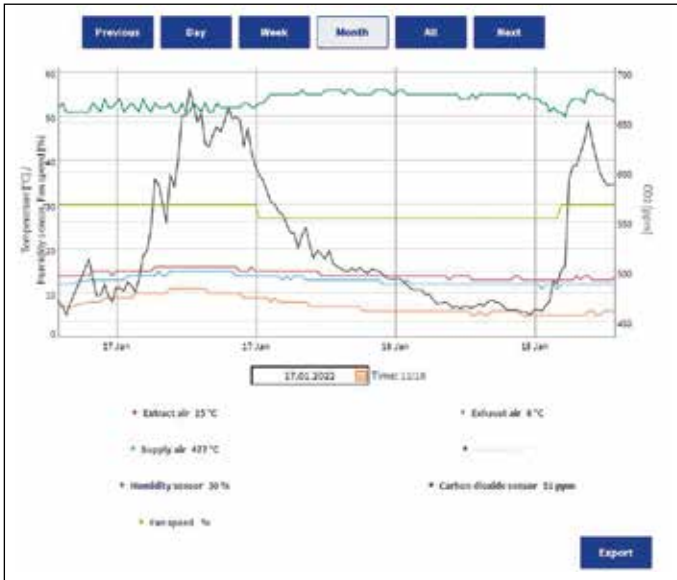
### MAIN PARTS OF THE VENTILATION UNIT



- |   |  |    |
|---|--|----|
|  | Supply air fan   | 1  |
|  | Extract air fan  | 2  |
|  | Fine filter for supply air                               | 3  |
|  | Heat recovery cell, 2 pcs                                | 4  |
|  | Bypass damper of the HR cell                             | 5  |
|  | Coarse filter for supply air                             | 6  |
|  | Coarse filter for extract air                            | 7  |
|  | Post-heater (optional)                                   | 8  |
|  | Electrical safety cut off switch                         | 9  |
|  | Internal humidity sensor (behind the electric box)       | 10 |
|  | Internal carbon dioxide sensor (behind the electric box) | 10 |
|  | Digital controller (optional)                            | 11 |
|  | Carbon dioxide sensor (optional)                         | 12 |
|  | Humidity sensor (optional)                               | 13 |
|  | VOC sensor (optional)                                    | 14 |
|  | Additional post-heater (optional)                        | 15 |
|  | Cable gland  | 16 |

## BUILT-IN CO<sub>2</sub> SENSOR

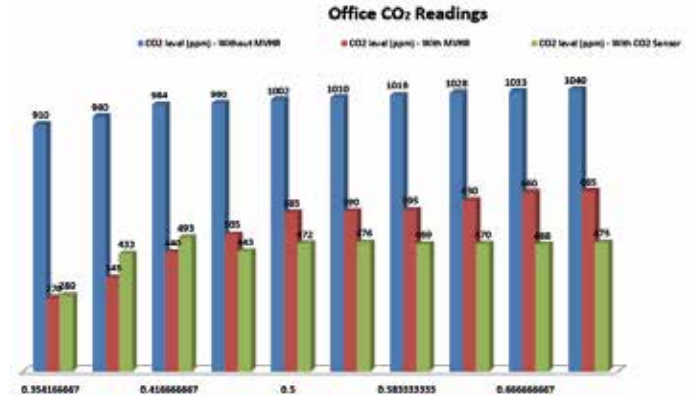
The Adroit range includes an internal carbon dioxide (CO<sub>2</sub>) sensor as standard, in order to achieve demand-controlled ventilation reducing the energy consumption even more by boosting the unit only when necessary. Extracting indoor humidity and carbon dioxide particulates while providing warm fresh air, helps create a healthy indoor environment for the residents. The data log allows residents to monitor CO<sub>2</sub> levels for the past year. The data log can be displayed on the Adroit Cloud and Adroit digital controller, also it can be exported to Excel for tracking and monitoring purposes.



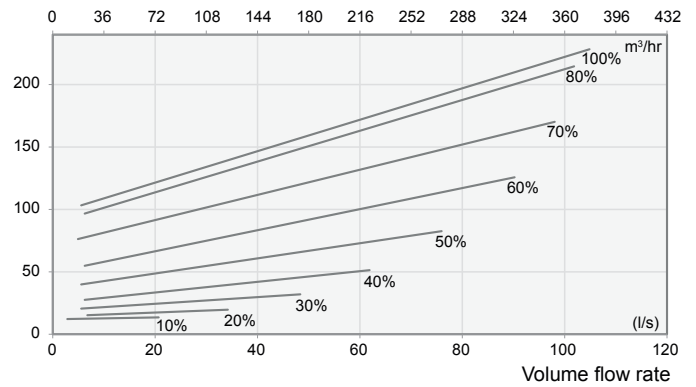
An experiment has been conducted in our offices, to understand CO<sub>2</sub> levels at different times and the impact an MVHR system will have, with and without a CO<sub>2</sub> sensor. It proved highly beneficial to have MVHR with CO<sub>2</sub> set-up on the threshold of 470ppm.

Time Of Day	08:30	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
CO <sub>2</sub> level (ppm) - Without MVHR	910	940	984	990	1002	1010	1019	1028	1033	1040
CO <sub>2</sub> level (ppm) - With MVHR	270	345	440	505	585	590	595	630	660	665
CO <sub>2</sub> level (ppm) - With CO <sub>2</sub> Sensor	280	433	493	443	472	476	469	470	468	475

CO<sub>2</sub> sensor threshold was set to approx. 470ppm



## FAN INPUT POWER



$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max) (l/s)}}$$

## SOUND VALUES

		Sound power level in the supply air duct (one duct) by octave band $L_{w,i}$ , dB										Sound power level in the extract air duct (one duct) by octave band $L_{w,e}$ , dB									
		Adjustment position										Adjustment position									
Adjustment position (%)		10	20	30	40	50	60	70	80	90	100	10	20	30	40	50	60	70	80	90	100
Medium frequency of the octave band Hz	63	57	66	66	69	73	75	77	79	80	82	50	51	55	59	64	65	68	72	76	76
	125	43	52	57	64	66	69	71	72	73	73	38	48	50	53	54	55	57	57	59	59
	250	41	46	50	55	59	64	74	72	73	75	33	39	45	48	52	60	63	63	64	64
	500	35	41	48	52	55	58	61	64	67	68	24	30	36	39	42	46	49	50	52	53
	1000	30	38	43	48	52	55	58	61	64	65	18	26	31	36	39	43	45	48	50	51
	2000	24	33	41	46	50	54	56	59	61	63	13	18	25	30	35	38	41	44	46	47
$L_{wA}$ , dB(A)	4000	17	20	27	34	40	45	49	52	55	57	17	17	18	20	24	29	32	35	38	39
	8000	21	21	22	25	31	37	42	46	49	52	21	21	21	21	21	22	23	25	28	30
Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m <sup>2</sup> sound absorption)																					
Adjustment position																					
Adjustment position (%)		10	20	30	40	50	60	70	80	90	100	10	20	30	40	50	60	70	80	90	100
$L_{pA}$ , dB (A)		24	26	29	34	39	41	44	47	49	49	24	26	29	34	39	41	44	47	49	49

# DV50 Adroit

(Integral CO<sub>2</sub> Sensor)



## Adroit Line Side Entry

Up to 205 m<sup>3</sup>/h air volume @100Pa

### KEY FEATURES

- Up to 90% thermal efficiency
- Triple filter design with two Coarse > 75% and one ISO ePM1 50% filters - ISO16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Internet control by smartphone, tablet, or PC
- BMS connection
- Auto cut-out switch for extra safety

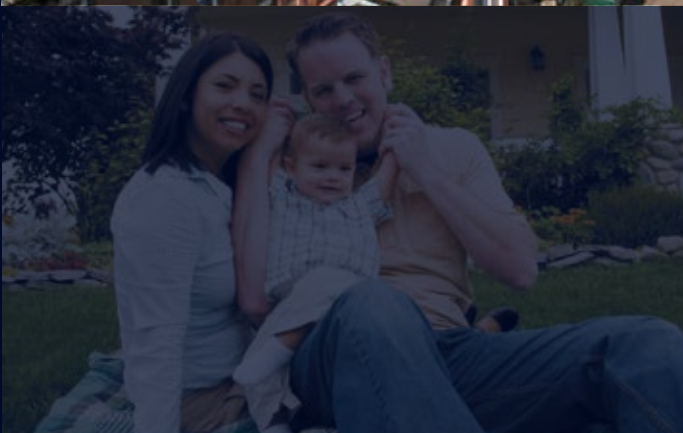


With its powerful air volume capacity and high thermal efficiency the DV50 Adroit is suitable for smaller family homes and flats. Control your indoor air environment at home or on the go via the Adroit 'Cloud' internet control by smart phone, tablet or PC.

With the triple filter design with an ISO ePM1 50% (F7) pollen filter, the DV50 Adroit provides additional protection against invisible, harmful particles and creates an ultra hygienic environment.

The automatic, 100% summer by-pass facility isolates the heat recovery function and helps to effectively maintain a temperate indoor air climate during the summer months.

The unit includes an easily removable, plastic heat exchanger and may be equipped with a range of optional accessories for higher performance.

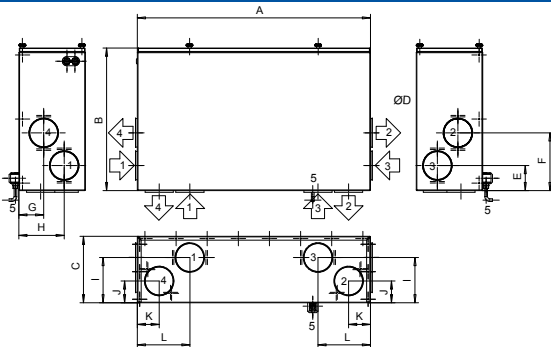


## TECHNICAL DATA

Specification	DV50
Suitable for dwellings up to m <sup>2</sup>	80
Max air flow (m <sup>3</sup> /h) / (l/s) at 100Pa.	205 / 57
Thermal efficiency (%)	Up to 90
Heat exchanger	Cross-Counter-Flow (Plastic)
Fans	EC
Summer by-pass damper	100% automatic
Integral humidity sensor (RH %)	0 - 100
Frost protection (optional heater)	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Ceiling
Sound pressure level @3m (dB(A))	26.5
Duct diameter (mm)	100 (4 ports)
Condensate discharge (ins)	3/4 BSP
Electrical supply	230V / 1ph / 50Hz
Electrical power input at max flow (W)	96
Filter Class*	2x ISO Coarse > 75% (G4) and 1x ISO ePM1 50% (F7)
Built-in electric post-heater (optional) (W)	900
Protection class	IP34
Casing insulation (mm)	20
Weight (kg)	47
Dimensions (L x D x H) (mm)	900 x 547 x 236
Duct entry	Side Entry
Versions available	
Right Hand:	90001273
With optional electric post-heater:	90001273EPH
Left Hand:	90001274
With optional electric post-heater:	90001274EPH
EAN Right-handed unit	5019009327297 5019009327334 (EPH unit)
EAN Left-handed unit	5019009327303 5019009327341 (EPH unit)

\*Complies with ISO 16890

## DIMENSIONS



### Duct outlets, Model R

Inner diameter of the female collar: 100 mm

1. Outdoor air to the unit
2. Supply air to rooms
3. Extract air to the unit
4. Exhaust air outside
5. Condensate drain

### Duct outlets, Model L

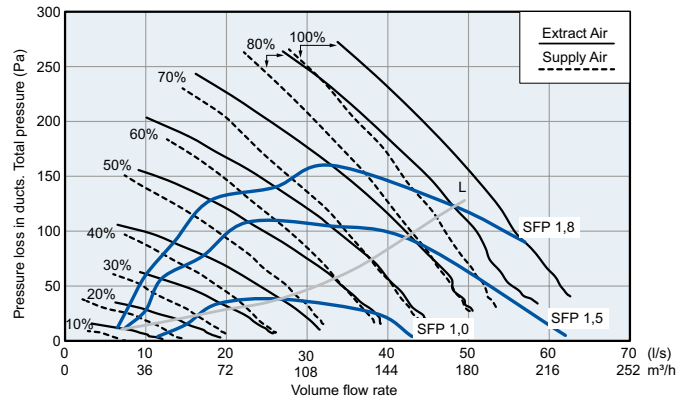
Inner diameter of the female collar: 100 mm

1. Extract air to the unit
2. Exhaust air outside
3. Outdoor air to the unit
4. Supply air to rooms
5. Condensate drain

+ excludes motors. Motor warranty one year from date of purchase

Model	A	B	C	D	E	F	G	H	I	J	K	L	M
DV50	900	547	236	100	87	197	86	161	161	86	96	206	498

## PERFORMANCE



\* Guidance only. Dependant upon system pressure.

## ACCESSORIES

### Adroit Digital Controller

Wall mounted, LCD display with four 100% independently user adjustable air flow profiles (Home, Away, Boost, Custom). A range of indoor parameters ie: air flow rates, temperature, humidity, by-pass, time clock settings, CO<sub>2</sub> sensor, filter alert are adjustable to suit your indoor environment. Internet connectivity via Adroit 'Cloud' for control at home or on the go.

### Adroit Speed Controller

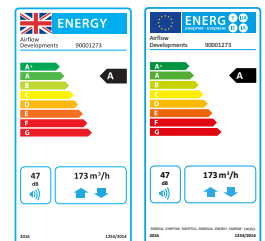
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

Visit [airflow.com](http://airflow.com) for Adroit controls options data sheet.

Accessory	Product Code
Adroit Digital Controller	90000610
Adroit Relative Humidity Transmitter	90000612
Adroit CO <sub>2</sub> Transmitter	90000613
Adroit Speed Controller (manual)	9041219
Additional 900W heater for DV50 (R)	90000626
Additional 900W heater for DV50 (L)	90000627
Filter set (ISO Coarse > 75% + ISO ePM, 50%, ISO Coarse > 75%) (2xG4, 1xF7)	90000620
Boost Switch	90000542
KNX-Converter	90000723

## CERTIFICATION

The DV50 Adroit meets requirements set out by the Energy Related Products (ErP) Directive 2016, achieving an A rating. You can find out more about the ErP Directive at: [www.airflow.com](http://www.airflow.com)



The DV50 was tested and has achieved Passive House Approval by the Passive House Institute when equipped with the optional Electric Post-heater.



# DV50 Adroit

## (Integral CO<sub>2</sub> Sensor)

### Adroit Line Side Entry

Up to 205 m<sup>3</sup>/h air volume @100Pa

The DV50 Adroit is fitted with a unique triple air filter facility. It comes with two ISO Coarse > 75% (G4) air filters and an ISO ePM1 50% (F7) filter, which provides additional air filtration by preventing particles as small as pollen from entering the premises. This is of particular benefit to those that suffer from asthma or hay fever and other respiratory conditions.

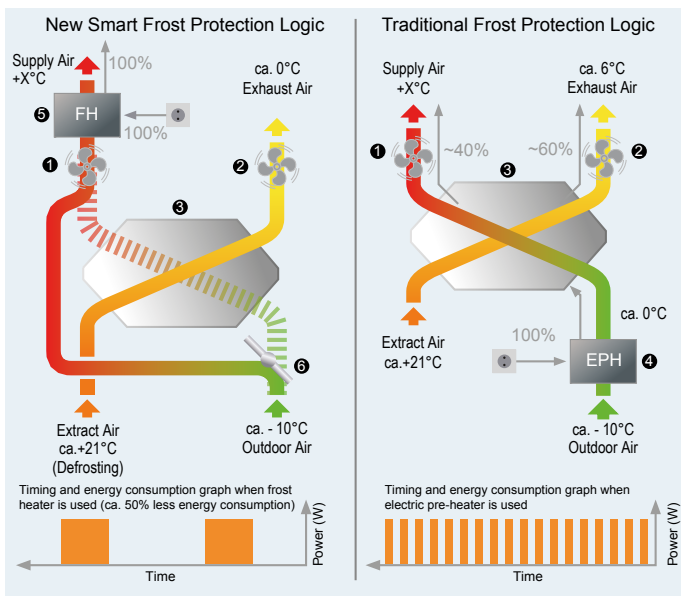
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information to the user regarding the performance of their Adroit system including; adjusting the ventilation levels, filter maintenance, separate fan control, faults in the system and commissioning

the system. You can also use an optional manual controller which provides simple control by switching ventilation profiles.

Through combining your unit with additional humidity and CO<sub>2</sub> sensors, you are able to achieve on-demand ventilation for the property. This is possible, as due to changes to humidity and CO<sub>2</sub> levels that occur through changes in occupancy or usage, the ventilation will boost or reduce to match demand; without the need of manual intervention.

The DV50 can be integrated with a Building Management System (BMS) via a Modbus connection or KNX, which allows the user to monitor and control the unit's functions via a central control system.

### NEW SMART FROST PROTECTION



- 1 Supply air fan
- 2 Exhaust air fan
- 3 Heat exchanger
- 4 Electric pre-heater
- 5 Frost heater
- 6 Electric bypass damper

On the traditional frost protection method, the outdoor air is pre-heated before passing through the heat exchanger. This way the unit could still provide balanced ventilation even when the frost protection was on. However, the electric heater kicks in intermittently hence consumes more energy than needed.

The new Smart Frost Protection method works in a more energy efficient manner which constantly monitors the heat exchanger conditions and uses the frost heater only when necessary. This significantly reduces the energy consumption and provides more heat recovery throughout the winter season.

### TRIPLE FILTER DESIGN

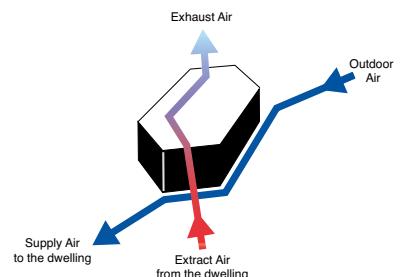
Landlords can protect their investment by insuring planned maintenance from outside the dwelling to preserve building fabric, ensure occupier wellbeing and save energy **without the need to access the dwelling or disturb the tenant.**

This significantly shortens maintenance time and saves on service cost.



### 100% AUTOMATIC BYPASS

The unit is equipped with an automatic, 100% bypass which totally isolates the heat exchanger so that no air passes through it. This prevents overheating the dwelling in the summer season.



## SAP RESULTS

Systems with rigid ductwork only SAP 2009 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.91	79%
Kitchen+2 additional wet rooms	0.95	80%
Kitchen+3 additional wet rooms	1.11	81%
Kitchen+4 additional wet rooms	1.29	81%
Kitchen+5 additional wet rooms	1.54	82%

Systems with rigid ductwork only SAP 2012 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.99	80%
Kitchen+2 additional wet rooms	1.21	80%
Kitchen+3 additional wet rooms	1.51	82%
Kitchen+4 additional wet rooms	1.86	82%

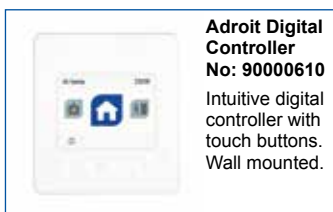
## CONTROLS

Ideal indoor air quality is achieved by automatically **adjusted ventilation**

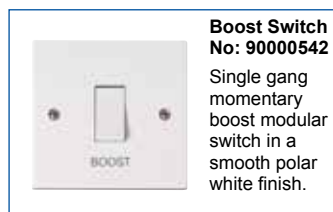
Adroit DV50 is controlled via 4 ventilation profiles controls providing the following features:

- 4 ventilation profiles, 100% adjustable
- Internet connection available
- Automatic boost function with delay timer
- Filter maintenance reminder via counter clock (standard)
- Heater control for optional post-heater
- Connection to BMS via LON or KNX
- Self diagnostic via fault signal relay
- On-demand control via humidity and CO<sub>2</sub> sensors
- Separate fan control for ease of commissioning
- Weekly ventilation programming allows users to pre-set the ventilation levels scheduled for different days
- Indoor temperature control based on extract air temperature or supply air temperature

## CONTROLS & ACCESSORIES



**Adroit Digital Controller**  
No: 90000610  
Intuitive digital controller with touch buttons. Wall mounted.



**Boost Switch**  
No: 90000542  
Single gang momentary boost modular switch in a smooth polar white finish.



**Adroit Speed Controller**  
No: 9041219  
Four speed manual controller. Wall mounted.

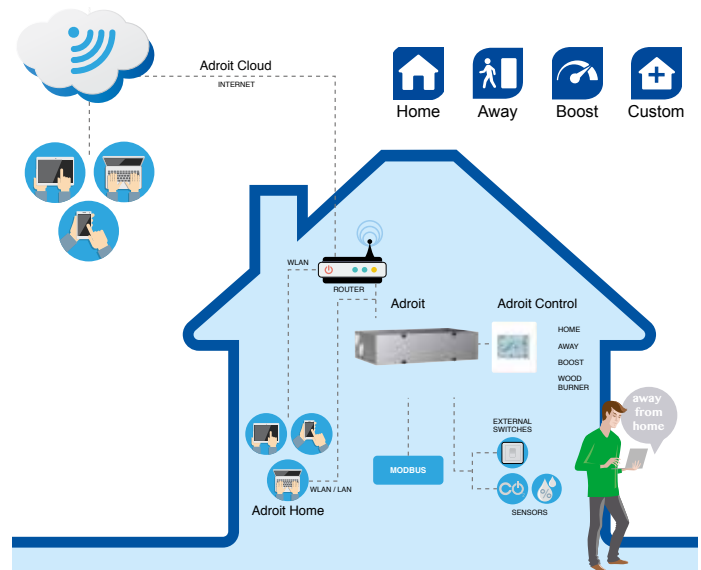


**DV50 Adroit Filter Set**  
No: 90000620  
Replace filters 2x a year. (2 x G4/ISO Coarse 75%, 1 x F7/ISO ePM1 50%)

Others products available from [airflow.com](http://airflow.com)

## EASILY ACCESSED FROM OUTSIDE THE PROPERTY

The Adroit has been designed to fit within a ceiling void. This means that Landlords can protect their investment by insuring planned maintenance from outside the dwelling. This preserves the building fabric, ensures occupier wellbeing and saves energy without the need to access the property or disturb the tenant.



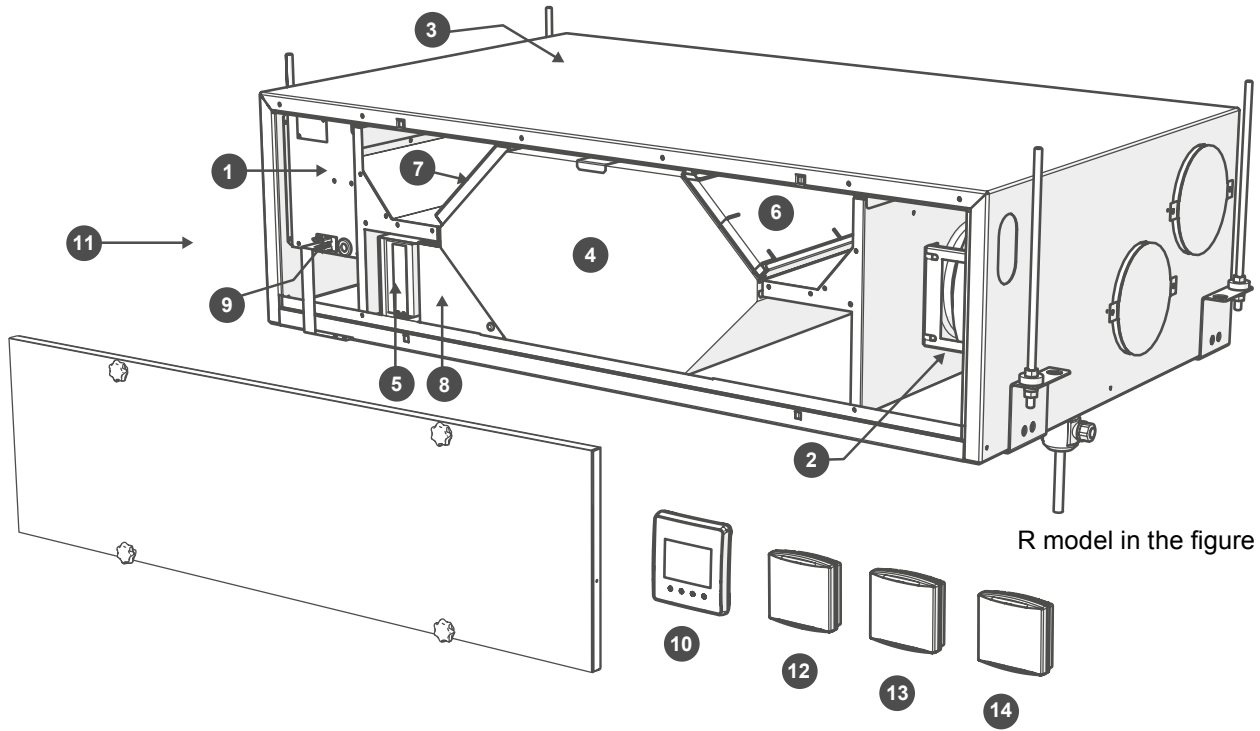
# DV50 Adroit









(Integral CO<sub>2</sub> Sensor)








## Adroit Line Side Entry

Up to 205 m<sup>3</sup>/h air volume @100Pa

### MAIN PARTS OF THE VENTILATION UNIT

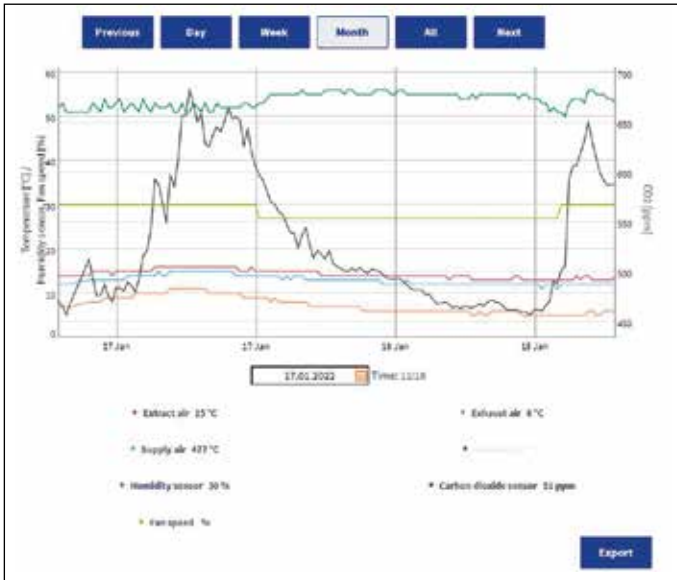


-  Supply air fan ..... 1
-  Extract air fan ..... 2
-  Post-heating resistor ..... 3
-  Heat recovery cell ..... 4
-  Fine filter for supply air ..... 5
-  Coarse filter for supply air ..... 6
-  Coarse filter for extract air ..... 7
-  Bypass damper of the HR cell ..... 8

-  Electrical safety cut off switch ..... 9
-  Digital controller (optional) ..... 10
-  Internal humidity sensor ..... 11
-  Internal carbon dioxide sensor ..... 11
-  Carbon dioxide sensor (optional) ..... 12
-  Humidity sensor (optional) ..... 13
-  VOC sensor (optional) ..... 14

## BUILT-IN CO<sub>2</sub> SENSOR

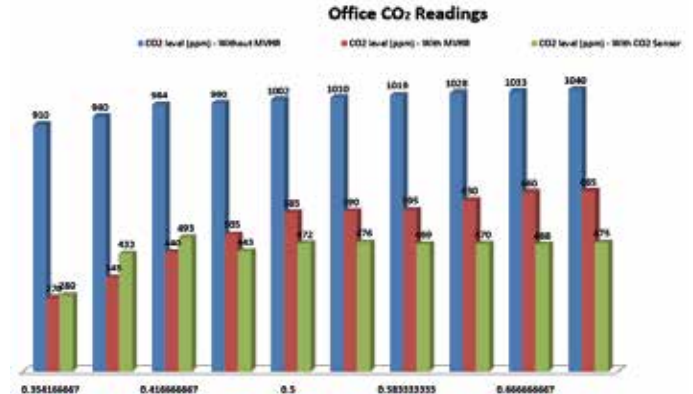
The Adroit range includes an internal carbon dioxide (CO<sub>2</sub>) sensor as standard, in order to achieve demand-controlled ventilation reducing the energy consumption even more by boosting the unit only when necessary. Extracting indoor humidity and carbon dioxide particulates while providing warm fresh air, helps create a healthy indoor environment for the residents. The data log allows residents to monitor CO<sub>2</sub> levels for the past year. The data log can be displayed on the Adroit Cloud and Adroit digital controller, also it can be exported to Excel for tracking and monitoring purposes.



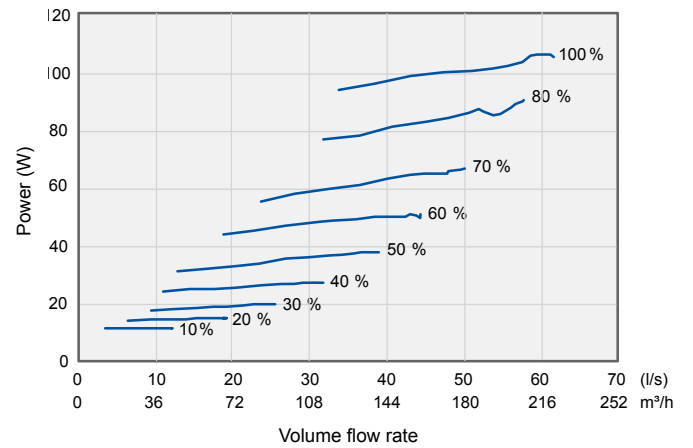
An experiment has been conducted in our offices, to understand CO<sub>2</sub> levels at different times and the impact an MVHR system will have, with and without a CO<sub>2</sub> sensor. It proved highly beneficial to have MVHR with CO<sub>2</sub> set-up on the threshold of 470ppm.

Time Of Day	08:30	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
CO <sub>2</sub> level (ppm) - Without MVHR	910	940	984	990	1002	1010	1019	1028	1033	1040
CO <sub>2</sub> level (ppm) - With MVHR	270	345	440	505	585	590	595	630	660	665
CO <sub>2</sub> level (ppm) - With CO <sub>2</sub> Sensor	280	433	493	443	472	476	469	470	468	475

CO<sub>2</sub> sensor threshold was set to approx. 470ppm



## FAN INPUT POWER



## SOUND VALUES

	Sound power level in the supply air duct (one duct) by octave band $L_{w,i}$ , dB									Sound power level in the extract air duct (one duct) by octave band $L_{w,e}$ , dB									
	Adjustment position									Adjustment position									
Adjustment position (%)	10	20	30	40	50	60	70	80	100	10	20	30	40	50	60	70	80	100	
Air flow l/s	6	10	17	21	26	32	35	40	44	7	14	22	24	30	35	40	45	48	
Medium frequency of the octave band Hz	63	59	66	70	72	74	79	78	79	81	55	59	61	64	67	76	72	72	73
	125	57	62	64	66	69	71	73	76	76	57	60	62	66	68	70	72	74	77
	250	47	55	62	66	68	69	71	73	73	39	47	55	60	61	62	63	65	67
	500	36	44	50	55	59	63	66	68	70	26	33	38	42	47	52	55	57	57
	1000	29	39	45	50	54	59	61	63	65	21	29	34	38	42	45	48	50	52
	2000	21	29	39	45	50	53	56	58	60	13	15	22	27	32	35	37	39	41
4000	18	19	24	32	40	46	50	53	55	17	17	18	18	21	25	28	32	34	
8000	21	21	22	23	26	31	36	40	43	21	22	21	21	22	22	22	22	23	
$L_{w,i}$ , dB	62	67	71	74	76	80	80	81	83	59	62	65	69	71	77	75	77	79	
$L_{w,e}$ , dB(A)	44	51	56	60	63	66	68	72	72	41	45	50	54	56	58	60	62	64	
Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m <sup>2</sup> sound absorption)																			
Adjustment position																			
Adjustment position (%)	10	20	30	40	50	60	70	80	100										
Air flow l/s	6/7	12/14	19/22	22/25	27/30	31/34	35/40	41/45	44/48										
$L_{pA}$ , dB (A)	24	29	35	38	40	45	47	49	50										

# DV80 Adroit

(Integral CO<sub>2</sub> Sensor)



## Adroit Line Side Entry

Up to 335 m<sup>3</sup>/h air volume @100Pa

### KEY FEATURES

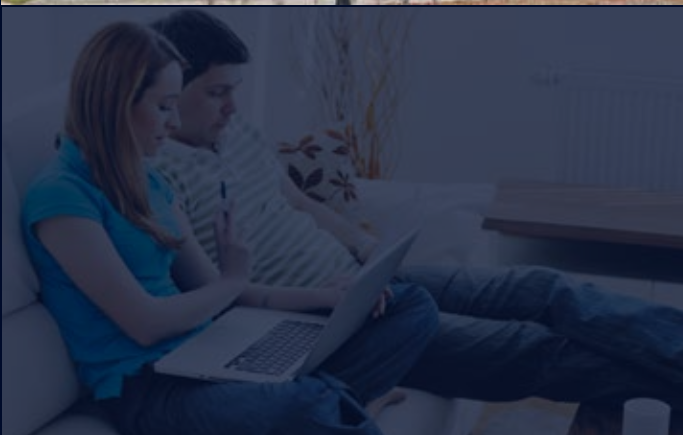
- Over 90% thermal efficiency
- Triple filter design with two Coarse > 75% and one ISO ePM1 50% filters - ISO16890 compliant
- Automatic, 100% summer by-pass
- Integral humidity and carbon dioxide sensors
- Internet control by smartphone, tablet, or PC
- BMS connection
- Auto cut-out switch for extra safety

With its powerful air volume capacity and high thermal efficiency the DV80 Adroit is suitable for small or medium sized family homes and flats. Control your indoor air environment at home or on the go via the Adroit 'Cloud' internet control by smart phone, tablet or PC.

With the triple filter design with an ISO ePM1 50% (F7) pollen filter, the DV80 Adroit provides additional protection against invisible, harmful particles and creates an ultra hygienic environment.

The automatic, 100% summer by-pass facility isolates the heat recovery function and helps to effectively maintain a temperate indoor air climate during the summer months.

The unit includes an easily removable, plastic heat exchanger and may be equipped with a range of optional accessories for higher performance.

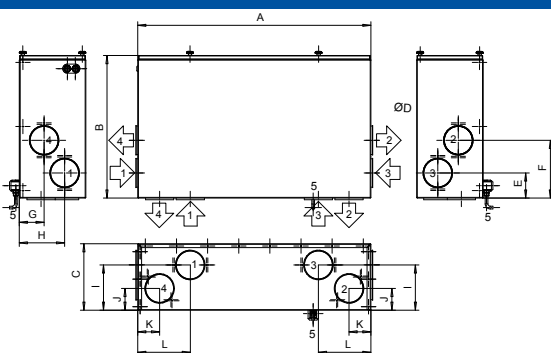


## TECHNICAL DATA

Specification	DV80
Suitable for dwellings up to m <sup>2</sup>	120
Max air flow (m <sup>3</sup> /h) / (l/s) at 100Pa.	335 / 93
Thermal efficiency (%)	Up to 90
Heat exchanger	Cross-Counter-Flow (Plastic)
Fans	EC
Summer by-pass damper	100% automatic
Integral humidity sensor (RH %)	0 - 100
Frost protection (optional heater)	Smart Frost
Controls (optional)	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Ceiling
Sound pressure level @3m (dB(A))	29.5
Duct diameter (mm)	125 (4 ports)
Condensate discharge (ins)	3/4 BSP
Electrical supply	230V / 1ph / 50Hz
Electrical power input at max flow (W)	167
Filter Class*	2x ISO Coarse > 75% (G4) and 1x ISO ePM1 50% (F7)
Built-in electric post-heater (optional) (W)	900
Protection class	IP34
Casing insulation (mm)	20
Weight (kg)	61
Dimensions (L x D x H) (mm)	1026 x 626 x 293
Duct entry	Side Entry
Versions available	
Right Hand:	90001275
With optional electric post-heater:	90001275EPH
Left Hand:	90001276
With optional electric post-heater:	90001276EPH
EAN Right-handed unit	5019009327310 5019009327358 (EPH unit)
EAN Left-handed unit	5019009327327 5019009327365 (EPH unit)

\*Complies with ISO 16890

## DIMENSIONS



### Duct outlets, Model R

Inner diameter of the female collar: 125 mm

1. Outdoor air to the unit
2. Supply air to rooms
3. Extract air to the unit
4. Exhaust air outside
5. Condensate drain

+ excludes motors. Motor warranty one year from date of purchase

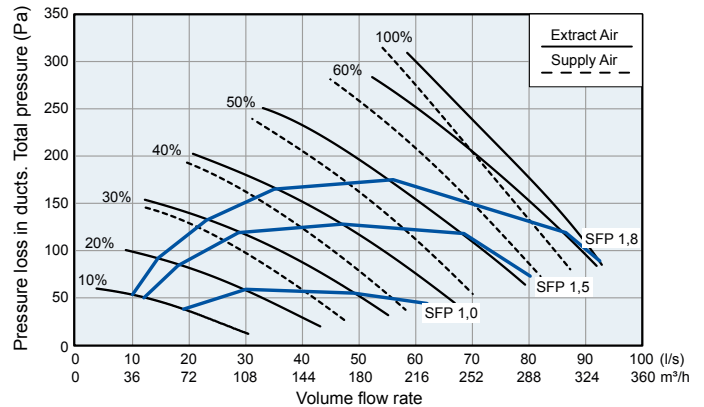
### Duct outlets, Model L

Inner diameter of the female collar: 125 mm

1. Extract air to the unit
2. Exhaust air outside
3. Outdoor air to the unit
4. Supply air to rooms
5. Condensate drain

Model	A	B	C	D	E	F	G	H	I	J	K	L	M
DV80	1026	626	293	125	110	254	110	200	200	96	96	231	624

## PERFORMANCE



\* Guidance only. Dependant upon system pressure.

## ACCESSORIES

### Adroit Digital Controller

Wall mounted, LCD display with four 100% independently user adjustable air flow profiles (Home, Away, Boost, Custom). A range of indoor parameters ie: air flow rates, temperature, humidity, by-pass, time clock settings, CO<sub>2</sub> sensor, filter alert are adjustable to suit your indoor environment. Internet connectivity via Adroit 'Cloud' for control at home or on the go.

### Adroit Speed Controller

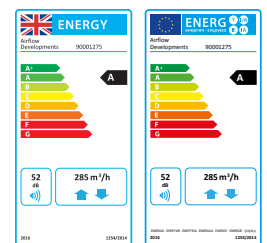
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

Visit [airflow.com](http://airflow.com) for Adroit controls options data sheet.

Accessory	Product Code
Adroit Digital Controller	90000610
Adroit Relative Humidity Transmitter	90000612
Adroit CO <sub>2</sub> Transmitter	90000613
Adroit Speed Controller (manual)	9041219
Additional 900W heater for DV80 (R)	90000626
Additional 900W heater for DV80 (L)	90000627
Filter set (ISO Coarse > 75% + ISO ePM, 50%, ISO Coarse > 75%)	90000621
Boost Switch	90000542
KNX-Converter	90000723

## CERTIFICATION

The DV80 Adroit meets requirements set out by the Energy Related Products (ErP) Directive 2016, achieving an A rating. You can find out more about the ErP Directive at: [www.airflow.com](http://www.airflow.com)



The DV80 was tested and has achieved Passive House Approval by the Passive House Institute when equipped with the optional Electric Post-heater.



# DV80 Adroit

## (Integral CO<sub>2</sub> Sensor)

### Adroit Line Side Entry

Up to 335 m<sup>3</sup>/h air volume @100Pa

The DV80 Adroit is fitted with a unique triple air filter facility. It comes with two ISO Coarse > 75% (G4) air filters and an ISO ePM1 50% (F7) filter, which provides additional air filtration by preventing particles as small as pollen from entering the premises. This is of particular benefit to those that suffer from asthma or hay fever and other respiratory conditions.

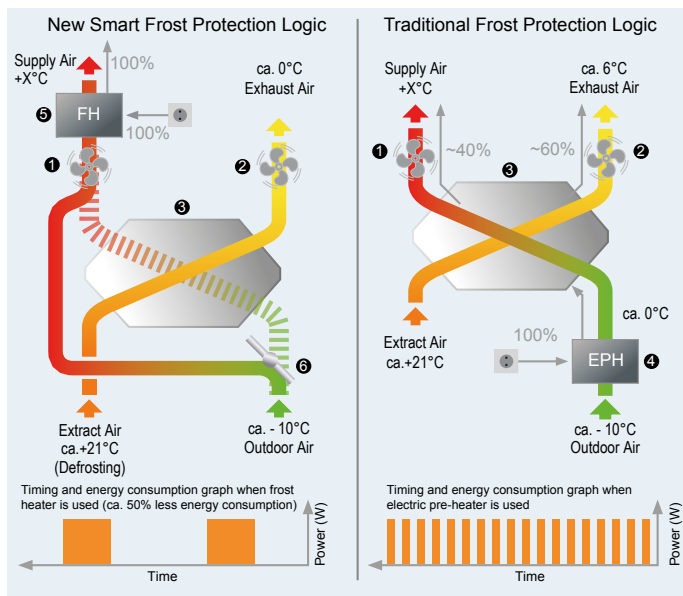
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information to the user regarding the performance of their Adroit system including; adjusting the ventilation levels, filter maintenance, separate fan control, faults in the system and commissioning

the system. You can also use an optional manual controller which provides simple control by switching ventilation profiles.

Through combining your unit with additional humidity and CO<sub>2</sub> sensors, you are able to achieve on-demand ventilation for the property. This is possible, as due to changes to humidity and CO<sub>2</sub> levels that occur through changes in occupancy or usage, the ventilation will boost or reduce to match demand; without the need of manual intervention.

The DV80 can be integrated with a Building Management System (BMS) via a Modbus connection or KNX, which allows the user to monitor and control the unit's functions via a central control system.

### NEW SMART FROST PROTECTION



- 1 Supply air fan
- 2 Exhaust air fan
- 3 Heat exchanger
- 4 Electric pre-heater
- 5 Frost heater
- 6 Electric bypass damper

On the traditional frost protection method, the outdoor air is pre-heated before passing through the heat exchanger. This way the unit could still provide balanced ventilation even when the frost protection was on. However, the electric heater kicks in intermittently hence consumes more energy than needed.

The new Smart Frost Protection method works in a more energy efficient manner which constantly monitors the heat exchanger conditions and uses the frost heater only when necessary. This significantly reduces the energy consumption and provides more heat recovery throughout the winter season.

### TRIPLE FILTER DESIGN

The majority of the MVHR units in the U.K incorporate ISO Coarse > 75% (G4) filters on the extract / supply air side. These filters catch only coarse particles such as insects and leaves to protect the heat exchanger.

ISO ePM1 50% (F7) fine filters on the other hand are highly efficient, catch invisible particles such as pollen, spore, bacterium and **dust entering the lungs**.

**Adroit units are the only MVHR units which incorporate triple filter design combining ISO Coarse > 75% (G4) course filters with the ISO ePM1 50% (F7) fine filter. This significantly improves the indoor air quality and lowers your maintenance costs.**



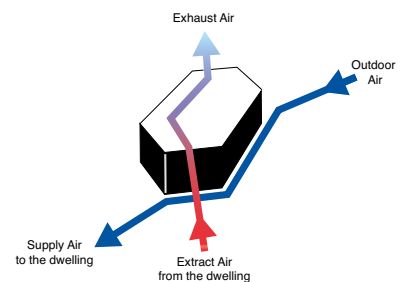
ISO Coarse > 75% (G4) filter



ISO ePM1 50% (F7) filter

### 100% AUTOMATIC BYPASS

The unit is equipped with an automatic, 100% bypass which totally isolates the heat exchanger so that no air passes through it. This prevents overheating the dwelling in the summer season.



## SAP RESULTS

Systems with rigid ductwork only SAP 2009 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.79	90%
Kitchen+2 additional wet rooms	0.79	91%
Kitchen+3 additional wet rooms	0.86	90%
Kitchen+4 additional wet rooms	1.02	90%
Kitchen+5 additional wet rooms	1.16	89%
Kitchen+6 additional wet rooms	1.28	89%
Kitchen+7 additional wet rooms	1.53	89%

Systems with rigid ductwork only SAP 2012 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen+1 additional wet room	0.81	90%
Kitchen+2 additional wet rooms	0.94	91%
Kitchen+3 additional wet rooms	1.14	90%
Kitchen+4 additional wet rooms	1.38	89%
Kitchen+5 additional wet rooms	1.63	89%
Kitchen+6 additional wet rooms	1.9	88%

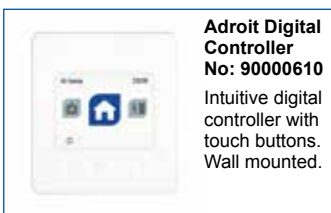
## CONTROLS

Ideal indoor air quality is achieved by automatically **adjusted ventilation**

Adroit DV80 is controlled via 4 ventilation profiles controls providing the following features:

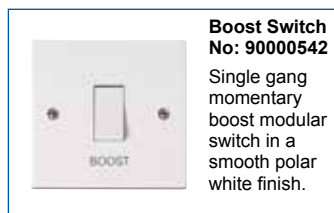
- 4 ventilation profiles**, 100% adjustable
- Internet connection** available
- Automatic boost function** with delay timer
- Filter maintenance reminder** via counter clock (standard)
- Heater control** for optional post-heater
- Connection to BMS** via LON or KNX
- Self diagnostic** via fault signal relay
- On-demand control** via humidity and CO<sub>2</sub> sensors
- Separate fan control** for ease of commissioning
- Weekly ventilation programming** allows users to pre-set the ventilation levels scheduled for different days
- Indoor temperature control** based on extract air temperature or supply air temperature

## CONTROLS & ACCESSORIES



**Adroit Digital Controller**  
No: 90000610

Intuitive digital controller with touch buttons. Wall mounted.



**Boost Switch**  
No: 90000542

Single gang momentary boost modular switch in a smooth polar white finish.



**Adroit Speed Controller**  
No: 9041219

Four speed manual controller. Wall mounted.



**DV80 Adroit Filter Set**  
No: 90000620

Replace filters 2x a year. (2 x G4/ISO Coarse 75%, 1 x F7/ISO ePM1 50%)

Others products available from [airflow.com](http://airflow.com)

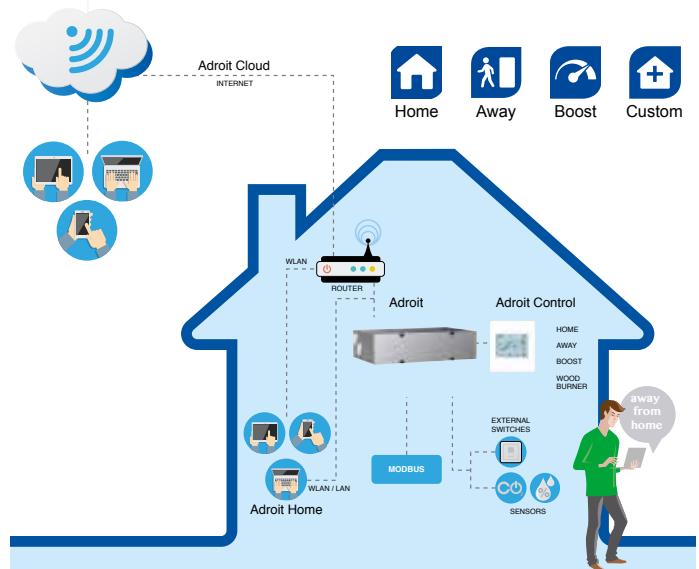
- Easy access to replace filters
- Heat Recovery
- Removable, secure front cover panel for maintenance
- Removable Heat Exchanger for quick cleaning
- Durable steel double skin casing with 20mm insulation



## TRIPLE FILTER DESIGN

Landlords can protect their investment by insuring planned maintenance from outside the dwelling to preserve building fabric, ensure occupier wellbeing and save energy **without the need to access the dwelling or disturb the tenant.**

This significantly shortens maintenance time and saves on service cost.



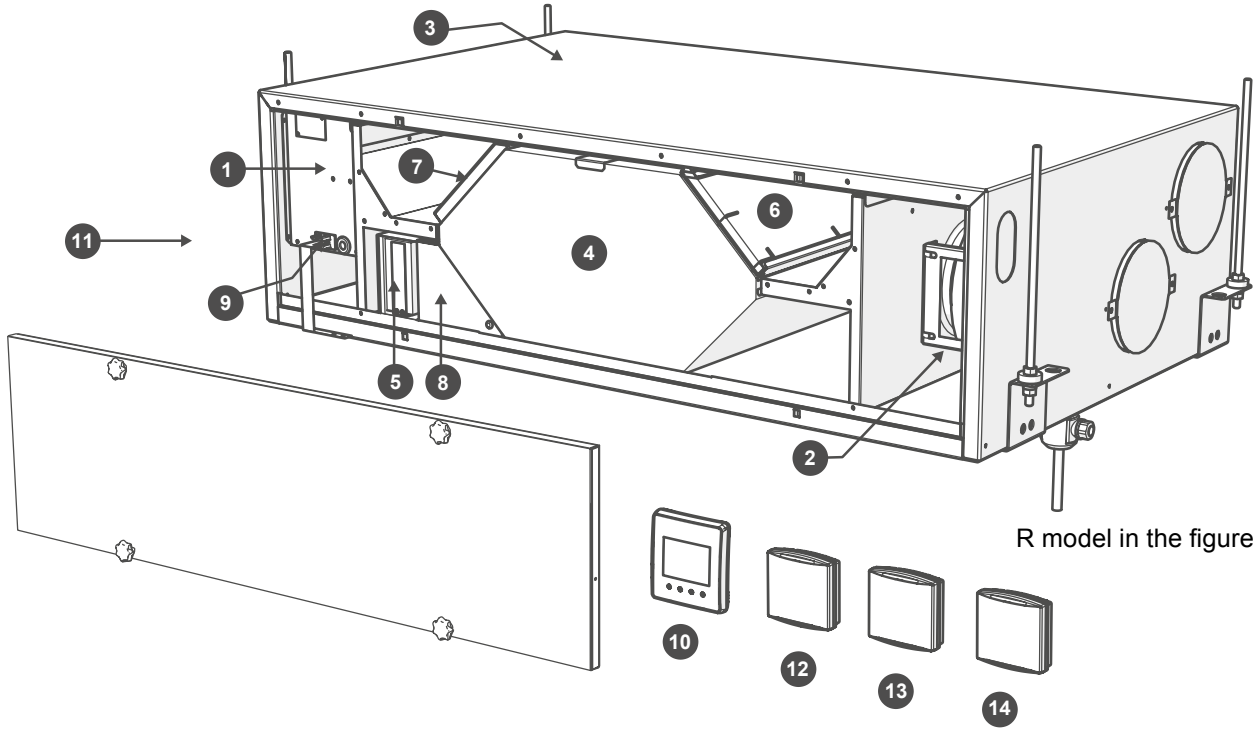
# DV80 Adroit
















(Integral CO<sub>2</sub> Sensor)

## Adroit Line Side Entry

Up to 335 m<sup>3</sup>/h air volume @100Pa

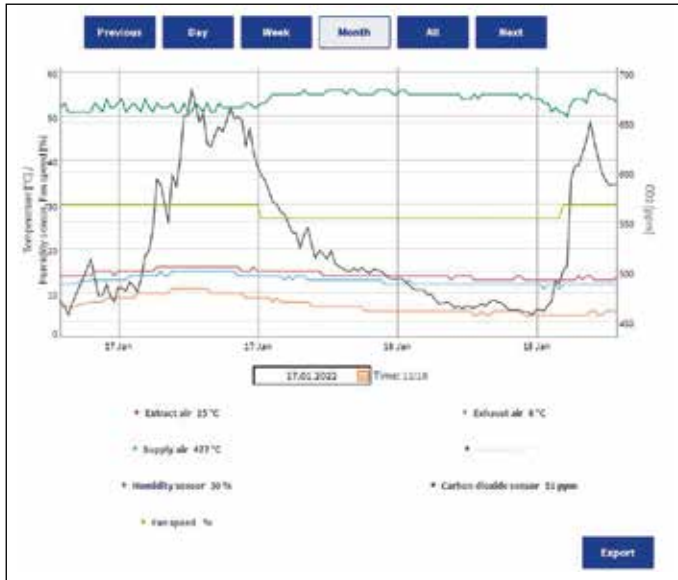
### MAIN PARTS OF THE VENTILATION UNIT



- |   |                                  |    |
|---|----------------------------------|----|
|   | Supply air fan                   | 1  |
|   | Extract air fan                  | 2  |
|   | Post-heating resistor            | 3  |
|   | Heat recovery cell               | 4  |
|   | Fine filter for supply air       | 5  |
|   | Coarse filter for supply air     | 6  |
|   | Coarse filter for extract air    | 7  |
|   | Bypass damper of the HR cell     | 8  |
|  | Electrical safety cut off switch | 9  |
|  | Digital controller (optional)    | 10 |
|  | Internal humidity sensor         | 11 |
|  | Internal carbon dioxide sensor   | 11 |
|  | Carbon dioxide sensor (optional) | 12 |
|  | Humidity sensor (optional)       | 13 |
|  | VOC sensor (optional)            | 14 |

## BUILT-IN CO<sub>2</sub> SENSOR

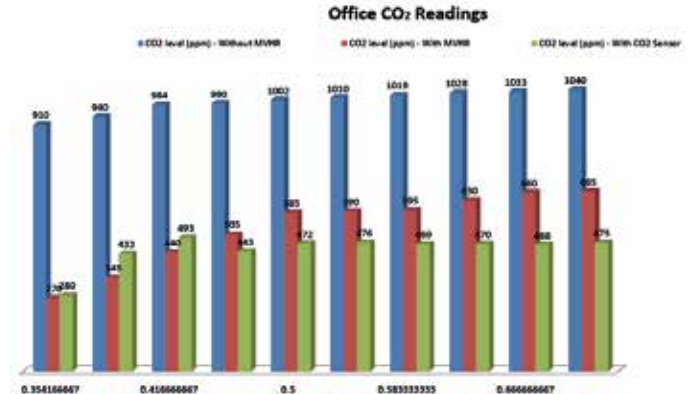
The Adroit range includes an internal carbon dioxide (CO<sub>2</sub>) sensor as standard, in order to achieve demand-controlled ventilation reducing the energy consumption even more by boosting the unit only when necessary. Extracting indoor humidity and carbon dioxide particulates while providing warm fresh air, helps create a healthy indoor environment for the residents. The data log allows residents to monitor CO<sub>2</sub> levels for the past year. The data log can be displayed on the Adroit Cloud and Adroit digital controller, also it can be exported to Excel for tracking and monitoring purposes.



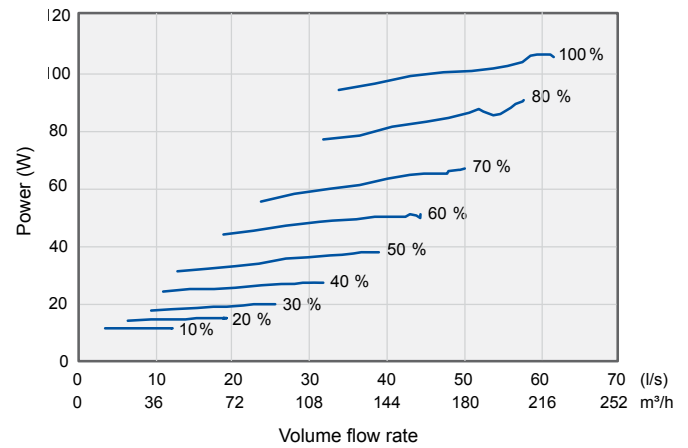
An experiment has been conducted in our offices, to understand CO<sub>2</sub> levels at different times and the impact an MVHR system will have, with and without a CO<sub>2</sub> sensor. It proved highly beneficial to have MVHR with CO<sub>2</sub> set-up on the threshold of 470ppm.

Time Of Day	08:30	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
CO <sub>2</sub> level (ppm) - Without MVHR	910	940	984	990	1002	1010	1019	1028	1033	1040
CO <sub>2</sub> level (ppm) - With MVHR	270	345	440	505	585	590	595	630	660	665
CO <sub>2</sub> level (ppm) - With CO <sub>2</sub> Sensor	280	433	493	443	472	476	469	470	468	475

CO<sub>2</sub> sensor threshold was set to approx. 470ppm



## FAN INPUT POWER



## SOUND VALUES

		Sound power level in the supply air duct (one duct) by octave band $L_{w,i}$ , dB										Sound power level in the extract air duct (one duct) by octave band $L_{w,i}$ , dB									
		Adjustment position										Adjustment position									
Adjustment position (%)		10	20	30	40	50	60	70	80	90	100	10	20	30	40	50	60	70	80	90	100
Air flow l/s		15	20	32	37	47	57	62			65	17	22	36	42	51	60	66			67
Medium frequency of the octave band Hz	63	60	67	68	72	73	79	79			78	54	58	59	63	66	78	70			73
	125	56	65	64	66	68	70	72			73	48	56	54	56	58	62	63			64
	250	51	58	67	70	74	78	76			76	43	50	61	59	61	63	65			64
	500	41	49	55	59	63	66	70			70	30	37	43	46	49	53	60			60
	1000	39	47	52	55	58	62	65			66	27	35	39	43	46	50	52			53
	2000	30	41	48	52	56	59	62			62	15	23	29	33	37	40	42			43
	4000	19	28	36	42	46	51	54			55	17	17	18	21	25	29	31			32
8000	21	22	28	35	42	48	52			53	21	21	21	21	22	23	25			26	
$L_{w,r}$ , dB		61	70	72	75	77	82	82			81	55	61	64	65	68	78	72			74
$L_{w,A}$ , dB(A)		46	55	61	64	68	72	72			75	38	45	53	52	54	58	61			61
Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m <sup>2</sup> sound absorption)																					
		Adjustment position										Adjustment position									
Adjustment position (%)		10	20	30	40	50	60	70	80	90	100	10	20	30	40	50	60	70	80	90	100
Air flow l/s		15/17	33/39	32/36	38/42	47/51	57/60	62/67			65/67	15/17	33/39	32/36	38/42	47/51	57/60	62/67			65/67
$L_{p,A}$ , dB (A)		27	33	40	43	46	50	52			52	27	33	40	43	46	50	52			52

# DV65 Entro-V

Single Room Heat Recovery –  
Up to 242 m<sup>3</sup>/h air volume @100 Pa

**A+**

Based on average climate with  
a local demand control

## KEY FEATURES

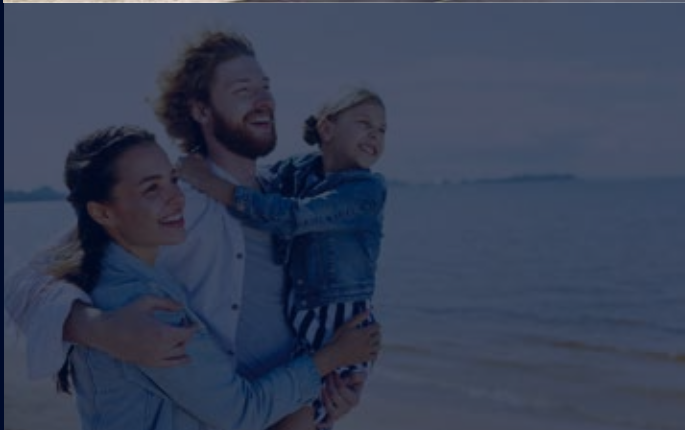
- Domestic and residential heat recovery ventilation
- Thermal efficiency capabilities of 85% and above
- Suitable for vertical mounting (kits included as standard)
- Easy filter change with no tools needed
- Choice of spigot locations (top entry as standard)
- SAP recognised and PCDB listed
- 2 year warranty+



The DV65 Entro-V is a compact and efficient top entry MVHR unit, capable of recovering over 85% of the wasted heat.

The unit is made from galvanised steel, white powder coated casing with 20 mm EPP insulation which provides a great level of air tightness, thermal efficiency and sound absorption. DV65 has low energy EC fans with backward curved impellers that minimise the unit's energy consumption with a quiet operation and low specific fan power, achieving an 'A+' energy efficiency.

The unit has an easy to clean and maintain plastic counterflow heat exchanger which prevents the airstreams from mixing. In addition, the unit is designed with a double filter facility that comes with two ISO Coarse 55% (G4) filters as standard with an optional ISO ePM1 60% (F7) pollen filter which provides additional protection against invisible, harmful particles creating an ultra-hygienic environment. ISO ePM Coarse 55% (G4) and ISO ePM1 60% (F7) can be used in conjunction with each other on supply air side.

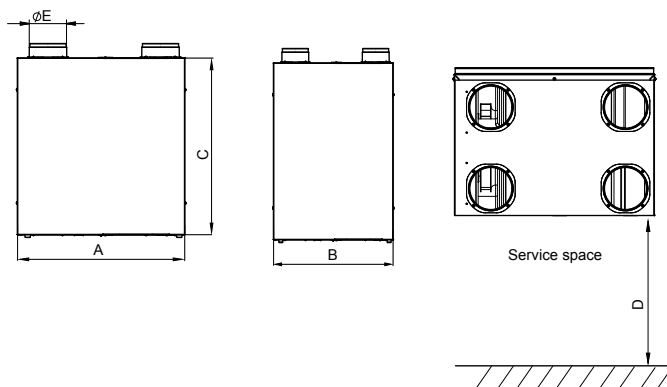


## TECHNICAL DATA

Specification	DV65 Entro-V
Air flow m <sup>3</sup> /h / l/s @100Pa	242 / 67.2
For dwelling floor area up to (m <sup>2</sup> )	116
Reference dwelling	3 bed house
Thermal efficiency %	84 - 88
Heat exchanger	Counterflow (Plastic)
SEC class	A+
Electrical supply	230V / 1ph / 50Hz
Max power consumption (W)	100
Sound level @ 3m (dB(A))	32 - 43
Specific Power Input (SPI) (W/(m <sup>3</sup> /h))	0.295
Fans	EC
Electric heater (optional) (W)	2 x 50
IP classification	IP54
Weight (kg)	45
Dimensions (L x D x H) (mm)	580 x 430 x 690
Controls	4-speed manual controller Optional digital controller
Duct diameter (mm)	160
Condensate discharge (mm)	1/2 inch BSP
Summer Bypass damper	100% Automatic
Frost protection	Yes
Filter class*	ISO Coarse 55% (G4), optional ISO ePM1 60% (F7)
Optional BMS Connectivity	Communication through I2C - Modbus
Casing	Galvanised steel. Powder paint. (20 mm insulation)
Mounting	Wall, Floor
Orientation of unit	Right or Left-handed
Part Number	90001243
EAN	5019009327648

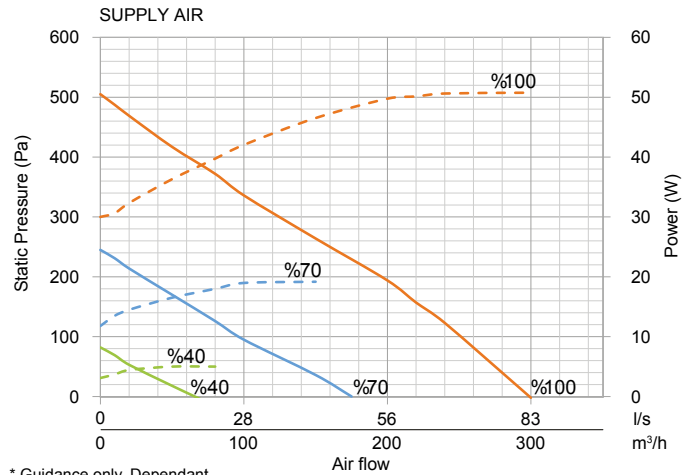
\*Complies with ISO 16890

## DIMENSIONS



Model	A	B	C	D	E
DV65	580	430	690	400	160

## PERFORMANCE



\* Guidance only. Dependent upon system pressure.

## SAP RESULTS

Systems with rigid ductwork only SAP 2005 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen + 1 additional wet room	1.12	81
Kitchen + 2 additional wet rooms	1.02	81
Kitchen + 3 additional wet rooms	1.04	81
Kitchen + 4 additional wet rooms	1.14	81
Kitchen + 5 additional wet rooms	1.28	80

Systems with rigid ductwork only SAP 2012 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen + 1 additional wet room	1.07	81
Kitchen + 2 additional wet rooms	1.12	81
Kitchen + 3 additional wet rooms	1.24	81

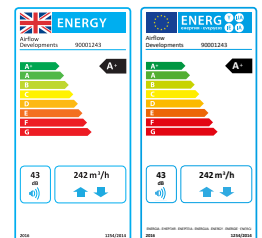
## ACCESSORIES

The following options are available

Accessory	Product Code
Entro-V digital controller	90001299
Entro-V basic controller	90001308
DV65 Entro-V ISO Coarse 55% (G4)	90001323
DV65 Entro-V ISO ePM1 60% (F7)	90001326
DV65 & DV82 Entro-V heater 0,5 kW	90001335
DV65 & DV82 Entro-V heater 1 kW	90001336
DV65 & DV82 Entro-V heaters 1,5 kW	90001337
DV65 & DV82 Entro-V heater 2 kW	90001341

## ErP RATING

The DV65 Entro-V meets requirements set out by the Energy Related Products (ErP) Directive 2016, achieving an A+ rating. You can find out more about the ErP Directive and find the DV65 Fiche and Label at [www.airflow.com](http://www.airflow.com) Label 90001243

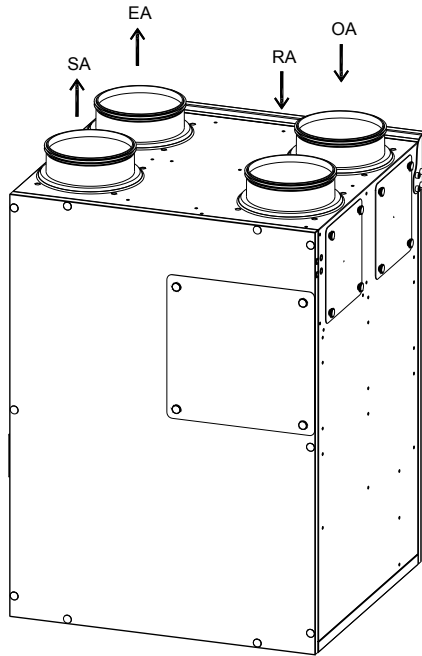


# DV65 Entro-V

Single Room Heat Recovery –  
Up to 242 m<sup>3</sup>/h air volume @100 Pa

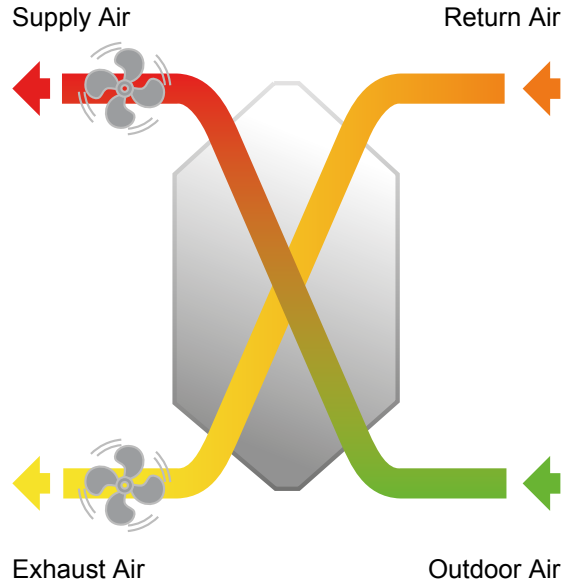
## UNIT CONFIGURATION

The unit is supplied as a right-handed version as standard.



OA = Outside Air  
SA = Supply Air  
RA = Return Air  
EA = Exhaust Air

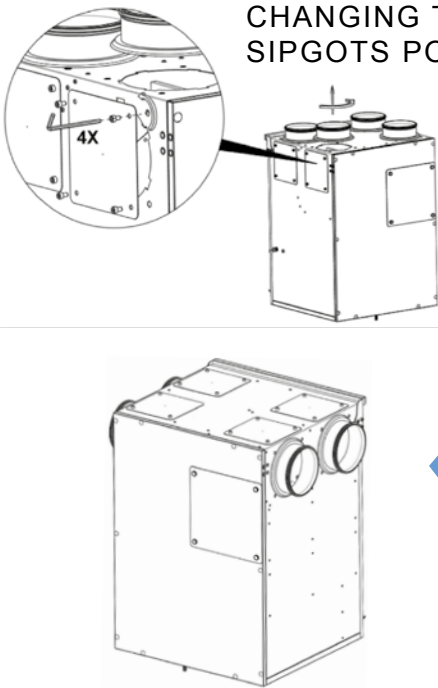
## HEAT EXCHANGER DIAGRAM



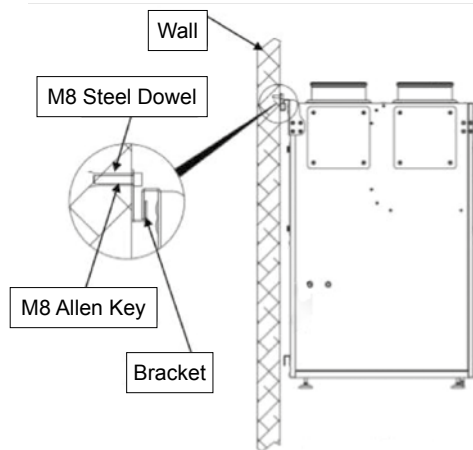
## INSTALLATION

The units can be installed in vertical mounting positions, on the wall or on the floor. Hanging brackets, screws and feet are supplied with the unit. Also, the unit has interchangeability of spigots position from top to the sides.

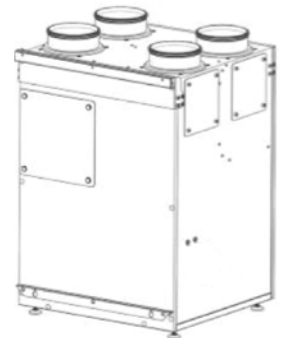
### CHANGING THE SPOGOTS POSITION



### INSTALLATION ON THE WALL



### INSTALLATION ON THE FLOOR



## MODE 1 - Heat recovery mode

Sound Pressure Level @1,5 m  
(%100 fan speed @100Pa external pressure)

Model	dB@ 63Hz	dB@ 125Hz	dB@ 250Hz	dB@ 500Hz	dB@ 1kHz	dB@ 2kHz	dB@ 4kHz	dB@ 8kHz	Total [dBA]
DV65 Entro-V	35,7	37,5	37,1	36,5	35,2	31,2	18,0	14,5	39,1








Sound Pressure Level @3 m  
(%100 fan speed @100Pa external pressure)

Model	dB@ 63Hz	dB@ 125Hz	dB@ 250Hz	dB@ 500Hz	dB@ 1kHz	dB@ 2kHz	dB@ 4kHz	dB@ 8kHz	Total [dBA]
DV65 Entro-V	28,6	30,4	30,0	29,4	28,1	24,1	10,9	7,4	32,0

## CONTROL OPTIONS

The unit can be controlled by one of the following:

- Basic controller
- Digital controller
- Modbus through a PC or a central automated unit
- Additional external sensors achieving on-demand ventilation
- Switched live signal from light/remote switches

	<b>Low fan speed</b> e.g. background ventilation		Control button to increase the fan speed
	<b>Medium fan speed</b> e.g. everyday running rate		Control button to decrease the fan speed
	<b>High fan speed</b> e.g. when cooking or showering		Filter reminder / Error display LED
	<b>Boost</b> increased occupants in dwelling; purging the dwelling		

## BASIC CONTROL

A basic controller compatible with the DV65 Entro-V unit allows multiple standard functions such as:

- 3 fan speed control
- Boost function
- Free cooling via the by-pass actuator
- Frost protection based on input signals from humidity and temperature sensors
- Modbus function
- Faults indicator
- Filter maintenance reminder
- Fire alarm function
- Child-proof protection locks/unlocks the buttons providing extra safety



## DIGITAL CONTROL

A digital controller also provides:

- Optional separate fan control for ease of commissioning
- Weekly ventilation programming allows users to pre-set the ventilation levels scheduled for different days
- Screen brightness and contrast settings
- Optional humidity or air quality sensors enable automatic boost control
- Indoor temperature control based on room, extract or supply air temperature
- Real time performance graphics



## CONTROLS & ACCESSORIES



# DV82 Entro-V

Up to 295 m<sup>3</sup>/h air volume @100 Pa



## KEY FEATURES

- Domestic and residential heat recovery ventilation
- Thermal efficiency capabilities of 85% and above
- Suitable for vertical mounting (kits included as standard)
- Easy filter change with no tools needed
- Choice of spigot locations (top entry as standard)
- Complies with Building Regulations
- SAP recognised and PCDB listed
- 2 year warranty+



The DV82 Entro-V is a compact and efficient top entry MVHR unit, capable of recovering over 85% of the wasted heat.

The unit is made from galvanised steel, white powder coated casing with 20 mm EPP insulation which provides a great level of air tightness, thermal efficiency and sound absorption. DV82 has low energy EC fans with backward curved impellers that minimise the unit's energy consumption with a quiet operation and low specific fan power, achieving an 'A' energy efficiency. The unit has an easy to clean and maintain plastic counterflow heat exchanger which prevents the airstreams from mixing.

In addition, the unit is designed with a double filter facility that comes with two ISO Coarse 55% (G4) filters as standard with an optional ISO ePM1 60% (F7) pollen filter which provides additional protection against invisible, harmful particles creating an ultra-hygienic environment. ISO ePM Coarse 55% (G4) and ISO ePM1 60% (F7) can be used in conjunction with each other on supply air side.

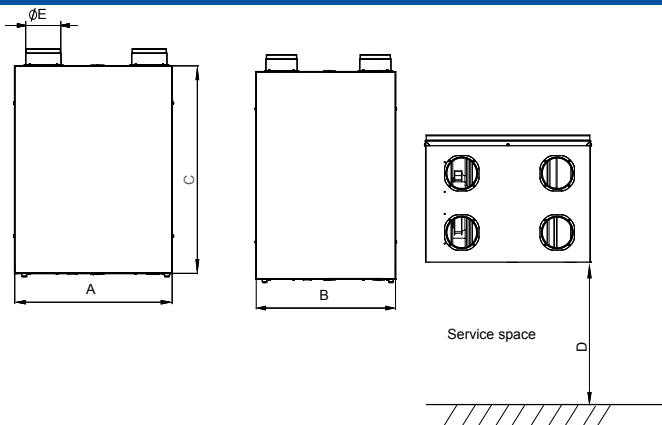


## TECHNICAL DATA

Specification	DV82 Entro-V
Air flow m <sup>3</sup> /h / l/s @100Pa	295 / 83.3
For dwelling floor area up to (m <sup>2</sup> )	184
Reference dwelling	4 / 5 bed house
Thermal efficiency %	83 - 86
Heat exchanger	Counterflow (Plastic)
SEC class	A
Electrical supply	230V / 1ph / 50Hz
Max power consumption (W)	166
Sound level @ 3m (dB(A))	39 - 48
Specific Power Input (SPI) (W/(m <sup>3</sup> /h))	0.27
Fans	EC
Electric heater (optional) (W)	2 x 83
IP classification	IP54
Weight (kg)	50
Dimensions (L x D x H) (mm)	580 x 530 x 795
Controls	4-speed manual controller Optional digital controller
Duct diameter (mm)	160
Condensate discharge (mm)	1/2 inch BSP
Summer Bypass damper	100% Automatic
Frost protection	Yes
Filter class*	ISO Coarse 55% (G4), optional ISO ePM1 60% (F7)
Optional BMS Connectivity	Communication through I2C - Modbus
Casing	Galvanised steel. Powder paint. (20 mm insulation)
Mounting	Wall, Floor
Orientation of unit	Right or Left-handed
Part Number	90001244
EAN	5019009327655

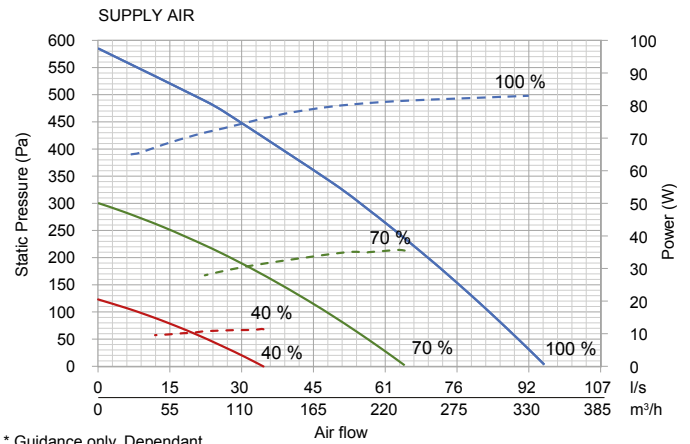
\*Complies with ISO 16890

## DIMENSIONS



Model	A	B	C	D	E
DV82	580	430	795	600	160

## PERFORMANCE



\* Guidance only. Dependant upon system pressure.

## SAP RESULTS

Tested by the BRE (Building Research Establishment) and eligible for the PCDB database. Systems with rigid ductwork only SAP 2005 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen + 1 additional wet room	1.03	79
Kitchen + 2 additional wet rooms	0.89	79
Kitchen + 3 additional wet rooms	0.87	79
Kitchen + 4 additional wet rooms	0.91	80
Kitchen + 5 additional wet rooms	0.99	80
Kitchen + 6 additional wet rooms	1.10	80
Kitchen + 7 additional wet rooms	1.28	80

Systems with rigid ductwork only SAP 2012 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen + 1 additional wet room	0.95	79
Kitchen + 2 additional wet rooms	0.92	80
Kitchen + 3 additional wet rooms	0.98	80
Kitchen + 4 additional wet rooms	1.13	80
Kitchen + 5 additional wet rooms	1.35	80
Kitchen + 6 additional wet rooms	1.64	80

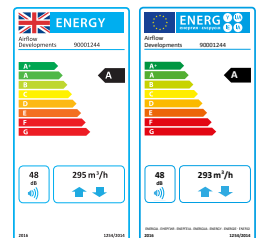
## ACCESSORIES

The following options are available

Accessory	Product Code
Entro-V digital controller	90001299
Entro-V basic controller	90001308
DV82 Entro-V G4(ISO ePM Coarse 55%) filter	90001324
DV82 Entro-V F7(ISO ePM1 60%) filter	90001327
DV65 & DV82 Entro-V heater 0,5 kW	90001335
DV65 & DV82 Entro-V heater 1 kW	90001336
DV65 & DV82 Entro-V heater 1,5 kW	90001337
DV65 & DV82 Entro-V heater 2 kW	90001341

## ErP RATING

The DV82 Entro-V meets requirements set out by the Energy Related Products (ErP) Directive 2016, achieving an A rating. You can find out more about the ErP Directive and find the DV82 Fiche and Label at [www.airflow.com](http://www.airflow.com) Label 90001244

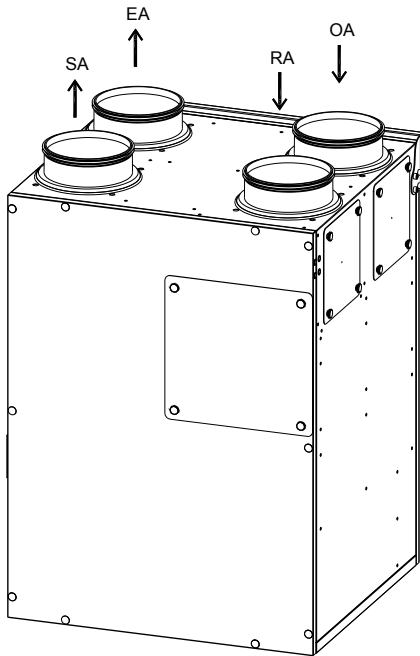


# DV82 Entro-V

Up to 295 m<sup>3</sup>/h air volume @100 Pa

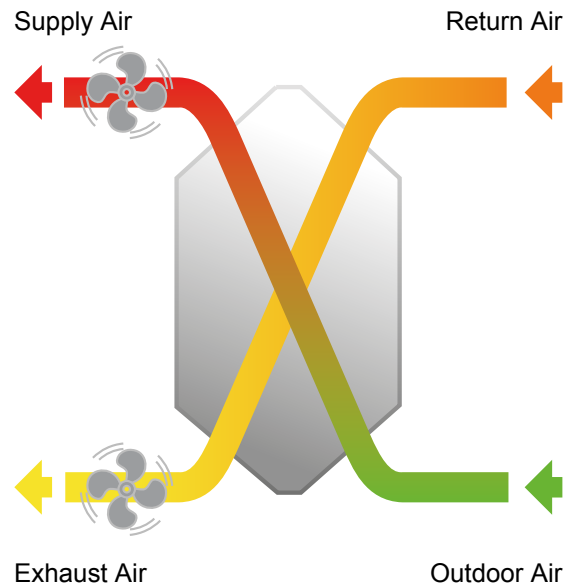
## UNIT CONFIGURATION

The unit is supplied as a right-handed version as standard.



OA = Outside Air  
SA = Supply Air  
RA = Return Air  
EA = Exhaust Air

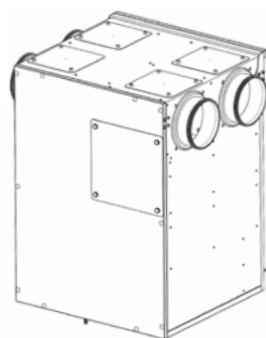
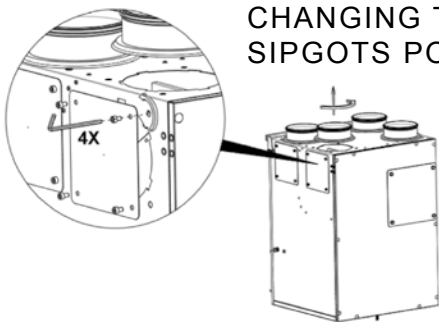
## HEAT EXCHANGER DIAGRAM



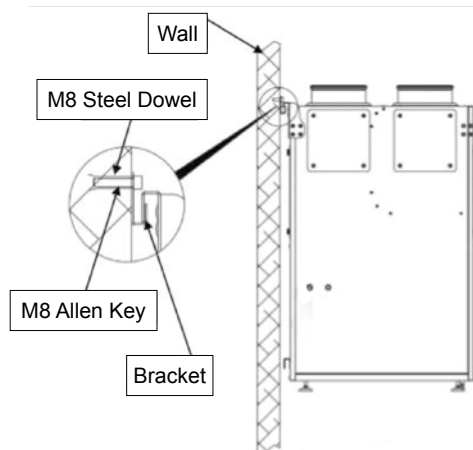
## INSTALLATION

The units can be installed in vertical mounting positions, on the wall or on the floor. Hanging brackets, screws and feet are supplied with the unit. Also, the unit has interchangeability of spigots position from top to the sides.

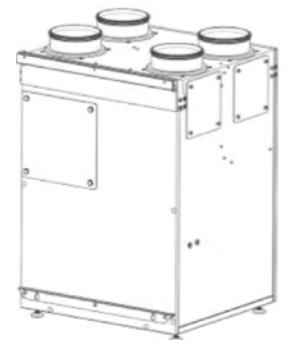
### CHANGING THE SPOGOTS POSITION



### INSTALLATION ON THE WALL



### INSTALLATION ON THE FLOOR



## MODE 1 - Heat recovery mode

Sound Pressure Level @1,5 m  
(%100 fan speed @100Pa external pressure)

Model	dB@ 63Hz	dB@ 125Hz	dB@ 250Hz	dB@ 500Hz	dB@ 1kHz	dB@ 2kHz	dB@ 4kHz	dB@ 8kHz	Total [dBA]
DV82 Entro-V	40,1	42,9	44,7	46,2	44,8	43,9	38,8	14,0	42,9








Sound Pressure Level @3 m  
(%100 fan speed @100Pa external pressure)

Model	dB@ 63Hz	dB@ 125Hz	dB@ 250Hz	dB@ 500Hz	dB@ 1kHz	dB@ 2kHz	dB@ 4kHz	dB@ 8kHz	Total [dBA]
DV82 Entro-V	26,1	28,9	30,7	32,2	30,8	29,9	24,8	10,5	35,9

## CONTROL OPTIONS

The unit can be controlled by one of the following:

- Basic controller
- Digital controller
- Modbus through a PC or a central automated unit
- Additional external sensors achieving on-demand ventilation
- Switched live signal from light/remote switches

	<b>Low fan speed</b> e.g. background ventilation		Control button to increase the fan speed
	<b>Medium fan speed</b> e.g. everyday running rate		Control button to decrease the fan speed
	<b>High fan speed</b> e.g. when cooking or showering		Filter reminder / Error display LED
	<b>Boost</b> increased occupants in dwelling; purging the dwelling		

## BASIC CONTROL

A basic controller compatible with the DV82 Entro-V unit allows multiple standard functions such as:

- 3 fan speed control
- Boost function
- Free cooling via the by-pass actuator
- Frost protection based on input signals from humidity and temperature sensors
- Modbus function
- Faults indicator
- Filter maintenance reminder
- Fire alarm function
- Child-proof protection locks/unlocks the buttons providing extra safety



## DIGITAL CONTROL

A digital controller also provides:

- Optional separate fan control for ease of commissioning
- Weekly ventilation programming allows users to pre-set the ventilation levels scheduled for different days
- Screen brightness and contrast settings
- Optional humidity or air quality sensors enable automatic boost control
- Indoor temperature control based on room, extract or supply air temperature
- Real time performance graphics



## CONTROLS & ACCESSORIES



**DV82 Entro-V Coarse 55% (G4) Filter Set (2 pcs)**  
No: 90002077  
Replacement Coarse 55% (G4) filter for DV82 Entro-V



**DV82 Entro-V ePM1 60% (F7) Filter (1 pc)**  
No: 90001327  
Replacement ePM1 60% (F7) filter for DV82 Entro-V



**Ø160mm x 2M ISO Pipe**  
No: 90000465  
Ø160mm x 2M insulated duct length with male connector



**Ø160mm 90° ISO Bend**  
No: 90000467  
Ø160mm 90° insulated duct bend with a male connector

Others products available from [airflow.com](http://airflow.com)

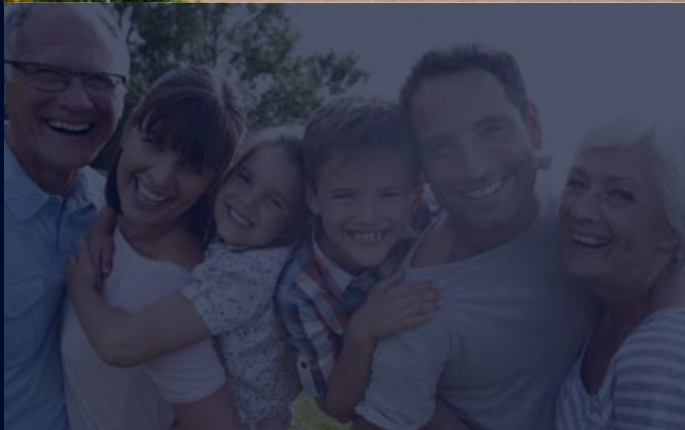
# DV130 Entro-V

Up to 460 m<sup>3</sup>/h air volume @100 Pa



## KEY FEATURES

- Domestic and residential heat recovery ventilation
- Thermal efficiency capabilities of 85% and above
- Suitable for vertical mounting (kits included as standard)
- Easy filter change with no tools needed
- Choice of spigot locations (top entry as standard)
- Complies with Building Regulations
- SAP recognised and PCDB listed
- 2 year warranty+



The DV130 Entro-V is a compact and efficient top entry MVHR unit, capable of recovering over 85% of the wasted heat.

The unit is made from galvanised steel, white powder coated casing with 20 mm EPP insulation which provides a great level of air tightness, thermal efficiency and sound absorption. DV135 has low energy EC fans with backward curved impellers that minimise the unit's energy consumption with a quiet operation and low specific fan power, achieving an 'A' energy efficiency. The unit has an easy to clean and maintain plastic counterflow heat exchanger which prevents the airstreams from mixing. In addition, the unit is designed with a double filter facility that comes with two ISO Coarse 55% (G4) filters as standard with an optional ISO ePM1 60% (F7) pollen filter which provides additional protection against invisible, harmful particles creating an ultra-hygienic environment. ISO ePM Coarse 55% (G4) and ISO ePM1 60% (F7) can be used in conjunction with each other on supply air side.

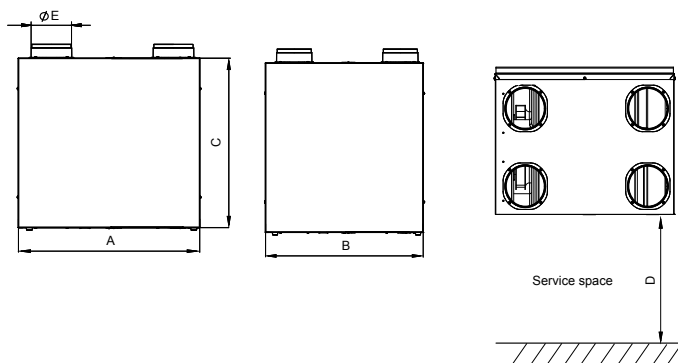


## TECHNICAL DATA

Specification	DV130 Entro-V
Air flow m <sup>3</sup> /h / l/s @100Pa	460 / 127.7
For dwelling floor area up to (m <sup>2</sup> )	277
Reference dwelling	5 / 6 bed house
Thermal efficiency %	84 - 87
Heat exchanger	Counterflow (Plastic)
SEC class	A
Electrical supply	230V / 1ph / 50Hz
Max power consumption (W)	230
Sound level @ 3m (dB(A))	36 - 48
Specific Power Input (SPI) (W/(m <sup>3</sup> /h))	0.267
Fans	EC
Electric heater (optional) (W)	2 x 115
IP classification	IP54
Weight (kg)	65
Dimensions (L x D x H) (mm)	716 x 690 x 795
Controls	4-speed manual controller Optional digital controller
Duct diameter (mm)	200
Condensate discharge (mm)	1/2 inch BSP
Summer Bypass damper	100% Automatic
Frost protection	Yes
Filter class*	ISO Coarse 55% (G4), optional ISO ePM1 60% (F7)
Optional BMS Connectivity	Communication through I2C - Modbus
Casing	Galvanised steel. Powder paint. (20 mm insulation)
Mounting	Wall, Floor
Orientation of unit	Right or Left-handed
Part Number	90001245
EAN	5019009327662

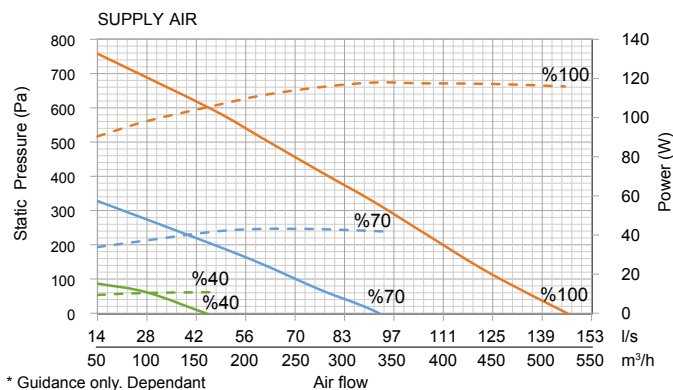
\*Complies with ISO 16890

## DIMENSIONS



Model	A	B	C	D	E
DV130	716	690	795	800	200

## PERFORMANCE



## SAP RESULTS

Tested by the BRE (Building Research Establishment) and eligible for the PCDB database. Systems with rigid ductwork only SAP 2005 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen + 1 additional wet room	0.74	82
Kitchen + 2 additional wet rooms	0.63	83
Kitchen + 3 additional wet rooms	0.59	83
Kitchen + 4 additional wet rooms	0.64	83
Kitchen + 5 additional wet rooms	0.69	83
Kitchen + 6 additional wet rooms	0.76	84
Kitchen + 7 additional wet rooms	0.88	83

Systems with rigid ductwork only SAP 2012 results

Exhaust terminal configuration	Specific Fan Power (W/l/s)	Thermal efficiency (%)
Kitchen + 1 additional wet room	0.68	83
Kitchen + 2 additional wet rooms	0.64	83
Kitchen + 3 additional wet rooms	0.67	83
Kitchen + 4 additional wet rooms	0.79	84
Kitchen + 5 additional wet rooms	0.92	83
Kitchen + 6 additional wet rooms	1.11	83
Kitchen + 7 additional wet rooms	1.35	83

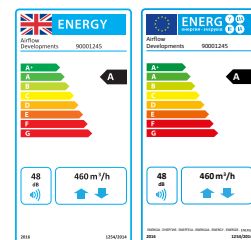
## ACCESSORIES

The following options are available

Accessory	Product Code
Entro-V digital controller	90001299
Entro-V basic controller	90001308
DV130 Entro-V G4 filter (ISO ePM Coarse 55%)	90001325
DV130 Entro-V F7 filter (ISO ePM1 60%)	90001328
DV130 & DV82 Entro-V heater 1,5 kW	90001342
DV130 & DV82 Entro-V heater 2 kW	90001343
DV130 & DV82 Entro-V heater 3 kW	90001344
DV130 & DV82 Entro-V heater 4 kW	90001345

## ErP RATING

The DV130 Entro-V meets requirements set out by the Energy Related Products (ErP) Directive 2016, achieving an A+ rating. You can find out more about the ErP Directive and find the DV130 Fiche and Label at [www.airflow.com](http://www.airflow.com). Label 90001245

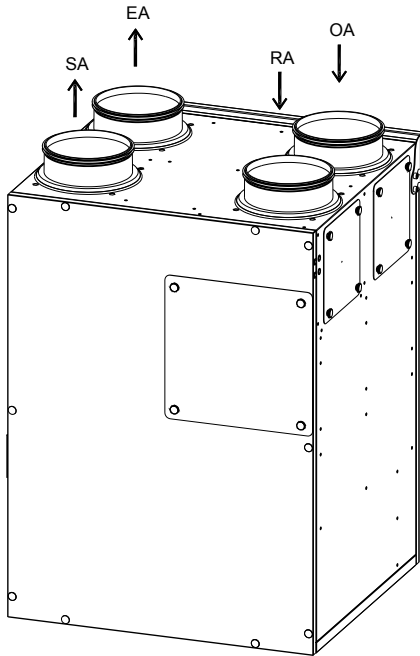


# DV130 Entro-V

Up to 460 m<sup>3</sup>/h air volume @100 Pa

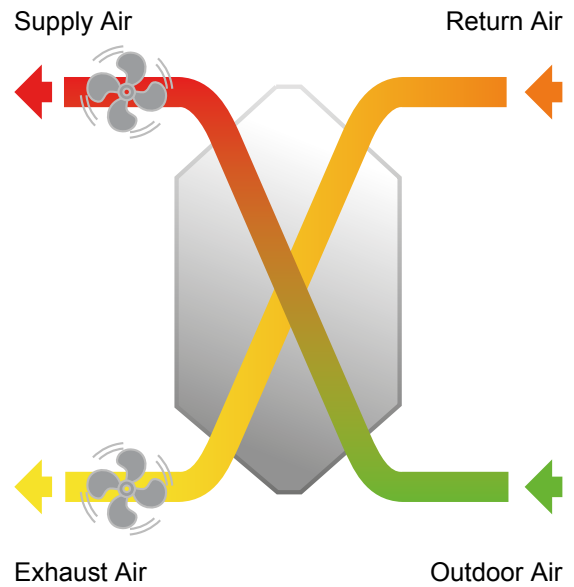
## UNIT CONFIGURATION

The unit is supplied as a right-handed version as standard.



OA = Outside Air  
SA = Supply Air  
RA = Return Air  
EA = Exhaust Air

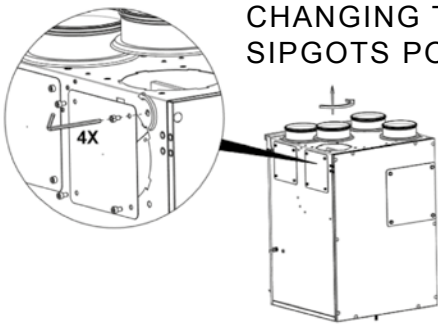
## HEAT EXCHANGER DIAGRAM



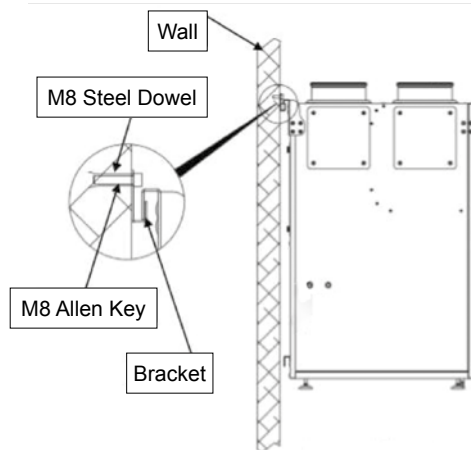
## INSTALLATION

The units can be installed in vertical mounting positions, on the wall or on the floor. Hanging brackets, screws and feet are supplied with the unit. Also, the unit has interchangeability of spigots position from top to the sides.

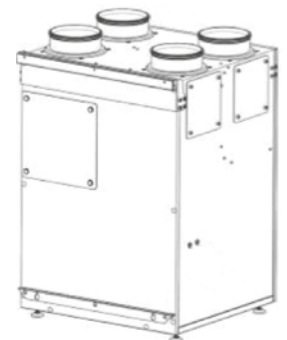
### CHANGING THE SPOGOTS POSITION



### INSTALLATION ON THE WALL



### INSTALLATION ON THE FLOOR



## MODE 1 - Heat recovery mode

Sound Pressure Level @1,5 m  
(%100 fan speed @100Pa external pressure)

Model	dB@ 63Hz	dB@ 125Hz	dB@ 250Hz	dB@ 500Hz	dB@ 1kHz	dB@ 2kHz	dB@ 4kHz	dB@ 8kHz	Total [dBA]
DV130 Entro-V	42,3	43,7	37,8	38,2	38,4	37,2	32,2	26,2	43,2








Sound Pressure Level @3 m  
(%100 fan speed @100Pa external pressure)

Model	dB@ 63Hz	dB@ 125Hz	dB@ 250Hz	dB@ 500Hz	dB@ 1kHz	dB@ 2kHz	dB@ 4kHz	dB@ 8kHz	Total [dBA]
DV130 Entro-V	35,5	36,9	31,0	31,4	31,6	30,4	25,4	19,4	36,4

## CONTROL OPTIONS

The unit can be controlled by one of the following:

- Basic controller
- Digital controller
- Modbus through a PC or a central automated unit
- Additional external sensors achieving on-demand ventilation
- Switched live signal from light/remote switches

	<b>Low fan speed</b> e.g. background ventilation		Control button to increase the fan speed
	<b>Medium fan speed</b> e.g. everyday running rate		Control button to decrease the fan speed
	<b>High fan speed</b> e.g. when cooking or showering		Filter reminder / Error display LED
	<b>Boost</b> increased occupants in dwelling; purging the dwelling		

## BASIC CONTROL

A basic controller compatible with the DV130 Entro-V unit allows multiple standard functions such as:

- 3 fan speed control
- Boost function
- Free cooling via the by-pass actuator
- Frost protection based on input signals from humidity and temperature sensors
- Modbus function
- Faults indicator
- Filter maintenance reminder
- Fire alarm function
- Child-proof protection locks/unlocks the buttons providing extra safety



## DIGITAL CONTROL

A digital controller also provides:

- Optional separate fan control for ease of commissioning
- Weekly ventilation programming allows users to pre-set the ventilation levels scheduled for different days
- Screen brightness and contrast settings
- Optional humidity or air quality sensors enable automatic boost control
- Indoor temperature control based on room, extract or supply air temperature
- Real time performance graphics



## CONTROLS & ACCESSORIES



**DV130 Entro-V Coarse 55% (G4) Filter Set (2 pcs)**  
No: 90002078  
Replacement Coarse 55% (G4) filter for DV130 Entro-V



**DV130 Entro-V ePM1 60% (F7) Filter (1 pc)**  
No: 90001328  
Replacement ePM1 60% (F7) filter for DV130 Entro-V



**Ø200mm x 2M ISO Pipe**  
No: 90001373  
Ø200mm x 2M insulated duct length with male connector



**Ø200mm 90° ISO Bend**  
No: 90001278  
Ø200mm 90° insulated duct bend with a male connector

Others products available from [airflow.com](http://airflow.com)

# Unohab

Single Room Heat Recovery –  
Up to 45 m<sup>3</sup>/h air volume



**A+**

When installed with an additional room sensor

## KEY FEATURES

- Flow rate up to 45 m<sup>3</sup>/h
- Up to 88% heat recovery efficiency
- Economical to operate with silent EC axial fan technology
- Easily installed with basic tools
- ISO Coarse 50% (G3) air filter as standard, easily accessible which can be replaced without tools
- Simple to adjust settings through its intuitive software
- LED display of current operating mode and fan speed



The Unohab opens up completely new possibilities for the economical ventilation of single rooms. The Unohab is particularly useful if there is limited space available due to its compact dimensions, whether it is used in new construction or a renovation, for single-family houses or apartment buildings.

The heat recovery is regenerative with the help of a ceramic heat accumulator, with up to 88% thermal efficiency. The ceramic accumulator is dirt-repellent due to the smooth surface that ensures constant hygienic operation in connection with the protection grille and the integrated filter (ISO Coarse 50% - filter compliant to ISO 16890). To achieve a balanced ventilation, one functional system consists of a minimum of two units, which operate in their operating modes (supply air/extract air) alternating phases. Furthermore, the total number of ventilation units depends on the air requirement of the dwelling.

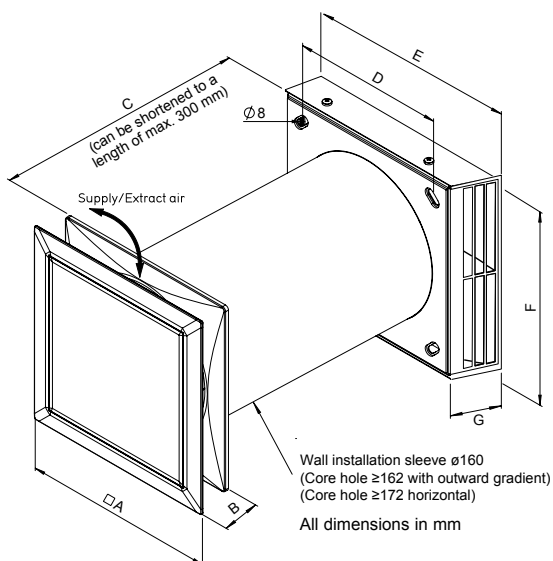


## TECHNICAL DATA

Specification	Unohab				
Fan speed	1*	2**	3*	4**	5*
Air flow supply / extract rate [m³/h]	14	24	32	37	45
Air flow supply / extract rate [l/s]	3.8	6.6	8.8	10.2	12.5
Sound pressure level dB(A)	14	21	27	29	34
Sound insulation, Dn, e, w, dB	44				
Power consumption [W]	1.6	2.1	2.8	3.4	4.5
Heat recovery efficiency	up to 88%				
Heat exchanger	Ceramic				
Filter class	ISO Coarse 50% (G3) - compliant with ISO 16890				
Controls	3 - speed and 3 - operation modes controller				
Power supply	Input 230 V~ 50 / 60 Hz / Output 12 VDC				
Rated current [mA]	17	21	27	32	42
Protection class	IP20				
Fan	EC				
Electrical power supply cable	NYM - O 2 x 1.5 mm²				
Electrical power supply cable (controller)	NYM - O 2 x 1.5 mm²				
Electrical power supply cable (fan unit)	J-Y (ST) Y 3 x 0.8 mm²				
Weight [kg]	4.65				
Working range temperature	-12°C up to +40°C				
Dimensions [mm]	204 x 234 x 590				
Part number	90001177				
EAN	5019009326603				

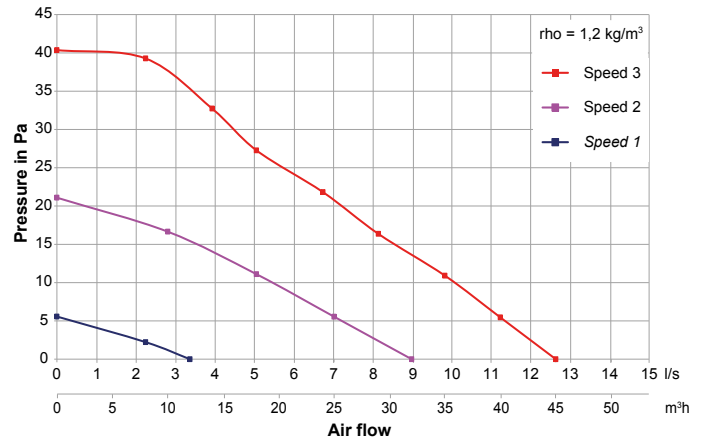
\*Default fan speeds. \*\*Fan speeds, which can be selected on the Unohab software (only three fan speeds can be selected at the same time).

## DIMENSIONS



Model	A	B	C	D	E	F	G
Unohab	200	45	500/800	150	235	204	48

## PERFORMANCE

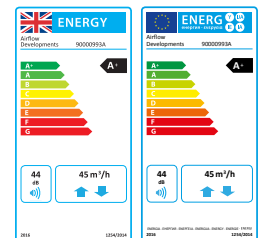


## ACCESSORIES

Accessory	Product Code
Unohab controller	90000992
Unohab heat exchanger with internal grille and filter	90000993
Controller kit power supply flush mounted	90000994
Controller kit power supply DIN-rail mounted	90000995
PSF (Power Supply Flush mounted)	90000996
Extractor fan module	90000997
PSD (Power Supply DIN rail mounted)	90000998
Controller case for surface mount	90000999
Brickwork template block 365 mm length	90001000
Brickwork template block 490 mm length	90001001
Insect screen	90001003
Wall sleeve 500 mm length	90001005
Wall sleeve 800 mm length	90001006
White external grille	90001007
External wall insulation channel	90001008
Wall grille - stainless steel	90001009
Wall grille - white	90001010
Sound insulation element for wall sleeve installation	90001011
Sound insulation element for window channel installation	90001012
Unohab ISO Coarse 50% (G4) Filter (pack of 2)	90001014
External wall insulation vent kit	90001165
Unohab cavity wall installation complete kit (with white external grille)	90001177
Unohab insulation vent complete kit (with white wall grille)	90001178
Controller complete kit - with power supply flush mounted	90001179
Controller complete kit - with power supply DIN-rail mounted	90001180
Electrical humidstat 30% to 90%	9041570
ON / off switch	90000540
ON / off switch with neon	90000543
ON / off with lockable isolator switched	90000547
ON / off lockable and neon switch	90000550
Isolation switch	90000537
Isolation switch with neon	90000538
Isolation switch with neon & fuse	90000539

## CERTIFICATION

The Unohab unit meets requirements set out by the Energy Related Products (ErP) Directive 2016, achieving an A+ rating when installed with an additional room sensor. You can find out more about the ErP Directive and find the Unohab Fiche and Label at [www.airflow.com](http://www.airflow.com)



# Unohab

Single Room Heat Recovery –  
Up to 45 m<sup>3</sup>/h air volume

Unohab can be installed in any of the habitable rooms (bedrooms, living rooms, dining rooms, home office) and through the Unohab extractor fan module it can be connected to QuietAir extractor fans located in wet rooms (toilets, en-suites, bathrooms, utility, kitchen).

Where multiple units of the Unohab are installed, they are linked with each other to ensure the supply and extract function are synchronised. A minimum of two alternating units forms a

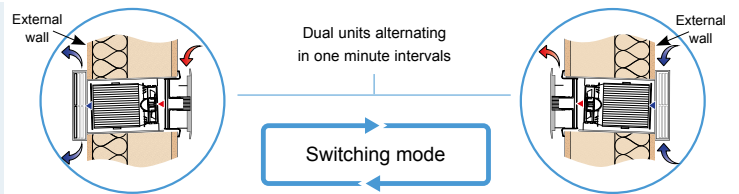
functioning ventilation system, whereby multiple Unohab units are installed depending on the air requirement of the dwelling. The intelligent control unit enables the optimal adjustment of individual volume flows – even with an odd number of devices. Furthermore, it is possible for the first time to implement combi-ventilation in combination with extract air solutions, such as the Airflow QuietAir.

## WORKING PRINCIPLE

The Unohab units are non-traditional, ductless and decentralised MVHR (Mechanical Ventilation with Heat Recovery) single room unit.

New and renovated buildings are becoming more airtight due to insulation. The result: Natural air exchange can no longer take place in the rooms and the humid and used air is not discharged to the outside. In order to prevent moisture damage to the building structure (e.g. dampness and mould), the necessary air exchange rate must be continuous and automatic.

From the ventilation technology perspective, controlled domestic ventilation with heat recovery will fully ensure energy efficiency of the building. In this respect, a decentralised ventilation system with heat recovery offers major advantages, especially in renovation, as it is an economical and simple solution for single rooms.



**Extract air**  
During the extract air phase, the ceramic exchanger absorbs and stores the heat from the room air (storage charging).

**Supply air**  
During the supply air phase, the fresh outside air absorbs the heat from the ceramic accumulator and this pre-heated air flows into the room.

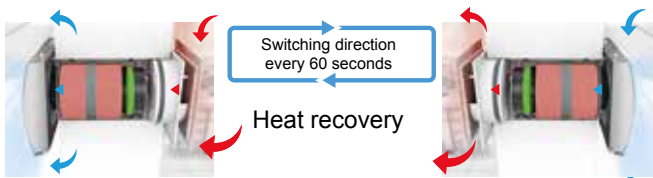
## CONTROLS

The Unohab is controlled intuitively via the LED controller, which can be used to control up to eight units at the same time. The buttons are used to select the three ventilation speeds and three operating modes (heat recovery, cross-ventilation

and supply air mode). The ventilation speed and operating mode settings can be seen immediately at any time with the dimmable LEDs. They also show the current status of the system and a pending filter change.



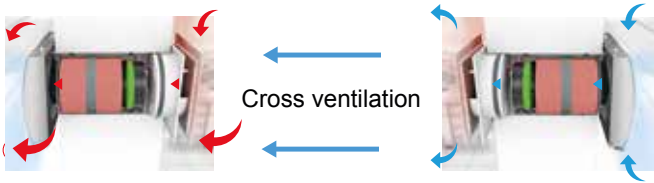
**Mode 1**  
Green LED



## MODE 1 - Heat recovery mode

When operating in heat recovery, the Unohab units alternate between supply and extract air. The ceramic heat accumulator integrated in the Unohab unit absorbs the heat from the passing air in extract air mode and transfers this heat into the incoming fresh air in supply air mode. Thus, up to 88% of the extract air heat is emitted into the incoming fresh air. The push-pull (change of fan direction) activates every 60 seconds which permits the Unohab system to be at its highest thermal efficiency level and best performance.

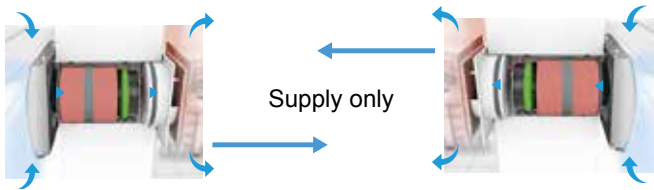
**Mode 2**  
Yellow LED



**MODE 2 - Cross ventilation (ideal for summer)**

The cross ventilation function enables ventilation without heat recovery. For this purpose, the first UnoHab unit, which is connected to the UnoHab controller, is switched to supply air mode. The second UnoHab unit, which is connected to the subsequent controller terminal, is switched to extract air mode. Cross ventilation function can also be defined as air movement from one point of the property to another, resulting in cooling the inside air through a mechanical force that draws cool air in and pushes stagnant hot air outside.

**Mode 3**  
Blue LED



**MODE 3 - Supply air mode**

The supply air mode function enables the combination with an extract air fan (e.g. QuietAir). For this purpose, the UnoHab units are switched to supply air mode to balance the system. Different configuration settings are available via the commissioning software.

All in all, the UnoHab system has every option that a dwelling needs for ventilation: heat recovery mode (warm up the indoor air), cross ventilation mode (cooling the air inside the dwelling) and supply air mode in combination with extract fans for extracting moist air and restoring balanced ventilation in the home. In addition, the UnoHab system is small in size with an intuitive controller which makes it ideal for an apartment or a small house.

**COMMISSIONING**

Commissioning is made simple: quick and user friendly. Thanks to the software, the controller can be connected to a PC or laptop via the USB port. As an alternative to configuring the unit using the two buttons on the controller, the control unit can be accessed easily and conveniently in this way.

Commissioning and the entry of necessary values (e.g. filter change intervals or minimum ventilation stage) can be completed in a short space of time. All possible setting options can be changed quickly using the user interface and user-friendly support is provided with the corresponding help texts. The set configuration can be saved directly on the PC or laptop and re-programmed into the control unit if required.

The installation cost in a larger property is thereby reduced to a minimum. If lots of the same ventilation systems are used, the configuration is just set once for a residential unit and can then be transferred to several controllers or apartments as required.



**INSTALLATION**

**Installation in the façade**



1. Required components    2. First fix installation    3. Final installation overview

**Installation in the external wall insulation**



1. Required components    2. First fix installation    3. Final installation overview

**CONTROLS & ACCESSORIES**

**UnoHab controller with flush mounted power supply**  
No: 90000994

UnoHab Controller Kit to connect to max. 6x UnoHab units.

**UnoHab controller with DIN-rail power supply**  
No: 90000995

UnoHab Controller Kit to connect to max. 4 UnoHab units.

**Sound insulation element for wall sleeve installation**  
No: 90001011



Improves sound insulation against external noise by 2 dB.

**UnoHab ISO Coarse 50% (G3) Filter Set**  
No: 90001014




Replacement air filter set for 2 UnoHab units.

# Range Overview

## Residential Heat Recovery

	ADROIT LINE (TOP ENTRY)					ADROIT LINE (SIDE ENTRY)		
Model	DV51CH	DV96	DV110	DV145	DV245	DV50	DV80	
								
<b>Airflow m³/h / l/s @100Pa</b>	184 / 51	310 / 86	389 / 108	576 / 160	976 / 271	205 / 57	335 / 93	
<b>Thermal efficiency</b>	Up to 83%		Over 90%					
<b>Fans</b>	EC							
<b>Automatic summer bypass</b>	Standard							
<b>Frost protection via heater</b>	Optional							
<b>Frost protection via supply air reduction</b>	Standard							
<b>Standard control</b>	Cloud							
<b>Alternative control</b>	Digital or 4-speed manual							
<b>Boost with delay timer</b>	Standard							
<b>Maintenance indicator</b>	Standard							
<b>Weekly ventilation programming</b>	Standard							
<b>BMS connection</b>	Standard							
<b>Integrated web server</b>	Standard							
<b>Mounting</b>	Wall	Wall / Ceiling		Wall / Floor	Floor	Ceiling		
<b>Filter class - ISO 16890 compliant</b>	2 x ISO Coarse > 75% (G4) and 1 x ISO ePM1 50% (F7)							
<b>Post-heater</b>	Optional							
<b>Warranty*</b>	5 years							
<b>SAP eligible</b>	✓							
<b>Passive House Institute certified</b>	-						✓	


\*excludes motors. Motor warranty one year from date of purchase.

	Entro-V Range (Top entry)		
Model	DV65	DV82	DV130
			
<b>Airflow m³/h / l/s @100Pa</b>	242 / 67.2	300 / 83.3	460 / 127.7
<b>Thermal efficiency</b>	Up to 90%		
<b>Fans</b>	EC		
<b>Automatic summer bypass</b>	Standard		
<b>Frost protection via heater</b>	Optional		
<b>Frost protection via supply air reduction</b>	Standard		
<b>Standard control</b>	4-speed (manual)		
<b>Alternative control</b>	4-speed (digital)		
<b>Boost with delay timer</b>	Optional		
<b>Maintenance indicator</b>	Standard		
<b>Weekly ventilation programming</b>	Optional		
<b>BMS connection</b>	Standard		
<b>Integrated web server</b>	-		
<b>Mounting</b>	Floor / Wall		
<b>Filter class - ISO 16890 compliant</b>	2 x Coarse 55% (G4) optional ISO ePM1 60% (F7)		
<b>Post-heater</b>	Optional		
<b>Warranty*</b>	2 years		
<b>SAP eligible</b>	✓		
<b>Passive House Institute certified</b>	-		

\*excludes motors. Motor warranty one year from date of purchase.

# Residential Accessories

## Residential Heat Recovery

Part No.	Description	Product Image	Unohab	DV65 DV82 DV130	DV250 DV300 DV400	DV51CH DV96 DV110 DV145 DV245 DV50 DV80
<b>Controllers - Switches - Sensors</b>						
<b>Boost switch</b>						
90000228	Manual boost (1-way)		⊙	⊙	⊙	⊙
<b>Electrical humidistat</b>						
9041570	30-90% RH (volt-free output)		⊙	⊙	⊙	⊙
<b>Manual control switch</b>						
90000992	Unohab controller		⊘	-	-	-
<b>Manual control switch</b>						
90001308	Entro-V Basic controller		-	⊙	-	-
<b>Digital controller</b>						
90001299	Entro-V Digital controller		-	⊙	-	-
<b>Manual control switch</b>						
9041219	4-speed, 100% adjustable		-	-	-	⊙
<b>Digital controller</b>						
90000610	4-speed, 100% adjustable		-	-	-	⊙
<b>Room humidity sensor</b>						
90000612	Adroit humidity transmitter		-	-	-	⊙
<b>Room CO<sub>2</sub> sensor</b>						
90000613	Adroit CO <sub>2</sub> transmitter		-	-	-	⊙

# Residential Accessories

## Residential Heat Recovery

Part No.	Description	Product Image	Unohab	DV65 DV82 DV130	DV250 DV300 DV400	DV51CH DV96 DV110 DV145 DV245 DV50 DV80
<b>Filters - ISO 16890 compliant</b>						
90001014	2x ISO Coarse 50% (G3) (Unohab)		⊙	-	-	-
90001323	1x ISO Coarse 55% (G4) filter (DV65 Entro-V )		-	⊙	-	-
90001324	1x ISO Coarse 55% (G4) filter (DV82 Entro-V )		-	⊙	-	-
90001325	1 x ISO Coarse 55% (G4) filter (DV130 Entro-V )		-	⊙	-	-
90001326	1 x ISO ePM1 60% (F7) filter (DV65 Entro-V)		-	⊙	-	-
90001327	1 x ISO ePM1 60% (F7) filter (DV82 Entro-V)		-	⊙	-	-
90001328	1 x ISO ePM1 60% (F7) filter (DV130 Entro-V)		-	⊙	-	-
90000410	2 x Coarse 60% (G4) filter (DV250)		-	-	⊙	-
90000411	2 x Coarse 60% (G4) filter (DV300 / DV400)		-	-	⊙	-
90000648	2 x ISO ePM1 55% (F7) filter (DV250)		-	-	⊙	-
90000649	2 x ISO ePM1 55% (F7) filter (DV300 / DV400)		-	-	⊙	-
90001264	2 x ISO Coarse > 75% (G4) / 1 x ISO ePM1 50% (F7) (DV51CH Adroit)		-	-	-	⊙
90000620	2 x ISO Coarse > 75% (G4) / 1 x ISO ePM1 50% (F7) (DV50 Adroit)		-	-	-	⊙
90000621	2 x ISO Coarse > 75% (G4) / 1 x ISO ePM1 50% (F7) (DV80 Adroit)		-	-	-	⊙
90000375	2 x ISO Coarse > 75% (G4) / 1 x ISO ePM1 50% (F7) (DV96 Adroit)		-	-	-	⊙
90000378	2 x ISO Coarse > 75% (G4) / 1 x ISO ePM1 50% (F7) (DV110 Adroit)		-	-	-	⊙
90000376	2 x ISO Coarse > 75% (G4) / 1 x ISO ePM1 50% (F7) (DV145 Adroit)		-	-	-	⊙
90000611	2 x ISO Coarse > 75% (G4) / 1 x ISO ePM1 50% (F7) (DV245 Adroit)		-	-	-	⊙

# Residential Accessories

## Residential Heat Recovery

Part No.	Description	Product Image	DV65 DV82 DV130	DV250 DV300 DV400	DV51CH DV96 DV110 DV145 DV245 DV50 DV80
<b>Heaters</b>					
<b>Electric duct heater</b>					
90001335	160 mm, 0,5 kW (DV65 / DV82 Entro-V)		⊙	-	-
90001336	160 mm, 1 kW (DV65 / DV82 Entro-V)		⊙	-	-
90001337	160 mm, 1,5 kW (DV65 / DV82 Entro-V)		⊙	-	-
90001341	160 mm, 2 kW (DV65 / DV82 Entro-V)		⊙	-	-
90001342	200 mm, 1,5 kW (DV130 Entro-V)		⊙	-	-
90001343	200 mm, 2 kW (DV130 Entro-V)		⊙	-	-
90001344	200 mm, 3 kW (DV130 Entro-V)		⊙	-	-
90001345	200 mm, 4 kW (DV130 Entro-V)		⊙	-	-
<b>Electric duct heater</b>					
90000413	160 mm, 0.4kW		-	⊙	-
90000414	160 mm, 0.7kW		-	⊙	-
90000415	160 mm, 1.7kW		-	⊙	-
<b>Other components</b>					
<b>KNX-Converter</b>					
90000723	For BMS connection (KNX)		-	-	⊙
<b>Metal casing</b>					
90000345	Galvanised metal casing (DV250)		-	⊙	-
<b>Ceiling mounting plate</b>					
90000716	(DV96 Adroit)		-	-	⊙
90000717	(DV110 Adroit)		-	-	⊙
<b>Floor stand</b>					
90000722	(DV145) Adroit		-	-	⊙

# Award Winning Mechanical Ventilation with Heat Recovery

designed for energy efficient ventilation in homes



Case study: Residential MVHR incorporating cooling  
Click on QR Code to see video



Visit us at the Air Academy and National Self Build & Renovation Centre



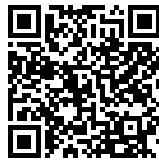
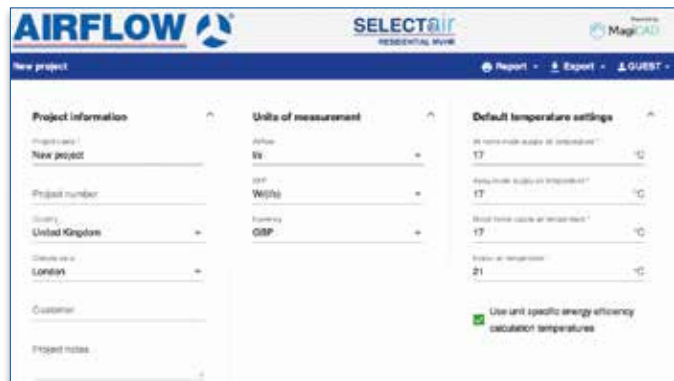
# Selection software

## Selection Software

Airflow's selection software, Selectair has been developed to help you make the right choice of product for your project and provide the relevant information for planning.

### SELECTair RESIDENTIAL MVHR

Via the MagiCAD Cloud platform, Selectair for Residential MVHR will enable you to make a rapid but accurate choice of solution for your specific project.



Scan QR code  
for SelectAir  
Residential  
MVHR software

## Airflow - Always Innovating

Our constant search for new and better ways to save energy, improve the indoor environment and provide you with high quality, reliable and easy to use products that contribute to a low carbon future continues.

visit: [airflow.com](https://airflow.com)

for the latest, products, data sheets, application advice and information



Call: 01494 525252

Visit: [airflow.com](https://airflow.com)



Airflow Developments Limited  
Aidelle House, Lancaster Road,  
Cressex Business Park,  
High Wycombe, Buckinghamshire,  
United Kingdom, HP12 3QPE-mail:

info@airflow.com  
Telephone: +44 (0) 1494 525252  
[airflow.com](https://airflow.com)

© Airflow Developments Limited. Airflow Developments Limited reserve the right, in the interests of continuous development, to alter specifications without prior notice. All orders are accepted subject to our conditions of sale which are available on request

