

# DV51 Adroit

## Adroit Line Top Entry

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



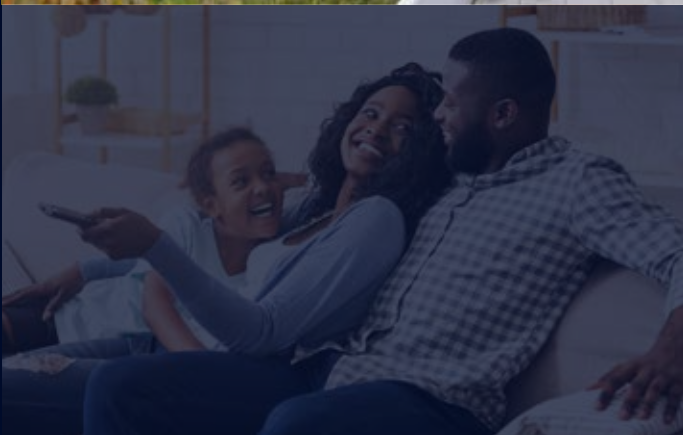
### KEY FEATURES

- 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.

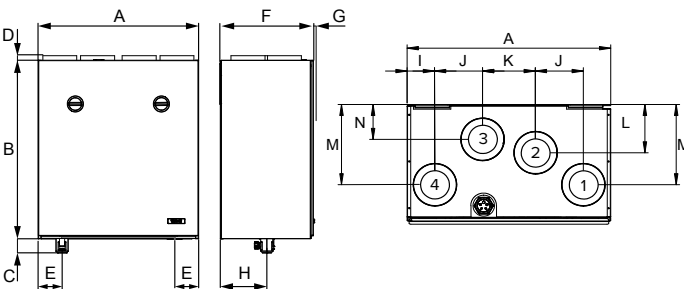


## TECHNICAL DATA

| 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<br>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<br>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<br>5019009326696 (EPH unit)  |
| EAN Left-handed unit                               | 5019009326689<br>5019009326702 (EPH unit)  |

\*Complies with ISO 16890

## DIMENSIONS



### Duct outlets, Model R

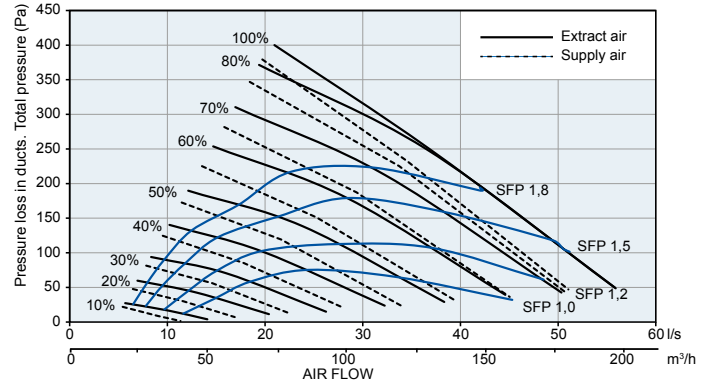
Inner diameter of the female collar: 125 mm  
 1. Outdoor air to the unit  
 2. Exhaust air flowing outdoors from the unit  
 3. Supply air from the unit to the dwelling  
 4. Extract air from the dwelling to the unit

### 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



\* 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

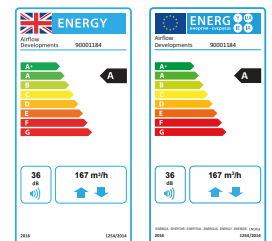
Wall mounted, four speed (independently adjustable) rotary switch air flow controller.

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 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.

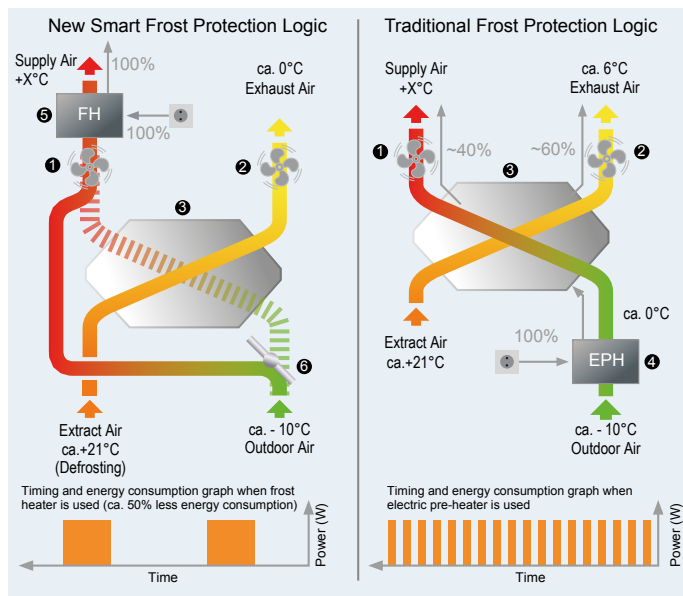
You can control your Adroit unit via internet or local network using laptop, smartphone, tablet etc. As an option there is a digital controller available that enables you to adjust the ventilation levels of your Adroit unit as well as setting the user profiles. The controller provides significant information 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.**



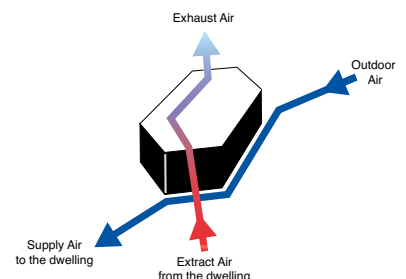
ISO Coarse > 75% (G4) filter



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

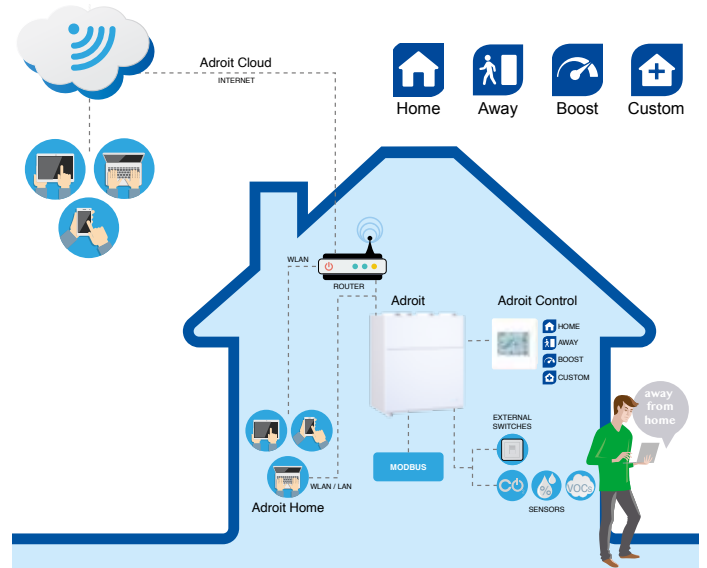
| Exhaust terminal configuration | Specific Fan Power (W/l/s) | Thermal efficiency (%) |
|--------------------------------|----------------------------|------------------------|
| Kitchen+1 additional wet room  | 0.78                       | 80%                    |
| Kitchen+2 additional wet rooms |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

## CONTROLS

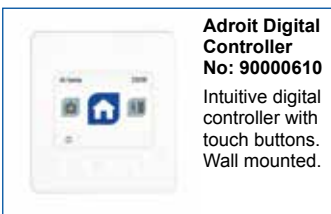
Ideal indoor air quality is achieved by automatically **adjusted ventilation**

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

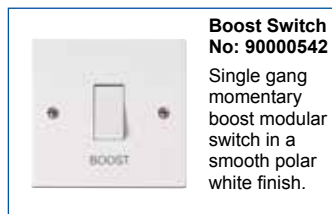
- 4 ventilation profiles, 100% adjustable
- Internet connection available
- Automatic boost function with delay timer
- Filter maintenance reminder via counter clock (standard)
- Heater control for optional post-heater
- Connection to BMS via LON or KNX
- Self diagnostic via fault signal relay
- On-demand 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)

Call: 01494 525252

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

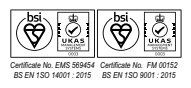


**Airflow Developments Limited**  
Aidelle House, Lancaster Road,  
Cressex Business Park,  
High Wycombe, Buckinghamshire,  
United Kingdom, HP12 3QP

E-mail: [info@airflow.com](mailto:info@airflow.com)  
Telephone: +44 (0) 1494 525252

[airflow.com](http://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



80001135 - Issue 4 07/24