

Adroit DV51

Adroit Line Top Entry -
Up to 170 m³/h air volume @100Pa



KEY FEATURES

- For use in dwellings up to 75 m²*
- Flow rate up to 47 l/s (170 m³/h) at 100 Pa
- 'A' energy rating
- Up to 84% thermal efficiency and low SFP
- Internet control by smartphone, tablet or PC
- Built-in humidity and carbon dioxide sensors
- Two ISO Coarse > 75% (G4) and one ISO 50% (F7) filters - ISO 16890 compliant
- Automatic 100% summer by-pass and partial bypass function to achieve a suitable supply air temperature
- BMS (Modbus / KNX) connection
- Optional LCD digital controller with four independent environmental profiles
- Optional built-in electric heater
- Complies with Building Regulations
- 5 year warranty+

DV51 Adroit (Integral CO² Sensor)

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.

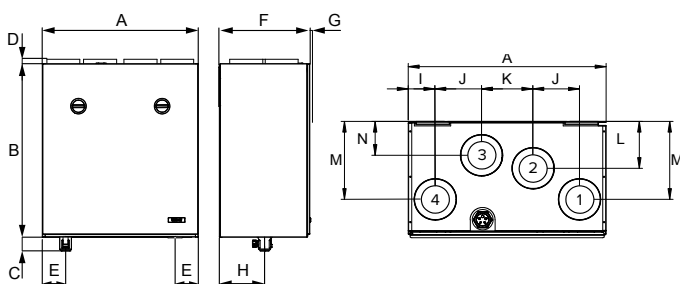
The automatic, 100% summer by-pass facility isolates the heat recovery function and helps to effectively maintain a temperate indoor air climate during the summer months. The unit includes an easily removable, Aluminium heat exchanger and may be equipped with a range of optional accessories for higher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



TECHNICAL DATA

Specification	DV51 Adroit
Suitable for dwellings up to m ² *	75
Air flow m ³ /h / l/s @100 Pa	170 / 47
Thermal efficiency	Up to 83%
Heat exchanger	Counterflow (Aluminium)
Fans	EC
Summer bypass damper	100% automatic
Frost protection	Smart Frost
Controls	Digital - 4 Profiles, 100% adjustable Manual - 4 Speed controller, adjustable
Connection to BMS	Modbus / KNX optional
Mounting	Wall
Sound level @ 3m (dB(A))	28
Duct diameter (mm)	125 (4 ports)
Condensate discharge (mm)	12
Electrical supply	230 V / 1 ph / 50 Hz
Max. power consumption (W)	119
Filter class - ISO 16890 compliant	2 x ISO Coarse > 75% (G4) and 1 x ISO ePM1 50% (F7) filters
Built-in electric post-heater (optional) (W)	900
Protection class	IP34
Casing insulation (mm)	10
Weight (kg)	60
Dimensions (L x D x H) (mm)	598 x 349 x 668
Duct entry	Top Entry
Part No. Versions available	
Right Hand: With optional electric post-heater	90001184 90001186
Left Hand: With optional electric post-heater	90001185 90001187

DIMENSIONS



Duct outlets, Model R

Inner diameter of the female collar: \varnothing 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

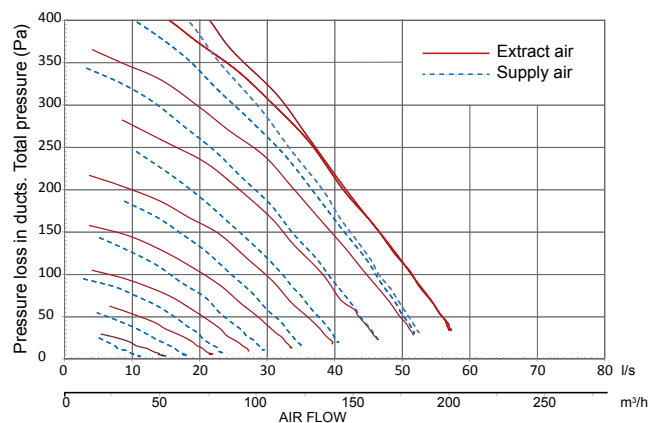
Duct outlets, Model L

Inner diameter of the female collar: \varnothing 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, CO₂ 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 for Adroit controls options data sheet.

Accessory	Product Code
Adroit Digital Controller	90000610
Adroit Relative Humidity Transmitter	90000612
Adroit CO ₂ Transmitter	90000613
Adroit Speed Controller	9041219
Additional post heater for DV51CH (R)	90001262
Additional post heater for DV51CH (L)	90001263
2 x ISO Coarse > 75% (G4) and 1 x ISO ePM1 50% (F7) filters	90001264
Boost Switch	90000542
KNX-Converter	90000723

ErP RATING

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



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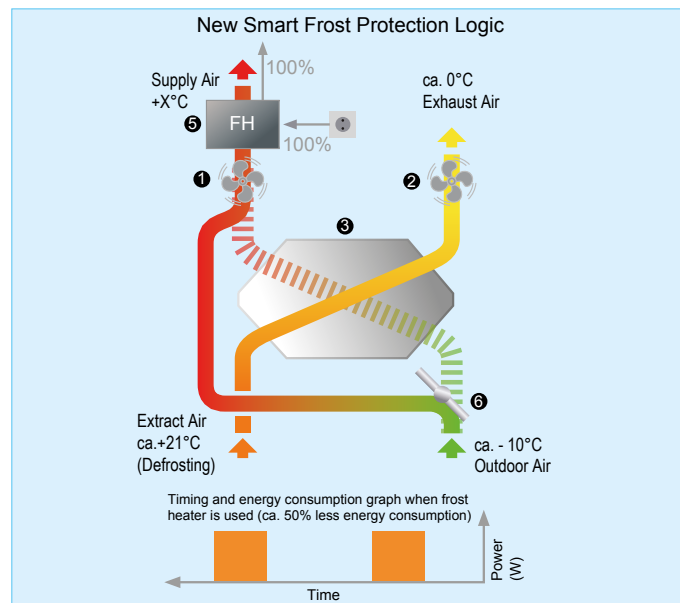
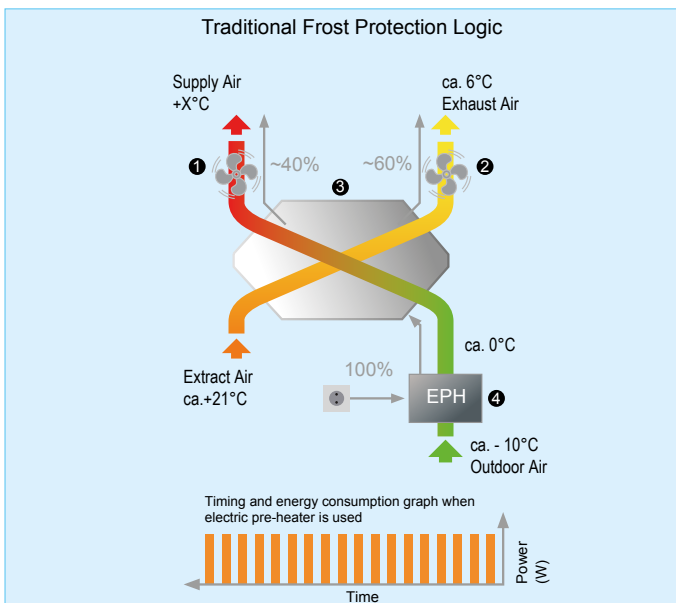
The DV51 Adroit is fitted with a unique triple air filter facility. It comes with two ISO Coarse > 75% (G4) air filters and an ISO ePM1 50% (F7) filter, which provides additional air filtration by prevent particles as small as pollen from entering the premises. This is of particular benefit to those 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 CO₂ sensors, you are able to achieve on-demand ventilation for the property. This is possible, as due to changes to humidity and CO₂ 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



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.

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



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.

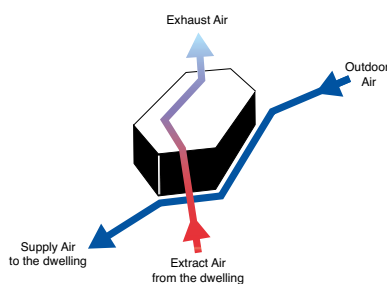


ISO Coarse > 75% (G4) filter

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.



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 CO₂ 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

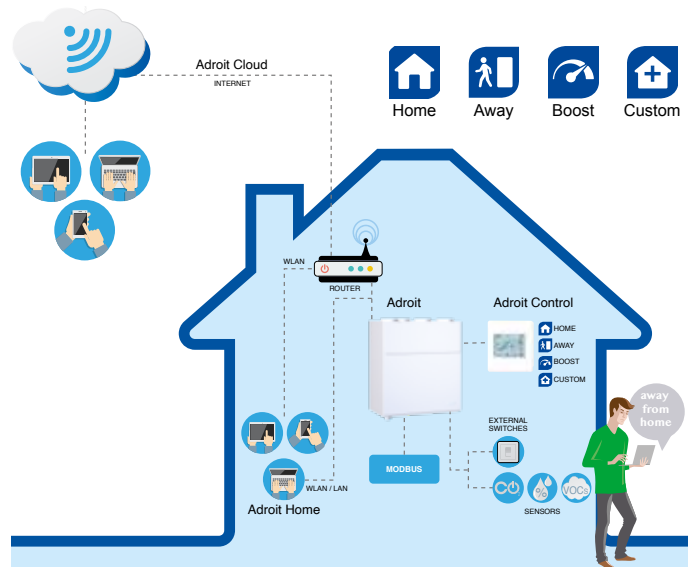
SAP RESULTS

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



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